

As noted in Chapter 5, existing unilateral agreements, zoning and Urban Design Plans will continue to guide development in the area.

Policies and principles are provided for the following public facilities and infrastructure systems:

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#### 4.1 TRANSPORTATION SYSTEMS

This section describes the existing conditions and the plans and proposals for development of Central Oahu's roadways, transit system, and bikeways. (See the Public Facilities Map in Appendix A and the Roadway Network listing below in Table 4.1.) The section concludes with general policies and planning principles to guide future transportation system development in Central Oahu.

The planned and proposed roadway elements and other transportation system features which are listed as potentially being needed to meet the projected development in Central Oahu were identified through the regional planning and transportation analysis done for the *Sustainable Communities Plan* Revision Program, the revision of the Oahu Regional Transportation Plan, and the City's Oahu Trans 2K transportation planning process.

##### 4.1.1 EXISTING ROADWAY NETWORK

The major east-west arterials of the Central Oahu roadway system include:

- The H-1 Freeway which is the major arterial road connecting Central Oahu with the Primary Urban Center,
- Farrington Highway which functions as a secondary east-west route and as a commercial district street through Waipahu.

The three major north-south arterial highways include:

- The H-2 Freeway which extends from the H-1 Freeway at the Waiawa Interchange to Wahiawa,
- Kamehameha Highway which is the island's original major circle island route and serves as a parallel alternate route to the H-2 Freeway during peak periods and as a carrier for local traffic between Waipahu, Waikele, Waipio, Mililani, and Wahiawa, and
- Kunia Road which links Schofield Barracks and Wahiawa with Ewa.

According to the **2020 Oahu Regional Transportation Plan** (November 1995), the existing roadway system in Central Oahu has sufficient capacity for current volumes during peak-hour traffic, but experiences congested conditions because of bottlenecks and lack of capacity on the corridor from Pearl City to Downtown Honolulu.

Traffic going from Central Oahu to the Primary Urban Center must transition through interchanges to get onto the H-1 Freeway. A major bottleneck occurs at the Waiawa Interchange where the H-2 Freeway joins the H-1 Freeway. Traffic volume on the H-2 at Kipapa is projected to increase by almost 40 percent by 2020, while traffic on the H-1 by Aiea is projected to increase by 10 percent.

The substantial development of jobs in Ewa and Central Oahu (from 52,000 jobs in 2000 to 110,000 jobs by 2025) is projected to increase the number of Central Oahu residents who work in Ewa or Central Oahu from existing levels.

However, it is also projected that the number of commuters traveling to the PUC from Ewa and Central Oahu will still increase, although at a lower rate than would occur if development of the Secondary Urban Center was **not** supported.

A summary of the transportation analysis and need assessments done in preparing the **Plan** is provided on pp. 2-32 to -34 of the **Central Oahu Development Plan Report** (June 1995), the technical report prepared by the Plan consultant team.

The following two sections describe improvements needed to meet these existing and projected transportation needs.

<b>TABLE 4.1: CENTRAL OAHU ROADWAY NETWORK</b>		
<b><u>Existing System</u></b>  <u>Major East-West Arterials</u> <ul style="list-style-type: none"> <li>o H-1 Freeway</li> <li>o Farrington Highway</li> </ul> <u>Major North-South Arterials</u> <ul style="list-style-type: none"> <li>o H-2 Freeway</li> <li>o Kamehameha Highway</li> <li>o Kunia Road</li> </ul>		
<b><u>Planned Extensions</u></b>  <u>North-South Corridors</u> <ul style="list-style-type: none"> <li>o Widen Kunia Road (4 lanes, H-1 to Royal Kunia)</li> <li>o Widen HOV lane inbound connector and bridges through Waiawa Interchange to provide PM outbound HOV lane</li> <li>o Widen Kunia Road (6 lanes, H-1 to Royal Kunia)</li> <li>o Widen Kunia Road (4 lanes, Royal Kunia to Wahiawa)</li> <li>o Widen Kam. Hwy (4 lanes, Ka Uka Blvd to Lanikuhana Ave)</li> <li>o Village Park Connector</li> </ul>	<b><u>ORTP 2020 #</u></b> <b><u>(ORTP 2025 #)</u></b>  <b>S23a</b> (C-10)  <b>HOV-3</b>  <b>S23b</b>  <b>S40</b>  <b>S39</b> (C-7)  NA	<b><u>ORTP 2020</u></b> <b><u>Phasing</u></b>  1995-2000  2001-2005  2001-2005  2006-2020  2006-2020  NA



TABLE 4.1: CENTRAL OAHU ROADWAY NETWORK

o Waipahu Depot Rd widening makai of Farrington Hwy	(C-15)	NA
<u>East-West Corridors</u>		
o Widen Waipahu Street from Kamehameha Highway to Paiwa Street and/or add turn lanes, bus pull-outs, etc.	<b>C27</b> (C-17)	2001-2005
o Realign Farrington Hwy eastbound near Waipahu Depot Road	(C-5)	NA
o Extend Waipahu Street eastward to Waihona Street	(C-16)	NA
<u>Interchange Improvements</u>		
o Waipio Interchange	<b>S6</b>	1995-2000
o Waiawa Interchange	<b>S18</b>	2001-2005
<u>New Interchanges</u>		
o Second Waipio Interchange	<b>S30</b>	2006-2020
KEY: NA (Not applicable, project proposed after 2020 ORTP completed)		
SOURCE: ORTP 2020 identification numbers and phasing from <u>2020 Oahu Regional Transportation Plan</u> , November 1995. (ORTP 2025 identification numbers from <u>Transportation for Oahu Plan TOP 2025, April 6, 2001.</u> )		

#### 4.1.2 PLANNED EXTENSIONS OF THE ROADWAY NETWORK

Planning and development of major roadways is the shared responsibility of the State department of transportation and the City department of transportation services. Planning and use of federal transportation funds is coordinated through the Oahu Metropolitan Planning Organization (OMPO), a joint City-State agency.

OMPO prepared the **2020 Oahu Regional Transportation Plan** (November 1995) which provides a fiscally-constrained long-range transportation plan for Oahu to 2020. Analysis and recommendations in the **2020 Oahu Regional Transportation Plan (ORTP)** are based on year 2020 traffic volumes projected to be generated by land uses approved under the previous **Development Plan** Special Provisions and Land Use Map. (The **2020 ORTP** is currently being updated and will be replaced by the **2025 ORTP**.)

The **2020 ORTP** includes a number of major improvements for Central Oahu including:

- Widening of Kamehameha Highway to four lanes between Ka Uka Boulevard and the Lanikuhana Avenue intersections;
- Widening of the existing High Occupancy Vehicle (HOV) lane inbound connector and bridges through the Waiawa Interchange to provide an outbound HOV lane in the afternoon peak hours;
- Widening of Kunia Road to 6 lanes from H-1 to Royal Kunia and to 4 lanes from Royal Kunia to Wahiawa;
- Improvement of Waipahu Street from Kamehameha Highway to Paiwa Street, either by widening and/or adding turn lanes, bus pull-out lanes, and other improvements at critical areas;
- Improvement to existing interchanges at Kunia, Mililani, Waipio, and Waiawa; and
- A new interchange at Waipio.

In addition, in 1999, the Waipahu Vision Team proposed establishing a connector road between Village Park and Waipahu using an existing cane haul road. The City Council approved funding for planning of the project in the Fiscal Year (FY) 2000 Capital Improvements Program (CIP) budget, and for planning, design, and construction in the FY 2001 CIP budget. The road was also placed on the Central Oahu Public Facilities Map by the Council in 2000. Negotiations to acquire the right-of-way are underway.

The OMPO Policy Committee, on March 19, 2001, also identified three new projects for inclusion for funding under the **2025 Oahu Regional Transportation Plan**:

- Widening of Waipahu Depot Road makai of Farrington Highway;
- Realignment of Farrington Highway eastbound near Waipahu Depot Road; and
- Extension of Waipahu Street eastward to Waihona Street.

(A number of projects previously listed in the **2020 ORTP** were not selected.)

#### **4.1.3 TRANSIT**

With population growth, the City should increase transit service in Central Oahu in order to enhance circulation among Central Oahu communities and between Central Oahu and the adjacent Ewa and North Shore areas, and provide convenient service for peak-hour commuting.

##### **4.1.3.1 Bus Service**

Bus service is provided through the department of transportation services, which currently contracts with Oahu Transit Services (OTS) for operation of TheBus. OTS also operates the City's para-transit service, the Handi-Van.

Central Oahu falls mostly within the Central Oahu/North Shore Bus Service Area. Waipahu falls within the Pearl Harbor Bus Service Area. In 2001, about 50 buses were assigned to the Central Oahu/North Shore Service Area.

As of 2001, there were 11 regular service bus routes serving the Central Oahu *Sustainable* Communities Plan area:

- Route 40 Honolulu-Makaha, through Waipahu
- Route 42 Ewa Beach, through Waipahu
- Route 43 Honolulu/Ala Moana - Waipahu Street
- Route 52 Honolulu - Wahiawa - Circle Island
- Route 62 Honolulu - Wahiawa Heights
- Route 72 Schofield - Wahiawa - Whitmore (Circulator)
- Route 431 Ewa Mill/Villages - Waipahu (Circulator)
- Route 432 East-West Waipahu (Circulator)
- Route 433 Waikele (Circulator)
- Route 434 Village Park (Circulator)

In addition, there were 11 express bus routes operating during the peak commuting hours:

- Route A City Express (Waipahu-UH Manoa)
- Route 81 Waipahu
- Route 83 Wahiawa Town - (HANG) Armory
- Route 83A Mililani - Wahiawa

- Route 84 Mililani - Wahiawa Armory
- Route 84A Mililani (Meheula)
- Route 96 Waipio Gentry
- Route 97 Village Park
- Route 98 Wahiawa Park & Ride (Armory P&R) - Mililani Mauka P&R
- Route 103 Waikele
- Route 201 Honolulu - Waipahu - Ewa Beach
- Route 202 Honolulu - Upper Waipahu

The City is currently in the process of converting its linear bus system into a Hub-and-Spoke system, a combination of express, local and community circulator buses which meet at transit centers throughout the island. There has also been an increase in the number of buses assigned to the Central Oahu/North Shore Bus Service Area.

In its planning for the conversion to a hub-and-spoke system, the City is addressing the need for “transit centers” and park-and-ride facilities in Central Oahu.

- Transit centers are bus transfer points having a protected environment for waiting passengers, like that on the mauka side of Ala Moana Center. Through the Primary Corridor Transportation Project, a site on Hikimoe Street near the Civic Center in Waipahu has been developed as a transit center. In addition, the City is in the process of developing transit centers in Mililani and in Wahiawa.
- Park-and-rides are special parking lots where commuters access the transit network. There are three park-and-ride facilities in Central Oahu located at:
  - Royal Kunia,
  - Mililani Mauka, and
  - the Army National Guard Armory in Wahiawa.

The City’s Primary Corridor Transportation Project, which began in 1998, is intended to address existing and future mobility constraints in Oahu’s primary transportation corridor, which extends from the City of Kapolei in Ewa to the University of Hawaii-Manoa and Waikiki in the Primary Urban Center.

In November 2000, the Bus Rapid Transit (BRT) Alternative was selected by the City Council as the alternative to be used for the next phase of project development. The BRT system proposed would build upon the hub-and-spoke system and includes Regional and In-Town BRT elements.

The Regional BRT element includes a continuous Interstate H-1 BRT corridor from Kapolei to Middle Street comprised of zipper lanes and new express lanes to form an uninterrupted transitway. Special ramps may facilitate movement between the H-1 BRT Corridor and selected transit centers.

The In-Town BRT component would be a high capacity transit spine from Middle Street to the University of Hawaii-Manoa and Waikiki.

#### **4.1.3.2 Planned Transit Corridor**

As shown on the Public Facilities Map in Appendix A, a transit corridor is planned to connect Waipahu with the City of Kapolei to the west and with the Primary Urban Center to the east. Two transit nodes in Waipahu would be the centers of medium density residential and commercial development.

A transit node is more than a transit center. A transit node does have a transit center at its core where passengers can park their cars, and wait in protective shelters. The difference is that the node has shops, entertainment centers, restaurants, offices and residences within easy walking distance of the transit center. These “transit-oriented” land uses attract and supply passengers for the transit, and in turn, enjoy higher volume of customers because transit makes it easy to get to the node or to live in the area surrounding the transit center.

The corridor could support both a shuttle service connecting Waipahu, the UH West Oahu campus, the City of Kapolei, and Ko Olina and commuter service for peak-hour express service to and from the Primary Urban Center. In peak-hour commuting, the corridor could carry express bus service, or eventually, higher-speed dedicated transit service running on a separated route.

Through 2025, it is projected that transit service along the corridor will be provided by mass transit bus service running on roadways shared with other vehicles. However, sufficient right-of-way should be reserved for the establishment, when needed in the future, for either an elevated or a separated at-grade transit system. Such a system will require a 28-foot right-of-way along the route and a 75-foot right-of-way at transit station sites (at the transit nodes). The transit corridor runs along Farrington Highway in Waipahu where sufficient right-of-way and setback areas should be reserved to allow the possibility of eventually accommodating a separated transit system.

Medium density apartment and commercial mixed-use development should be permitted in Waipahu within one-quarter mile (15 minutes’ walking distance) from the transit station/park-and-ride facility sites at the two major transit nodes. (See more specific land use policy guidelines for Waipahu in Section 3.5 above.)

The objective is to create a land use pattern along the transit corridor and around the two nodes that would allow Waipahu residents to minimize use of the private automobile and encourage use of transit for longer trips and walking or biking for short trips.

#### 4.1.4 BIKEWAYS

The proposed bikeway system for Central Oahu shown in Exhibit 4.1 generally incorporates facilities recommended in Bike Plan Hawaii (the State Bikeway Plan) and the Waipahu Town Plan.

The Exhibit shows existing and planned routes for two types of bicycle facilities: **bike paths** which are separated from the roadway and **bike lanes** which are four- to six-foot lanes exclusively for bike use included in the roadway.

**Bike Paths.** As part of the Pearl Harbor Historic Trail, a major bike path should run east-west along the OR&L right-of-way (with branch routes to the Waipahu Cultural Garden and Leeward Community College). Use of the OR&L right-of-way is to be shared with restored historic train operations (see Sec. 3.4.3.1). Other major bike paths, to run north-south, should include Kunia Road between Farrington and H-1 Freeway, Managers Drive/Mokuola Street, Waipio Uka Street, and Lanikuhana Avenue between Kamehameha Highway and Meheula Parkway.

**Bike Lanes.** Bike lanes should be provided on Waipahu Street, the Village Park connector between Village Park and Waipahu, Hikimoe Street, Waipahu Depot Road, Meheula Parkway, Kilani Avenue, and California Avenue. In addition, Kamehameha Highway, Kunia Road north of H-1, and Wilikina Drive should be designated as bike routes with a curbside vehicle lane of minimum 12-foot width allowing shared use by bikes and automobiles.

#### 4.1.5 GENERAL POLICIES

The following general transportation system policies support the vision for development of Central Oahu.

**Adequate Access and Services.** Before zoning approvals are given for new residential and commercial development in Central Oahu, the department of transportation services and department of transportation services should:

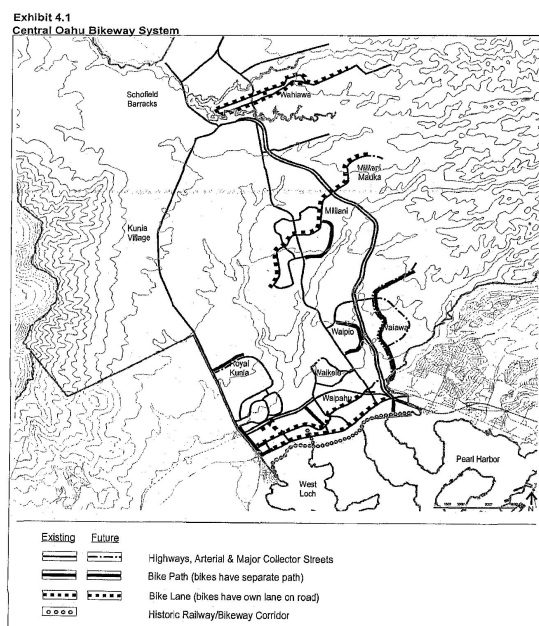
- Report if adequate transportation access and services can be provided with existing facilities and systems; and
- If adequate capacity cannot be provided by existing facilities, recommend conditions that should be included as part of the zone change approval in order to assure adequacy, including the timing of any necessary improvements.

**Transportation System Functions.** Central Oahu's transportation system should:

- Provide adequate access between jobs, shopping, and recreation centers in Central Oahu;
- Provide improved access to and from adjacent areas, especially the employment centers of the Secondary Urban Center in Ewa, and
- Provide adequate capacity for peak-hour commuting to work in the Primary Urban Center. (Although the share of residents who will be able to live in Central Oahu and work either in Ewa or Central Oahu is projected to increase by 2025, a majority will continue to commute to jobs outside Ewa and Central Oahu.)

**Reduction in Automobile Use.** Reliance on the private passenger vehicle should be reduced by:

- Provision of circulation systems with separated pedestrian and bicycle paths and convenient routes for public transit service;
- Design of street systems in new development areas with layouts to facilitate bus routes and encourage pedestrian travel;
- Provision of supporting facilities and amenities for pedestrian, bicycle, and public transit use (Bicycle racks at commercial centers, bicycle storage facilities at employment centers, and bus shelters at bus stops will be encouraged);



- Preservation of existing right-of-way and establishment of setback areas sufficient to permit future development of a dedicated transit right-of-way on Farrington Highway; and
- Support for medium-density and high-traffic land uses along the Farrington Highway transit corridor, especially within a quarter-mile of the transit nodes.

**Transportation Development Priorities.** Projected demand for peak-hour transportation in Central Oahu should be met by:

- Increased use of transit; and
- Transportation demand management through:
  - HOV facilities,
  - Park-and-ride facilities, and
  - Other programs which encourage reduced use of the private automobile.

Relying on adding private automobile commuting capacity to meet the projected growth in demand from Oahu's Leeward areas would be prohibitively expensive and have undesirable results. To increase commuting capacity from Central Oahu to Honolulu would require widening or double-decking the freeways in the Aiea/Pearl City area. Even if this extra capacity was added in the Aiea/Pearl City area, destructive, divisive, and expensive street widening would have to be done in Central Honolulu to create sufficient capacity to absorb the extra cars that the expanded freeways could bring to the central city.

#### 4.1.6 PLANNING PRINCIPLES

The topography of Central Oahu is characterized by plateaus, divided by gulches. Major arterials run north-south, generally parallel to the major gulches - Waikele and Kipapa.

**Disadvantages.** Central Oahu's topography has a number of disadvantages for transportation system development:

- The gulches, because of their depth and width, represent a barrier to east-west roadway connections.
- Since both the H-2 Freeway and Kamehameha Highway have to cross Kipapa Gulch and other smaller gulches, widening of those arterials would involve major costs.
- The topography also makes Central Oahu a costly long-range prospect for rapid transit. In addition to the gulch crossings, the steep incline from Waipahu to Mililani may limit available technology.
- Traffic going from Central Oahu to the Primary Urban Center - where the major peak-hour demand occurs - must transition through interchanges to get onto the H-1 Freeway. A major bottleneck occurs at the Waiawa Interchange, where the major Central Oahu arterial, the H-2 Freeway, joins the H-1 Freeway.

**Principles.** Planning principles and guidelines addressing residential and commercial land uses, which are set forth in Chapter 3 (Sections 3.8 and 3.9), provide substantial guidance toward enhancing pedestrian, bicycle and transit modes of transportation.

The following planning principles should guide the development of a multi-modal transportation system for Central Oahu:

- **Increased Arterial Capacity for Transit.** Increases in arterial lanes should be oriented to HOV and mass transit. Exclusive lanes and park-and-ride facilities should be developed to improve transit speed and to provide enhanced incentive for commuters to opt for mass transit or HOV use.

- **Land Use Anticipating Dedicated Transit Lanes on Farrington Highway.** Land use planning for Waipahu should emphasize and strengthen Farrington Highway's role as a transit corridor by:
  - Reserving adequate right-of-way and establishing setbacks to allow for establishment of a separate transit right-of-way; and
  - Encouraging intensive residential and commercial uses around the two transit nodes and along the transit corridor.

Express bus service, feeder buses, and park-and-ride facilities should be used to link other Central Oahu communities to any future rapid transit system and to reinforce the development of the transit nodes.
- **Transit-Oriented Community Street Systems.** Circulation systems within residential communities and commercial centers should emphasize accessibility from residences to bus routes, parks, schools, and commercial centers. Circulation systems should be designed to facilitate bicycle and pedestrian travel, to increase transit use, and to reduce dependence on automobile travel.  
See Chapter 3, Sections 3.8 and 3.9, for more detailed planning principles and design guidelines for circulation in residential communities and commercial centers.
- **Community-Level Street Standards.** Standards for public streets within residential communities and commercial centers should be revised to support and improve pedestrian and bicycle travel and on-street parking. While average motor vehicle speed may be reduced, safety and enjoyability would be increased, and greater efficiency in land use, reduced construction costs, and improved street function may occur.

## 4.2 WATER ALLOCATION AND SYSTEM DEVELOPMENT

In 1987, the State enacted the State Water Code in order to protect, control, and regulate the use of the State's water resources for the benefits of its people. Under the Code, the City is responsible for preparing the water use and development plan for the City and County of Honolulu.

This plan, called the **Oahu Water Management Plan** (OWMP), is prepared by the Department of Planning and Permitting with the assistance of the State Commission on Water Resource Management and the Board of Water Supply, and approved by the City Council following extensive public review and comment. The OWMP was adopted by the State Commission on Water Resources and the City Council in 1990. The most recent revision of the **Technical Reference Document** for the OWMP (December 1998) includes updated supporting data, analyses, and conclusions which reflect the closing of Oahu Sugar Company and Waialua Sugar Company and the most recent data and analytical review. Future revisions to the OWMP shall be submitted to the Council for its review and approval.

The Board of Water Supply evaluated the water development needs of the existing and new residential and commercial (including retail, office, resort, recreational, and industrial) development likely by 2025 as a result of implementation of the new Ewa Development Plan and the proposed Central Oahu *Sustainable* Communities Plan. The Board of Water Supply projects that an additional 17 million gallons per day (mgd) of **potable** (or drinkable) water will be needed in Ewa and Central Oahu by 2025 to meet projected growth in residential and commercial demand. In addition, long-term demand for **nonpotable** water for existing and new urban irrigation and other urban purposes is estimated to be approximately 26 mgd. Agricultural demand for nonpotable water for the 13,500 acres of agricultural land in Ewa and Central Oahu protected from development by this plan and the new **Ewa Development Plan** is estimated to be 38 mgd. Meeting this demand will require reallocation of water within the island-wide system, as well as development of new sources.

As shown below in Table 4.2, the Board of Water Supply has identified potential sources of potable and nonpotable water to meet the projected demand in Ewa and Central Oahu through 2025. These sources will be pursued as part of the Board's development and operation of an integrated islandwide water system.

The water management strategy called for in the **Oahu Water Management Plan** is for on-going groundwater source development coupled with efforts to increase water use efficiency, water conservation, and continued development of alternative sources of water.

#### 4.2.1 GENERAL POLICIES

The following general policies should be followed in developing Central Oahu potable and nonpotable water systems to meet the projected demand.

**Adequacy of Water Supply.** Before zoning approval is given for new residential or commercial developments in Central Oahu, the Board of Water Supply should either indicate that adequate potable and nonpotable water is available or recommend conditions that should be included as part of the zone change approval in order to assure adequacy.

**Watershed Protection.** Central Oahu watersheds are important to the recharge of the Pearl Harbor Aquifer, one of Oahu's most important sources of potable water. As a result, the watershed should be protected to maintain an adequate supply of good quality water and to retain sufficient acreage to ensure infiltration into groundwater aquifers.

**Development and Allocation of Potable Water.** The State Commission on Water Resource Management has final authority in all matters regarding administration of the State Water Code. Under that authority, the Board of Water Supply should coordinate development of potable water sources and allocation of all potable water intended for urban use on Oahu. State and private well development projects could then be integrated into and made consistent with City water source development plans.

**Use of Nonpotable Water.** An adequate supply of nonpotable water should be developed for irrigation and other suitable uses in Central Oahu in order to conserve the supply of potable water.

The Pearl Harbor aquifer is the most cost-effective and accessible water resource of potable quality and it is needed to support the existing and future domestic potable water uses described in the development plans. To minimize the risk of impacts to our precious potable water sources, the use of reclaimed water ("reclaimed wastewater effluent") and brackish waters as nonpotable irrigation sources in the coastal caprock area such as the Ewa Plain should be given high priority.

Significant demand exists for nonpotable water for golf courses, landscape irrigation and industrial uses on the Ewa Plain. In addition to the compatibility of the source to the demand in the area, the infrastructure to distribute the reclaimed water in that area is being planned. Use of reclaimed water and brackish water from the Honouliuli Water Recycling Facility will focus on meeting the nonpotable water demand in the Ewa Plain.

Experiences with increasing chloride, nitrate and pesticide contamination of groundwater indicate that activities on the surface of the land can have a detrimental effect on the quality of drinking water. Nonpotable water used above Pearl Harbor aquifer should be low in total dissolved solids to protect the quality of drinking water withdrawn from wells located down-gradient of the application.

**Agricultural Water Sources.** A sufficient amount of water is needed to meet the diversified agricultural needs for Ewa and Central Oahu along with high quality recharge of the Pearl Harbor aquifer. A number of potential sources are identified in Table 4.2, including: caprock, surface water, spring waters, Waiahole Ditch Water and



wastewater effluent. The amount of water available and the potential use of each of these sources varies according to location. The State Commission on Water Resource Management should consider all sources of water in making allocations.

<b>TABLE 4.2: POTENTIAL SOURCES OF POTABLE AND NONPOTABLE WATER FOR EWA AND CENTRAL OAHU</b>		
<b>POTABLE GROUNDWATER RESOURCES</b>		
<b>Ground Water Source</b>		<b>Estimated Source Yield (Million Gallons per Day)</b>
1.	Waipahu Wells III	3.00
2.	Ewa Shaft	15.00
3.	Waiawa Wells (1)	
a.	Waiawa Wells I	2.2
b.	Waiawa Wells II	2.31
c.	Waiawa Wells III	2.11
4.	Ekahanui Wells	2.00
5.	Waipahu Wells IV	3.00
6.	Kunia Wells III	3.00
7.	Waipahu Wells II Addition	1.50
8.	Mililani Wells IV	3.00
9.	Kunia Wells II Addition	1.50
<b>Total Estimated Source Yield (2)</b>		<b>38.66</b>
<b>ALTERNATIVE WATER RESOURCES</b>		
<b>Source</b>	<b>Available Resource (Million Gallons Per Day)</b>	
	<b>Minimum Estimate</b>	<b>Maximum Estimate</b>
<b>Potable:</b>		
1. Kalaeloa Desalination Plant	5	15
<b>Nonpotable (3)</b>		
2. Nonpotable Caprock (4)	NA	NA
3. Surface Nonpotable Water	2	3
4. Wastewater Nonpotable Reuse (5)	10	26

**TABLE 4.2: POTENTIAL SOURCES OF POTABLE AND NONPOTABLE WATER FOR EWA AND CENTRAL OAHU****ALTERNATIVE WATER RESOURCES**

Source	Available Resource (Million Gallons Per Day)	
	Minimum Estimate	Maximum Estimate
5. Waiahole Ditch	0	28
6. Pearl Harbor Springs Nonpotable	14	20
<b>Total Nonpotable</b>	26	77

**NOTES:**

NA Not Available

- (1) Based on approved Waiawa Water Master Plan of Dec. 15, 1993.
- (2) Source construction is contingent on the availability of sustainable yield.
- (3) Nonpotable resources will be needed for agricultural and urban uses.
- (4) Ewa Caprock aquifer sustainable yield is being reevaluated.
- (5) BWS currently has contracts for 12 mgd of recycled water from Honouliuli WRF and for 2 mgd from Wahiawa WWTP which will be used for direct irrigation.

Pearl Harbor aquifer sustainable yield has decreased by 19 mgd due to the reduction in agricultural recharge. Specific source capacities are only estimates. Allocations of groundwater and surface water sources require the approval of the State Commission on Water Resource Management.

Source: Board of Water Supply, 2002

**Water Reclamation.** The City will reclaim wastewater effluent and distribute nonpotable water, provided that customers can be found for this source of nonpotable water, and that no threat is posed to the quality of the potable water aquifer.

Under the City's agreement through a Consent Decree with the U.S. Environmental Protection Agency and the State Department of Health (DOH) for Honouliuli Wastewater Treatment Plant (WTP), the City is reclaiming and using 10 mgd of Oahu's wastewater.

As part of a Consent Decree with the State DOH for the Wahiawa WTP, the City has upgraded the Wahiawa WTP to provide tertiary treatment of wastewater to allow unrestricted usage of the effluent for irrigation and application purposes. This reclaimed water is discharged into Lake Wilson as has been done for over 50 years. The effluent is indirectly used for irrigation when water from Lake Wilson is applied to croplands.

**Integrated Resource Management.** Management of all potable and nonpotable water sources, including groundwater, stream water, stormwater, and effluent reuse should be integrated through amendments to the Oahu Water Management Plan and future Integrated Resource Management plans. Policies in those plans will be adopted

only after adequate public review and Council approval, following City development of plans and adoption of an appropriate management process.

#### **4.3 WASTEWATER TREATMENT**

The department of design and construction estimates treatment/disposal capacity at the Honouliuli Wastewater Treatment Plant (WTP) will need to be increased from existing capacity for primary treatment of 38 million gallons per day (mgd) to 51 mgd by 2025 to meet projected population and economic growth in Ewa and Central Oahu resulting from implementation of the revised Plans. In addition, the capacity of specific sewer lines and pump stations will need to be increased.

The City's Wahiawa WTP is operating under a Consent Decree from the State Department of Health. Under the Consent Decree, the City has agreed to upgrade the WTP to tertiary treatment and deepen the outfall in order to continue discharging to Wahiawa Reservoir (Lake Wilson). The plant now treats approximately 2.0 mgd domestic wastewater collected from Wahiawa Town, Whitmore Village, and the Navy Naval Computer and Telecommunications Area Master Station communities.

The City has upgraded the Wahiawa WTP to produce tertiary treated effluent. This highly treated water is discharged into Wahiawa Reservoir (Lake Wilson) through a new 24-inch outfall at a depth of approximately 40 feet below the water level.

The City is also considering reactivating and upgrading the Mililani WTP (which is currently out of operation) to provide tertiary treated effluent for irrigation purposes at Royal Kunia, Waiola, and Waiawa.

##### **4.3.1 GENERAL POLICIES**

All wastewater produced by new developments in Central Oahu should be connected to a regional or municipal sewer service system.

Where feasible, effluent should be treated and used as a source of nonpotable water for irrigation and other uses below the Underground Injection Control (UIC) line of the State Department of Health and the "No-Pass" Line of the Board of Water Supply. Above the UIC line and "No-Pass" line, use of tertiary treated effluent (R-1 Quality) for irrigation purposes may be appropriate if approved by the Department of Health and Board of Water Supply. As noted above, the City is meeting its commitment to the U.S. Environmental Protection Agency and the State Department of Health to reclaim and use up to 10 million gallons a day (mgd) of wastewater islandwide by 2001.

Wastewater treatment plants should generally be located in areas shown as planned for industrial use and away from residential areas shown on the Urban Land Use Map in Appendix A. Existing treatment plants are shown on the Urban Land Use Map and Public Facilities Map in Appendix A.

A City review and approval process which provides adequate public notice and input should be used for any major new private wastewater treatment plant. Other system elements, such as pump stations and mains, should not require such comprehensive review and approval.

#### **4.4 ELECTRICAL POWER DEVELOPMENT**

The Hawaiian Electric Company (HECO) expects that increased electrical demand may create a need for additional power generation capacity before 2025. Overall economic development, the associated increase in electrical

demand, the effectiveness of energy conservation and efficiency programs, and the development of new energy-related technologies will all play a role in determining how soon additional generation capacity will be required. One potential site for additional generating units identified by HECO is the Waipio Peninsula. The site is owned by the U.S. Navy which would have to agree to such a use for the site.

#### **4.4.1 GENERAL POLICIES**

Major system improvements – such as development of a new power generating plant and/or major new transmission lines – should be analyzed and approved based on islandwide studies and siting evaluations. Strong consideration should be given to placing any new transmission lines underground where possible under criteria specified in State law.

Electrical power plants should generally be located in areas shown as planned for Industrial use and away from residential areas shown on the Urban Land Use Map in Appendix A. Any proposed major new electrical power plant should be considered through a City review and approval process which provides public notification and opportunity to comment and public agency analysis of impacts and mitigations.

#### **4.5 SOLID WASTE HANDLING AND DISPOSAL**

There are no landfills in Central Oahu because of concerns about the potential impacts on Oahu's water supply. The entire *Sustainable Communities Plan* area, with the exception of a small area bordering Pearl Harbor, is considered one of Oahu's most important groundwater recharge areas.

The **Solid Waste Integrated Management (SWIM) Plan** prepared by the department of public works and adopted by the City Council in 1995 identified existing landfills which could be expanded and potential sites for developing new landfills to provide new capacity. No potential sites in Central Oahu were identified.

While the City is augmenting the number and scope of its waste diversion programs, most of Central Oahu's solid waste will continue to receive final treatment and disposal either through incineration at the H-POWER plant or disposal at landfills in other areas. The Waipahu Incinerator was closed in 1995.

#### **4.5.1 GENERAL POLICIES**

Siting and/or expansion of sanitary landfills should be analyzed and approved based on island wide studies and siting evaluations.

Siting of landfills above the UIC line and the "No Pass" line should be approved only if recommended for approval by the department of health and the Board of Water Supply.

A City review and approval process which provides adequate public notice and input, complete technical analysis of the project, and approval by the City Council, should be used for any new or major modification of private landfills, incinerators, garbage-to-energy plants, refuse convenience centers, or other major solid waste handling or disposal facility.

#### **4.6 DRAINAGE SYSTEMS**

Central Oahu can be divided into two areas for assessing drainage needs: the uplands mauka of the H-1 Freeway and the lowlands makai of the freeway.

The urban developments sited on high plateaus in the Central Oahu uplands benefit from the natural flood protection provided by the deep gulches which drain stormwaters and filter some pollutants. Historically, flooding problems in the uplands have only occurred in the portion of Waiakakalaua Gulch which has been developed with houses and apartments.

Flooding has been more prevalent in the Central Oahu lowlands, particularly in Waipahu around Waikele Stream and in Waiawa around the lower reaches of Waiawa Stream where flood plain and wetland areas have been developed.

The discharge of drainage to Pearl Harbor has caused serious siltation problems and has aggravated water pollution which was already a significant problem due to shipyard uses. Siltation causes navigation problems in the harbor and forces the Navy to dredge at frequent intervals.

The City, in response to a federal government mandate, has initiated a major program to reduce nonpoint-source pollution. The City has established new rules for its storm drainage standards. These rules, which were adopted in 2000, include provisions for stormwater quality and retention.

#### 4.6.1 GENERAL POLICIES

Drainage system design should emphasize control and minimization of nonpoint source pollution and the retention or detention of stormwater on-site and in appropriate open space and wetland areas.

Stormwater should be viewed as a potential irregular source of water for recharge of the aquifer which should be retained for absorption rather than quickly moved to coastal waters.

Natural and man-made vegetated drainageways and retention basins should be the preferred solution to drainage problems wherever they could promote water recharge, help control nonpoint source pollutants, and provide passive recreation benefits.

#### 4.6.2 PLANNING PRINCIPLES

Principles to guide the development of Central Oahu drainage systems include:

- **Retention and Detention.** Public and private agencies should employ methods of retaining or detaining stormwater as the preferred strategy for management of nonpoint source pollutants in stormwater. Where feasible, any open space, including parking lots, landscaped areas, mini and community parks, and public and private golf courses should be used to detain or infiltrate stormwater flows to reduce their volume and runoff rates, and the amounts of sediments and pollutants transported.
- **Relation to the Regional Open Space Network.** To the extent possible, the developers should integrate planned improvements to the drainage system into the regional open space network by emphasizing the use of retention basins, creation of passive recreational areas, and recreational access for pedestrian and bicycles.
- **Preservation of Gulches as Natural Drainageways.** The major natural gulches which are listed in Table 2.1 should be retained as flood plains and open space resources. Further development of residential, commercial, or industrial uses within the gulches should be avoided, and grading or other disturbance of gulch walls, other than what is necessary to clear the gulch of debris or other floodway obstructions or to construct and maintain drainage, access, and utility facilities, should not be allowed.

- **Preservation of Flood Plain Capacity Around Pearl Harbor.** Urban development should be restricted in the lowlands around Pearl Harbor if it reduces flood plain capacity or allows increased siltation and pollution of Pearl Harbor.
- **Restrictions on Stream Channelization.** Streams should not be channelized, and existing flood plains should be left intact except where absolutely necessary to protect existing urban development from flooding.

#### 4.7 SCHOOL FACILITIES

Statewide, the State Department of Education (DOE) faces an enormous shortfall in funding to meet projected needs for new classrooms. As a result, the DOE is asking for developer “fair-share” contributions, exploring alternative school financing options such as lease/purchase agreements, and seeking to increase the number of schools operating year-round and/or with multi-track scheduling.

As shown in Table 4.3, based on expected development, the DOE projects a need for seven new elementary schools, three new intermediate schools, and two new high schools in Central Oahu by 2025.

The conceptual locations for one new intermediate school and one new high school are shown on the Public Facilities Map in Appendix A. Elementary schools are not mapped, because their sites are of community rather than regional concern. Sites have been reserved for the five of the seven elementary schools. The minimum site size recommended by the DOE for elementary schools is 12 acres, for intermediate schools is 18 acres, and for high schools is 50 acres.

<b>TABLE 4.3: PLANNED SCHOOLS IN THE CENTRAL OAHU <i>SUSTAINABLE</i> COMMUNITIES PLAN AREA</b>		
<b>School</b>	<b>Site Reserved</b>	<b>Opening Date</b>
<b>Elementary Schools</b>		
Mililani Mauka II	X	2001-2003
Royal Kunia	X	2003-2005
Waiawa	X	N.D.
Waiawa II	X	N.D.
Waiawa III	X	N.D.
Koa Ridge		N.D.
Koa Ridge II		N.D.
<b>Intermediate/High School</b>		
Waiawa Intermediate	X	N.D.
Site Undetermined Intermediate		N.D.
Site Undetermined Intermediate		N.D.
Waiawa/Koa Ridge High School		N.D.

TABLE 4.3: PLANNED SCHOOLS IN THE CENTRAL OAHU <i>SUSTAINABLE</i> COMMUNITIES PLAN AREA		
School	Site Reserved	Opening Date
Site Undetermined High School		N.D.
<b>NOTES:</b> N.D. Not Determined. <b>SOURCE:</b> State Department of Education, March 2001		

#### 4.7.1 GENERAL POLICIES

**Project Review and Approval Assessment.** As new residential developments are reviewed as part of the project application review and approval process, the State Department of Education should report to the department of planning and permitting whether the DOE will be able to provide adequate school facilities, either at existing schools or at new school sites so that needs from the proposed development can be met.

**Fair-Share Provisions.** Developers should pay their fair share of all costs needed to provide adequate school facilities for the children living in their developments.

#### 4.7.2 PLANNING PRINCIPLES

The following principles should be followed in planning and operating schools in Central Oahu:

- **Schools as Community Centers.** Because of the difficult financial problems for all sectors, new communities are likely to have fewer churches, private social halls, and recreation facilities. As a result, schools may have to assume important functions as cultural and recreational centers and as meeting facilities. The State DOE should design school facilities to facilitate community use during non-school hours and weekends.
- **Co-location with Parks.** Elementary and intermediate schools should be co-located with neighborhood or community parks, and designs of facilities should be coordinated by the State DOE and the department of design and construction when needless duplication of parking and of athletic, recreation, and meeting facilities can be avoided.
- **Shared Facilities.** The department of design and construction should coordinate the development and use of athletic facilities such as swimming pools and gymnasiums with the DOE where such facilities would maximize use and reduce duplication of function.
- **Fair-Share Contribution.** The City will support through its zoning powers the State Department of Education's requests for fair share contributions from developers of residential projects so that the DOE can provide adequate school facilities to meet the needs of residents.

#### 4.8 PUBLIC SAFETY FACILITIES

Table 4.4 provides a listing of existing and planned fire stations, police stations, and emergency medical services facilities and response units in the Central Oahu *Sustainable Communities Plan* area.

To meet projected population and economic growth by 2025, the fire department recently built two stations.

Because police operate primarily in the field and do not have a need for outlying stations, the Police Department plans no new regional stations in Central Oahu. Land has been donated for a substation at Waikele, but construction of the substation is not expected in the near future.

The expected population growth and development of new communities and community facilities in Central Oahu will result in a need for additional emergency medical service facilities and response units. The specific needs will depend on the size, demographics, and location of the future population. The State Department of Health has identified a need for three new stand-alone emergency medical services facilities in Central Oahu by 2010.

<b>TABLE 4.4: EXISTING AND PLANNED PUBLIC SAFETY FACILITIES IN THE CENTRAL OAHU <i>SUSTAINABLE COMMUNITIES PLAN</i> AREA</b>			
<b>Facilities</b>	<b>Site</b>	<b>Service Area</b>	<b>Service Date</b>
<b>Fire Stations</b>			
Wahiawa	Wahiawa	Wahiawa, Schofield, Wheeler, Whitmore Village	Existing
Mililani	Mililani	Mililani, Leilehua, Waikakalaua	Existing
Mililani Mauka	Mililani Mauka	Mililani Mauka, Waikakalaua	Existing
Waikele	Waikele	Waikele, Waipio-Gentry, Waipahu	Existing
Waipahu	Waipahu	Waipahu, Royal Kunia, Waikele, Ewa Villages, West Loch, Crestview, Waipio-Gentry	Existing
<b>Police Stations</b>			
Wahiawa District Station	Wahiawa	Wahiawa, Schofield, Wheeler, Whitmore Village, Leilehua, and Waikakalaua	Existing
Pearl City District Station	Pearl City	Waipahu, Royal Kunia, Waikele, Crestview, Waipio-Gentry	Existing
Waikele Substation	Waikele	Waikele	N.D.
<b>Emergency Medical Services Facilities</b>			
Wahiawa	@ Wahiawa General Hospital	Wahiawa, Schofield, Wheeler, Whitmore Village	Existing
	Stand-alone facility		2005



TABLE 4.4: EXISTING AND PLANNED PUBLIC SAFETY FACILITIES IN THE CENTRAL OAHU <i>SUSTAINABLE</i> COMMUNITIES PLAN AREA			
Facilities	Site	Service Area	Service Date
Mililani Mauka	co-locate @ Mililani Mauka Fire Station	Mililani, Mililani Mauka, Leilehua, Waikakalaua	2003
Waikele	Stand-alone facility	Waikele	2008
<b>Emergency Medical Services Facilities</b>			
Waipio	Provide four RRUs		2002
Waipahu	@ Waipahu Fire Station	Waipahu, Royal Kunia, Waikele, Ewa Villages, West Loch, Crestview, Waipio-Gentry	Existing
	Stand-alone facility	2006	
<b>NOTES:</b>			
N.D.	Not Determined.		
RRU	Rapid Response Unit (Does not transport patients but is used by an emergency medical technician to reach an emergency site and provide advanced life support treatment.)		

#### 4.8.1 GENERAL POLICIES

Adequate staffing and facilities are needed to ensure public safety. New development should be approved only if staffing and facilities will be adequate to provide fire and police protection and emergency medical services when development is completed.

#### 4.9 OTHER COMMUNITY FACILITIES

Other existing community facilities shown on the Urban Land Use Map in Appendix A include hospitals, colleges, correctional facilities, and cemeteries. Key facilities include Leeward Community College, Wahiawa Hospital, and the Waiawa Correctional Facility. A medical park is proposed for a portion of Koa Ridge nearest the new Central Oahu Regional Park.

Location of new community facilities should comply with the following principles:

- **Colleges and Hospitals.** Colleges and hospitals should generally be located in urban areas near transit nodes, commercial centers, or high-density residential areas.

A medical park can be located near the Central Oahu Regional Park on Koa Ridge Makai. Uses at the Medical Park could include:

- A diagnostic-treatment center;
- A physician's office building;
- A sports medicine and research center;

- A birthing center;
- An acute-care facility;
- An Alzheimer's center;
- A hospice;
- A center for alternative medicine;
- An adolescent mental health facility;
- A dental clinic;
- A rehabilitation and wellness center;
- A geriatric center;
- A cardiac center; and
- Other medical and health services.

Building heights and densities allowed at the park should be comparable to those allowed at Mililani Technology Park.

- **Correctional Facilities.** Correctional facilities should generally be located on lands planned for industrial and agricultural use. If such a facility is proposed for lands not planned for industrial or agricultural use, a City review and approval process which provides public review, complete project analysis, and City Council approval should be used.
- **Approval of Major Facilities.** Major public, quasi-public or private facilities or utilities which provide essential community services but which could have a major adverse impact on surrounding land uses should be considered through a City review and approval process which provides public notification, review by appropriate agencies, opportunities for public comment, and approval by the City Council.

#### 4.10 ADDED OR CHANGED PUBLIC FACILITIES

Public facilities other than those listed in this plan shall be identified on the Public Infrastructure Map.

### 5. IMPLEMENTATION

#### OVERVIEW

Implementation of the City's revised Development and Sustainable Community Plans will be a major challenge for the City's planners, engineers, and other technical and policy-level personnel, as well as elected officials who determine the allocation of City resources.

In contrast to previous Development Plans, which functioned primarily as regulatory guides and a prerequisite for City zoning of parcels proposed for development, the revised plans are oriented toward implementation on a broader scale. They now seek to implement a vision for the future by providing wider guidance for decisions and actions related to land use, public facilities, and infrastructure as well as for zoning matters. As a result, many of their provisions reflect the consultations which occurred throughout the planning process with pertinent implementing agencies and community representatives.

Many other City, county, and town jurisdictions on the U.S. mainland have instituted comprehensive planning programs that emphasize a proactive community-based planning and implementation process. These local governments seek to establish a strong link between planning policies and guidelines, and specific organization, funding, and actions needed to implement a variety of public and private projects and programs.

Sections 5.1 through 5.6 are intended to strengthen the linkage to implementation to realize the vision of the future presented in this plan.

Implementation of the Central Oahu *Sustainable* Communities Plan will be accomplished by:

- Limiting residential and nonresidential development to areas within the Urban Community Boundary to support the vision for protection of agricultural and preservation lands in Central Oahu, for development of the Primary Urban Center and Secondary Urban Center at Kapolei, and for ending infrastructure investments which promote urban sprawl;
- Guiding development in areas of critical concern including Waipahu and Wahiawa through Special Area Plans;
- Guiding public investment for infrastructure through Functional Plans which support the vision of the *Sustainable* Communities Plan;
- Recommending approval, approval with modifications, or denial of developments seeking zoning and other development approvals based on how well they support the vision for Central Oahu's development;
- Incorporating *Sustainable* Communities Plan priorities through the Public Infrastructure Map and the City's annual budget process;
- Evaluating progress in fulfilling the vision of the Central Oahu *Sustainable* Communities Plan every two years and presenting the results of the evaluation in the **Biennial Report**; and
- Conducting a review of the vision, policies, principles, and guidelines, of the Central Oahu *Sustainable* Communities Plan every five years and recommending revisions as necessary.

## 5.1 DEVELOPMENT PRIORITIES

### 5.1.1 PUBLIC FACILITY INVESTMENT PRIORITIES

The regional directed growth strategy requires the cooperation of both public and private agencies in planning, financing, and constructing infrastructure. The City should take an active role in planning infrastructure and coordinating the expansion of Honouliuli Wastewater Treatment Plant and reuse of its effluent, improvement of the Wahiawa Treatment Plant, provision of recreational open spaces, and development of the regional transportation system, parks, and police and fire facilities.

### 5.1.2 PRIVATE DEVELOPMENT PRIORITIES

The Central Oahu *Sustainable* Communities Plan provides a clear signal to private landowners and developers as to where development will be supported.

The **Urban Expansion** area is shown on the Phasing Map in Appendix A. The Urban Expansion Area shows where new urban development is occurring and where applications for new urban development will be accepted for processing. As shown in Table 2.2, several projects in this area already have Development Plan approvals and most zoning changes needed for proceeding with development immediately.

Projects in the Urban Expansion area needing zoning changes and other development approvals would be eligible for processing starting with adoption of the Plan and will be supported if:

- the project implements the vision for Central Oahu and relevant policies, principles, and guidelines, and
- adequate infrastructure will be available to meet the demand resulting from the project.

No additional areas should be approved for residential development beyond the Urban Expansion area in order to protect agricultural and preservation lands.

## 5.2 SPECIAL AREA PLANS

Special Area Plans provide more detailed policies, principles, and guidelines than the *Sustainable Communities Plan* for areas requiring particular attention. The form and content of Special Area Plans depends on what characteristics and issues need to be addressed in greater detail in planning and guiding development or use of the Special Area.

Special Area Plans can be used to guide land use development and infrastructure investment in Special Districts, Redevelopment Districts, or Resource Areas. Plans for Special Districts would provide guidance for development and infrastructure investment in areas with distinct historic or design character or significant public views. Plans for Redevelopment Districts would provide strategies for the revitalization or redevelopment of an area. Plans for Resource Areas would provide resource management strategies for areas with particular natural or cultural resource values.

Waipahu and Wahiawa are the only areas in Central Oahu currently designated for a Special Area Plan.

**Waipahu.** The Waipahu Town Plan, the Special Area Plan for Waipahu, was completed in December 1995. The Plan provided the basis for policies, principles, and guidelines for Waipahu in Section 3.5 above. The policies in Section 3.5 will be used to evaluate both applications for zoning changes and other development approvals and proposals for public and private infrastructure in Waipahu.

**Wahiawa.** A Special Area Plan, the Wahiawa Urban Design Plan, was prepared for Wahiawa and transmitted to the City Council in 1998. The Plan focuses on urban design issues and implementation proposals and builds on the Wahiawa Town Master Plan (prepared in 1994 by members of the Wahiawa community).

## 5.3 FUNCTIONAL PLANS

Functional Plans are meant to provide guiding principles and strategies which will be used by the various functional agencies to determine needs, assign priorities, phase infrastructure and facilities development, and secure financing to meet the needs identified in the *Sustainable Communities Plan*.

City agencies responsible for developing infrastructure and public facilities shall review existing Functional Plans, and in consultation with the director of the department of planning and permitting, update the existing Plans or prepare and submit to the Mayor new long-range Functional Plans for providing facilities and services for Central Oahu to the year 2020.

Agencies with Functional Planning responsibilities include:

- Board of Water Supply
- Department of Design and Construction
  - City Buildings
  - Parks and Recreation
  - Drainage Systems
  - Wastewater
- Department of Transportation Services
- Honolulu Fire Department
- Honolulu Police Department

The Functional Plans should provide:

- A Resource-constrained Long-Range Capital Improvement Program with priorities,
- A Long-Range Financing Plan, with any necessary new revenue measures,
- A Development Schedule with first priority to areas designated for earliest development, and
- Service and facility design standards, including Level of Service Guidelines for determining adequacy.

A resource-constrained program is one which identifies the fiscal resources that can be reasonably expected to be available to finance the improvements.

Level of Service Guidelines for determining adequacy of public facilities and infrastructure to support new development should be established by the responsible City agencies as part of their review and update of Functional Plans. Level of Service Guidelines for infrastructure and utilities which are primarily State agency responsibilities (such as schools) shall be developed by the department of planning and permitting in consultation with the responsible State agencies.

In preparing the Functional Plans, a proactive public participation process should be established which provides the public with access to complete information about infrastructure and public facility needs assessment, alternatives evaluation, and financing. Outreach activities should involve the Neighborhood Boards, community organizations, landowners, and others who might be significantly affected by the infrastructure or public facilities projects to be developed under the Functional Plan.

The process should be characterized by opportunities for early and continuing participation, timely public notice, public access to information needed to review the decision, and the opportunity to suggest alternatives and to express preferences.

#### **5.4 REVIEW OF ZONING AND OTHER APPLICATIONS**

A primary way in which the vision of the Central Oahu *Sustainable* Communities Plan will guide land use will be through the review of applications for zoning changes and other development approvals. Approval for all development projects should be based on the extent to which the project supports the policies, principles, and guidelines of the *Sustainable* Communities Plan.

Projects which do not involve significant zone changes will be reviewed by the department of planning and permitting for consistency with the policies, principles, and guidelines of the Central Oahu *Sustainable* Communities Plan during the Zone Change Application process. Those projects requiring environmental assessments shall follow the provisions of Hawaii Revised Statutes, Chapter 343.

Projects involving significant zone changes will require an Environmental Assessment which must include a Project Master Plan when 25 acres or more are involved. This is submitted to the department of planning and permitting for review as part of the first Zone Change Application. (See definition of significant zone change and Project Master Plan in Section 24-5.1 of the adopting ordinance.)

Zone change applications to permit urban uses on parcels outside the Urban Community Boundary or on parcels identified as part of the Open Space Network will not be accepted for processing.

#### **5.4.1 ADEQUATE FACILITIES REQUIREMENT**

All projects requesting zone changes shall be reviewed to determine if adequate public facilities and infrastructure will be available to meet the needs created as a result of the development. Level of Service Guidelines to define adequate public facilities and infrastructure requirements will be established during the Capital Improvement Program.

In order to guide development and growth in an orderly manner as required by the City's **General Plan**, zoning and other development approvals for new developments should be approved only if the responsible City and State agencies indicate that adequate public facilities and utilities will be available at the time of occupancy or if conditions the functional agency indicates are necessary to assure adequacy are otherwise sufficiently addressed.

The Department of Planning and Permitting will review and summarize any individual agency's findings regarding public facilities and utilities adequacy which are raised as part of the EA/EIS process or as part of the agency review of the zone change application and recommend conditions that should be included in the Unilateral Agreement or Development Agreement to insure adequacy of facilities.

#### **5.5 FIVE-YEAR *SUSTAINABLE* COMMUNITIES PLAN REVIEW**

The Department of Planning and Permitting shall conduct a comprehensive review of the Central Oahu *Sustainable* Communities Plan and shall report its findings and recommended revisions to the City Council five years after adoption and every five years thereafter.

In the Five-Year review, all the elements of the Central Oahu *Sustainable* Communities Plan (regional vision, policies, principles and guidelines, and implementing actions) will be evaluated to see if they are still appropriate. In addition, the development phasing guidelines will be reviewed to see if its purpose is being achieved and if phasing priorities should be revised.

The Plan evaluation will include an evaluation of the Urban Community Boundary since it is a key vision element of the Plan. However, the Urban Community Boundary (UCB) was drawn with the intent that it will remain fixed through the 2025 planning horizon because of the vision that key agricultural and preservation lands should be protected for the foreseeable future and the analysis that there are ample developable lands to meet the urban development needs for the foreseeable future within the UCB in Ewa and Central Oahu.

#### **5.6 TRANSITION FROM THE CURRENT SYSTEM**

This section discusses the transition from the former Development Plan to this revised *Sustainable* Communities Plan, including its independence from Development Plan Common Provisions, its relationship to the **General Plan** guidelines, and the need for review and revision of development codes, standards, and regulations.

### 5.6.1 DEVELOPMENT PLAN COMMON PROVISIONS AND EXISTING LAND USE APPROVALS

This *Sustainable Communities Plan* will go into effect upon adoption by ordinance. At that time, the revised *Sustainable Communities Plan* will become a self-contained document, not reliant on the Development Plan Common Provisions which formerly applied to the Central Oahu Development Plan as well as all the other Development Plans.

Land use approvals granted under previous Development Plan amendments should generally remain in force and guide zoning decisions unless clearly inconsistent with the vision and policies of the Central Oahu *Sustainable Communities Plan*. Development can proceed in accordance with existing zoning, Unilateral Agreements, and approved Urban Design Plans.

If an Environmental Assessment or Environmental Impact Statement (EA/EIS) was accepted in the course of a Development Plan land use approval for a project, it should be acceptable to meet the requirement for an initial project EA/EIS when zone change applications are submitted for subsequent phases of the project unless the project scope and land uses are being significantly changed from that described in the initial EA/EIS.

### 5.6.2 RELATION TO GENERAL PLAN POPULATION GUIDELINES

The Central Oahu *Sustainable Communities Plan* implements the **General Plan** population policies (in Population Objective C) as follows:

- Central Oahu's likely share of Oahu population in 2025 (16.8 percent) will be quite close to the **General Plan** 2025 population distribution guideline (17 percent). Central Oahu's share in 2000 was 16.9 percent.
- Planned developments in the Central Oahu urban-fringe will implement Population Objective C, Policy 2 which encourages such development in order to "relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center."

The **General Plan** population distribution guidelines will continue to be used as a guide to direct the pattern of growth and development in the Central Oahu *Sustainable Communities Plan* Area. Assessments of this performance will be reported in both the **Biennial Report** and in the Five-Year Review of the *Sustainable Communities Plan*. Under the new Central Oahu *Sustainable Communities Plan*, projects will be evaluated against how well they fulfill the vision for Central Oahu enunciated in the *Sustainable Communities Plan* and how closely they meet the policies, principles, and guidelines selected to implement that vision.

### 5.6.3 REVIEW AND REVISION OF DEVELOPMENT CODES

Upon completion of the Development Plan and *Sustainable Communities Plan* Revision Program, current regulatory codes and standards should be reviewed and revised, as necessary, to maintain their consistency and effectiveness as standards to guide attainment of the objectives and policies envisioned for all Development Plan areas.

To achieve the vision for Central Oahu as identified in this plan, when such reviews are conducted, the following regulatory codes and standards may warrant further review and revision to ensure achievement of the vision for the Central Oahu region, as well as consistency with the Central Oahu *Sustainable Communities Plan*:

- **Land Use Ordinance** (Department of Planning and Permitting, pursuant to Chapter 21, Revised Ordinances of Honolulu). Zoning code standards and the zoning map for Central Oahu need to be revised to reflect policies, principles and guidelines in the *Sustainable Communities Plan*.

- **Subdivision Rules and Regulations** (Department of Planning and Permitting, pursuant to Chapter 22, Revised Ordinances of Honolulu). Public right-of-way standards used for subdivision and consolidation of land need to be revised to reflect transportation policies, principles, and guidelines in the *Sustainable Communities Plan*.
- **Traffic Standard Manual** (Department of Transportation Services, July 1976, as revised). Standards which are applied to local and most collector streets need to be revised to reflect transportation policies, principles, and guidelines in the *Sustainable Communities Plan*.
- **State Highways Division Procedures Manual**, Vol. 8, Chapter 5, Section 4 (State Department of Transportation). These State highway standards need to be reviewed to identify provisions which may conflict with the transportation policies, principles, and guidelines in the *Sustainable Communities Plan*.
- **Standard Details for Public Works Construction** (Honolulu Department of Public Works with Kauai, Maui, and Hawaii County Departments of Public Works, September 1984. *Department of Planning and Permitting now responsible for revisions*). Engineering standards for the dedication of public works construction need to be revised to reflect *Sustainable Communities Plan* principles and guidelines.
- **Storm Drainage Standards** (Department of Public Works, March 1986. *Department of Planning and Permitting now responsible for revisions*). Standards for the dedication of drainage systems to incorporate grassed swales and retention basins into the design need to be created to reflect the *Sustainable Communities Plan* policies, principles, and guidelines for open space.
- **Park Dedication Rules and Regulations** (Department of Planning and Permitting, pursuant to Chapter 22, Article 7, Revised Ordinances of Honolulu). Regulations need to be reviewed to determine if passive drainage systems which are designed for recreation use should count toward park dedication requirements, especially in cases where the area would exceed the amount of land that would be required under current rules and regulations.
- **Wastewater Management Design Standards** (Department of Environmental Services, Vol I: 1993, Vol. II: 1984) pursuant to Chapter 14, Revised Ordinances of Honolulu. *Department of Planning and Permitting now responsible for revisions*. These standards and ordinance may require review to further implement *Sustainable Communities Plan* policies and guidelines.



**APPENDIX A: CONCEPTUAL MAPS**

This appendix includes the four primary conceptual maps used to illustrate the vision for Central Oahu's future development. The maps include:

	<b><u>PAGE</u></b>
<b>OPEN SPACE</b>	<b>24-520</b>
<b>URBAN LAND USE</b>	<b>24-521</b>
<b>PUBLIC FACILITIES</b>	<b>24-522</b>
<b>PHASING</b>	<b>24-523</b>

These maps illustrate the long-range vision of the future of the plan area and the major land use, open space, and public facility policies that are articulated in the plan. In using these maps, the reader should keep in mind that:

1. These maps are general and conceptual, and are not intended to be used to determine specific land use boundaries. Such boundaries are to be determined during the review of specific land use or public facilities investment decisions, and their exact locations are to be guided by the vision and policies of this Plan.
2. These maps illustrate the Plan's vision and policies which are presented in Chapters Two, Three, and Four. These policy statements are considered the most important elements of the Plan.

The maps are considered illustrations of the policies. However, it is recognized that the maps may be more accessible and more interesting than the written policies.

This section of the appendix, therefore, presents a brief explanation of the contents of each of these maps.

**GLOSSARY OF TERMS**

Elements common to each of the four maps include organizing boundaries and the following land use designations. They are presented in the following section. Information particular to each map (Open Space, Land Use, Public Facilities, Phasing) is presented under the section for each map topic.

**COMMON ELEMENTS****Urban Community Boundary**

The urban community boundary defines and contains the intended extent of developed or "built up" areas of urban and urban fringe communities. Its purpose is to provide adequate land to support established or developing communities while protecting lands outside this boundary for agriculture or open space values. Areas within this boundary are generally characterized by extensive tracts of residential, commercial, industrial, or mixed-use development clearly distinguishable from undeveloped or more "natural" portions of a region's environment.

In the Central Oahu *Sustainable* Communities Plan, the Urban Community Boundary generally circumscribes the existing communities of Waipahu, Wahiawa, and Mililani, and planned developments of Royal Kunia, Wahiawa, Mililani, Mililani Mauka, Koa Ridge Makai, Waiawa, Waiawa Castle & Cooke, Waiawa Mauka, Gentry Waipio, Waikele and Mililani Technology Park, and excludes:

- areas outside of the State Urban District, with the exception of Koa Ridge Makai, portions of Waiawa, Waiawa Castle & Cooke, and Waiawa Mauka, and a portion of Royal Kunia;
- areas inside the State Urban District which are in either the Preservation or Agriculture Zoning Districts, with the exception of the Phase II of the Mililani Technology Park (which has Development Plan approval for urban use, but had not been rezoned as of February 1999) and a residential project of about 100 acres proposed for a site in Mililani Mauka previously proposed for the University of Hawaii West Oahu campus.

### **Agriculture Boundary**

The agriculture boundary is to protect important agriculture lands for their economic and open space values, and for their value in helping to give a region its identifiable character. This boundary is not displayed as a discrete boundary line on the Open Space, Land Use, Public Facilities, and Phasing maps. It is implied, rather by the “agriculture” land use designations outside the Urban Community Boundary.

Lands within this boundary include agriculturally valuable lands outside the Urban Community Boundary. They include agriculturally important lands designated by ALISH as “prime,” “unique,” or “other.”

### **Preservation Boundary**

The primary purpose of the Preservation boundary is to protect lands which are not valued primarily for agriculture, but which form an important part of a region’s open space fabric for their natural, cultural, or scenic resource values. The boundary generally circumscribes undeveloped lands designated “Preservation” outside the Urban Community Boundary on the Open Space, Land Use, Public Facilities, and Phasing maps.

### **Preservation Areas**

Preservation lands include those lands not valued primarily for agriculture, but which form an important part of a region’s open space fabric. They possess natural, cultural, or scenic resource values, and include important wildlife habitat, cultural sites, significant landforms, views, or hazard areas. They include the following types of land:

- Land necessary for protecting watersheds, water resources and water supplies.
- Lands necessary for the conservation, preservation and enhancement of sites with scenic, historic, archaeologic or ecologic significance.
- Lands necessary for providing and preserving park lands, wilderness and beach reserves, and for conserving natural ecosystems of endemic plants, fish and wildlife, for forestry, and other related activities to these uses.
- Lands with topography, soils, climate or other related environmental factors that may not be normally adaptable or presently needed for urban, rural or agricultural use.
- Lands with general slopes of 20 percent or more which provide for open space amenities or scenic values, or both.

- Lands susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention by the State or Federal Government, and lands necessary to the protection of the health, safety and welfare of the public by reason of soil instability or the lands= susceptibility to landslides or both inundation by tsunami and flooding.
- Lands used for national, state or city parks.
- Lands suitable for growing of commercial timber, grazing, hunting, and recreation uses, including facilities accessory to such uses when said facilities are compatible with the natural physical environment.

### **Agriculture Areas**

Lands with agricultural value by virtue of current agricultural use or high value for future agricultural use, including those areas identified as Prime, Unique, or Other Important lands on the Agricultural Lands Important to the State of Hawaii (ALISH) maps. “Agriculture” includes lands suitable for crop growing, grazing and livestock raising, flower cultivation, nurseries, orchards, aquaculture, or similar activities.

### **OPEN SPACE MAP**

The Open Space Map illustrates the vision for the Central Oahu Open Space Network which would consist of large areas of preservation and agricultural lands outside the Urban Community Boundary and a network of parks, wildlife habitats, golf courses, agricultural lands, ravines, grass-lined drainageways, and greenways along utility corridors and major arterials within the Urban Community Boundary. (See definitions of terms and discussion in Sections 2.2.1, 2.2.2, 2.2.3 in Chapter 2 and in Section 3.1 in Chapter 3.)

The Open Space Map is intended to illustrate the region’s major open space patterns and resources as outlined in Chapter 3. It highlights major open space elements and resources, including agricultural and preservation lands, major recreational facilities, important “panoramic” views, natural stream corridors and drainageways, and important boundaries.

### **Military Training Areas**

Open space areas used by the military for training purposes.

### **Urban Areas**

Areas which have been developed or are planned for development for residential, commercial and industrial uses.

### **Wetlands**

Habitat areas for endangered waterbirds located on the shoreline of Pearl Harbor which are to be protected.

### **Historic Railway/Bikeway Corridor**

Part of a continuous shoreline park and greenbelt stretching from West Loch to Rainbow Marina near Aloha Stadium with a connection to the Waipahu Cultural Garden Park. The corridor would include a shoreline bike path and a restored OR&L right-of-way that would allow train operations between Ko Olina and Waipahu with a possible extension on to the Makalapa area in the Primary Urban Center.

**Natural Drainageways/Gulches**

Natural waterways which are to be retained as flood plains and open space resources and protected from development, disturbance, or channelization except where absolutely necessary to protect existing urban development from flooding.

**Panoramic Views**

Significant views and vistas which are to be retained, whenever possible. (See Table 3.1 and Section 3.4.2.)

**Landscaped Boulevard/Greenway**

Major arterials and major collector streets which should be developed as landscaped parkways, complete with a landscaped median strip, landscaped sidewalk, and bikeways. (See Sections 3.1.4.8 and 3.8.2.4.)

**URBAN LAND USE MAP**

The Urban Land Use Map illustrates the vision for the foreseeable future for Central Oahu's land uses within the Urban Community Boundary. It portrays the vision for revitalization of Waipahu and Wahiawa, for the development of master planned residential communities, and for creation of new jobs in existing and planned community shopping centers, at Mililani Technology Park, and at a new medical park at Koa Ridge. (See definition of terms and discussion in Sections 2.2.4, 2.2.5, 2.2.6, 2.2.7, and 2.2.10 in Chapter 2, and in Chapter 3.)

This map illustrates the desired long-range land use pattern for Central Oahu. It supports the plan's vision and policies. The map includes the following terms:

**Parks**

Public and private parks and recreational facilities, including beach parks, playgrounds, playfields, district parks, botanical gardens, zoos, and golf courses.

**Residential Uses**

In certain instances, residential designations displayed on the map may denote the predominant residential pattern but also contain minor occurrences of other residential categories. For instance, "rural residential" may contain minor pockets of "low density apartment." These distinctions are cited and elaborated on in the text.

**Rural** Single-family homes on large lots. On-site development is characteristically low-intensity, typically consisting of a single-family detached home, ancillary structures if necessary, low site coverage, non-urban development standards, and a large predominance of landscaped open space.

**Rural Residential** Single-family homes in country settings on medium-sized to large lots, on which rural development standards are employed and provisions for pedestrian circulation, landscaping, and open space are emphasized.

**Residential** Single-family detached and attached homes or townhouse units with individual entries.

**Low-Density Apartment** Low-density, low-rise, multi-family residences, including townhouses, stacked flats, or apartment buildings.

**Medium-Density Apartment** Medium-density, low- to mid-rise multi-family residences which may occur in mixed-use contexts, with the ground or lower floors occupied by retail or service commercial uses.

**High-Density Apartment** High-density, mid- to high-rise multi-family residences consolidated into large structures.

## **Commercial**

The following commercial designation descriptions summarize the types of commercial establishments within the region. As with the overall approach taken by the plan, they indicate vision and intent.

**Rural Community Commercial Center** A small cluster of small-scale, low-rise commercial and service businesses which serve primarily the immediate community. Its primary visual appearance is rural. Buildings are generally compatible in scale and form with adjacent residential areas.

**Rural Regional Commercial Center** A consolidated cluster of small-scale, low-rise retail, office, and dining establishments that serve the immediate and nearby communities. Its primary visual appearance is rural, pedestrian circulation and amenities are emphasized to and throughout the complex, and structures are compatible in scale and form with adjacent residential areas. While supermarkets are encouraged, “big box” retail is not.

**Country Town** A small-scale, low-rise, mixed use center of commerce and community activity in rural character and setting in which principal establishments are oriented to the street. Land use mixtures may include retail, office, and dining establishments, compatible service businesses and light industry, and residential uses. Commercial activity is concentrated along street frontages in typically “Main Street” settings.

**Neighborhood Commercial Center** An urban or urban fringe commercial center cluster of commercial establishments intended for neighborhood service in urban and urban fringe areas. Uses are typically grocery and sundry stores and other services or shops catering to common household or neighborhood-level convenience items. (See Sec. 3.9.1.1, 3.9.1.2, and 3.9.3.1.)

**Community Commercial Center** An urban or urban fringe commercial center intended to serve a specific community and its constituent neighborhoods. In addition to facilities offered by Neighborhood Centers, this type of center often incorporates “anchor” tenants and includes offices, service industrial businesses, entertainment facilities, and social centers. (See Sec. 3.9.1.1, 3.9.1.3, and 3.9.3.2.)

**Major Community Commercial Center** A shopping center intended to serve large planned communities which are not located near an Urban Center. These centers offer similar shopping and service opportunities as Community Commercial Centers at greater variety and large scale. (See Sec. 3.9.1.1, 3.9.1.4, and 3.9.3.2.)

**Regional Shopping Center** An urban or urban fringe shopping center with major commercial outlets and a regional or islandwide service area. (See Sec. 3.9.1.1 and 3.9.1.5.)

**Regional Town Center** An urban fringe town which serves as a center for shopping, civic activity, and municipal services for its region. It offers a wide range of shopping and dining opportunities and professional, business and industrial services.

**Industrial**

Facilities for light- and service-related industrial uses associated with repair, processing, construction, manufacturing, transportation, wholesaling, distribution, storage and similar economic activities. Industrial areas also include a range of compatible commercial activities, except where otherwise specified within the text of the Development and Sustainable Communities Plans. (Areas intended primarily for more intensive, noxious industrial uses are specified in the text of specific Development and Sustainable Communities Plans.)

**Technology Park**

Facilities intended for light, technology and service-oriented industrial and business uses, developed in a campus-like setting. Development intensity is low, while open space and landscaping are the predominant visual and physical elements.

**Medical Park**

Medical diagnostic and treatment, research, and education centers developed in a campus-like setting. Building heights and densities comparable to those allowed for technology park.

**Institutional**

Facilities for public use or benefit, including schools, churches, hospitals, group living establishments, utilities and infrastructure production or support facilities, civic, public, and social services facilities, and government facilities.

**Military**

Lands for military and military support purposes.

**Transit Node (Medium-Density Residential and Commercial)**

Center of medium-density residential and commercial development located along a planned rapid transit corridor connecting Waipahu with the City of Kapolei to the west and to the Primary Urban Center to the east. (See Sections 3.5 and 4.1.3.2.)

**PUBLIC FACILITIES MAP**

The Public Facilities Map illustrates the major infrastructure needed to implement the vision for Central Oahu. It shows the location of existing facilities and conceptual locations for future facilities. It is not meant to be amended between revisions of the Plan.

Public facilities not listed in the Plan will be shown on a Public Infrastructure Map which is not part of the **Sustainable Communities Plan** and is adopted and amended by resolution. (For definitions, information about existing and planned public facilities, and functional planning processes, see Chapter 4 and Sec. 5.3 in Chapter 5.)

For Central Oahu, terms on the Public Facilities Map which have not been previously defined include:

**Bike Path**

A biking facility (bikeway) which is separate from the roadway network.

**Bike Lane**

A biking facility (bikeway) which is a four- to six-foot lane exclusively for bike use which is included in a roadway.

**HOV (High Occupancy Vehicle) Lane**

An exclusive lane on a roadway reserved for transit and vehicles with more than one occupant which is developed to improve transit speed and to provide incentives for commuters to opt for mass transit or carpooling.

**Park & Ride Site**

Special parking lots where commuters park their cars and continue their commute by mass transit.

**Transit Corridor**

An area designated for establishment of communities that do not require use of the automobile to go to work, school, shop, or have fun because they have access to high speed mass transit. Areas along the corridor will be supported for medium-density residential and commercial development to permit efficient use of buses and other forms of mass transit on the corridor. Sufficient land will be reserved in the corridor so that an at-grade separated rapid transit system can be developed in the future. (See Sections 2.2.7, 3.8.1.2, and 4.1.3.2.).

In addition, the Public Facilities Map also displays the following types of facilities:

- Highways, Arterial & Major Collector Streets
- Grade Separated Interchange
- Historic Railway/Bikeway Corridor
- Transit Node
- Parks and Golf Courses
- Wetlands
- Intermediate School
- High School
- Hospital
- Civic Center
- Airfield
- Cemetery
- Correctional Facility
- Wastewater Treatment Plant
- U.H. Leeward Community College
- Corporation Yard

## PHASING MAP

The Phasing Map shows where urban development has already occurred in Central Oahu, where new development will take place within the Urban Community Boundary, and where the areas are that have Special Area Plans (Waipahu and Wahiawa).

### Existing Urban Areas

Areas which already have been developed for residential, commercial, or industrial uses. Growth in such areas can occur through re-development or in-fill.

### Urban Expansion Areas

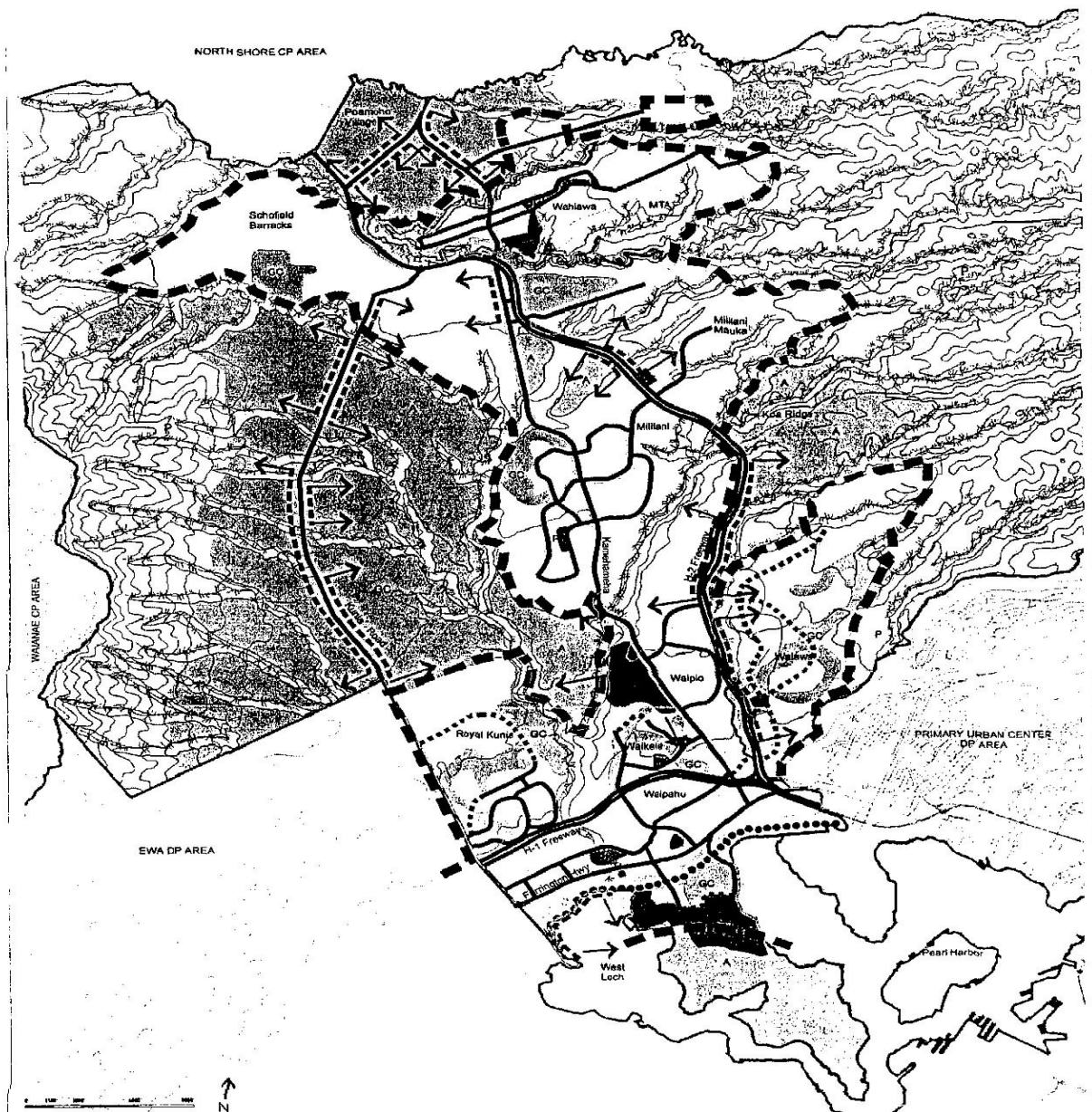
Undeveloped areas formerly in agricultural uses which are either already approved or will be considered for approval for development for residential, commercial or industrial uses. Applications for zone changes and other development approvals needed for new urban development in the Urban Expansion Area will be accepted for processing, and will be supported for approval if the project supports the vision and implementing policies of the Central Oahu Sustainable Communities Plan and if adequate infrastructure can be provided. (See Sections 2.2.10 and 5.1.2.) Total acreage is estimated at almost 3,200 acres with capacity for development of over 24,000 housing units. (See Table 2.2.)

### Special Areas

Areas which require more detailed planning than can be provided in the *Sustainable Communities Plan* (see Section 5.2). Waipahu and Wahiawa are the only areas in Central Oahu currently designated for a Special Area Plan.

- The **Waipahu Town Plan** was completed in December 1995 and the **Waipahu Livable Communities Initiative** in May 1998 (see Section 3.5).
- The **Wahiawa Urban Design Plan** was prepared and transmitted to the City Council in 1998 (see Section 3.6).












## CENTRAL OAHU *SUSTAINABLE* COMMUNITIES PLAN

## Open Space Map



Department of Planning and Permitting  
City and County of Honolulu  
November 2002

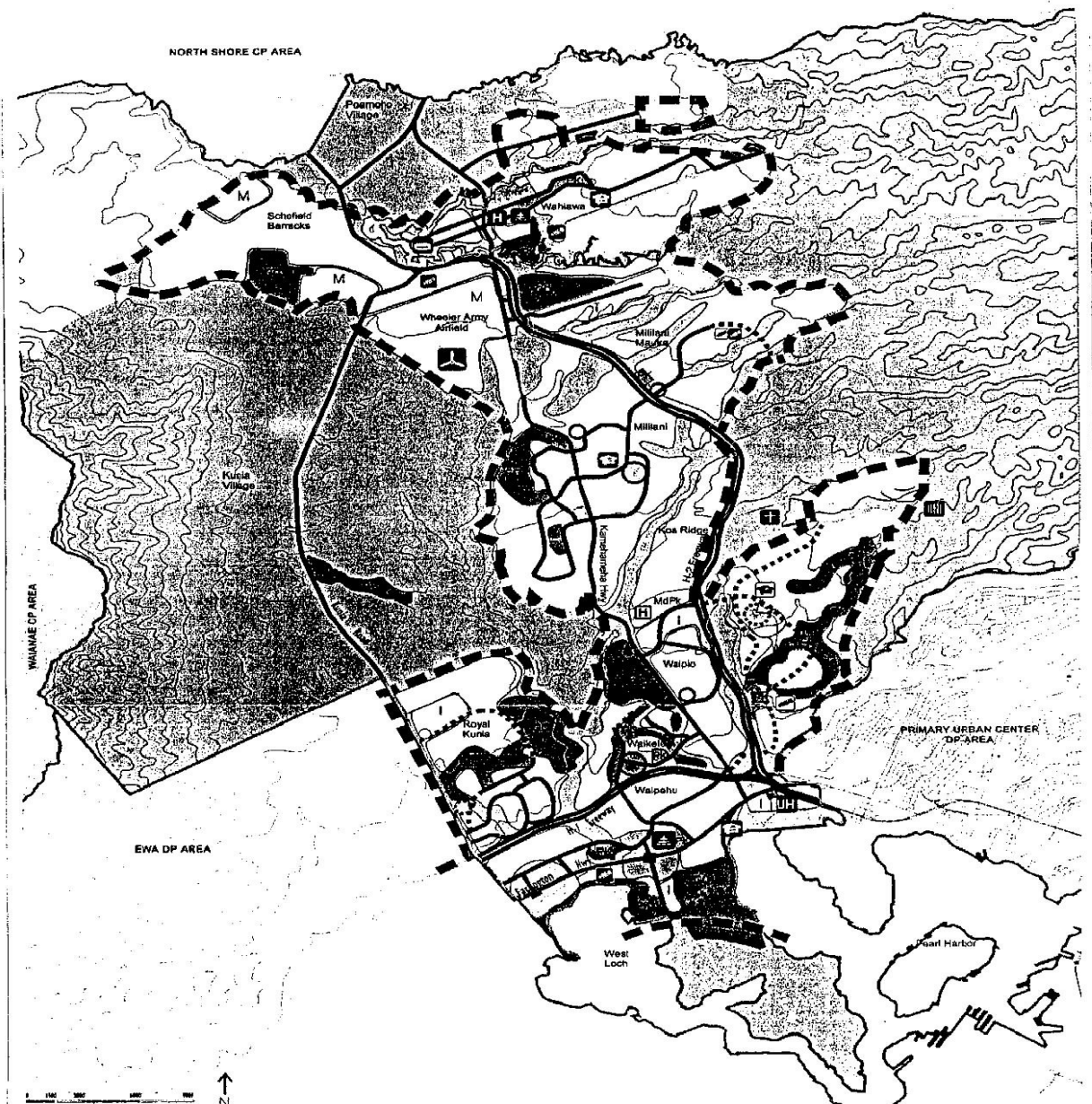
	Preservation Areas
	Agriculture Areas
	Regional, District, Shoreline and Nature Parks
	Golf Courses
	Military Training Area
	Urban Areas
	Urban Community Boundary

	Lake Wilson
	Wetlands
	Historic Railway/Bikeway Corridor
	Natural Drainage/Gulches
	Panoramic Views
	Kukānīloka (Birthplace of the Ahi)

**EXISTING** **FUTURE**

Highways, Arterial and Major Collector Streets

Landscaped Boulevard Greenway



## CENTRAL OAHU SUSTAINABLE COMMUNITIES PLAN

### Urban Land Use



Department of Planning and Permitting  
City and County of Honolulu  
November 2002

- Community Commercial Center
- Major Community Commercial Center
- Regional Commercial Center
- Residential and Low Density Apartment
- Medium Density Residential/Commercial Mixed Use
- Regional Town Center
- Technology Park
- Medical Park
- Industrial
- Military
- Parks and Golf Courses
- Agriculture and Preservation Areas

#### EXISTING FUTURE

EXISTING FUTURE

EXISTING FUTURE

EXISTING FUTURE

EXISTING FUTURE

EXISTING FUTURE

EXISTING FUTURE

EXISTING FUTURE

- Military Training Area
- Urban Community Boundary
- Institutional
- Wetland
- Highways, Arterial & Major Collector Streets
- Transit Node (Medium Density Res. and Comm.)
- Intermediate School
- High School

#### EXISTING FUTURE

EXISTING FUTURE

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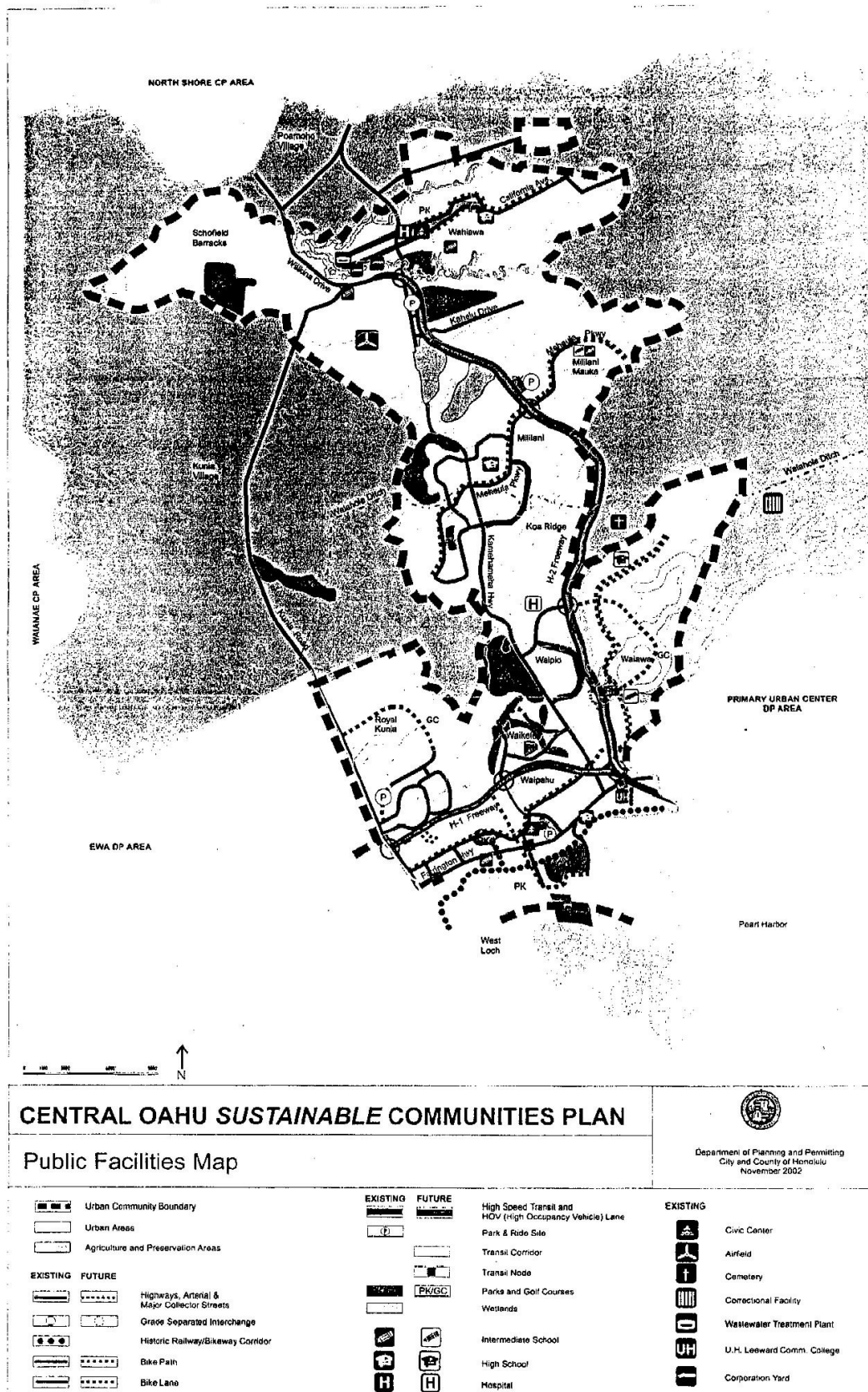
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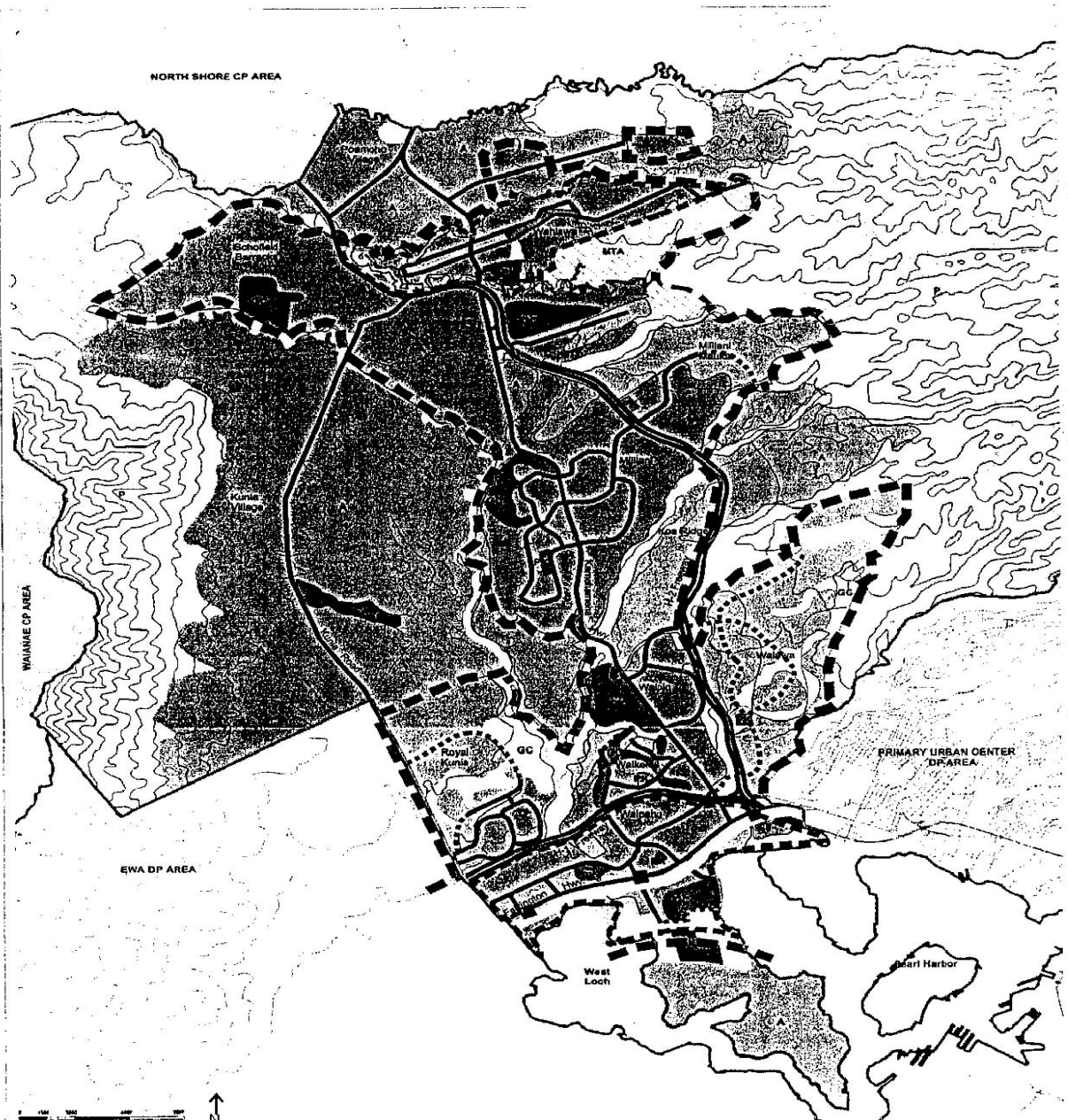
EXISTING FUTURE

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EXISTING FUTURE


- Civic Center
- Hospital
- Cemetery
- Correctional Facility
- Wastewater Treatment Plant
- U.H. Leeward Comm. College
- Airfield
































# CENTRAL OAHU SUSTAINABLE COMMUNITIES PLAN

## Phasing Map

  
 Department of Planning and Permitting  
 City and County of Honolulu  
 November 2002

	Preservation Areas		EXISTING		FUTURE		Highways, Arterial & Major Collector Streets
	Agriculture Areas						Transit Corridor
	Existing Urban Areas						Transit Node
	Urban Expansion Areas						Parks and Golf Courses
	Special Areas						Parks and Golf Courses
	Military Training Areas						
	Urban Community Boundary						
	Wetland						

## **Honolulu - Land Use**

## ARTICLE 6: KOOLAU POKO

### Sections

- 24-6.1 Definitions
- 24-6.2 Applicability and intent
- 24-6.3 Adoption of the Koolau Poko sustainable communities plan
- 24-6.4 Existing zoning and subdivision ordinances, approvals, and applications
- 24-6.5 Consistency
- 24-6.6 Review of development and other applications
- 24-6.7 Zoning change applications
- 24-6.8 Annual capital improvement program review
- 24-6.9 Five-year review
- 24-6.10 Authority
- 24-6.11 Severability
- 24-6.12 Conflicting provisions

### § 24-6.1 Definitions.

For the purposes of this article, the following definitions apply unless the context clearly indicates or requires a different meaning.

***Charter.*** The Revised Charter of the City and County of Honolulu.

***City.*** The City and County of Honolulu.

***City Council* or *Council.*** The council of the City and County of Honolulu.

***County.*** The City and County of Honolulu.

***Department* or *Department of Planning and Permitting.*** The department of planning and permitting of the City and County of Honolulu.

***Development.*** Any public improvement project, or any public or private project requiring a zoning map amendment.

***Development Plan* or *Sustainable Communities Plan.*** A plan document for a given geographic area that consists of conceptual schemes for implementing and accomplishing the development objectives and policies of the general plan for the several parts of the City and County of Honolulu.

***Director.*** The director of planning and permitting.

***Environmental Assessment* or *EA*.** A written evaluation prepared in compliance with the environmental council’s procedural rules implementing HRS Chapter 343 to determine whether an action may have a significant environmental effect.

***Environmental Impact Statement* or *EIS*.** An informational document prepared in compliance with the environmental council’s procedural rules implementing HRS Chapter 343; and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic and social welfare of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

***Finding of No Significant Impact* or *FONSI*.** A determination based on an environmental assessment that the subject action will not have a significant effect and, therefore, will not require the preparation of an environmental impact statement.

***Functional Plan*.** The public facility and infrastructure plans prepared by public agencies to further implement the vision, policies, and guidelines set forth in the Koolau Poko Sustainable Communities Plan.

***General Plan*.** The general plan of the City and County of Honolulu as defined by Charter § 6-1508.

***Hawaii Revised Statutes* or *HRS*.** Hawaii Revised Statutes, as amended.

***Koolau Poko SCP*.** The Koolau Poko Sustainable Communities Plan attached hereto as Exhibit A and made a part hereof.

***Planning Commission*.** The planning commission of the City and County of Honolulu.

***Project Master Plan*.** A conceptual plan that covers all phases of a development project. The “project master plan” describes how the project conforms to the vision for Koolau Poko, and the relevant policies and guidelines for the site, the surrounding lands, and the region.

***Significant Zone Change*.** A zone change that involves at least one of the following:

- (A) Changes in zoning of 10 or more acres of land to any zoning district or combination of zoning districts, excluding preservation or agricultural zoning districts;
- (B) Any change in zoning of more than five acres to an apartment, resort, commercial, industrial, or mixed use zoning district; or
- (C) Any development that would have a major social, environmental, or policy impact, or major cumulative impacts due to a series of applications in the same area.

***Special Area*.** A designated area within the Koolau Poko SCP area that requires more detailed planning efforts beyond what is contained in the Koolau Poko SCP.

***Special Area Plan*.** A plan for a special area.



**Unilateral Agreement.** A conditional zoning agreement made pursuant to § 21-2.80 or any predecessor provision that imposes conditions on a landowner or developer's use of the property at the time of the enactment of an ordinance for a zone change.

**Vision.** The future outlook for the Koolau Poko region extending out to the year 2035 and beyond that seek to adapt the concept of ahupuaa in land use management; preserve the region's scenic, recreational, and cultural features; protect and enhance residential character, and existing commercial and civic districts; and retain the community growth boundary to protect agricultural, open space, and natural resources.  
(1990 Code, Ch. 24, Art. 6, § 24-6.1) (Ord. 17-42)

#### **§ 24-6.2 Applicability and intent.**

- (a) The Koolau Poko SCP area encompasses the windward coastal and valley areas of Oahu from Makapuu Point to Kaoio Point at the northern end of Kaneohe Bay, and is bound by the Koolau mountain range and the sea. It includes the rural communities of Waiahole, Waikane, Kahaluu, Heeia, and Waimanalo and the urban fringe communities of Ahuimanu, Kaneohe, and Kailua.
- (b) The Koolau Poko SCP is intended to provide a guide for orderly and coordinated public and private sector development in a manner that is consistent with applicable general plan provisions, recognizing the region's urban fringe and rural areas as areas where growth will be managed to prevent an undesirable spreading of development.
- (c) This article and the Koolau Poko SCP are not regulatory. Rather, they are established with the explicit intent of providing a coherent vision to guide all new public and private sector development within Koolau Poko. This article will guide public investment in infrastructure, zoning, and other regulatory procedures, and the preparation of the city's annual capital improvement program budget.  
(1990 Code, Ch. 24, Art. 6, § 24-6.2) (Ord. 17-42)

#### **§ 24-6.3 Adoption of the Koolau Poko sustainable communities plan.**

- (a) This article is adopted pursuant to Charter § 6-1509 and provides a self-contained development plan document for Koolau Poko. Upon enactment of this article, all proposed developments will be evaluated against how well they fulfill the vision for Koolau Poko enunciated in the Koolau Poko SCP and how closely they meet the policies and guidelines selected to implement that vision.
- (b) The plan entitled, "Koolau Poko Sustainable Communities Plan," attached as Exhibit A is adopted by reference and made a part of this article.
- (c) Chapter 24, Article 1, entitled "Development Plan Common Provisions," in its entirety is no longer applicable to the Koolau Poko SCP area. This article and the Koolau Poko SCP, as adopted by reference by this ordinance, supersede any and all common provisions previously applicable to the Koolau Poko SCP area.  
(1990 Code, Ch. 24, Art. 6, § 24-6.3) (Ord. 17-42)



**§ 24-6.4 Existing zoning and subdivision ordinances, approvals, and applications.**

- (a) All existing subdivisions and zoning approved before August 24, 2017\* continue to remain in effect following August 24, 2017\*.
- (b) Subdivision and zoning ordinances applicable to the Koolau Poko SCP area enacted before August 24, 2017\* continue to regulate the use of land within demarcated zones of the Koolau Poko SCP area until such time as the subdivision and zoning ordinances may be amended to be consistent with the Koolau Poko SCP.
- (c) Notwithstanding adoption of the revised Koolau Poko SCP, applications for subdivision actions and land use permits accepted by the department for processing before August 24, 2017\* continue to be subject only to applicable ordinances and rules in effect when the application is accepted for processing.

(1990 Code, Ch. 24, Art. 6, § 24-6.4) (Ord. 17-42)

***Editor's note:***

*\* "August 24, 2017" is substituted for "the effective date of this ordinance" and "enactment of this ordinance."*

**§ 24-6.5 Consistency.**

- (a) The performance of prescribed powers, duties, and functions by all city agencies shall conform to and implement the policies and provisions of this article and the Koolau Poko SCP. Pursuant to Charter § 6-1511.3, public improvement projects and subdivision and zoning ordinances must be consistent with the Koolau Poko SCP, as adopted.
- (b) The council shall ultimately resolve any questions of interpretation regarding the consistency of a proposed development with the Koolau Poko SCP and the objectives and policies of the general plan.
- (c) In determining whether a proposed development is consistent with the Koolau Poko SCP, the responsible agency shall primarily take into consideration the extent to which the development is consistent with the vision, policies, and guidelines set forth in the Koolau Poko SCP.
- (d) Whenever there is a question regarding consistency between existing subdivision or zoning ordinances, including any unilateral agreement, and the Koolau Poko SCP, the existing subdivision or zoning ordinances will prevail until such time as they may be amended to be consistent with the Koolau Poko SCP.

(1990 Code, Ch. 24, Art. 6, § 24-6.5) (Ord. 17-42)

**§ 24-6.6 Review of development and other applications.**

The review of applications for zone changes and other development approvals will be guided by the vision of the Koolau Poko SCP. Decisions on all proposed developments will be based on the extent to which the project enabled by the development approval supports the policies and guidelines of the Koolau Poko SCP.

The director may review other applications for improvements to land to help the responsible agency determine whether a proposed improvement supports the policies and guidelines of the Koolau Poko SCP.

(1990 Code, Ch. 24, Art. 6, § 24-6.6) (Ord. 17-42)

**§ 24-6.7 Zoning change applications.**

- (a) All zone change applications relating to land in the Koolau Poko SCP area will be reviewed by the department of planning and permitting for consistency with the general plan, the Koolau Poko SCP, and any applicable special area plan.
    - (1) The director shall recommend either approval, approval with changes, or denial. The director's written review of the application will become part of the zone change report that will be sent to the planning commission and the city council.
    - (2) A project master plan must be part of an EA or EIS for any project involving 10 acres or more of land. The director shall review the project master plan for its consistency with the Koolau Poko SCP.
    - (3) Any development or phase of development already covered by a project master plan that has been fully reviewed under this article will not require a new project master plan; provided that the director determines that the proposed zone change is generally consistent with the existing project master plan for the affected area.
    - (4) If a final EIS has already been accepted for a development, including one accepted before August 24, 2017\*, then a subsequent project master plan will not be required for the development.
  - (b) Projects that involve a significant zone change will be required to submit an EA to the department of planning and permitting before an application for a zone change being accepted. Any development or phase of a development that has already been assessed under the National Environmental Policy Act (NEPA), HRS Chapter 343 (Hawaii Environmental Policy Act, HEPA), ROH Chapter 25, or this article, and for which a FONSI has been filed or a required EIS has been accepted, will not be subject to further EA or EIS requirements under this chapter, unless otherwise required by NEPA or HEPA.
  - (c) The department shall review the EA. Based on review of the EA, the director shall determine whether an EIS will be required or whether a FONSI may be issued.
  - (d) If an EIS is required, the EIS must be accepted by the director before a zone change application may be initiated.
  - (e) Zone changes must be processed in accordance with this section, Section 5.6 of the Koolau Poko SCP, and Chapter 21.
- (1990 Code, Ch. 24, Art. 6, § 24-6.7) (Ord. 17-42)

**Editor's note:**

\* "August 24, 2017" is substituted for "the effective date of this ordinance" and "enactment of this ordinance."

**§ 24-6.8 Annual capital improvement program review.**

Annually, the director shall work jointly with the director of budget and fiscal services and the city agencies to review all projects in the city's capital improvement program and budget for compliance and consistency with the general plan, the Koolau Poko SCP and other development plans, any applicable special area plan provisions,

and the appropriate functional plans. The director of planning and permitting shall prepare a written report of findings to be submitted to the council in accordance with Charter § 6-1503.  
(1990 Code, Ch. 24, Art. 6, § 24-6.8) (Ord. 17-42)

**§ 24-6.9 Five-year review.**

- (a) The department of planning and permitting shall conduct a comprehensive review of the Koolau Poko SCP, adopted by reference in § 24-6.3(b), every five years after the plan's adoption and shall report its findings and recommended revisions to the council.
  - (b) The Koolau Poko SCP will be evaluated to assess the appropriateness of the plan's regional vision, policies, guidelines, and implementing actions, as well as its consistency with the general plan.
  - (c) Nothing in this section prohibits the processing of a revision to the Koolau Poko SCP in the event either the biennial report of the director of planning and permitting or council recommends consideration of such a revision, pursuant to the Charter.
- (1990 Code, Ch. 24, Art. 6, § 24-6.9) (Ord. 17-42)

**§ 24-6.10 Authority.**

Nothing in this article may be construed as an abridgement or delegation of the responsibility of the director, or of the inherent legislative power of the council, to review or revise the Koolau Poko SCP pursuant to the Charter and the above procedures.  
(1990 Code, Ch. 24, Art. 6, § 24-6.10) (Ord. 17-42)

**§ 24-6.11 Severability.**

If this article or the application thereof to any person or property or circumstances is held invalid, such invalidity will not affect other provisions or applications of this article that can be given effect without the invalid provision or application, and to this end the provisions of this article are declared to be severable.  
(1990 Code, Ch. 24, Art. 6, § 24-6.11) (Ord. 17-42)

**§ 24-6.12 Conflicting provisions.**

This article will prevail should there be any conflict with the common provisions or any other provisions under Chapter 24.  
(1990 Code, Ch. 24, Art. 6, § 24-6.12) (Ord. 17-42)

# KO'OLAU POKO

## SUSTAINABLE COMMUNITIES PLAN



City and County of Honolulu, Department of Planning and Permitting

August 2017

## **Honolulu - Land Use**

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### LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ALISH	Agricultural Lands of Importance to the State of Hawai'i
AFS	Air Force Station
BFS	Department of Budget and Fiscal Services
BLDG	Building Code and/or Fire Code
BLNR	State Board of Land and Natural Resources
BMPs	Best Management Practices
BPNAS	Barbers Point Naval Air Station
BWS	Board of Water Supply
CBO	Community-Based Organization (non-profits serving various purposes)
CGB	Community Growth Boundary
CIP	Capital Improvement Program
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
DAGS	State Department of Accounting and General Services
DBEDT	State Department of Business, Economic Development and Tourism



## Honolulu - Land Use

DCS	Department of Customer Services
DDC	Department of Design and Construction
DEM	Department of Emergency Management
DES	Department of Emergency Services
DFM	Department of Facility Maintenance
DHHL	State Department of Hawaiian Home Lands
DLNR	State Department of Land and Natural Resources
DOA	State Department of Agriculture
DOE	State Department of Education
DOH	State Department of Health
DOT	State Department of Transportation
DPP	Department of Planning and Permitting
DPR	Department of Parks and Recreation
DTS	Department of Transportation Services
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENT	Department of Enterprise Services
ENV	Department of Environmental Services
FCC	Federal Communications Commission
FED	Federal Government Agency (other than military)
HFD	Honolulu Fire Department
HPD	Honolulu Police Department
HPHA	Hawaii Public Housing Authority
HRS	Hawaii Revised Statutes
IAL	Important Agricultural Lands
INF	Infrastructure System Plan (e.g., for regional wastewater, water, transportation systems)
KPWMP	Koolau Poko Watershed Management Plan
LUC	State Land Use Commission
LUO	Land Use Ordinance
mgd	million gallons per day
MCB Hawai'i	Marine Corps Base Hawaii
MCTAB	Marine Corps Training Area Bellows
MIL	Branch of the U.S. Military
OED	City Office of Economic Development
OMPO	O'ahu Metropolitan Planning Organization
OPS	Operations
PHS	Public Health Standards (e.g., for noise, sanitation, occupational safety)
PRIV	Private Landowner or Developer
PUC	Public Utilities Commission
RF	radio frequency
SAP	Special Area Plan (e.g., for local towns, circulation, parks, beach management)
SCPA	Sustainable Communities Plan Area
SHPD	State Historic Preservation Division
SR&R	Subdivision Rules and Regulations (including street standards and planned widenings)
SWM	Stormwater Management Standards
TAX	Tax-Related Legislation, Rules or Practices
TBD	To Be Determined
TDM	Transportation Demand Management

## **Koolau Poko Sustainable Communities Plan**

UH	University of Hawaii
USFWS	U.S. Fish and Wildlife Service
UTIL	Utility Company (i.e., Hawaiian Electric, Hawaiian Telephone, Oceanic Cable, other communications providers)
WCDP	Windward Capital District Plan
WWPS	wastewater pump station
WWTP	wastewater treatment plant
WWTPF	wastewater preliminary treatment facility

## **Honolulu - Land Use**

## PREFACE

The Koolau Poko Sustainable Communities Plan has been prepared in accordance with the Charter-prescribed requirements for Development Plans and is to be accorded force and effect as such for all Charter- and ordinance-prescribed purposes. It is one of eight community-oriented plans intended to help guide public policy, investment, and decision-making through the 2035 planning horizon. Each of these eight plans addresses one of eight geographic planning regions on Oahu, responding to the specific conditions and community values of each region.

Two of the eight planning regions, 'Ewa and the Primary Urban Center, are the areas to which major growth in population and economic activity will be directed over the next 20 years and beyond. The plans for these regions continue to be titled "Development Plans" and will serve as the policy guides for the development decisions and actions required to support that growth.

The remaining six planning regions, including Koolau Poko, are envisioned to remain relatively stable. The plans for those regions have been titled "Sustainable Communities Plans" and are focused on serving as policy guides for public actions in support of that goal. The vision statement and supporting provisions of the Koolau Poko Sustainable Communities Plan are oriented toward maintaining and enhancing the region's ability to sustain its unique character and lifestyle.

## P.1 THE SUSTAINABLE COMMUNITIES PLAN PROCESS

This document is the culmination of a planning effort led by the City and County of Honolulu's department of planning and permitting. This effort comprised a process that encouraged and enabled significant involvement from the community. In its final form, this Plan will have considered input received from various community members and organizations, three community-wide meetings, four focus group meetings, and interested government agencies.

## P.2 THE HONOLULU LAND USE PLANNING AND MANAGEMENT SYSTEM

The City and County of Honolulu guides and directs land use and growth through a three-tier system of objectives, policies, planning principles, guidelines and regulations. The General Plan forms the first tier of this system. First adopted by resolution in 1977, the General Plan is a relatively brief document, providing a broad statement of objectives and policies to guide the City's future. It has been amended several times, but the basic objectives and policies set forth in the 1977 plan remain intact.

The second tier of the system is formed by the Development Plans, which are adopted and revised by ordinance and are required to implement objectives and policies set forth in the General Plan. These plans address eight geographic regions of the island: the Primary Urban Center, East Honolulu, Central Oahu, 'Ewa, Waianae, North Shore, Koolau Loa, and Koolau Poko. The Koolau Poko Development Plan was first adopted in 1983. The Development Plans for East Honolulu, Central Oahu, Waianae, North Shore, Koolau Loa, and Koolau Poko are now referred to as Sustainable Communities Plans.

The third tier of the system is composed of the implementing ordinances, including the Land Use Ordinance (Honolulu's zoning code) and the City's Capital Improvement Program. Mandated by the City Charter, these ordinances constitute the principal means for implementing the City's plans. These ordinances are required to be consistent with, and carry out the purposes of, the General Plan, the Development Plans (or Sustainable Communities Plans), and each other.

In addition to these three Charter-mandated tiers, the Development Plans are supplemented by two planning mechanisms that are not required by the Charter, including the functional planning process and special area planning. Functional planning activities, some of which are mandated by state or federal regulations, provide long-range guidance for the development of public facilities, such as the water system, wastewater disposal, and transportation. Special area plans are intended to give specific guidance for neighborhoods, communities, or specialized resources.

### **P.3 AUTHORITY OF THE DEVELOPMENT PLANS AND SUSTAINABLE COMMUNITIES PLANS**

The authority for the Development Plans and Sustainable Communities Plans (hereinafter referred to as “Development Plans” for simplicity) is derived from the City Charter, which mandates preparation of a General Plan and Development Plans to guide “the development and improvement of the city.” Together with the General Plan, the Development Plans provide policy guidance for the land use and budgetary actions of the City.

The Charter provides that “public improvement projects and subdivision and zoning ordinances shall be consistent with the development plan for that area.” Although the Development Plans are not themselves regulatory and require implementing ordinances (the “third tier” discussed in Section P.2 above), they guide the regulators and decision-makers who are the implementers. They are policy tools and are to be used, in conjunction with the programs and budgets of the City, to accomplish the objectives of the City and as guides for decisions made by the private sector. Consistent with the Charter’s description of the Development Plans as “conceptual schemes” and “a policy guide,” the language, maps, and illustrations of the Development Plans should not be regulatory.

### **P.4 1992 CHARTER AMENDMENT TO REVISE THE DEVELOPMENT PLANS**

In 1992, the City Charter Commission recommended, and the voters of Honolulu adopted, amendments to the City Charter. Chief among its findings, the Charter Commission concluded that the Development Plans were overly detailed and had created processes that duplicated the zoning process. To eliminate this unnecessary duplication, the 1992 Charter amendments changed the definition of Development Plans from “relatively detailed plans” to “conceptual schemes.”

The 1992 Charter amendments established that the purpose of the Development Plans is to provide:

- “priorities...(for the) coordination of major development activities;” and
- sufficient description of the “desired urban character and the significant natural, scenic and cultural resources...to serve as a policy guide for more detailed zoning maps and regulations and public and private sector investment decisions.”

In response to the 1992 Charter amendments, the planning and permitting department launched a thorough review of the Development Plans. The goal of that review was the revision of all eight of the Development Plans to bring them into conformance with the Charter-mandated conceptual orientation. The Plan presented in this document conforms to that mandate.

### **P.5 SUSTAINABILITY**

There has been a recent surge in wide-spread community discussions, actions, and laws to address sustainability. In 2005, the State Legislature convened a state-wide group to draft a Hawaii 2050 Plan, whose primary purpose is to provide policy recommendations for creating a sustainable Hawaii. In 2007, greenhouse gas emissions goals for 2020 were enacted. Public service announcements dealing with conserving water and electricity abound. The

concept of buildings that are designed, built and occupied with environmental considerations at the forefront largely did not exist when the current Development Plans and Sustainable Communities Plans were first adopted. This setting raises the question of the role of the Development Plans and Sustainable Communities Plans. Are they the City's version of a sustainability plan?

The answer is that they are the land development portion of a larger blueprint for sustainability. As discussed below, the General Plan sets long term goals for the City and County of Honolulu, across 11 major elements. Perhaps its most substantive chapter deals with population, and hence land development. It sets the growth management strategy for Oahu. The Development Plans and Sustainable Communities Plans provide more detail on this land management strategy, assuring that how we use the land now, and in the future, responds to the three major elements of a sustainable place: economic health, social equity, and environmental protection.

The issues addressed either directly or indirectly by these regional plans certainly overlap with other planning responsibilities of other departments, such as water delivery and consumption, crime reduction, increasing public health, and developing responsive transportation systems. Collectively, these efforts comprise the strategy of developing a sustainable future for Oahu.

## **P.6 INTEGRATING PRINCIPLES OF SUSTAINABILITY INTO DECISION-MAKING PROCESSES**

A community that can successfully manage change will flourish and prosper in the future. For this Plan, this means ensuring that planned growth and development respects and adheres to the principles of sustainability.

The following principles of sustainability are intended to promote the long-term health of Oahu, its people, and its community resources for current and future generations:

- Protect agricultural lands, physical, and biological resources, and where appropriate, open spaces and view planes.
- Use resources so they are not depleted, permanently damaged, or destroyed.
- Require planning, development, and construction technologies that minimize negative environmental impacts.
- Respect the cultural, social, and physical resources that shape and reinforce residents' sense of community and quality of life.
- Guide the process of change. Strive to make decisions based on an understanding of the effects such decision will have on the land and community resources.
- Strive for balance between economic prosperity, social and community well-being, and environmental stewardship.
- As an integral part of the planning process, consider the long-term impact of proposed actions and prepare plans that can accommodate the needs of future generations accordingly.

## **Honolulu - Land Use**

## EXECUTIVE SUMMARY

This Plan is organized in five chapters and an appendix, as follows:

- Chapter 1: Koolau Poko's Role in Oahu's Development Pattern defines the region's role and identity within the overall framework of islandwide planning and land use management.
- Chapter 2: The Vision For Koolau Poko's Future describes the vision for the future of the region and lists important elements of that vision.
- Chapter 3: Land Use Policies and Guidelines presents the Plan's policies, and provides policy guidance for the region's various land use elements.
- Chapter 4: Public Facilities and Infrastructure Policies presents policies and actions needed to support the land use policies of Chapter 3.
- Chapter 5: Implementation addresses needs for carrying out provisions outlined by the Plan.

The key recommendations contained in each chapter are briefly summarized in Sections E.1 through E.5:

### E.1 CHAPTER 1: KOOLAU POKO'S ROLE IN OAHU'S DEVELOPMENT PATTERN

In carrying out the purposes of the General Plan, Koolau Poko is expected to experience essentially no growth over the 25 year projection horizon of this Plan. Policies in support of this goal limit the potential for expansion of the region's housing stock, commercial centers and economic activity, and are focused on maintaining the patterns of development characteristics of its urban fringe and rural areas.

### E.2 CHAPTER 2: THE VISION FOR KOOLAU POKO'S FUTURE

This vision is shaped around two principal concepts. The first of these calls for protection of the communities' natural, scenic, cultural, historic and agricultural resources. The second principal concept addresses the need to improve and replace, as necessary, the region's aging infrastructure systems.

### E.3 CHAPTER 3: LAND USE POLICIES AND GUIDELINES

This chapter presents policies and guidelines for the principal types of land uses in Koolau Poko. The vision for Koolau Poko's future described in Chapter 2 is to be implemented through the application of these policies and guidelines. Policies related to each land use type are:

#### E.3.1 OPEN SPACE PRESERVATION:

- Protect scenic views, provide recreation and promote access to shoreline and mountain areas.
- Define the boundaries of communities and provide buffers between agricultural uses, residential neighborhoods and other uses.
- Create a system of linear greenways along roadways and drainage ways.

#### E.3.2 PARKS AND RECREATION:

- Employ appropriate screening and siting.
- Ensure environmental compatibility in the design and construction of park facilities.
- Integrate recreational opportunities with the characteristics of the surrounding community.



- Establish the Kāneohe area as the top priority for creating new shoreline access and beach parks in Koolau Poko.
- Take steps to make future beach accretion public land in perpetuity.
- Increase the inventory of community-based parks to provide appropriately located sports and recreation facilities.
- Provide for more intensive use of some existing facilities serving areas in which expansion of site area is constrained.
- Require developers of new residential projects to provide land for open space and recreation purposes, rather than paying the park dedication fee.
- Pursue installation of greenways along streams and drainage channels where feasible.

**E.3.3 HISTORIC AND CULTURAL RESOURCES:**

- Emphasize physical references to Koolau Poko's history and cultural roots.
- Protect existing visual landmarks and support creation of new, culturally appropriate landmarks.
- Preserve significant historic features.
- Retain significant vistas associated with archaeological features.

**E.3.4 AGRICULTURE:**

- Encourage small-lot agricultural uses and prevent conversion of agricultural lands to non-agricultural uses.
- Adopt development and public works standards that are appropriate and cost-effective for rural, agricultural areas.
- Provide supporting infrastructure, services and facilities to foster and sustain agricultural operations.
- Implement policies and incentives to promote active, long-term agricultural uses.

**E.3.5 RESIDENTIAL USES:**

- Modify residential street design to provide emphasis on safe, accessible, convenient and comfortable pedestrian routes, bus stops and bike routes.
- Maintain the predominantly low-rise, low-density, single-family character of the region.
- Protect the integrity of existing residential neighborhoods.
- Establish average density guidelines of 2-6 units maximum per acre in urban fringe areas and 0.2 - 4 units per acre in rural areas.

**E.3.6 COMMERCIAL AND INDUSTRIAL USES:**

- Identify and define commercial and industrial uses in various categories appropriate to the character and needs of Koolau Poko's communities, including: rural commercial centers; suburban commercial centers; community commercial centers; regional town centers; and areas supporting light and extractive industries.
- Limit the area devoted to commercial and industrial centers to current sites.
- Expand the use of mixed-use commercial-residential designations, and apply mixed-use industrial-commercial designations to existing industrial sites in Kailua and Kāneohe.

**E.3.7 INSTITUTIONAL USES:**

- Retain the open space character of existing institutional campuses.
- Site and design campus facilities to respect the scenic context and adjacent residential areas.

**E.3.8 MILITARY USES:**

- Assume Marine Corps Base Hawai'i (MCB Hawaii) and Bellows Air Force Station (AFS) will remain under military control.
- Encourage the State to continue to pursue the release of unused military lands for civilian uses, with special attention to securing permanent civilian use of all Bellows shorefront areas and provision of greater civilian shoreline access at MCB Hawaii.

**E.4 CHAPTER 4: PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES**

This chapter presents policies and guidelines for the major concerns related to public facilities and infrastructure in Koolau Poko. Policies related to each facility type are summarized below:

**E.4.1 TRANSPORTATION SYSTEMS:**

- Reduce reliance on the private passenger vehicle by promoting transportation system management and travel demand management measures for both commuting and local trips.
- Provide adequate and improved mobility between communities, shopping, and recreation centers by enhancing all forms of travel including pedestrian, bicycle, transit, and personal mobility vehicle.
- Maintain adequate capacities for peak-period commuting to and from the Primary Urban Center.

**E.4.2 WATER SYSTEMS:**

- Integrate management of all potable and nonpotable water sources, including groundwater, stream water, storm water, and effluent, following State and City legislative mandates.
- To protect watersheds, retain existing acreage that is designated Preservation in that land use designation.
- Design and locate new water supply facilities to be compatible with the scenic environment.
- Adopt and implement water conservation practices in the design of new developments and the modification of existing uses, including landscaped areas and as a major element in integrated water resource planning.
- Encourage all new development to install and use dual water systems.

**E.4.3 ENVIRONMENTAL SERVICES:**

- Direct all wastewater produced within the Community Growth Boundary area to sewer service systems to protect the environment.
- Treat and recycle, where feasible, wastewater effluent as a water conservation measure.
- Delay further sewer connections in Kailua, Kāneohe and Kahaluu, except for areas with existing cesspools or septic tanks that need to be sewer for public health reasons, until flow equalization/wet weather surge protection has been provided for the Kailua Regional WWTP, as described in the Kaneohe/Kailua Wastewater Conveyance and Treatment Facilities Final Environmental Impact Statement (May 2011).
- Mitigate visual, noise, and odor impacts associated with wastewater collection and treatment systems, especially when they are located adjacent to residential designated areas.

**E.4.4 ELECTRICAL AND COMMUNICATIONS SYSTEMS:**

- Design system elements and incrementally replace facilities such as sub-stations, transmission lines and towers to avoid or mitigate any potential adverse impacts on scenic and natural resource values and residential neighborhoods, and to enhance system reliability.
- Place new utility lines underground and develop a long-range program for systematically relocating existing overhead lines underground.
- Encourage co-location of antennas; towers should host the facilities of more than one service provider to minimize their proliferation and reduce visual impacts.
- Mount antennas onto existing buildings or structures so that public scenic views and open spaces will not be negatively affected. However, except for the occupant's personal use, antennas on single-family dwelling roofs in residential districts are not appropriate.
- Use stealth technology (i.e. towers disguised as trees) especially on free-standing antennas towers in order to blend in with the surrounding environment and minimize visual impacts

**E.4.5 SOLID WASTE HANDLING AND DISPOSAL:**

- Continue efforts to establish more efficient waste diversion and collection.
- Promote waste reduction, re-use and recycling.
- Analyze and approve siting and/or expansion of sanitary landfills based on island-wide studies and siting evaluations.

**E.4.6 DRAINAGE SYSTEMS:**

- Promote drainage system design that emphasizes control and minimization of polluted run-off and the retention of stormwater on-site and in wetlands.
- Develop a comprehensive study of local flooding and drainage problems, including a phased plan for improvements.
- Design and construct modifications needed for flood protection in a manner that maintains habitat and aesthetic values, and avoids and/or mitigates degradation of stream, coastline and nearshore water quality.
- Integrate planned drainageway improvements into the regional open space network by providing access for pedestrians and bicyclists where feasible.
- View stormwater as a potential source of water for recharge of the aquifer that should be retained for absorption rather than quickly moved to coastal waters.
- Select natural and man-made vegetated drainageways and retention basins as the preferred solution to drainage problems wherever they can promote water recharge, help control nonpoint source pollution, and provide passive recreation benefits.
- Keep drainageways clear of debris to avoid flooding problems.

**E.4.7 SCHOOL AND LIBRARY FACILITIES:**

- Approve new residential developments only after the State Department of Education certifies that adequate school facilities will be available when the development is completed.
- Have developers pay their fair share of costs needed to ensure provision of adequate school facilities.
- Consider schools as community resources for learning about specialized environmental, cultural and historic subjects related to Koolau Poko.

**E.4.8 CIVIC AND PUBLIC SAFETY FACILITIES AND COMMUNITY RESILIENCE:**

- Provide adequate staffing and facilities to ensure effective and efficient delivery of basic governmental services and protection of public safety.
- Locate civic facilities in or adjacent to the Regional Town Centers of Kāneohe and Kailua.
- Encourage the development of more emergency shelters.
- Encourage disaster resilient communities

**E.5 CHAPTER 5: IMPLEMENTATION**

This chapter discusses the various measures that support implementation of this Plan, including the regulatory mechanisms, physical improvements, and other actions that are needed to realize the Plan's vision. Section 5.8 presents an Implementation Matrix to help organize and facilitate plan implementation. The Implementation Matrix, which is based on the policies and guidelines presented in Chapters 3 and 4, identifies the specific actions, corresponding plans and/or codes, and public or both private entities responsible for implementation.

**E.6 APPENDIX A**

This appendix includes three maps used to graphically depict components of the plan for the future of Koolau Poko. The maps include: Map A-1: Open Space; Map A-2: Land Use; Map A-3: Public Facilities. These maps show the long-range vision of the future of the plan area and the major land use, open space, and public facilities policies that are articulated in the plan. In examining these maps the reader should keep in mind that: 1) The maps are intended to supplement the textual descriptions herein; and 2) The maps are intended to be illustrative of the plan's policy statements. The maps are intended to complement the text. Both the text and the maps are to be considered in interpreting this plan.

## **Honolulu - Land Use**

## 1. KOOLAU POKO'S ROLE IN OAHU'S DEVELOPMENT PATTERN

The Koolau Poko region spans from Ka Lae O Ka 'Ōio (Ka 'ōio Point) in the north to Makapuu Point in the south and is further defined by the peaks of the Koolau Range and the shoreline. The Koolau Poko Sustainable Communities Plan Area (SCPA) includes the rural communities of Waikāne, Waiāhole, Kahaluu, Heeia, and Waimānalo. It also includes the more populated suburban communities of Kāneohe and Kailua.

The region also includes Kāneohe Bay, a unique open space resource known for its beauty, rich cultural heritage, and recreational value. It is the largest sheltered body of water in the main Hawaiian Islands. This reef-embayment dominates the majority of Koolau Poko's northeastern coastal areas and is a significant scenic and recreational feature along the coast. Kāneohe Bay and its stream tributaries is an important ecosystem due to its combination of multiple stream estuaries influenced by runoff from the watershed, the offshore barrier reef and open ocean waters beyond. Beginning in the early 1900's, stream waters entering Kāneohe Bay was diverted to Central Oahu and the 'Ewa Plains by the construction of the Waiāhole Ditch. The diversion negatively affected diverted stream habitats and the nearshore estuarine waters and associated fisheries of Kāneohe Bay. Challenges to the CWRM decision resulted in the Supreme and Appellate courts increasing the flow to 14.43 mgd back to windward streams including 2.43 mgd of unpermitted water which could be used off-stream if the need arises.

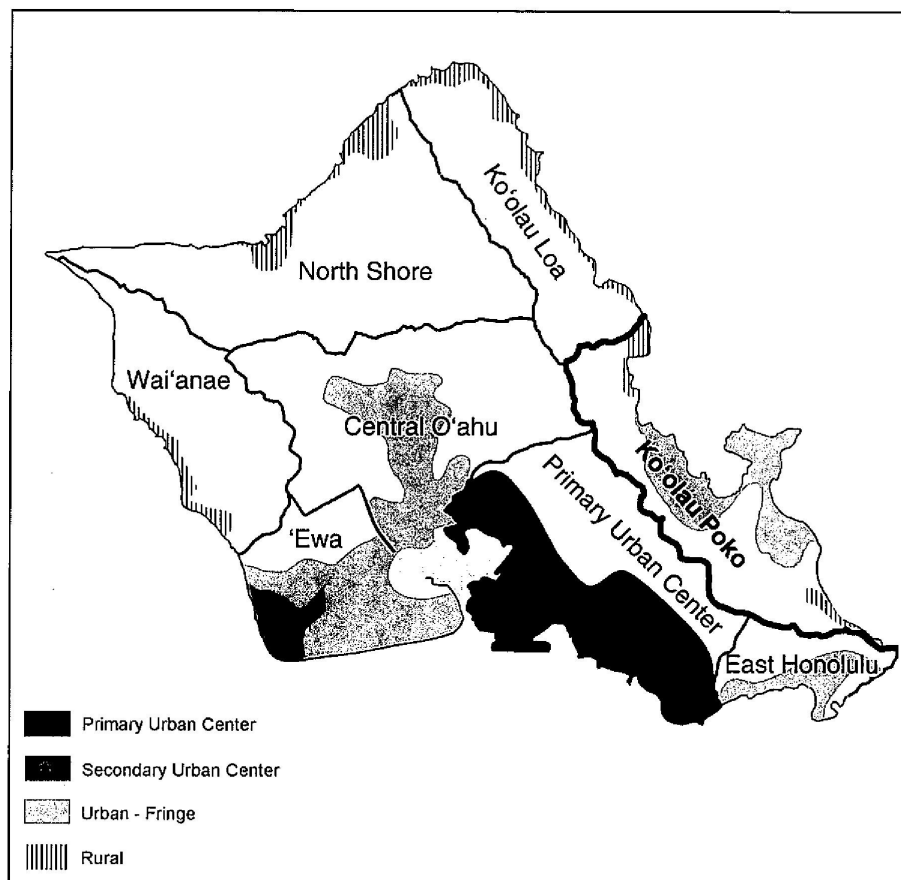
The central portion of the bay accommodates many recreational activities due to the ease of access from Heeia Kea Harbor, the only major public boat ramp and harbor. The central barrier reef and sand flat is popular among locals and visitors and is heavily used by many commercial and recreational boaters during weekends and holidays. Two navigable channels cut across the northern and southern ends of the barrier reef. The northeastern portion is the most rural in both land and water. Activities in this portion of the bay are more reserved and quieter. The south and southeastern portions of the bay are bordered by urban uses and military uses of the Marine Corps. Several commercial fishponds provide seafood products and a source for cultural education.

The General Plan of the City and County of Honolulu designates the central portion of the SCPA, shown in Exhibit 1.1, as an urban fringe area to remain a predominantly residential suburb with limited future population growth. The northern and southern portions of Koolau Poko are designated rural areas to remain in predominately agricultural and preservation land uses.

The present land use pattern in Koolau Poko began to take shape in the 1940's during World War II. There was rapid growth in suburban development in the following three decades, due largely to the opening of trans-Koolau highways which made the region more accessible to Honolulu. In the 1960's, Kāneohe was the proposed site of a deep-draft harbor and major new power generating plant, which would have spurred an even faster pace of regional urban development. By the mid-1970's, however, environmental concerns, focused especially on the quality of Kāneohe Bay, led to the abandonment of these proposals and a shift in public policy, as expressed in the 1977 General Plan, toward slower population growth and urban development in the district. The 2010 resident population in Koolau Poko was 115,164 persons, 2,835 persons fewer than the 2000 Census figure of 117,999 people. The region experienced an average annual population decline of approximately 0.2 percent, in contrast to an estimated island-wide annual population increase of 0.9 percent. Consequently, the region's share of Oahu's total population has declined from about 13 percent to about 12 percent. This declining trend is projected to continue through 2035.

The Koolau Poko Sustainable Communities Plan reaffirms the region's role in Oahu's development pattern as intended by the General Plan by establishing the following policies for future land use and development in Koolau Poko:

- Limit the potential for new housing in the region so that significant residential growth is directed instead to the Primary Urban Center and 'Ewa Development Plan Areas, as well as the Central Oahu Sustainable Communities Plan Area, in accordance with the population distribution policy set forth in the General Plan, which currently provides that Koolau Poko's share of the 2025 distribution of Oahu's resident population is to be about 11.6 percent.
- Revitalize existing commercial centers and limit the expansion of commercial centers and economic activity in the region to promote the development and growth of employment in the Primary Urban Center, and the designated secondary urban center at Kapolei.
- Maintain the predominantly low-rise, low-density, single-family form of residential development in the urban fringe and rural communities depicted on Exhibit 1-1.
- Maintain and promote small-scale agricultural uses in the *mauka* areas of Waimānalo and from Kahaluu north to Kualoa.
- Encourage continuation of small-scale agricultural uses in urban areas, provided that there are standards for compatibility between adjacent uses.
- Avoid urbanization of flood- and erosion-prone areas and seek to restore the natural filtering, flood control, recreational, biological and aesthetic values of streams, fishponds and wetlands.
- Preserve scenic views and the scenic beauty of the ocean, bays and beaches.
- Preserve scenic views of ridges, upper-valley slopes, shoreline areas from trans-Koolau and coastal highways; from coastal waters looking *mauka*; and from popular hiking trails that extend toward the Koolau Mountain Range and *mauka* from Kawainui Marsh.



**Exhibit 1.1 General Plan Development Pattern**

- Discourage the use of shore armoring structures.

- Promote access to mountain and shoreline resources for recreational purposes and traditional hunting, fishing, gathering, religious, and cultural practices.
- Promote restoration of fish population in near-shore waters.



## **Honolulu - Land Use**

## 2. THE VISION FOR KOOLAU POKO'S FUTURE

This chapter expresses and describes the vision for Koolau Poko's future and the key elements of the vision.

The vision and plan for Koolau Poko focuses on the long-term protection of community resources, residential character, and the adoption of public improvement programs and development regulations that reflect a stable population. The following vision statement describes the desired future conditions in the year 2035 and beyond. This section is therefore written from the perspective of the year 2035 looking back into the past.

Koolau Poko's natural, cultural, historic, agricultural, and aquacultural/fishpond resources are protected and enhanced.

Significant scenic views of ridges, upper valley slopes, shoreline areas from major public parks highways, coastal waters and hiking trails are protected. Access to shoreline areas and mountainous regions are improved and provided for all to use and enjoy.

Cultural and historical resources are preserved through the protection of visual landmarks and significant views, protected access rights relating to traditional cultural practices, and the protection of significant historic, cultural, and archaeological features.

Koolau Poko contains productive and potentially productive agricultural lands that are preserved by adopted protective regulatory policies and implemented incentives and programs that promote active agricultural use of these lands.

Consistent with the General Plan of the City and County of Honolulu, Koolau Poko's share of Oahu's population declined from 12.1 percent in 2010, to 10.7 percent in 2035. The region's population also declined over this period from 115,164 to about 112,000 persons.

Although Koolau Poko is nearly built-out, it is essential to continue to improve and replace, as necessary, the district's aging infrastructure systems to maintain adequate capacity, improve operational performance or extend the useful life of facilities. Infrastructure modifications are also made to enhance the quality of the urban, rural, neighborhood, or natural environment.

There continues to be a modest increase in new dwellings and modifications to the region's existing housing stock because, while the number of residents is declining, the number of persons per household has also continued to decline over the past several decades. As in other parts of Oahu, the proportion of elderly in the population is growing, which induces changes in housing and service needs in various ways. These changes to infrastructure systems and housing have been and will continue to be incremental.

### 2.1 KEY ELEMENTS OF THE VISION

The vision for Koolau Poko's future is implemented through the following key elements:

- Adapt the concept of *ahupuaa* in land use and natural resource management;
- Preserve and promote open space and agricultural uses;
- Preserve and enhance scenic, recreational and cultural features that define Koolau Poko's sense of place;
- Emphasize alternatives to the private passenger vehicle as modes for travel;
- Protect and enhance residential character while adapting to changing needs;

- Define and enhance existing commercial and civic districts; and,
- Maintain the Community Growth Boundary to protect agricultural, open space, and natural resources.

Each of the above key elements is described in the following sections.

### 2.1.1 ADAPT THE CONCEPT OF *AHUPUAA* IN LAND USE AND NATURAL RESOURCE MANAGEMENT

Prior to Western contact, Hawaiians managed the environment and organized their society through a land division system known as *ahupuaa*. *Ahupuaa* boundaries are similar to those of watersheds. Pukui and Elbert provide the following definition of *ahupuaa*:

*Land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (ahu) of stones surmounted by an image of a pig (puua)<sup>1</sup>.*

The *ahupuaa* has also been described as follows:

*A principle very largely obtaining in these divisions of territory was that a land should run from the sea to the mountains, thus affording to the chief and his people a fishery residence at the warm seaside, together with the products of the high lands, such as fuel, canoe timber, mountain birds, and the right of way to the same, and all the varied products of the intermediate land as might be suitable to the soil and climate of the different altitudes from sea soil to mountainside or top.<sup>2</sup>*

The *ahupuaa* system recognizes the interconnected relationship between land-based and marine-based natural resources, focusing on streams as the connecting element between ridge and reef, especially in an island environment. The *ahupuaa* concept is still a useful concept for managing the natural environment and fostering desirable community development, adapted to the context of today's community needs and technology. It also serves as a logical foundation for sub-planning areas. Adapting and implementing the concept requires significant cooperation and integration of efforts among the various units of government whose jurisdictions encompass all or part of each *ahupuaa*.

In Koolau Poko, for example, natural wetlands and Hawaiian-built fishponds preserve wildlife habitat, filter pollutants from stormwater runoff, and provide flood protection. Over the years, the function of these wetlands and fishponds had become impaired by accelerated siltation and polluted runoff from urban development and agricultural activities. Some had vanished entirely due to deliberate filling. The filling of wetlands and fishponds has been restricted for decades, and regulatory and management practices have been improved to promote more effective maintenance of these resources and deter land-based activities which contribute to their degradation. Wetlands and fishponds existing in 2010 have been successfully preserved and restored. In addition, new wetlands to detain and retain stormwater have been created to protect flood-prone areas, increase infiltration, and reduce polluted runoff into streams, estuaries and nearshore waters.

As applied to Koolau Poko's drainage system, the *ahupuaa* management concept involves the retention of natural stream beds and, as feasible, partial or full restoration of drainageways that have been altered by concrete-lined channels. A streamside management zone or "buffer area" along natural streambeds defines where uses or activities are controlled or modified to protect water quality and aquatic resources. Revised or new public works standards

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<sup>1</sup> Pukui and Ebert, Hawaiian Dictionary, 1986.

<sup>2</sup> In Re: Boundaries of Pulehunui, 4 Haw. 239, 241 (1879).

have allowed the dedication of passive stormwater drainage systems and minimal channel modifications to provide flood protection for improved or developed properties.

Most of Koolau Poko's native forests and other significant wildlife habitats are located within the State Conservation District. Nevertheless, the State Urban District and State Agricultural District contain many natural habitats, such as stream segments and small wetlands. In the State Urban District, urban development in areas susceptible to land movement, soil erosion, and sediment loss has been avoided and performance standards have been applied for the retention of sediment onsite during and after development activities. In the State Agricultural District, best management practices in agricultural land use and operations have been implemented.

The transition area between the Koolau Mountain Range and the urban and agricultural uses in the valleys and on the coastal plain are preserved as a permanent greenbelt to serve as a natural, recreational, and scenic resource conservation area; to prevent inappropriate development or use which may cause hazards or other undesirable environmental consequences downstream; and to provide opportunities for environmental and cultural research and education.

### **2.1.2 PRESERVE AND PROMOTE OPEN SPACE AND AGRICULTURAL USES**

The preservation, continuation, and potential expansion of agricultural land use provides jobs and economic activity; promotes food security; offers the choice of a rural lifestyle proximate to a major metropolitan area; and maintains open space and a rural ambience in a section of the island that is famed for its natural beauty. In Koolau Poko, agricultural use is sustained by both commercially successful operations and subsistence or culturally-based farming. There is a good understanding of the region's strengths, future opportunities and challenges for commercially viable agriculture. Land development, public works, and environmental codes and standards have been designed to prevent the gradual conversion of agricultural areas into large-lot residential neighborhoods.

It is recognized that Koolau Poko has traditionally been one of Oahu's principal regions for wetland taro cultivation and aquaculture because of its wet climate and abundant perennial streams. Restored fishponds and ancient irrigation systems continue to be maintained to build upon the past and provide modern day utility. Permanent instream flow standards have been established to maintain sufficient quantity and quality of surface water to support fishpond operations and taro cultivation. Educational tours of taro lo'i and fishponds help support these traditional agricultural activities.

Research facilities such as the University of Hawaii's Waimānalo Agricultural Experiment Station, Windward Community College, and a fruit fly laboratory, also in Waimānalo, provide technical advice to farmers in the region. State and federal agricultural agencies also lend technical, financial, and marketing support. The financial viability of commercial agricultural activity has been strengthened by providing appropriately located centers for minor composting and supplies, designated places for roadside vending and farmers' markets, and information and referral centers for potential customers and visitors.

Other appropriate accessory uses including recreational or educational programs, or other uses consistent with the character of a rural, agricultural area provide supplemental income necessary to sustain the primary agricultural activity. There are direct connections between these activities and the maintenance of agricultural uses on the same properties.

**2.1.3 PRESERVE AND ENHANCE SCENIC, RECREATIONAL AND CULTURAL FEATURES THAT DEFINE KOOLAU POKO'S SENSE OF PLACE**

Koolau Poko's striking topographic features, outstanding beaches and bays, lush valleys, perennial streams and other natural features and landmarks continue to visually define the "windward" sense of place. Views of ridgelines or upper slopes of coastal headlands and mountains from the vantage point of coastal waters, major roads, parks and other public places, are kept free from land disturbance or the encroachment of structures or other projects that would affect the scenic viewplanes.

Historic site restoration and interpretive programs are integrated into the development of parks, shoreline, and mountain access systems in order to increase awareness of the role of the natural environment in Koolau Poko's cultural history, especially the importance of the *ahupuaa* in defining activities and communities.

In addition, *na wahi pana* (the special and significant places) and *na malae* (cultural complexes) of Koolau Poko are appropriately identified and interpreted. Community-based organizations are encouraged to develop and maintain programs that heighten appreciation for Koolau Poko's *na wahi pana* as *na malae* for Koolau Poko *na ahupuaa*.

Streams have been made more physically and visually accessible as routes for pedestrians or bicyclists, especially in urbanized areas. Maintenance easements or rights-of-way along several streams and drainage channels have become public greenways where feasible.

Physical access to the shoreline has been increased and enhanced, especially along Kāneohe Bay between MCB Hawaii and Heeia Fishpond; along Kailua Beach between Kailua Road and Kawainui Channel; and to beaches within the Marine Corps Base Hawaii - Kāneohe. To maintain lateral access along public beaches the challenges of long-term and seasonal erosion of the shoreline are being addressed. Accreted beaches remain as public land in perpetuity. Adaptation to sea level rise is progressing.

Improved access to mountain areas has been achieved by developing the Koolau Poko Trail Complex and the Waikāne Trail. Complementary to this is the public acquisition and development of cultural and nature parks in Haikū Valley and Waikāne Valley, where interpretive centers, vehicular parking and other facilities are provided near the trailheads.

**2.1.4 EMPHASIZE ALTERNATIVES TO THE PRIVATE PASSENGER VEHICLE AS MODES FOR TRAVEL**

Most of Koolau Poko's urban growth occurred since the 1950's in the form of suburban "bedroom" communities, so for many decades there had been heavy reliance on automobile travel for commuting and other trips. Trans-Koolau highways were built and expanded to accommodate this travel demand. The completion of the H-3 Freeway in 1997 further provided service for commuter traffic, although its main purpose is for military mobility. One highway improvement project, however, exacted environmental costs that diminished the quality of life in the region. The widening of Kahekili Highway resulted in increased volumes of polluted runoff; heat island effects and aesthetic impacts due to the loss of and absence of shade trees in the right-of-way; and visually obtrusive acoustical barrier walls to mitigate the impacts of higher levels of vehicular noise on adjacent residences.

Until the end of the previous century, transportation plans had called for additional highway widenings and interchange construction to facilitate vehicular traffic flow. The beginning of the present century marked a significant shift in the transportation policy for Koolau Poko. First, State highway officials acknowledged that the H-3 Freeway had absorbed a much higher percentage of the peak period trans-Koolau commuter traffic than had

been anticipated, thereby substantially relieving the other two trans-Koolau routes and the connections to them. Second, the congested Leeward corridor and proposed new roadway network in the island's more rapidly urbanizing regions began to have much higher priority for the use of limited highway improvement funds. Koolau Poko residents also found that unused road capacity resulted in more pressure to further urbanize the region. Finally, emphasis on automobiles as the principal means of transportation is inconsistent with other elements of the vision expressed in this Sustainable Communities Plan. Transportation system improvements in Koolau Poko have been directed instead towards alternative travel modes, including public transit and pedestrian and bicycle facilities.

### **2.1.5 PROTECT AND ENHANCE RESIDENTIAL CHARACTER WHILE ADAPTING TO CHANGING NEEDS**

As described in Chapter 1, Koolau Poko's modest increase in housing stock to accommodate a decreasing household size has been satisfied by developing small-scale "infill" sites or additions to existing dwellings. Paradoxically, while the average household size had been declining over many decades, there had been a concurrent trend toward multi-generational and "nontraditional" households and larger dwelling sizes on single-family residential lots as aging housing stock is replaced, expanded, or remodeled. Recognizing that this incremental physical transformation can have adverse impacts on the character of mature residential neighborhoods, zoning, and public works standards were amended, resulting in appropriate building scale and quiet, attractive, and safe streets.

New, expanded, or remodeled dwellings in recent decades have been proportionate in size to their lot area and the district in which they are located. The prevailing building-to-lot size ratio was lowered in both urban and rural areas, but particularly in the latter. New single-family dwellings have pitched roofs with relatively wide overhangs in response to the warm, rainy climate of the region, as well as other design features that conserve natural resources and are compatible with the natural environment.

Design standards for streets and front yards define neighborhood identity and places for informal recreation and neighborly interaction. Landscaped front yards and pedestrian entries are visible from the street to promote a sense of neighborhood and a sense of security for residents and their homes.

Traffic calming measures have been installed along existing residential streets with wide roadways serving as through-routes, in order to reduce traffic speeds, which threaten pedestrian and bicycle safety and increase traffic noise. Examples include the use of intersection narrowing, speed tables, and similar measures to reduce traffic speed. Priority for such traffic calming has been given to those residential streets of Kāneohe and Kailua where more conventional traffic control measures, such as traffic signals and signage, had either failed to achieve the desired results or had been resisted by residents of the area or the responsible transportation agencies.

Some new housing has been developed as multi-family residential buildings to provide for a choice in living environments, especially for the elderly population and smaller households. Multi-family housing is located in the town core areas of Kāneohe and Kailua or in other appropriately designated areas in this Plan and designed to reflect the suburban residential character of the surrounding neighborhood, with low building profiles, pitched roof forms, and ample yard landscaping.

### **2.1.6 DEFINE AND ENHANCE EXISTING COMMERCIAL AND CIVIC DISTRICTS**

General Plan policy discourages major new employment growth in this region. Any significant retail and office expansion in this region would be inconsistent with the General Plan policy to direct job growth to the Primary Urban Center and Secondary Urban Center. Furthermore, given Koolau Poko's declining population, there has been only modest growth in the demand for commercial land uses to support the communities of this region. Nevertheless, the continued viability of existing commercial districts and institutions is an important part of the

vision for Koolau Poko because they provide a significant number of jobs for residents within the region and play an integral part in the region's social and cultural life.

The older commercial areas of Koolau Poko, which were developed primarily in the 1950's through the early 1980's following the development of suburban housing, were typically oriented to the automobile. On larger lots, commercial developments tended to follow the shopping center model. On smaller lots fronting arterial highways, such as Kamehameha Highway in Kāneohe, the predominant development form was "strip commercial." In either case, commercial establishments were divorced from the sidewalk and the streets and highways that front them are congested with traffic as cars enter and exit from parking lots. There was no clear distinction between the central commercial districts of Kāneohe and smaller, outlying community shopping centers. In Kailua, the central business district had been fairly clearly defined. However, both business districts had clusters of civic uses on their edges that establish their identities as regional town cores. Also, there are pockets within both districts - especially in Kailua - where the development pattern resembles a traditional commercial street, with storefronts and entries facing the public sidewalk.

Current land use policy and public infrastructure investments continue to clearly define and enhance the roles and identities of the central business districts of Kailua and Kāneohe as the region's principal town centers. There is more efficient utilization of land resulting from redevelopment and building expansions, and more "walkable" districts. The town centers are confined to the areas that had already been zoned for commercial, light industrial, and civic uses and treated as mixed-use zones. Although the commercial mixed-use areas allowed development of projects with both commercial and multi-family residential uses, this did not result in significant residential population increases beyond those set forth by the General Plan's population policies; nor did it significantly reduce areas available for commercial use.

Expansion of commercial or industrial zoning or new civic uses such as post offices, libraries, and government offices has not occurred in outlying areas of Kailua or Kāneohe, except for industrial park expansion within the Community Growth Boundary at Kapaa. As civic buildings were added, expanded or remodeled, they were sited and designed in a manner which encouraged pedestrian and transit access and/or serves as hurricane resistant emergency shelters.

The pedestrian orientation of the town centers has been strengthened by implementing a circulation plan that improves public sidewalks, links them with through-block walkways and parking lots, and expands transit services and amenities.

Outside of the Kailua and Kāneohe central business districts, the smaller community-oriented shopping centers and environs of Temple Valley, Windward City, Aikahi, and Enchanted Lake retain their suburban character and are limited to their present land area and approximate floor area. Zoning for the light industrial area near Windward City allows a mix of commercial and industrial uses to reflect the actual pattern of development in that area and establish a more desirable streetscape.

In the commercial districts of Waimānalo and Kahalu'u, building scale and design character are appropriate to a rural area. They have a "village center" ambiance where uses and activities such as farmers' markets and feed stores have a visible presence. Also, provisions are made for roadside vending, outside of the right-of-way, for the sale of agricultural products in a manner that is consistent with traffic safety and rural ambience.

To stimulate and continue the revitalization of the town centers of Kailua and Kāneohe, land use and zoning policies discourage the introduction of "big box" retail stores or shopping centers consisting predominately of discount or factory outlet stores within the region. This type of commercial development often results in inappropriate building

scale, localized traffic and parking demand impacts, and the economic decline of existing businesses. Where “big box” stores have been built, their impact has been mitigated by retrofitting smaller retail stores and rental spaces along the street frontages of those large buildings in order to create a more pedestrian-oriented environment along the sidewalks.

Large-scale commercial development is directed to more favorable sites in Leeward and Central Oahu, where there are large and readily-available parcels better situated to capture patronage from the island’s major population growth area. The H-3 Freeway also makes these “value retail” stores more accessible to Koolau Poko’s residents.

Koolau Poko maintains six major institutional campuses, including two colleges, two hospitals and two correctional facilities. No new institutional campuses are envisioned for Koolau Poko, but minor expansion and redevelopment within the existing grounds of the region’s major institutions are expected to continue to occur.

#### **2.1.7 MAINTAIN THE COMMUNITY GROWTH BOUNDARY TO PROTECT AGRICULTURAL, OPEN SPACE, AND NATURAL RESOURCES**

The Community Growth Boundary was established to define and contain the intended extent of urbanized or “built-up” areas within those districts designated as “urban fringe” and “rural” by the General Plan. The purpose is to accommodate modest increases in population, to provide adequate lands for facilities or other groupings of built uses needed to support established communities while protecting lands outside this boundary for agriculture and other resource and open space values. Areas within this boundary characteristically include extensive tracts of low-rise, low-density residential, commercial, industrial, or mixed-use development clearly distinguishable from undeveloped or more “natural” portions of the region’s environment. While the Community Growth Boundary includes some lands designated “park,” “agriculture,” “preservation,” or areas with development-related hazards, such as steep slopes or unstable soils, these areas have not been developed with uses unsuitable to their designations or in ways that may tend to exacerbate those hazards.

The Community Growth Boundary confined new urban and suburban development to “infill” sites within existing urbanized areas and prohibited continuous sprawl. This more compact form of development helped achieve relatively lower site development costs, more efficient utilization of existing urban infrastructure systems, and reduced reliance on the automobile and made transit ridership, walking, and bicycling more feasible and attractive modes of travel.

The Community Growth Boundary generally circumscribes the “urban fringe” suburban communities of Kāneohe, Kailua, Olomana subdivision, Mokapu Peninsula, Maunawili and ‘Āhuimanu within the State Urban District boundary, including the following areas:

- Residential, apartment, commercial, industrial and mixed-use districts;
- Low-density built-up areas at Haikū Plantations, adjacent to Kailua High School, and immediately adjoining the residential district;
- Hawaiian Memorial Park and the Hawaii State Veterans Memorial Cemetery;
- Public schools serving these communities;
- The campuses of Windward Community College and the Hawaii State Hospital;
- Bayview Golf Course, Mid-Pacific Country Club, and the Klipper Golf Course at MCB Hawaii;
- Lands developed for the beneficiaries of the Department of Hawaiian Home Lands;
- Correctional and detention facilities *makai* of Kalanianaʻole Highway; and
- The industrial area at Kapaa.



The following “urban fringe” areas are located outside of the Community Growth Boundary:

- Undeveloped parcels on the slopes of Kaiwa Ridge, Oneawa Hills and Puu o ‘Ehu;
- Undeveloped lands within and directly adjacent to Kawainui Marsh, and the wetlands of Heeia and Kaelepulu;
- Most of Heeia Kea valley;
- The slopes of Mount Olomana;
- Areas within the State Conservation District;
- Military lands, except those at MCB Hawaii developed with uses associated with the residential, apartment, commercial, industrial, and mixed-use districts; and
- Portions of the slopes of Puu Maelieli and the valleys of ‘Āhuimanu, Maunawili and Haikū where lots typically exceed one acre in size.

The “rural” areas within the Community Growth Boundary consist of smaller, more dispersed, less intensively developed residential communities and towns than those of Koolau Poko’s “urban fringe” areas; namely, the sections of Waimānalo, Kahalu‘u, Wai‘āhole and Waikāne in the State Urban District where there are clusters of parcels that are less than two acres in size occupied by dwellings or buildings used for community or commercial purposes other than agriculture. Development character is generally low-density, low-rise, small scale, and reflective of a “country” setting.

Included within the “rural” portion of the Community Growth Boundary are the following areas:

- Residential, apartment, commercial, industrial and mixed-use districts;
- Areas developed for the beneficiaries of the Department of Hawaiian Home Lands;
- Public schools serving these communities;
- The campus of the Hawaii Job Corps; and
- Areas not designated as Agricultural Lands of Importance to the State of Hawaii that are directly adjacent to or surrounded by residential or other urban uses and are suitable for minor infill development for residential, community or commercial purposes.

The Community Growth Boundary excludes much of the State Urban District land in the vicinity of Kahalu‘u where a predominately agricultural use pattern currently prevails.

### **3. LAND USE POLICIES AND GUIDELINES**

The vision for Koolau Poko, described in the preceding chapter, will be implemented through the application of the following land use policies and guidelines.

This chapter is organized under the following headings:

#### **Sections**

- 3.1 Open Space Preservation
- 3.2 Parks and Recreation
- 3.3 Historic and Cultural Resources
- 3.4 Agriculture
- 3.5 Residential Use
- 3.6 Commercial and Industrial Uses
- 3.7 Institutional Uses
- 3.8 Military Uses

#### **3.1 OPEN SPACE PRESERVATION**

Koolau Poko's open space consists of lush forested valleys, sharply eroded ridges which extend from the interior valley floors to the summit of the Koolau Mountains, with agricultural fields and rural communities in the northern portions of the region to urbanized communities of Kaneohe to Waimanalo toward its southern portions. This sharply contrasts with the Mokapu Peninsula whose dry climate and parched terrain is surrounded by the seashore, accompanying white sand beaches and the Kāneohe Bay marine environments, all of which contribute to the region's unique and intrinsic beauty. This natural beauty attracts residents and visitors to the area as well as the film industry.

Open space preservation is a key element of the vision for Koolau Poko's future. Long-term protection and preservation of scenic resources, agricultural areas, natural areas, and recreational areas are important to maintaining the character and attractiveness of Ko'olau Poko for both residents and visitors. Open space also functions to provide access to shoreline and mountain areas, define community boundaries, prevent urban sprawl, provide buffers between agricultural uses and residential neighborhoods, create a system of linear greenways along roadways and drainage channels, provide flood storage and habitat where functionally necessary and feasible, and prevent development in areas susceptible to landslides and similar hazards.

##### **3.1.1 POLICIES**

The following are policies for the preservation of open space and natural resources:

- Provide both active and passive open spaces. Active areas include community-based parks, golf courses, cemeteries and intensive agricultural uses. Passive areas include lands in the State Conservation District, drainage and utility corridors, nature parks, preserves and wetlands, and agricultural lands such as pastures, aquaculture ponds and fallow fields. Beach parks, which may be either active or passive, depending on the extent to which the landscape has been modified by grading and construction of facilities and the intensity of public use, are also part of the open space system.
- Improve the accessibility of recreational open space for public recreational use, especially in shoreline and mountain areas (as required by City ordinance and State law). Address the need for parking and emergency vehicle access.

- Protect endangered species and their habitats.
- Enhance the visual and physical definition of urban areas, particularly where topographic features are less pronounced, with contrasting forms of open space and landscaping.
- Promote the dual use of roadway and drainage corridors to create linear open space that is also a more inviting environment for walking, jogging and biking. Where physical modification of natural drainageways is necessary to provide adequate flood protection, design and construct such modifications to maintain habitat and aesthetic values, as well as to avoid degradation of the stream, coastline and nearshore water quality.
- Protect scenic beauty and scenic views and provide recreation.
- Promote access to shoreline and mountain areas.
- Define the boundaries of communities.
- Prevent urban sprawl.
- Provide buffers between agricultural uses and residential neighborhoods.
- Create a system of linear greenways along roadways and drainage channels.
- Prevent development in areas susceptible to landslides and similar hazards.

### 3.1.2 GUIDELINES

- Require surveys to identify endangered species habitats and require appropriate mitigation measures to address impacts due to new developments.
- Allow outdoor lighting at the minimum level necessary for public safety, security, and community aesthetics consistent with the goals of energy conservation and environmental protection.
- Adopt outdoor night lighting standards that encourage efforts to minimize glare and stray light, and reinforce the difference between urban and rural communities.

### 3.1.3 ELEMENTS OF OPEN SPACE RESOURCES

The following provides a brief description of the elements of open space resources in Koolau Poko, followed by guidelines for each element, to carry out the policies for the region's open space resources.

#### 3.1.3.1 Mountain Areas

Mountainous regions in Koolau Poko are in the State Conservation District and thus the State Board of Land and Natural Resources (BLNR) oversees uses in these areas. Limited public access to upper reaches of valleys and mountain areas is presently available via the hiking trails described below.

***Koolau Poko Trail Complex.*** This is a proposed 15-mile system of interconnected trails, most segments of which are already open, including the Likeke Trail, Maunawili Trail, and Maunawili Falls Trail. This trail complex features opportunities for hiking, hunting, nature study, bird watching and photography. Horseback riding is possible in some sections, as is mountainbiking. Points of interest along the route include Maunawili Falls, the Maunawili Ditch irrigation flumes, and numerous archaeological sites, including *kalo* (taro) *loi* and *heiau*. The area's rich history adds to the interpretive potential of the trails.

***Waikāne Trail.*** This trail begins in Waikāne Valley and extends to the crest of the Koolau Mountain Range, where it intersects with the Koolau Poko Trail Complex. The trailhead is within the site of Waikāne Nature Preserve, which presents an excellent opportunity for related interpretive and educational programs and improved facilities for hikers.

***Kaiwa Trail.*** This trail, following the crest of Kaiwa Ridge from Lanikai to a WWII bunker, is in a relatively urban setting. It is a good vantage point for striking panoramic views of the adjacent Bellows Air Force Base and suburban communities backdropped by natural features such as Kailua Bay, Waimanālo Bay, the Koolau Mountain Range, and Mount Olomana. Currently, access is limited, but parking and maintenance issues are being addressed to improve the situation.

The State's Na Ala Hele Program manages and maintains public trails. Of the trails mentioned above, only the Kaiwa Trail and portions of the Koolau Poko Trail Complex are Na Ala Hele Program trails. Na Ala Hele trails that are part of the Koolau Poko Trail Complex are the:

- Maunawili-Waimanālo Access Road
- Maunawili Trail
- Maunawili Ditch Trail

Other trails may be privately owned and/or managed. Issues regarding ownership, safety and liability must be further addressed before official access to trails can be assured. Planning and development of public access to mountain areas should incorporate provisions for adequate parking and means for minimizing and addressing complaints from neighbors near trailheads.

Because the mountains and coastal headlands are prominently visible from long distances and are a fundamental element of the regional identity, it is important to preserve their visual integrity by avoiding encroachment of land disturbances and structures on upper slopes and ridgelines.

Moreover, to protect important resource values in the State Conservation District, steps need to be taken to control the number and range of feral animals and other alien species and prevent overuse and misuse by humans in selected areas, such as habitats of native and endangered species. Control of feral animals in the mountain areas is also needed to prevent accelerated vegetation loss and soil erosion.

#### GUIDELINES FOR MOUNTAIN AREAS

- Improve access to mountain areas and enhance the physical condition and recreational and educational value of Koolau Poko's hiking trails by fully implementing the recommendations in the State of Hawaii's Na Ala Hele Program Plan<sup>3</sup>. Accompany access improvements with funding for management of associated problems through increased trail maintenance, weed control and eradication of non-native predators.
- Create public access to the former U.S. Coast Guard Omega Station site, including Haikū Stairs, and combine this parcel site with the adjoining City and County of Honolulu parcel for the proposed Ha'ikū Valley Cultural and Nature Preserve in order to:
  - Provide recreational, cultural and educational benefits; and
  - Help protect resources in the *makai* portion of the Heeia watershed, including a high-quality perennial stream, a significant wetland habitat for waterbirds, migratory waterfowl and shorebirds, and an ancient Hawaiian fishpond.
- Improve the sites that have been acquired for Waihee Valley Nature Park and Waikāne Nature Preserve in a manner that preserves the area's natural scenic quality and provides educational and passive recreation opportunities.

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<sup>3</sup> State of Hawaii Department of Land and Natural Resources, Na Ala Hele - Hawaii Trail and Access System Program Plan, May 1991.

- Promote the preservation of remaining undeveloped lands at the foot of the Koolau Mountain Range through protective regulatory measures, tax incentives for the establishment of conservation easements and management programs on private properties, and public acquisition of fee simple or partial interest, where necessary to create the Koolau scenic resource area or “greenbelt” from Waimanālo to Kualoa. (See *Ko’olau Greenbelt* under Section 3.1.3.3)
- Locate structures at higher elevations of slopes only for purposes of public safety when there is no feasible alternative, and when adequate mitigation measures have been taken to reduce or avoid impact on the scenic and natural environment.
- Maintain, protect, and restore native forests in the State Conservation District, especially by identifying and protecting endangered species habitats and other sensitive ecological zones from threats such as fire, alien species, feral animals, and human activity and disturbance.
- Provide access to existing mountain trails through acquisition of easements or rights-of-way, if necessary. Work with property owners to provide access over their lands to mountain trails.

### 3.1.3.2 Shoreline Areas

Koolau Poko’s shoreline displays a variety of physical characteristics, from the rocky headlands of Makapuu at the south end of the district, to wide sandy beaches fronting Waimanālo and Kailua Bays, to mud flats and fishponds which rim much of Kāneohe Bay. This signature region asset also possesses multiple values which are important to residents of the district and the island at large. It is valued for its natural and cultural resources, recreational opportunities, scenic amenities, and economic aquaculture potentials. Management of this shoreline, then, must carefully consider the relationship of various activities and the integrity of assets they may affect. They include active and passive recreation, lateral and *mauka-makai* public access, scenic interludes and vistas, fishpond restoration and appropriately selected and managed aquacultural activity. While all these opportunities merit enhancement, this must be pursued while maintaining the integrity of the shoreline’s natural, cultural, and scenic qualities, as well as considering impacts to coastal processes. Individual beach management plans, such as the Kailua Beach and Dune Management Plan, should be developed, and modification of shoreline setbacks and impacts from sea level rise must be considered. Views from public roads toward the shoreline should be maintained or enhanced. Where appropriate, create new *makai* views. Notable segments of the shoreline are discussed below.

***Kualoa Point to Molii Fishpond.*** Kualoa Regional Park, a major recreational asset with cultural significance and numerous pre-contact archaeological sites, provides access to the shoreline, coastal waters and Mokolii Island (“Chinaman’s Hat”). Severe, long-term erosion of the shoreline of the park has damaged park landscaping and structures. Littoral drift has deposited sand from this beach to the shoreline fronting Molii Fishpond.

***Kāneohe Bay, from Molii Fishpond to Ke Alohi Point (Heeia State Park).*** The narrow but stable beach is comprised of silty sand. There are relatively few structures in the shoreline area. Physical and visual access to the shoreline from Kamehameha Highway was improved significantly with the expansion and clearing of Waiāhole Beach Park in the early 1990’s. Intermittent views of the shoreline are available along the stretch of Kamehameha Highway between Kahaluu Fishpond and Heeia Landing. Heeia State Park, Laenani Beach Park and Kahalu‘u Beach Park provide physical access to the shoreline and vantage points for views of Kāneohe Bay. The expansion of Kahaluu Regional Park to include the beach park area on the *makai* side of Kamehameha Highway is intended to provide viewplane enhancement from the highway. Kapapa Island, the central barrier reef and “sand bar” (*Ahu o Laka*) in this section of Kāneohe Bay is an attraction for recreational and commercial boating. Heeia Kea Harbor provides public boating launching ramps and mooring spaces. Other launching ramps are available for small craft at Laenani Beach Park and Kahaluu Beach Park.

***Kāneohe Bay, from Heeia Fishpond to Nuupia Pond.*** Similar to the northern end of Kāneohe Bay, most of the shoreline in this section is stable. Vertical retaining walls have been constructed along many of the properties to support docks or to prevent soil banks from slumping into the water, but there are no chronic or significant patterns of erosion or accretion. Physical and visual access to the shoreline is very limited due to residential and other private urban or marina development along almost the entire length. Public access is available at the small Kāneohe Beach Park, where parking and facilities are very limited. There are five pedestrian rights-of-way to the shoreline at other points, but none of these have off-street parking.

***Mōkapu Peninsula.*** Sandy beach dunes facing the ocean are situated between large remnants of volcanic craters. On one side of Nuupia Ponds, at the neck of the peninsula, is a narrow, sandy beach facing Kailua Bay, and on the other side is a siltier beach fronting Kāneohe Bay. Except at certain times for special events, the general public is denied physical access to the peninsula, which is under military jurisdiction.

***Kailua Bay, from Kapoho Point to Alāla Point.*** Kailua Beach is wide and sandy, but dynamic and subject to significant erosion and accretion cycles. It is famed for its high quality as a recreation area. Kailua Bay is attractive for a variety of ocean recreation activities, notably swimming, body surfing, windsurfing, kayaking and canoe racing. Public access to the beach and coastal waters is provided primarily at Kailua Beach Park, on either side of the Kaelepulu Stream outlet, and at the smaller Kalama Beach Park. At both locations, vehicular parking spaces are in great demand on weekends and holidays. There are five public rights-of-way for pedestrians at dispersed points along Kalāheo Avenue, the street that runs parallel to the beach, but no off-street parking, public restrooms or showers are available at these locations. Visual access to the shoreline from the adjacent street is available only at Alāla Point and the Kaelepulu Stream crossing.

***Kailua Bay, from Alāla Point to Wailea Point (Lanikai).*** Severe erosion is occurring at either end of Lanikai Beach, where adjacent residential property owners have built seawalls and revetments along most of the shoreline. The remaining sandy beach in the central portion is popular for recreation. Public access for pedestrians is provided at eleven points along the parallel public street, Mokulua Drive, but no off-street vehicular parking, public restrooms or showers are available for beach-goers. Visual access to the shoreline from the street is very limited.

***Waimanālo Bay, from Wailea Point to Makapuu Point.*** Wide sandy beaches front almost the entire length of Waimanālo Bay. There is a narrower beach and emerging reef rock in the vicinity of Pāhonu Pond in the mid-section of the Bay shoreline. While Kalanianaʻole Highway is relatively distant from the shoreline at the northern portion of the beach, physical access is readily available during peak recreation periods at Bellows Air Force Station and Waimanālo Bay State Recreation Area. In the beachfront residential area of Waimanālo, there are three pedestrian rights-of-way to the shoreline along Laumilo Street. Further south, at Waimanālo Beach Park and Kaiona Beach Park, the highway is close enough to the shoreline to afford both visual and physical access. In the southernmost stretch, along Kaupō Beach Park and Makapuu Beach Park, visual and physical access to the shoreline is virtually unimpeded. From the highway, dramatic vistas of coastal headlands and cliffs, ocean waters, and off-shore islands can be seen.

#### GUIDELINES FOR SHORELINE AREAS

- Maintain existing *makai* view channels along Kalanianaʻole Highway between Makapuu Point and Waimanālo Beach Park; along Kawailoa Road and North Kalāheo Avenue in Kailua; along Lilipuna Road in Kāneohe; and along Kamehameha Highway north of Kāneohe. Avoid visual obstructions, such as walls and dense landscaping.
- Create and maintain new *makai* view channels along Kamehameha Highway and Kahekili Highway north of Kāneohe by:

- Acquiring shoreline properties along the highway either in fee or by obtaining easements and maintenance agreements with private landowners, giving priority to locations where there are actual or potential vistas of perennial streams, wetlands, fishponds and off-shore islands; and
  - Selective clearing of dense vegetation and the removal of structures.
- Maintain the untamed landscape quality of the Makapuu viewshed, with any modification to this area being done for the purpose of health and safety and in a manner that continues the landscape character of the scenic shoreline corridor on the East Honolulu side of Makapuu Point.
- Establish buffer zones for the protection of rare coastal resources and recognition that such resources should be defined and identified.
- Increase opportunities for physical access to the shoreline areas of Kāneohe and Kailua by acquiring additional shorefront areas, with following locations as priorities:
  - The site of the Kāneohe Wastewater Pre-Treatment Facility, to be named Waikalua Bayside Park, with possible expansion into Kokokahi YWCA facility through either acquisition or joint use agreement;
  - King Intermediate School and an area north of Heeia Kea Landing, which may require some realignment of a portion of Kamehameha Highway to create adequate land area *makai* of the roadway; and
  - A site in either the Oneawa Beach area, near the surf spot known as “Castles” or in the frontage along Kalae Avenue between Kailua Beach Park and Kalama Beach Park.
- Improve existing pedestrian rights-of-way to the shoreline by providing on-street or off-street parking nearby; secured bicycle racks where the access point adjoins an existing or planned bikeway, such as along Mokulua Drive in Lanikai and Kāneohe Bay Drive in Kāneohe; and provisions for emergency vehicle access and lateral access along the shoreline.
- Prepare beach management plans to maintain lateral access along popular beaches that are subject to long-term and seasonal erosion, particularly at Lanikai and Kualoa, emphasizing non-structural approaches and prevention of adverse effects on adjacent coral reef ecosystems such as greater shoreline setbacks for new structures along these and other unstable shoreline areas. The Kailua Beach and Dune Management Plan could serve as a prototype for beach management plans at other locations. Effective beach management plans are very location-specific and incorporate the consideration of long-term effects such as climate change and sea level rise, as well as seasonal and long-term erosion and accretion.
- Locate and design exterior lighting to avoid disturbance to seabirds and marine mammals, using DLNR guidelines.
- Designate the Alāla Point to Wailea shoreline as an erosion-prone area and prepare a beach management plan for this area, focusing beach restoration activities on the Bellows Air Force Station beach and Kaupō beach.
- Designate the shoreline along Kamehameha Highway adjacent to Kualoa Ranch to Kualoa Point as an erosion-prone area and prepare a beach management plan for this area.
- Pursue measures to render all shoreline accretion as public (State) property in perpetuity in order to preserve shorelines as a public resource.
- Prohibit the use of shore armoring structures, considering alternative measures such as beach replenishment.
- Modify shoreline setbacks as needed to protect the natural shoreline, lessen the impact to coastal processes, and address sea level rise.
- Analyze the possible impact of sea level rise for new public and private projects in shoreline areas and incorporate, where appropriate and feasible, measures to reduce risks and increase resiliency to impacts of sea level rise.

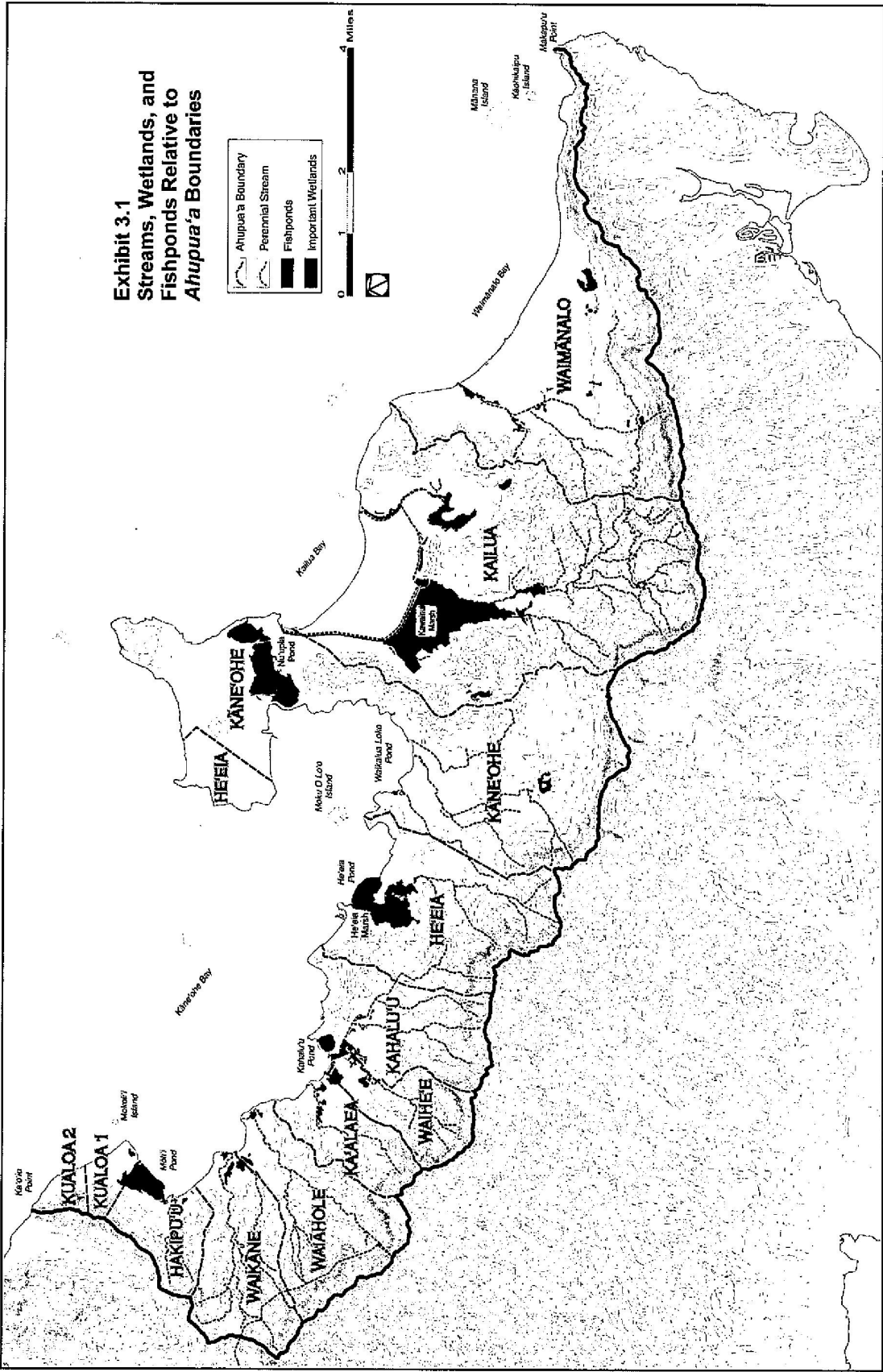
### 3.1.3.3 Wetlands, Wildlife Preserves and Nature Parks

Koolau Poko is home to several wetlands listed as significant by the U.S. Fish and Wildlife Service (USFWS) Oahu Team because of the occurrence and abundance of native waterbirds, including the endangered Hawaiian Stilt (*aeo*), Hawaiian Coot (*'alae keokeo*), Hawaiian Duck (*koloa maoli*), Hawaiian Moorhen (*alae ula*), and migratory waterfowl and shorebirds. Policies on the management of wetlands have been prepared by the U.S. Environmental Protection Agency, in cooperation with the State department of health<sup>4</sup>. Koolau Poko hosts a variety of venues which serve as habitat for avian, terrestrial, aquatic, and marine wildlife. In addition to onshore habitat, offshore islands which lie seaward of the planning region also serve as habitat which may merit protection as such. Major onshore wetlands, proposed nature parks/preserves and botanical gardens of Koolau Poko (see Exhibit 3.1) are described below:

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<sup>4</sup> Hawaii Wetland Management Policy Workgroup, U.S. Environmental Protection Agency, State of Hawaii Department of Health, and Sarah Young, Hawaii Wetland Management Policy, April 1999.





- ***Hoomaluhia Botanical Garden.*** This 211-acre park, maintained by the City, was originally developed as a Federally-funded flood control project and includes a large stormwater impoundment basin. It includes limited facilities for camping, horse-back riding, hiking, camping and environmental education as well as botanical gardens.
- ***Kawainui Marsh.*** Since 2005, Kawainui-Hamakua Marsh Complex has been on the Ramsar List of Wetlands of International Importance, serves multiple purposes as a flood storage basin, wetland filter, wildlife habitat and cultural and scenic resource pursuant to a master plan prepared in 1994<sup>5</sup>. (Note that the 1994 plan was never officially adopted by the State DLNR.) The master plan includes hiking trails through the marsh. Also proposed are an environmental education center and a pedestrian path around the perimeter of the marsh. A large restoration project by the Army Corps of Engineers and the DLNR began in 2013. The project will restore nearly 40 acres and includes habitat restoration for endangered native waterfowl. In 1979, the National Registrar for Historic Places determined that the Marsh is eligible for listing in the National Register of Historic Places.

The Kawainui-Hamakua Marsh Complex, endangered waterbird habitat, and archaeological and cultural sites should be improved and protected by:

- Improving water quality in contributing Kapaa and Maunawili streams;
  - Improving water quality in the marsh;
  - Establishing a comprehensive and coordinated land and water management plan, including a long-term water monitoring and testing schedule;
  - Establishing a buffer zone surrounding existing waterbird habitats on the marsh side of the Kapaa Quarry Road;
  - Removing invasive plant species to open up water flow;
  - Establishing long-term plans for removing and controlling invasive plants in the ditches on both sides of Kapaa Quarry Road so that runoff from industrial areas can be filtered as designed;
  - Implementing predator control measures;
  - Expanding Kapaa and Maunawili stream courses by removing vegetation from their entrances into the marsh;
  - Developing criteria for monitoring discharge of sediments into the marsh;
  - Investigating and recording the sacred nature and cultural significance of the birds in the Kawainui area;
  - Conducting specific archaeological research studies of entire primary and secondary areas of the marsh, which includes the slopes above the marsh; and
  - Preserving and enhancing identified wildlife species, their habitats, and related ecological systems.
- ***Heeia Wetland.*** Heeia Wetland was acquired by the State in 1991 and is under the jurisdiction of the Hawaii Community Development Authority. In 2010, a non-profit group, Kākoo ‘Ōiwi, acquired a long-term lease to the wetland. Their goal is to implement the community-driven vision of restoring agricultural productivity and environmental quality of the wetland. Wetland *kalo* was traditionally grown at Heeia. The vision is to produce *kalo* once again, to serve to educate, feed, and sustain the He’eia community.

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<sup>5</sup> State of Hawaii Department of Land and Natural Resources, Kawai Nui Marsh Master Plan, July 1994. This master plan is currently being updated by DLNR.

- ***Nuupia Pond.*** This large waterbody at the neck of Mōkapu Peninsula is within the Marine Corps Base Hawai'i and is under Federal protection and management as a habitat for endangered species.
- ***Waikalua Loko Fishpond.*** This fishpond in Kāneohe is an active site for resource management training and education that is managed by the Waikalua Loko Fishpond Preservation Society.
- ***Waihee Valley Nature Park.*** This site covering nearly 150 acres was acquired by the City and is designated as a Nature Park, but remains undeveloped.
- ***Haikū Valley Cultural and Nature Preserve.*** The City proposed to acquire the former Omega Station site from the State Department of Hawaiian Home Lands. Combined with the adjoining City and County of Honolulu parcel, this could create a large nature and cultural preserve. The site includes Haikū Stairs and potential access to the Koolau Poko Trail Complex. In addition to its recreational and education purposes, this park would help protect the Heeia watershed, which includes a high-quality perennial stream, a significant wetland habitat for native endangered Hawaiian waterbirds and migratory waterfowl and shorebirds, and an ancient Hawaiian fishpond in relatively good condition.
- ***Waikāne Nature Preserve.*** This is a site recently acquired by the City that had formerly been proposed for the development of a 27-hole private golf course. It is now designated for a nature preserve, but is currently undeveloped. The preserve will provide access to the Waikāne Trail.
- ***Koolau Greenbelt.*** This describes the transition area between the Koolau Mountain Range and the urban and agricultural uses in the valleys and on the coastal plain. Much of this area is presently undeveloped or used for open space purposes, including the nature parks/preserves described above or golf courses described below. The purposes of designating the remainder of this area as greenbelt are to preserve this natural, recreational and scenic resource; maintain significant view corridors; to prevent inappropriate development or use which may cause hazards or other undesirable environmental consequences downstream; and to provide opportunities for environmental and cultural research and education.

#### GUIDELINES FOR WETLANDS, WILDLIFE PRESERVES, AND NATURE PARKS

- Prepare use and management plans for Heeia Marsh, Waihee Valley Nature Park, Haikū Valley Cultural and Nature Preserve, and Waikāne Nature Preserve and develop those sites pursuant to those plans.
- Encourage owners of private wetlands, such as Waihee Marsh (also known as “Haia Moa”), and other wildlife habitats, to prepare and abide by use and management plans for those resources, and to investigate the various State and Federal programs that provide incentives for landowners to manage their lands for the benefit of wildlife.
- Prepare and implement a plan to establish a Koolau Greenbelt.
- Prohibit encroachment or intensification of residential or other urban uses near wildlife sanctuaries and nature parks.
- Prepare wildlife preserve management plans emphasizing conservation and restoration of native plants, birds, fish and invertebrates.
- Minimize the adverse effects of artificial lighting on wildlife and human health by balancing the need of outdoor lighting for night utility, security, and desire for reasonable architectural expression with the need to conserve energy and protect the natural environment.

### 3.1.3.4 Natural Gulches, Streams and Drainageways

According to the Koolau Poko Watershed Management Plan, the Koolau Poko region contains 20 watersheds (systems of natural gulches and streams) and 13 perennial streams. These stream channels are the primary means for carrying water from the inland areas to the sea and are generally capable of handling runoff from normal rainfall amounts. During periods of intense rainfall, however, a number of these drainageways overflow and create flooding problems (see discussion in Section 4.6, *Drainage Systems*).

#### GUIDELINES FOR NATURAL GULCHES, STREAMS AND DRAINAGEWAYS

- Preserve the natural aesthetic and biological values of gulches, streams and drainageways as part of the open space system by implementing the stream classifications, design guidelines and actions contained in the Koolau Poko Watershed Management Plan for the protection of natural stream beds and habitat and the restoration of degraded streams.
- Alter natural drainageways only when necessary to provide flood protection for existing developed areas, and in a way that preserves aesthetic and biological values, and avoids degradation of stream, coastline and nearshore water quality. For example, impacts on biological conditions may be mitigated, as appropriate, by using v-shaped bottom channels for periods of low stream flow, rip-rap boulder lining of stream banks, streamside vegetation and similar strategies to shade, cool and aerate the waters of the stream and provide riparian and stream bottom habitat.
- Incorporate erosion control measures and best management practices, as cited in the Hawaii's Coastal Nonpoint Pollution Control Program Management Plan<sup>6</sup> to prevent pollution of wetlands, streams, estuaries and nearshore waters.

#### GUIDELINES FOR OTHER OPEN SPACE ELEMENTS

Several types of land uses, other than those described above, contribute to Koolau Poko's open space system. In general, they are developed lands either presently or potentially in active use rather than natural areas, but they are relatively free of structures, compared to most urban uses. Below are the descriptions of these land uses, their contribution to the open space system, and guidelines for the use and development of these lands to maintain their open space value.

#### *Agriculture*

While it is not its primary function, agriculture land use does contribute to the open space system. It defines the landscape character of large sections of Koolau Poko north of 'Āhuimanu and in the *mauka* portions of Waimanālo. Smaller enclaves of agricultural lands are found in Maunawili, Kailua and Kāneohe. Guidelines for agricultural land use to help maintain these open space values are listed below:

- Design and locate buildings and other facilities that are accessory to an agricultural operation in a way that minimizes visual impacts within the view corridors identified in Appendix Map A-1.
- Retain the open space character of pastures adjacent to Kawainui Marsh and within the Hawaii Youth Correctional Facility to visually separate and define the edges of the Maunawili, Olomana and Pohakūpū and Kukunono residential neighborhoods.

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<sup>6</sup> Office of State Planning, Hawaii's Coastal Zone Management Program, Hawaii's Coastal Nonpoint Pollution Control Program Management Plan, Volume I, June 1996.

***Parks***

Parks provide active and passive recreation space for residents in the form of play courts and playfields, gyms and pools, gardens, water features, open fields, trails, and other forms of active or passive recreational facilities. In addition to meeting the recreation needs of the region, parks also serve as open space elements, contain wildlife, and add aesthetic value to the region and mental health value to its residents by providing visual relief from urban land uses. Parks and recreation are discussed further in Section 3.2.

***Golf Courses***

Golf courses are important elements of the open space system because they provide areas for active recreation and offer visual relief from adjacent urban uses. Most are available for public play and are considered a part of the region's recreational resources.

Golf courses have a manicured appearance, so they are not necessarily appropriate for areas where the retention of a natural, untamed landscape character is desired. The Mid-Pacific Country Club, Bayview Golf Park, Kāneohe Klipper Golf Course and Olomana Golf Links demonstrate how golf courses in suburban settings can provide open space buffers between residential neighborhoods, passive stormwater drainage management, and opportunities to preserve significant views. The Pali, Luana Hills, and Koolau golf courses have less value as contributors to the open space system because they are situated within or near forests with a dense canopy of trees and have altered the natural landscape character of those settings.

Golf courses also serve a practical purpose by reducing flooding and non-point pollution by helping retain storm waters. However, they are highly land intensive, typically occupying 150 to 200 acres, and thus plans for future golf courses or redevelopment of existing golf courses must undergo careful evaluation. Depending on the location, design, and pricing of greens fees or memberships, or both, new course development could have significant environmental, economic, and social impacts. Furthermore, Koolau Poko is mostly built-out and land areas that could possibly accommodate a new golf course are either in preservation or long-term agricultural use. Consequently, the development of additional golf courses in the Koolau Poko region is not desired.

Koolau Poko's golf courses are listed in Table 3.1 below:

Table 3.1: Golf Courses in Koolau Poko		
Type/Name	Location	Public Play
<b>Municipal:</b>		
Pali Golf Course	Kāneohe	Yes
<b>Daily Fee:</b>		
Bayview Golf Links	Kāneohe	Yes
Koolau Golf Links	Kāneohe	Yes
Olomana Golf Links	Waimanālo	Yes
<b>Semi-Private:</b>		
Royal Hawaiian Golf Club	Kailua	Yes

Table 3.1: Golf Courses in Koolau Poko

Type/Name	Location	Public Play
<b>Private:</b> Mid-Pacific Country Club	Kailua	No; members only
<b>Military:</b> Kāneohe Klipper Golf Course	MCB Hawaii	No; military only

Policies relating to golf courses:

- New golf courses are not recommended for Koolau Poko.

Guidelines relating to golf courses:

- Maintain golf courses to provide view amenities for adjacent urban areas, especially from well-used public rights-of-way, parks and vista points. Where necessary, redesign golf course facilities or layouts to reduce the visual prominence of large accessory buildings.
- Design and maintain existing golf courses to avoid or minimize environmental impacts, such as siltation, pesticide and fertilizer runoff, destruction of coastal, riparian and wetland habitat, etc.
- Optimize the function of golf courses as passive drainageways, maximizing their potential to retain or detain stormwater runoff.
- Provide safe access through golf courses, as necessary, for regional continuity of pedestrian and bicycle systems.
- When necessary for safety reasons, use landscape screening, setbacks and modifications to the course layout rather than fencing or solid barriers.
- Provide appropriate buffers between golf courses and surrounding residential areas.

### ***Cemeteries***

Major cemeteries in Koolau Poko are Valley of the Temples Memorial Park in ‘Āhuimanu and the Hawaiian Memorial Park that adjoins the Hawaii State Veterans Cemetery in Kāneohe. There are other, smaller cemeteries in the region, but these three are by far the most significant in size and visibility.

Guidelines for cemeteries:

- Maintain the open space character of the cemeteries through very low lot coverage ratios.
- Where located in the State Conservation District or in preservation area designated by this Plan, above-grade structures shall be limited to maintain the open space character of the cemetery.
- Limit above-grade structures to grave markers of modest size; and necessary administrative and maintenance support buildings that are minimally visible from public rights-of-way, entries and vista points.
- Where direct, indirect, or cumulative impacts of any proposed cemetery expansion will affect rare, threatened, or endangered species; or where direct, indirect, or cumulative impacts of any proposed cemetery expansion on sensitive areas are identified in any environmental setting; measures to mitigate, reduce, or rectify any adverse impacts shall be formulated.

- Any proposed expansion by Hawaiian Memorial Park must include a 150-foot buffer from residential homes, a 2,000-foot buffer from the Pohai Nani senior living community, and a phased approach to sales and marketing to ensure that the land adjacent to the residential homes on Lipalu Street is the last portion of land used for cemetery interment, in order to minimize potential impacts to neighboring residents.
- Hawaiian Memorial Park shall record with the State of Hawaii Bureau of Conveyances or the State of Hawaii Land Court, or both, as appropriate, a conservation easement on the entirety of the 156-acre undeveloped portion of its Pikoiloa Tract property (TMK No. 4-5-033: 001) that would limit any other future development on the property, except for the 28.2-acre portion of the property that encompasses the proposed Hawaiian Memorial Park expansion site, and the 14.5-acre portion of the property that encompasses the proposed Kawaewae Heiau cultural preserve.

### 3.1.4 PROTECTION OF OTHER NATURAL RESOURCES

This section describes the policies and guidelines for protecting other natural resources of the region.

#### 3.1.4.1 Policies

- Protect endangered species and their habitats.
- Balance the need for public safety, the protection of property, and the desire for architectural embellishments with the need to conserve energy and the protection of wildlife and human health from adverse effects of outdoor night lighting.

#### 3.1.4.2 Guidelines

- Require surveys to identify endangered species habitat, and require appropriate mitigation and protection measures to address impacts due to developments.
- Minimize glare and obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary by fully shielding lighting (no light above the horizontal plane) fixtures and using lower wattage.
- Adopt outdoor night lighting standards that help reinforce the difference between urban and rural communities.

### 3.1.5 RELATIONSHIP TO MAP A-1, OPEN SPACE

The following components of the regional open space system are shown on the Open Space map in Appendix A:

- ***Mountains, Wildlife Preserves and Nature Parks.*** These areas are designated for preservation and are to remain outside of the Community Growth Boundary. Small wetlands and agricultural lots consisting of less than 10 acres may be included within the Community Growth Boundary, but the intent is to preserve them in their present use, even if they are not specifically shown on Map A-1, Open Space.
- ***Shoreline Areas.*** All public shoreline parks, whether managed by the City or the State, are designated for preservation and shown on Map A-1, Open Space. Smaller existing and proposed access points to the shoreline are indicated by symbols on the map.
- ***Agricultural Areas.*** Map A-1, Open Space, shows all areas designated for agriculture on the Map A-2, Land Use. Some of these lands are in the State Urban District, but almost all are outside of the Community Growth Boundary.

- ***Golf Courses and Cemeteries.*** The golf courses and three largest cemeteries in Koolau Poko are shown for their visual contributions to open space by virtue of their size and landscape character.
- ***Natural Gulches, Streams and Drainageways.*** The riparian areas of perennial streams that are significant for their natural resource quality or that have potential for recreational accesses in urbanized areas are designated as stream management corridors, which are discussed in Section 4.6.

### 3.2 PARKS AND RECREATION

The City and County of Honolulu Department of Parks and Recreation (DPR) develops and maintains a system of island-wide parks and community-based parks and related recreation facilities which it classifies in a hierarchical manner. The largest and most specialized parks are classified as island-wide parks since they serve the needs of all Oahu residents. This group includes regional parks, beach/shoreline parks, beach/shoreline right-of-ways, nature parks/reserves, botanical gardens, golf courses, and zoological parks. State parks can also be considered part of the island-wide park system. DPR's standard for island-wide parks is 25 acres per 1,000 defacto population. The size of the park and facilities to be provided are based on the character of the site, intended use, and availability.

#### 3.2.1 ISLAND-WIDE PARKS

Koolau Poko's regional, beach and nature parks are listed in Table 3.1. Compared to other regions of the island, Koolau Poko has a disproportionate share of park acreage dedicated to natural and cultural preserves, which is a reflection of the region's physical assets and historical use. For future additions to Koolau Poko's island-wide park land inventory, priority is given to the acquisition of shorefront properties primarily in Kāneohe and secondarily in Kailua, as stated in Section 3.1.3.2 Shoreline Areas.



Table 3.2: Island-Wide Parks in Koolau Poko			
Park Type/Name	Acreage	Park Type/Name	Acreage
<b>Regional Parks</b>		<b>Nature Parks</b>	
Kahaluu Regional Park <sup>1</sup>	34.6	Waihee Valley Nature Park	149.6
Kualoa Regional Park <sup>1</sup>	<u>153.4</u>	HeeiaLea Valley Nature Park <sup>3</sup>	<u>218.5</u>
<b>Subtotal</b>	188.0	Waikāne Nature Park <sup>3</sup>	<u>503.0</u>
		<b>Subtotal</b>	871.1
<b>Beach/Shoreline Parks</b>		<b>Botanical Gardens</b>	
Bellows Field Beach Park (weekend use)	54.2	Hoomaluhia Botanical Garden <sup>2</sup>	370.8
He ‘eia State Park	18.5	<b>Total Acreage</b>	1,735.0
Kailua Beach Park	35.2		
Kaiona Beach Park	4.3		
Kalama Beach Park	4.3		
Kāneohe Beach Park	1.1		
Kaupō Beach Park	8.2		
[Laenani Neighborhood Park]	[1.4]		
Makapuu Beach Park <sup>2</sup>	46.9		
Waiāhole Beach Park	20.0		
Waimanālo Bay Beach Park	74.8		
Waimanālo Beach Park	<u>37.5</u>		
<b>Subtotal</b>	305.1		
<sup>1</sup> Portions of these parks function as beach parks or nature parks.			
<sup>2</sup> Portions of this park are also considered as nature park.			
<sup>3</sup> Actual park development is pending the removal of hazards.			
Acreage shown in brackets [ ] are counted as part of another park and therefore, not included in the subtotals.			
Source: City & County of Honolulu, Department of Parks and Recreation.			

## POLICIES

The following policies relate to island-wide parks and recreational resources in Koolau Poko:

- Increase the inventory of island-wide parks by giving priority to the acquisition of shorefront properties primarily in Kāneohe and secondarily in Kailua. (Note that expansion of the inventory of island-wide parks is of lower priority than expansion of the inventory of community-based parks in Koolau Poko as provided in Section 3.3.2.)
- Maintain and enhance present island-wide parks by utilizing land area not fully developed for recreation use. Island-wide parks are part of the region's abundance of natural and scenic resources and contribute to the attractiveness of Koolau Poko to both residents and visitors.
- Carefully site active playfields and supporting facilities intended for intensive use, and use appropriate landscape screening to reduce the potential impacts on surrounding areas.
- Construct park facilities in a manner that avoids adverse impacts on natural resources or processes in the coastal zone or any other environmentally sensitive area. In the design of recreation areas, incorporate natural features of the site and use landscape materials that are indigenous to the area in order to retain a sense of place.
- Integrate and link recreational attractions, which may be designed to have distinct identities and entries, with surrounding areas through the use of connecting roadways, bikeways, walkways, landscape features and/or architectural design.

## **GUIDELINES**

### **Passive or Nature Parks**

- Acquire and develop the proposed Haikū Valley Cultural and Nature Preserve, including access to Ha'ikū Stairs.
- Improve the Waikāne Nature Preserve and Waihe'e Valley Nature Park.

### **Active Recreation Areas**

- Acquire additional shorefront land for parks in Kāneohe and Kailua with particular attention to increasing shoreline access in Kāneohe.
- Locate bus stops and loading areas at principal entries and adjacent to convenient pedestrian accesses to main activity areas within the park.
- Provide amenities and service facilities to accommodate "tailgate" picnics in parking areas for sporting events, including shading canopy trees within the parking lot as well as nearby picnic tables and outdoor grills.
- Locate areas designed for sporting events that attract high numbers of people along major collector streets and separate them as much as possible from residential areas and significant wildlife habitats.
- Expand active recreational facilities by incorporating facilities such as playfields and playcourts in regional and beach parks and in the former sanitary landfill site at Kapaa.

### **3.2.2 COMMUNITY-BASED PARKS**

Park areas that serve more localized populations are classified as community-based parks. This group includes district, community, and neighborhood parks as well as other, smaller park areas (see Table 3.3).

Table 3.3: Types of Community-Based Parks			
Park Type	Average Size (Acres)	Population Service Size	Typical Facilities
District	20	25,000	Playfields, playcourts, passive areas, gym/recreation complex, swimming pool
Community	10	10,000	Playfields, playcourts, passive areas, recreation bldg
Neighborhood	6	5,000	Playfields, playcourts, passive areas, comfort station
Mini Park	Varies	High Density Area	Benches, picnic tables, children's play area

DPR uses a standard of two acres per every 1,000 persons in evaluating service needs, although this figure varies according to each community's situation. Koolau Poko contains a total of approximately 167 acres of community-based parks (see Table 3.4). Based on DPR's standard and Koolau Poko's 2010 population of 115,164, this represents a deficit of approximately 63 acres of community-based parks. With an expected 2035 population of 115,000, there will still be a deficit in acreage if there is no addition to the park land inventory. At present, the only planned addition to the community-based park inventory in Koolau Poko is a one-acre expansion of the Kāneohe Civic Center Neighborhood Park.

Acquisition of new park land is dependent currently on the Park Dedication Ordinance which imposes a recreation requirement on new housing. This method cannot be used to make up the existing deficit in community-based park lands in Koolau Poko because the amount of new park improvement is generally intended to only serve new development.

Table 3.4: Community-Based Public Parks in Koolau Poko

Park Type/Name	Acreage	Park Type/Name	Acreage
<b>District Parks</b>		<b>Neighborhood Parks, continued</b>	
Kāneohe District Park	31.4	Kaluapuhi Neighborhood Park	5.8
Kailua District Park	18.7	Kāneohe Civic Center Park	4.2
Waimanālo District Park	<u>25.3</u>	Kapunahala Neighborhood Park	3.9
<b>Subtotal</b>	75.4	Keaalau Neighborhood Park	3.7
<b>Community Parks</b>		Puohala Neighborhood Park	3.9
‘Āhuimanu Community Park	4.0	Kalāheo Neighborhood Park	1.4
Kahaluu Community Park	5.6	Kawainui Neighborhood Park	4.8
Kāneohe Community & Senior Center	2.0	Keolu Hills Neighborhood Park	6.3
Kāneohe Community Park	5.5	Maunawili Neighborhood Park	4.2
‘Aikahi Community Park	4.0	Maunawili Valley Neighborhood Park	<u>8.1</u>
Enchanted Lake Community Park	5.8	<b>Subtotal</b>	59.7
Waimanālo Beach Park - <i>portion</i>	<u>10.0*</u>	<b>Mini Parks</b>	
<b>Subtotal</b>	26.9	Kaelepulu Mini Park	1.6
<b>Neighborhood Parks</b>		Pōhākupu Mini Park	<u>3.5</u>
Bayview Neighborhood Park	8.0	<b>Subtotal</b>	5.1
Laenani Neighborhood Park	1.4		
Heeia Neighborhood Park	4.0	<b>Total Acreage</b>	167.1
*Acreage for this park is counted as part of the Waimanālo District Park and is not included in the Community Parks total acreage. Source: City & County of Honolulu, Department of Parks and Recreation.			

The ratio of population to land area is not the only factor to consider when evaluating community-based public park needs. Some of the demand for public park space is off-set by private parks that are owned and maintained by community associations in Kailua, ‘Āhuimanu, Kāneohe and Lanikai for the use of their residents and guests. For military personnel and their dependents, the Marine Corps Base Hawaii, Kāneohe also provides a golf course and several parks.

It may be possible to increase the availability of public recreation facilities without acquiring additional land to develop for that purpose. For example, the current deficit of community-based public park land could be reduced if portions of the regional parks and beach parks were developed with more active playing fields, courts and playgrounds, as has been done at Waimanālo Beach Park. The campuses of some of Koolau Poko’s public schools,

including Windward Community College, have athletic facilities that could be opened for general community use, possibly under a joint use agreement between the State and the City. Similar joint use agreements also could be explored with nonprofit organizations such as the YMCA/YWCA or with Hawaii Pacific University.

The development of landscaped bikeways and walkways along streams and drainage channels is another way to both increase recreation opportunities and provide safer and more enjoyable access to existing parks, particularly in the urbanized areas of Kāneohe and Kailua. “Pocket” parks could be developed along the route on adjacent small parcels either presently owned by the City or State or acquired by the City for this purpose.

Possible additional sites for active recreational facilities would be the *mauka* portions of Kahaluu Regional Park and Bellows Field Beach Park, if and when that site is released by the military for permanent civil recreation use. Also, the former sanitary landfill site at Kapaa has been landscaped for eventual park use, and some active recreation facilities could be developed there. A portion of the former landfill area at the edge of Kawainui Marsh is already in use as a model airplane park. While all possible methods should be pursued as ways to reduce the deficit of community-based parks, emphasis realistically has to be placed on future acquisition in areas where the current deficit is most significant. Additions to the community-based park system are appropriately determined more by community facility design considerations than by their relationship to the regional open space network.

## POLICIES

The following policies relate to community-based parks:

- Increase the inventory of community-based parks to provide sports and recreation facilities for Koolau Poko residents in appropriate locations in Kailua, Kāneohe, Kahaluu, and Waimanālo with land acquisition to reduce the existing deficit of such parks in these areas.
- Increase recreation facilities in existing parks and increase access to public school facilities in areas where there is limited opportunity to expand park space.
- Require new residential development to provide land for open space and recreation purposes in lieu of payment of a fee for park dedication purposes, if the project is of sufficient size to set aside usable land to meet neighborhood recreational needs.
- Pursue the development of greenways along the following streams and drainage channels: Kāneohe Stream, from Kāneohe Bay to Kamehameha Highway; Keaahala Stream, from Kāneohe Bay to Kahekili Highway; Kawainui Stream, from Kailua Bay to Kawainui Marsh; Kawa Stream, from Mokulele Drive to Kāneohe Bay Drive; and Kaelepulu Stream, from Kailua Bay to Kaelepulu Pond.

## GUIDELINES

- Design and site structural improvements and landscaping in community-based parks in such a way as to enhance the aesthetic value of these open space elements.
- Mitigate visual impacts of large recreation buildings or structures, lighting, parking lots, perimeter fencing along major collector streets and other utilitarian elements through building design, plantings or other appropriate visual screens adjacent to residential areas and major roadways.
- Encourage multi-use and/or modest expansion of existing facilities over the construction of new structures to minimize impacts on open space.
- Prepare a functional plan for the acquisition of new community-based parks in Kailua, Kāneohe, Kahaluu, and Waimanālo.
- Have master plans for development of new parks or redevelopment of existing parks provide for facilities and accessible pathways from surrounding streets to facilitate pedestrian and bicycle access to parks.

- The DPR should explore ways, through cooperative agreements and mutual indemnifications with the UH, DOE, and non-profit organizations, to design and operate facilities to achieve efficiencies and reduce duplication in the development and use of athletic, recreation, meeting, and parking facilities.

### 3.3 HISTORIC AND CULTURAL RESOURCES

Koolau Poko's landscape includes many vestiges of its cultural past, including ancient fishponds fronting Kāneohe Bay, terraces for the cultivation of taro, several *heiau* and other sacred sites, and various remains of pre-historic habitation. On a smaller scale, there are also historic structures and places representing Koolau Poko's more recent past.

Due to the relatively recent urban development of the region, the most significant remnants of Koolau Poko's past are archaeological sites. In 1930, an archaeological survey of Oahu documented numerous sites in the area<sup>7</sup>. Erosion or other land altering activities such as agricultural use and urban development had destroyed many of these sites, even at that time.

Table 3.5 lists some of the significant archaeological sites in Koolau Poko including ancient fishponds and known remaining sacred sites such as *heiau* and fishing shrines many of which are listed on the Hawaii or National Registers of Historic Places. The approximate location of these sites and other significant cultural features is shown in Exhibit 3.2. This representative list is not intended to document all significant archaeological sites in Koolau Poko.

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<sup>7</sup> McAllister, J. Gilbert. Archaeology of Oahu, 1933. p. 57.

**Table 3.5: Significant Archaeological Sites in Koolau Poko**

<b>Feature</b>	<b>Reference</b>
Molii Fishpond	McAllister, SHPD
Kualoa <i>Ahupuaa</i> Historical District	SHPD
Puakea <i>Heiau</i> , Hakipuu	McAllister
Kukuianiani <i>Heiau</i> , Waikāne	McAllister
Waikāne Taro Flats	SHPD
Heeia Fishpond, Heeia	McAllister, SHPD
Leleahina <i>Heiau</i> , Heeia	McAllister, SHPD
‘Āhuimanu Taro <i>Loi</i> , Kahaluu	SHPD
Kahaluu Fishpond, Kahaluu	SHPD
Kahaluu Taro <i>Loi</i>	SHPD
Pohaku <i>Ka Luahine</i>	SHPD
Luluku Archaeological District	SHPD
Kapapa Island Complex	SHPD
Kawainui Marsh	SHPD
Kawainui Marsh, Archaeological site #7	SHPD
Kawaewae <i>Heiau</i> , Kāneohe	McAllister, SHPD
Kanohuluiwi Pond, Kāneohe	SHPD
Mōkapu (Nuupia) Fishponds	SHPD
Mōkapu Burial Area	SHPD
Pahukini <i>Heiau</i> , Kailua	McAllister, SHPD
Pohakunui <i>Heiau</i> , Kailua	SHPD
Ulupō <i>Heiau</i>	McAllister, SHPD
Maunawili Archaeological District	SHPD
Koa (Manana Island)	SHPD
Manikolu Shelter, Waimanālo	SHPD
Kukuipilau <i>Heiau</i> , Waimanālo	SHPD
Bellows Field Archaeological Area	SHPD
Pāhonu Pond/ <i>Heiau</i> , Waimanālo	McAllister, SHPD
Waimanālo Taro Terraces, Waimanālo	SHPD

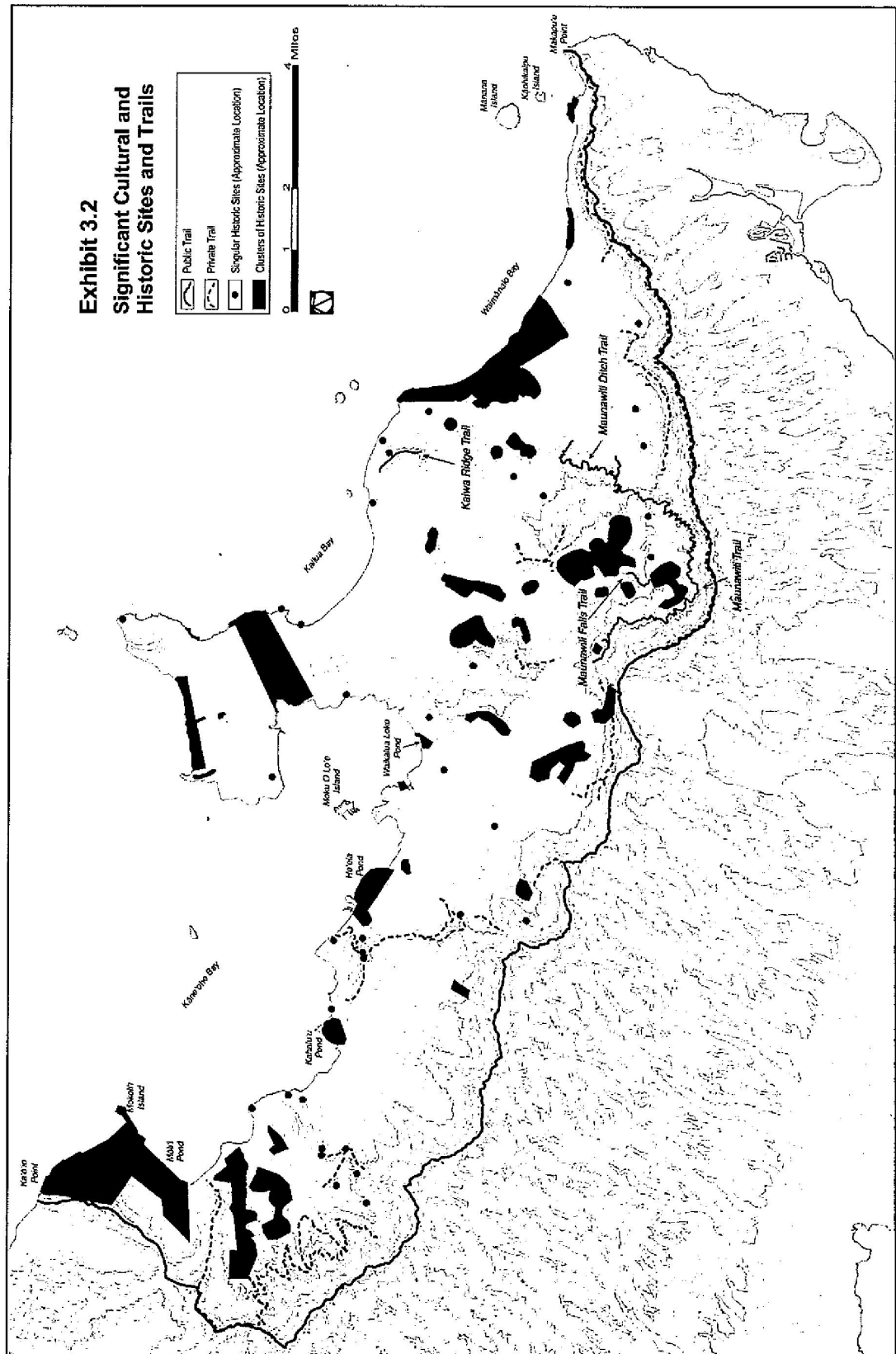
Koolau Poko has many other structural landmarks that are identified with the history of the region. The following, some of which are listed on the National or Hawaii Registers of Historic Places, are among the more significant sites:

- Makapuu Lighthouse
- Waikāne Store
- Lanikai Entry Marker
- Haikū Plantation Gardens, Kāneohe
- Hygienic Store, Kahaluu
- Waiāhole Poi Factory
- Kāneohe State Hospital
- Hawaii Youth Correction Facility - Kawailoa, Kailua
- Byodo-in Temple, Valley of the Temples, ‘Āhuimanu
- Boettcher Estate, Kalama Beach Park, Kailua
- Kāneohe Ranch offices, Maunawili
- Waimanālo Ditch System

The cultural richness of Koolau Poko is significant. In addition to the previously listed sites, other sites highly valued by Koolau Poko residents include: Holomakani Heiau (Kailua), Na Pohaku o Wahine (Kailua), Kawainui Marsh Archaeological District (Kailua), Waikalua Loko Fishpond (Kāneohe), Ahu o Laka Island, Nuupia Ponds (at entrance to Marine Corps Base Hawaii).

There are also many private residences, at various locations, which are more than 50 years old that have sufficient architectural distinction and integrity to make them eligible for listing on either the National or State Registers.





### 3.3.1 POLICIES

- Emphasize physical references to Koolau Poko's history and cultural roots.
- Protect existing visual landmarks and support the creation of new, culturally appropriate landmarks.
- Preserve significant historic features from earlier periods.
- Retain significant vistas associated with archaeological features.
- Implement *in situ* preservation and appropriate protection measures for sites that have high preservation value because of their good condition or unique features.
- Determine the appropriate treatment for a historic site by the particular qualities of the site and its relationship to its physical surroundings. Carefully plan and design adjacent uses to avoid conflicts or abrupt contrasts that detract from or destroy the physical integrity and historic or cultural value of the site since the context of a historic site is usually a significant part of its value.
- Establish the degree of public access and interpretation that would best promote the preservation of the historic, cultural and educational value of the site, recognizing that economic use is sometimes the only feasible way to preserve a site. Public access to a historic site can take many forms, from direct physical contact and use to limited visual contact. In some cases, however, it may be highly advisable to restrict access to protect the physical integrity or cultural value of the site.

### 3.3.2 GUIDELINES

Native Hawaiian cultural and archaeological sites:

- Require preservation *in situ* only for those features that the State Historic Preservation Officer has recommended such treatment.
- Determine the appropriate preservation methods on a site-by-site basis in consultation with the State Historic Preservation Officer.
- Determine appropriate delineation of site boundaries and setback restrictions for adjacent uses based on whether a site is listed and/or eligible for listing on the State and/or National Register of Historic Places and on a site-by-site basis in consultation with the State Historic Preservation Office.
- Include sight lines that are significant to the original purpose and value of the site in criteria for adjacent use restrictions.
- Determine the appropriateness of public access on a site-by-site basis in consultation with the State Historic Preservation Officer and the owner of the land on which the site is located.

Historic sites and landmarks the following guidelines apply:

- Promote the identification, survey and listing of sites that are eligible for the Hawai'i or National Registers of Historic Places.
- Preserve the architectural character, landscape setting and visual context of historic and cultural landmarks through appropriate zoning standards and development controls, as necessary, and public outreach programs such as design guidelines for the maintenance, renovation or expansion of older dwellings.
- Provide incentives for the preservation and maintenance of historic sites and buildings, and allow for adaptive re-use of historic buildings through a permit review process.

### 3.4 AGRICULTURAL USE

The system for rating the relative productivity of agricultural lands, known as Agricultural Lands of Importance to the State of Hawaii (or ALISH), classified approximately 2,300 acres of agricultural lands in the “Prime” category, and 200 acres in the “Unique” category when the system was developed. These are the two highest ratings in this classification system. “Other” agricultural lands in this rating system are those whose limiting characteristics require certain investments – such as added fertilizer or other soil amendments, drainage improvements, erosion control practices and flood control – to increase their productivity. The location of these lands and classifications relative to the State Agricultural District boundary is shown in Exhibit 3.5.

According to the City and County of Honolulu Department of Planning and Permitting’s Geographic Information System data, there are 6,179 acres of land in Koolau Poko that are within the State Land Use Agricultural District and are designated as ALISH<sup>8</sup>. These lands are considered good farm land. Not all may be in production, but those that consist primarily of small farms.

The largest concentration of high-quality agricultural land in Koolau Poko is in Waimanālo, which is also within reasonable reach of the Honolulu market and overseas shipping terminals. Other areas are in the valleys between Āhuimanu and Hakipuu at the northern end of Kāneohe Bay, Maunawili Valley, and the valleys near the *mauka* section of Likelike Highway.

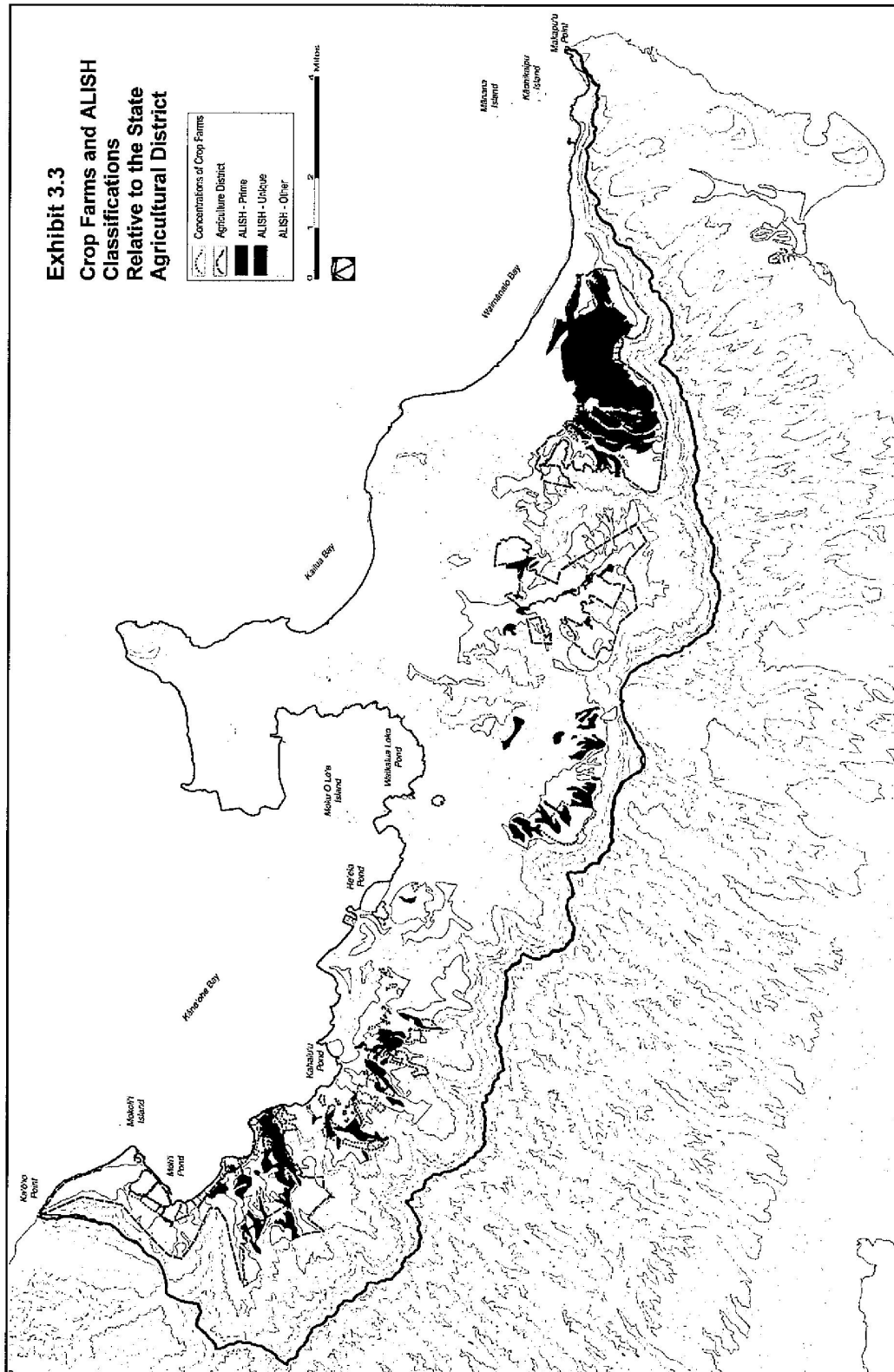
Koolau Poko’s wet climate favors it as a region for certain products such as bananas, papayas and tropical flowers. In some areas, reliable and inexpensive sources of irrigation water have been developed to supplement rainfall and adjust for periods of relative drought. The State of Hawaii provides irrigation water at reasonable rates to farmers in Waimānalo and in its Waiāhole Valley agricultural park. The State Commission on Water Resources Management’s 1997 decision to release a greater amount of flow from Waiāhole Ditch back to Windward streams made more water available for the expansion of taro and other crop production in the northern valleys of the region.

The pattern of small farms, typically with a dwelling on the same lot, presents a paradox. Many people are attracted to the lifestyle of the small farms in the region, pursuing agriculture for subsistence or supplemental income. This arrangement enhances the economic feasibility of an agricultural operation by (1) minimizing land costs; (2) enhancing security for agricultural products and equipment; (3) allowing more efficient access for daily maintenance; and (4) avoiding the cost of a separate home site for the farmer. On the other hand, the pattern of development has attracted those who are seeking a large residential lot with a “country” ambience at a reasonable price. Increasingly, older farmers seek more dwellings on their properties to pass their legacies on to their children and grandchildren or to finance their retirement. Growing use of small farm lots for this purpose may lead to a gradual transformation of agricultural areas to large-lot residential neighborhoods, induced by real estate development pressures.

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<sup>8</sup> As of August 2012.

**Exhibit 3.3**  
**Crop Farms and ALISH**  
**Classifications**  
**Relative to the State**  
**Agricultural District**



Development pressure is exacerbated as conflicts arise between agricultural use and nearby residences, such as increased complaints from neighbors about dust, noise, overspray, odors, and other normal effects of farming. In turn, this can lead to operational changes that may be required by the enforcement of public health regulations and that adversely affect the feasibility of agriculture. One way to avoid this conflict is to require the more-recently established use to maintain adequate separation between agricultural and residential uses.

Land use policy can support agricultural activities in other ways, as well. For example, zoning and development codes can restrict non-agricultural uses to those that are intended to meet the needs of the rural community or that are related to agricultural operations in the area. It can also propose the development of facilities and programs that support agricultural activities and the marketing of products.

### **3.4.1 POLICIES**

The following policies apply to lands designated for agricultural use:

- Encourage agricultural use of small lots.
- Adopt development and public works standards that are appropriate and cost-effective for rural, agricultural areas.
- Provide support infrastructure, services, and facilities to foster and sustain agricultural operations.
- Implement tax policies and easements that promote active, long-term agricultural uses.
- Encourage organic and sustainable agriculture.
- Encourage self-contained land-based aquaculture in appropriate locations.
- Prevent the conversion of agricultural lots to residential or other non-agricultural uses.
- Modify standards for public infrastructure in rural and agricultural areas in accord with the character and needs of such areas.
- Develop and apply use standards to provide for all agricultural activities and uses customarily associated with agricultural areas, including ranching and plant nurseries (crop production with on-site retail or wholesale sales).
- In agricultural districts, craft nuisance regulations in zoning and environmental codes to give preference to agriculture use over residential use.
- Limit non-agricultural uses to those that provide support services for agricultural operations or operations related to public renewable energy sourcing, provided it does not remove high quality agricultural land.
- Provide tax incentives, technical, and financial assistance, and public land or facilities that support agricultural operations and/or the marketing of products.
- Promote land trusts, conservation easements, agricultural dedications, and other mechanisms as incentives to preserve agricultural land use.
- Promote and provide opportunities for small family farms.

### **3.4.2 GUIDELINES**

- Limit the floor area of dwellings and prevent inappropriate urban uses, such as meeting facilities and conditional uses that have no direct relationship to agricultural or local community needs. Permit a dwelling only if it is accessory to a verifiable agricultural use on the same lot.
- Require new residential development to maintain an adequate buffer when adjacent to agricultural lands, giving consideration to topographic barriers, prevailing winds, and the noise and air-borne emissions associated with the type of agricultural operation.

- Adopt standards for roadway and other infrastructure design that are appropriate and intended for continued agricultural use rather than residential use.
- Require the acknowledgement of agricultural standards in the subdivision process and in all deeds to lots.
- Focus performance standards for agricultural zoning districts on preventing degradation of the natural environment, maintaining the viability of agricultural uses, and protecting the health and safety of agricultural workers rather than on disturbance to residential uses.
- Encourage development proposals of more than two lots to apply for cluster housing which provides a larger, contiguous area reserved for agriculture use.
- Structure property tax assessments and rates to encourage long-term leases for agricultural operations. Also, adopt lower development fees and standards for agricultural subdivisions that do not involve the construction of dwellings.
- Adopt zoning standards that promote the use of natural energy sources to support agricultural uses.
- Permit revenue-producing activities on lots where a commercial agricultural operation is being conducted, as ancillary uses. Allow these activities only if they do not interfere with surrounding agricultural uses. Examples of compatible activities include camping, picnicking, horseback riding, training and instruction, rodeos, polo matches, and tours of botanical gardens, fishponds, and *kalo loi*. Private parties promoting agricultural production or agriculture-related educational activities may be compatible, depending on the intensity of use and the location and size of the property. Recreational activities involving motorized vehicles and thrill craft are generally not considered compatible.

### 3.5 RESIDENTIAL USE

The Community Growth Boundary is established to preserve open space and agricultural areas and contain the spread of development. Therefore, housing capacity in Koolau Poko will be increased only by:

- “Infill” development of remaining vacant lands in areas that are already urbanized;
- Subdivision of larger residential lots into smaller parcels at various locations throughout the region;
- Expansions of existing homes to accommodate larger households;
- Residential development on Marine Corps Base Hawaii and lands under the jurisdiction of the Department of Hawaiian Homelands or the Office of Hawaiian Affairs;
- Additional housing units on existing residential lots through such programs as ‘ohana dwellings/accessory dwelling units; and
- Housing above storefronts in town centers.

While the development of vacant parcels is readily identified and their effects are more immediately apparent, the physical changes wrought by incremental intensification of residential use in existing built-up neighborhoods through subdivisions and home expansions will be slower and more subtle. Effective residential lot design standards which limit building height, coverage, paving, and the removal of landscaping may be implemented to avoid the long-term cumulative impact of this gradual transformation, which could adversely affect the character of existing neighborhoods.

Although recognized as a region with a slow growth policy, Koolau Poko continues to have a high demand for housing.

Land use planning at the local level has a limited ability to shape market forces or to influence the rate and amount of property taxes, but it can restrict transient occupancy of housing. Currently, except for nonconforming uses, vacation rentals within areas outside resort designations are not allowed. The current General Plan does not support vacation rentals in residential areas. The military can be encouraged to take a more active role in providing housing

on-base for their personnel and dependents in order to increase the availability of housing for the local resident population.

Another concern of some Koolau Poko residents is the amount of large tour buses visiting the neighborhoods and the increase in vehicular and foot traffic. Residents are concerned about the potential hazards of large tour buses traveling on streets that have no sidewalks which could pose a danger to pedestrians and bicyclists. In general, the community would like to limit tour bus stops, loading, and unloading by prohibiting any new off-street parking or loading areas for large (15 passengers or more) private vehicles unless used for school or public transportation vehicles. To address the potential impacts and hazards that tour buses may have, a study could be undertaken to evaluate the impact of large vehicles on residential streets and implement its recommendations where warranted.

As noted in Section 2.1.7, Koolau Poko has two types of residential communities that are located within the Community Growth Boundary: one more suburban in character and the other more rural. The suburban communities are those identified in the General Plan as “urban fringe” areas, corresponding to the suburban communities of Kāneohe, Kailua, Mokapu Peninsula, Maunawili and ‘Āhuimanu within the State Urban District boundary. The “rural” areas within the Community Growth Boundary consist of smaller, more dispersed, less intensively developed residential communities and towns than those of Koolau Poko’s “urban fringe” areas; namely, the sections of Waimānalo, Kahaluu, Waiāhole and Waikāne in the State Urban District where there are clusters of parcels that are less than two acres in size occupied by dwellings or buildings used for community or commercial purposes other than agriculture.

While these two types of residential communities have some common features, they are distinguishable by their built form, particularly with respect to density of development. Accordingly, Section 3.5.2 contains two sets of guidelines for residential development: one for rural communities and the other for suburban communities.

### 3.5.1 POLICIES

- Protect the character of existing residential areas and enhance desirable residential amenities.
- In accordance with the General Plan, increase housing capacity and address the trend toward decreasing household size through the development of new homes on lots presently designated for low-density residential use, and the expansion of existing homes in existing residential neighborhoods.
- Respond to the special needs of an aging population by providing future housing development for the elderly in a variety of living accommodations that are affordable to low- and moderate-income, gap group, and other elderly households; such as multi-generation households, group homes, assisted living units, and continuing care retirement communities.
- Provide greater emphasis on safe, accessible, convenient, and comfortable pedestrian routes, bus stops, and bike routes in residential areas, even if this requires somewhat slower travel speeds or less direct routes.
- Allow community facilities such as schools, churches, and meeting halls, as well as home-based occupations, with appropriate limitations on scale, siting and intensity of activity to respect adjacent residential uses and the prevailing character of the surrounding neighborhood.
- Encourage bus, pedestrian, and bicycle travel, particularly to reach neighborhood destinations such as schools, parks, and convenience stores, recognizing the need for accessible design and safe travel conditions for elderly and/or disabled people. Implement passive and active automobile traffic calming

measures on residential neighborhood streets and plant street trees to provide shading for sidewalks and bus stops. Provide sufficient area within the public right-of-way to accommodate bus stop shelters.

- Encourage energy efficient features, such as the use of solar panels for heating water or electricity, and passive solar design, such as the use of window recesses and overhangs and orientation of openings to allow natural cross-ventilation. Also, incorporate resource conservation measures, such as water flow constrictors and facilities for the sorting of waste materials for recycling, in the design of new development and expansions of existing dwellings. Minimize the visual impacts of such measures.
- Avoid safety and health problems inherent in the development of land with steep slopes and/or potentially unstable soil conditions. Reevaluate and revise development standards governing such conditions to reflect the most current civil, soils, structural engineering and geological findings related to this subject as well as the analysis of historical experience on Oahu. Development within the 100 year floodplain needs to conform with regulations and guidelines of the Federal Emergency Management Agency.
- Regulate nuisance in zoning and environmental codes such that residential uses are given preference over non-residential uses within residential zoning districts.
- Evaluate the impact of large vehicles on residential streets and implement its recommendations, where warranted.

### **3.5.2 GUIDELINES**

This Plan recognizes two categories of residential development: Rural Communities and Suburban Communities.

#### **3.5.2.1 Rural Communities**

- Adopt development standards and design guidelines for residential-designated areas within the Community Growth Boundary in order to:
  - Minimize impervious surfaces;
  - Require greater building setbacks than in suburban residential zoning districts;
  - Generally limit building heights to two stories;
  - Allow relatively narrow roadway widths;
  - Allow alternative sidewalk designs, as compared to suburban communities, providing they comply with public safety and ADA standards;
  - Allow the use of detention basins and grassed swales for stormwater drainage instead of concrete curbs and gutters;
  - Encourage the retention of a neighborhood's character by avoiding a concentration of group living facilities and group homes;
  - Promote passive solar design, such as the use of sloped roof forms with wide overhangs, and residential-scaled energy conservation and natural energy harnessing devices;
  - Promote water conservation measures, such as flow constrictors, xeriscaping, and use of nonpotable water sources for irrigation; and
  - Achieve an overall residential density of no greater than four principal dwelling units per acre.

#### **3.5.2.2 Suburban Communities**

- Adopt development standards and design guidelines for lots designated for residential use within the Community Growth Boundary in order to:



- Retain the physical character and definition of neighborhoods and minimize long-term adverse impacts of expansions of existing homes and new infill development on surrounding neighborhoods;
- Enhance the identities of neighborhoods through the use of landscaping, natural features, and building form and siting;
- Encourage appropriate scale and privacy with respect to surrounding residential properties when infill development such as new homes or expansion of existing homes occurs;
- Provide a range of housing at varying densities, depending on the characteristics of the surrounding neighborhood and the physical features of the site, but not to exceed six dwelling units per acre;
- Limit building height to two stories;
- Reduce the visual dominance of vehicular parking on residential lots and discourage the paving of yards;
- Discourage the use of solid barrier walls that obscure views of the front yard and dwelling entrances from the street;
- Prohibit development on slopes of 20 percent or greater that have soil characteristics indicating potential instability for building purposes;
- Avoid the geographic clustering or concentration of group living facilities and group homes that are licensed by the State and/or allowed by federal laws;
- Promote passive solar design, such as the use of sloped roof forms with wide overhangs, and residential-scaled energy conservation and natural energy harnessing devices; and
- Promote water conservation measures, such as flow constrictors, xeriscaping, and use of nonpotable water sources for irrigation.
- Implement traffic safety measures for streets in residential neighborhoods, including:
  - Install traffic calming modifications at selected street locations where speeding is a chronic problem;
  - Install additional lighting or more visually prominent crosswalks at selected intersections where pedestrian safety is a concern;
  - Post signs or install striping for designated bike routes and bike lanes; and
  - Make sidewalk or pathway improvements and undertake operational measures that are identified as part of a Safe Routes to Schools or Complete Streets program, or other pedestrian safety initiatives.
- Adopt zoning maps that recognize existing residential apartment developments, but allow new apartment development only under the following circumstances:
  - The site is at least one acre in size and is located in close proximity to a Regional Town Center;
  - The building height does not exceed three stories; and
  - The density does not exceed 30 units per acre.

### 3.5.2.3 Special Needs Housing

Special Needs Housing is typically comprised of facilities designed for certain segments of the population with special living requirements. Categories of special needs groups include low- and moderate-income sectors, elderly, disabled people, and people with health problems or needs for other forms of special care. Often such housing, including group living facilities and group homes, includes special features, such as congregate dining and social rooms; laundry, housekeeping and personal assistance services; shuttle bus services for project residents; and skilled nursing beds or physical therapy clinics.

Special needs housing are ideally located in close proximity to transit services and commercial centers since those with special needs are less likely or able to drive. Although special needs housing can occur at a variety of scales

appropriate to the region's neighborhoods, it is intended that multi-family housing will be the primary form used to achieve economies of scale in the development of special needs housing. Thus, it is anticipated that special needs housing will be accommodated primarily within the low-density apartment areas and the commercial-residential mixed use areas in the Regional Town Centers.

### 3.5.3 RELATION TO MAP A-2, LAND USE

Residential areas are shown conceptually on the Land Use Map in Appendix A as follows:

**Rural Communities.** This land use designation corresponds to smaller, more dispersed, less intensively developed residential communities and towns within the Community Growth Boundary.

**Suburban Communities.** This land use designation corresponds to areas identified in the General Plan as “urban fringe” areas. These residential communities consist of lots typically sized one acre or less.

**Special Needs Housing.** This land use is not specifically designated on the Land Use Map, but it is allowed in residential and mixed use areas subject to project-by-project review for compatibility with surrounding uses.

Nonresidential uses that are not specifically designated on the Land Use Map but are allowed in all residential areas include: elementary schools, parks, churches, community centers, day-care centers, and other public facility and utility uses serving the area. It should be noted that some of these uses do require project review and/or public hearings and issuance of permits before they can be developed in residential and rural areas.

## 3.6 COMMERCIAL AND INDUSTRIAL USES

Much of the commercial development in Koolau Poko is in the form of shopping centers. Some are located within the central business districts of Kāneohe and Kailua, while others are located in outlying areas, usually surrounded by suburban residential neighborhoods and smaller commercial properties. Listed in Table 3.6 are the shopping centers that contained over 50,000 square feet of gross leasable area in 2010.

The main commercial district in Kailua is currently undergoing redevelopment. The former Don Quijote was replaced by a new 130,000 square foot Target Corporation store and other new stores, such as the 33,500 square foot Whole Foods Market, have joined the Kailua Town Center. Redevelopment of the commercial district includes the addition of other businesses, but Target in particular, has drawn opposition from many Kailua residents. The main concerns were the “big box” scale and impact on the community.

A “big box” retail establishment is generally a single freestanding store belonging to a chain of stores and measuring 50,000 square feet or more. Big box stores are typically situated on the property to be car-oriented and not pedestrian friendly and big box stores draw customers from an area much larger than the community in which it is located. The amount of floor area, the traffic it generates, the flow of traffic around the community, and the effects on smaller businesses were the main concerns of the recent redevelopment. In general, the community would like to discourage additional big box retail stores or factory outlet stores in the town centers unless they retain a more pedestrian-oriented environment along the sidewalks and not larger than 90,000 square feet of floor area.

<b>Table 3.6: Major Shopping Centers in Koolau Poko</b>			
<b>Shopping Center</b>	<b>Site Area (Acres)</b>	<b>Gross Leasable Area (Sq. Ft.)</b>	<b>Location Characteristics</b>
‘Aikahi Park	7.9	103,000	Outskirts of Kailua at major collector road intersection; Pali Palms Center across street
Enchanted Lake	5.5	75,000	Within Enchanted Lake community in the outskirts of Kailua; other small commercial properties located adjacent and across street
Kailua	2.3	84,222	Within Kailua central business district
Kāneohe	3.3	54,000	Within Kāneohe central business district
Kāneohe Bay	10.0	106,000	Edge of Kāneohe central business district; across Kamehameha Highway from Windward Mall
Temple Valley	12.3	100,866	Within Āhuimanu community; surrounded by townhouse and low density apartment development
Windward City	15.4	231,782	Within Kāneohe at major highway intersection; small commercial and industrial properties nearby
Windward Mall	32.0	530,000	Edge of Kāneohe central business district; across from Kāneohe Bay Shopping Center
Windward Town & Country	5.6	87,639	Within Kailua central business district
Source: International Council of Shopping Centers, 1992 Directory; interviews with property managers.			
“Major” is defined as those with over 50,000 sq. ft. of gross leasable floor area.			

The majority of office space in Koolau Poko is located in Kāneohe, with an inventory of approximately 212,000 square feet. Given current high vacancy rates, there is little demand for expansion of office space in the region. The existing supply is anticipated to be sufficient to meet near-term increases in demand should economic conditions change.

<b>Table 3.7: Office Space in Koolau Poko</b>	
<b>Office Building</b>	<b>Net Rentable Area (Sq. Ft.)</b>
Castle Professional Center	62,820
Enchanted Lake Plaza	19,385
Kailua Commercial Center	26,469
Pali Palms Plaza	58,604
Windward Business Center	58,253

Most of Koolau Poko's industrial land is within the Kapaa light industrial subdivision. The designated industrial land and building inventory is expected to be capable of meeting future demand, especially in light of the declining island-wide demand for industrial space and no windward airport or harbor to generate or sustain high demand in the area. Industrial activities and future opportunities are likely to be limited to small service and repair operations, storage facilities, and other service business uses that are oriented to the needs of the region's suburban and rural communities. Such uses, which are commercial in character, are permitted in the Kāneohe and Kailua Regional Town Centers. The anticipated demand for industrial space in this region will be more light industrial uses and can be accommodated within the existing industrial or mixed use zones of the town centers of Kailua and Kāneohe and in the vicinity of the Kapaa quarry. However, a light industrial site in Waimānalo should be considered to address parking and maintenance needs of large trucks and industrial vehicles.

### **3.6.1 POLICIES**

For purposes of this Plan, the various types of commercial and industrial uses are defined and designated in five categories: Rural Commercial Center, Suburban Commercial Center, Community Commercial Center, Regional Town Center, and Light and Extractive Industry. The policies pertaining to each of these categories are as follows:

#### **3.6.1.1 Rural Commercial Center**

The Rural Commercial Center is a small cluster of commercial and service uses which serve primarily the surrounding rural community. Due to their highway exposure, many businesses also attract visitors and residents from outside the immediate community. The Rural Commercial Center typically consists of small business establishments located on small land parcels rather than in shopping centers. At present, commercial uses within the rural communities are somewhat dispersed along highway frontages.

Policies pertaining to Rural Commercial Centers are as follows:

- Promote a more concentrated, but small-scale center for commercial activities and services for rural communities and agricultural enterprises in Kahaluu and Waimanālo.
- Maintain consistency in architecture and scale between the building mass of a commercial center and its rural setting. Ensure that the architectural character of commercial centers respects the surrounding context, particularly when located adjacent to a residential area or significant natural or historic feature. Commercial centers lend themselves to the application of urban design features that provide distinctiveness to each center and strengthen the characteristics of the communities they serve.

#### **3.6.1.2 Suburban Commercial Center**

The Suburban Commercial Center typically encompasses an area of about five to ten acres or less, with an aggregate floor area of up to 100,000 square feet. It may consist of a shopping center on a single lot, a concentration of commercial establishments on smaller lots, or a combination of the two. It is located within or adjacent to a residential neighborhood and contains services and shops catering to common household needs. Some examples of such businesses are grocery stores, pharmacies, copy centers, dentists, and banks.

Policies pertaining to Suburban Commercial Centers are as follows:

- Designate commercial properties within the Community Growth Boundary that are not defined as Community Commercial Centers or Regional Town Centers as Suburban Commercial Centers.

- Maintain the present scale and purpose of the Suburban Commercial Centers, but allow minor expansions of floor area on lots that are presently zoned for commercial use.
- Emphasize retail stores, personal services and public facilities designed to serve the needs of the surrounding community, i.e., typically residents within a one- to two-mile radius.
- Incorporate site design and facilities to promote pedestrian and bicycle access.
- Maintain compatibility in architectural design and scale between the building mass of a commercial center and its urban and natural setting, particularly when located adjacent to a residential area or significant natural or historic feature.

### **3.6.1.3 Community Commercial Center**

The typical Community Commercial Center is situated along an arterial road or at the juncture of major roads. The nucleus is a retail shopping center that occupies between 10 to 30 acres and contains up to 250,000 square feet of floor area, but with the addition of adjacent, smaller sites the entire Community Commercial Center may encompass up to 50 acres. In addition to the uses found in Suburban Commercial Centers, Community Commercial Centers may include offices, service industrial establishments, entertainment and social centers. Windward City Shopping Center and adjacent commercial uses fall into this category.

Policies pertaining to Community Commercial Centers are as follows:

- Retain the present purpose and approximate size of Community Commercial Centers.
- Allow modest additions of floor area and parking through redesign of site.
- Prohibit expansion of commercial zoning to additional lots in the vicinity of these centers, except for those near Windward City that are presently zoned heavy industrial, but are predominantly in commercial-type uses.
- Incorporate site design and facilities to promote pedestrian and bicycle access.
- Maintain compatibility in architecture and scale of commercial centers and their urban and natural settings, particularly when located adjacent to a residential area or significant natural or historic feature.

### **3.6.1.4 Regional Town Center**

The commercial core areas of Kāneohe (defined by the Kāneohe Town Plan as the Windward Mall area in general) and Kailua are defined as “Regional Town Centers”. They offer a wider range of shopping and services than the other commercial centers in the region, including light industrial uses. Their roles will be intensified and enhanced by directing new commercial development to these centers, increasing the mix of uses and types of services and activities in the centers and providing more convenient public transportation access and pedestrian amenities within and leading to the centers.

Regional Town Center policies are as follows:

- Designate the centers of Kāneohe and Kailua as the focal points for regional shopping and services. This may include small to medium-sized office buildings and “service-industrial” establishments.
- Allow low-density apartment and special needs housing uses in the commercial district to stimulate business activity and create a livelier environment, but not to the extent that it is inconsistent with General Plan population policies, nor to the extent that a net loss of commercial floor area is realized in the affected Regional Town Center.

- In the centers of Kāneohe and Kailua, integrate the pedestrian circulation system with linkages through blocks to public sidewalks and transit stops. Encourage the design of storefronts and entries to business establishments to support this pedestrian orientation.
- Encourage shared use of parking to reduce the dominance of parking lots. Implement a parking improvement district in Kāneohe and expand the parking improvement district in Kailua.
- Scale and site buildings to be consistent with the surrounding context. Provide appropriate setback and height transitions.
- Incorporate site design and facilities to promote pedestrian, bicycle, and transit access.
- Promote efficiencies and other improvements in traffic and parking conditions by redesigning or re-siting parking lots, driveways (particularly in the Kailua Regional Town Center) and walkways and providing shuttle bus services within the Kailua and Kāneohe communities and their respective Regional Town Centers.
- Maintain consistency in architecture and scale between the building mass of a commercial center and its urban and natural setting, particularly when located adjacent to a residential area or significant natural or historic feature. The Regional Town Centers may reflect a more urban architectural character, with emphasis on pedestrian-scaled design and features.
- Encourage environmental compatibility via use of energy efficient features, such as solar panels for heating water or electricity, and passive solar design, such as the use of arcades, window recesses and awnings and orientation of openings to allow natural cross-ventilation. Also, incorporate resource conservation measures, such as water flow constrictors and facilities for the sorting of waste materials for recycling, in the design of new development.

#### **3.6.1.5 Light Industrial and Extractive Industries**

This description pertains to light industrial uses and resource extractive activities, such as sand and rock quarrying. Koolau Poko has two quarry sites, one in Waimanālo and the other at Kapaa. The former quarry at Kapaa was the site of the City's largest sanitary landfill for many years until its closure in 1997. A portion of the existing Kapaa quarry is bounded by light industrial uses. This Plan anticipates the continuation of existing quarries.

Policies pertaining to light industrial and extractive industries are as follows:

- Promote a re-use plan for the Kapaa quarry sites that emphasizes the restoration of natural conditions rather than urban uses. Use fill material that is engineered and generally consists of natural materials or non-toxic construction debris. Limit the quantity of fill material to the amount necessary to simulate the original topographic conditions of the site. Provide a suitable depth of topsoil to establish plant material similar to that in the surrounding area.
- Promote a re-use plan for the Kapaa quarry that includes an expansion of light industrial use, if sufficient demand can be demonstrated.
- Promote a re-use plan for the quarry site in Waimanālo that supports the development of Hawaiian Home Lands residential lots and a neighborhood mini-park.

#### **3.6.2 GUIDELINES**

Guidelines for commercial and light industrial uses are as follows:

**3.6.2.1 Rural Commercial Centers*****Architectural Character and Building Mass***

- Encourage the rustic appearance in building forms, with pitched roof forms or “false-front” parapets characteristic of rural towns in Hawaii.
- Promote Individual business establishments that are relatively small and focused on provision of goods and services primarily to the surrounding rural community or agricultural activities.
- Site buildings close to the roadway in the manner of a traditional rural village.
- Keep meeting facilities, other than schools or service facilities, relatively small in area and focused on accommodating the needs of the surrounding rural community or agricultural activities.
- In Kahaluu, improve the commercial center in the vicinity of the Kamehameha Highway-Kahekili Highway intersection in accordance with the design recommendations of the Kahaluu Community Master Plan (2007).

***Visual Screening, Lighting and Signage***

- Encourage informal landscaping, subdued road signage and lighting, and parking lots that are visually subordinate to the buildings and landscaping.
- In Kahaluu, implement the landscape, fencing, and signage improvements in public rights-of-way and in lands recommended in the Kahaluu Community Master Plan (2007).

***Vehicular Access***

- In Kahaluu, implement the traffic calming and transportation measures, i.e., roadway treatments, bus stop relocation, bikeway, that are recommended in the Kahaluu Community Master Plan (2007).

***Outlying Commercial Uses***

- Outside of the Rural Commercial Centers, allow structures occupied by existing commercial, light industrial or community facility uses to be rebuilt or remodeled within their present floor area, provided they meet the design guidelines for Rural Commercial Centers.
- Further explore and define the needs for a community baseyard and vocational training center in Waimanālo, as part of the implementation of the Waimanālo Business Plan.

**3.6.2.2 Suburban and Community Commercial Centers*****Architectural Character and Building Mass***

- Retain the residential character; height, size, and massing of buildings to be compatible with adjacent residential areas.
- Limit the total floor area of Suburban Community Centers to a maximum of 100,000 square feet, and limit the aggregate floor area of all properties within Community Commercial Centers to 350,000 square feet.
- Encourage gable and hip-form roofs, using breaks in the roof line to reduce the apparent scale of large roof plates.
- Express residential character by using exterior materials and colors that are contextual with the neighborhood character.

***Vehicular Access***

- Provide access to the parking and loading areas from a collector street, when available.
- Encourage use of shared driveways to access parking areas between buildings.
- Permit access to a local residential street only if it is for emergency or secondary access and would not encourage through traffic along the local street.

***Pedestrian and Bicycle Facilities***

- Provide pedestrian access from the public sidewalk or other off-site pedestrian pathway to the entrance of establishments in the commercial center that does not require crossing a traffic lane or parking lot aisle or driveway.
- Provide a direct pedestrian connection from the interior walkways in the commercial center to a bus stop, if a bus stop is nearby.
- Provide bicycle racks for security. Locate bicycle racks to be visible and readily accessible from the street entry.

***Visual Screening, Lighting, and Signage***

- Visually screen parking and service areas from streets and residential areas.
- Include a landscaped screen of trees and hedges along the street frontages and property lines.
- Use only fully-shielded lighting which does not exceed the minimum standards necessary to meet safety and security requirements in parking lots.
- Ensure compatibility between the type, size, design, placement, and color of signage and the context of adjacent facilities and uses.

**3.6.2.3 Regional Town Centers (Kailua and Kāneohe)*****Mix of Uses***

- Locate public uses serving a regional purpose -- such as Satellite City Halls, regional libraries, police substations, post offices, and civic centers - within or adjacent to Regional Town Centers and not in outlying areas. Public facilities that have smaller service areas or that are an integral part of a regional network, such as elementary schools, fire stations, pump stations, and utility substations, may be located in outlying areas.
- Locate service industrial uses within enclosed buildings.
- Locate, design, and operate uses that generate undue noise levels in a way that will keep noise to an acceptable level in adjacent areas.

***Architectural Character and Building Massing***

- Allow variation in architectural character, depending on the context and theme for the particular center. For portions of commercial center buildings that are adjacent to, or readily visible from, residential areas, encourage architectural character that reflects and are compatible with the residential character; or screen from view from such areas by landscaping.
- Avoid blank facades on portions of buildings visible from public areas by using texture, articulation, color, and fenestration to create visual interest.



- Limit building heights to 40 feet, as is currently established, with height setback transitions from street frontages, the shoreline, and adjacent residential areas.
- Limit the total floor area belonging to a single business to 90,000 square feet.
- Locate street facades of buildings at or near the street property line and incorporate display windows. Orient the primary entries to commercial establishments toward the sidewalk.
- Locate parking for individual commercial structures behind or to the side of the building. Secondary entries to business establishments may be provided from parking areas.
- Encourage the development of cooperative parking agreements among neighboring businesses and landowners.

***Pedestrian, Bicycle, and Transit Facilities***

- Provide street frontage improvements for bus stops, including bus shelters and dedicated loading lanes, along all abutting streets that have bus routes.
- Provide a pedestrian pathway from the bus stop to an entrance to the main building of the commercial center. Clearly indicate the pathway with special paving or markings and provide weather protection, where feasible, if the commercial center building is not directly connected to the bus shelter.
- Design and place bicycle parking in secure places that are visible from the main street or parking entry to the commercial center.

***Visual Screening, Lighting and Signage***

- Buffer noise and other adverse impacts related to parking, loading and service areas from adjacent residential areas with proper siting and by landscaped berms or solid walls fronted by landscaping.
- Plant a landscape screen, consisting of trees and hedges, along streets fronting parking lots or garages.
- Visually screen storage areas for vehicles, equipment, and supplies from the street and adjacent lots by privacy walls and buildings, fronted by landscaping to soften the appearance of large solid walls.
- Signage may be directly illuminated, but discourage the use of direct illumination of building features. Use only fully-shielded lighting to avoid direct visibility from residential areas.

**3.6.2.4 Light and Extractive Industry**

***Visual Screening, Lighting and Signage***

- Buffer noise and other adverse impacts from quarrying operations from adjacent urban uses, wildlife preserves, and public roads by a combination of landscaped berms and setbacks.
- For light industrial uses, buffer noise and other adverse impacts from parking, loading and service areas from adjacent urban uses, wildlife preserves, and public roads by a combination of solid walls or berms and landscaped setbacks.
- Plant a landscape screen, consisting of trees and hedges, along roads fronting parking lots or garages.
- Visually screen storage areas for vehicles, equipment, and supplies from adjacent roads, wildlife preserves, and urban uses by privacy walls and by building orientation. Soften the appearance of screening walls by landscaping in front.
- Use fully-shielded lighting that balances the needs for public safety, security, energy conservation, and wildlife protection.

***Drainage and Waste Material***

- Manage stormwater runoff through application of Best Management Practices (BMPs) or containment or filtering onsite. To minimize the creation of impervious surfaces, alternatives to hardscape are encouraged. Avoid discharge into adjacent wildlife preserves, water resources, sanitary sewage systems, or other urban use areas.
- Prevent leachates from underground storage tanks or fill material from migrating offsite, applying particularly stringent measures to sites near wildlife preserves. Where practicable, institute leachate management systems from existing and closed quarries and landfills.
- Prevent litter and other waste material from encroaching into adjacent sites through the use of proper operational means, as well as landscaping.

**3.6.3 RELATION TO MAP A-2, LAND USE**

Commercial and industrial areas are conceptually shown on Map A-2, Land Use, as follows:

***Rural Commercial Centers.*** The Rural Commercial Centers of the rural communities of Waimanālo and Kahaluu are illustrated on the Land Use Map and designated “RC.”

***Suburban Commercial Centers and Community Commercial Centers.*** The locations of Community Commercial Centers and Suburban Commercial Centers with an aggregate floor area of more than 50,000 square feet are shown on the Land Use Map and designated with “CC” and “SC”, respectively.

***Regional Town Centers.*** The components of the Regional Town Centers of Kailua and Kāneohe are designated with “TC,” representing the general location, size and shape of the respective land areas.

***Light and Extractive Industry.*** Industrial areas are indicated on the Land Use Map.

**3.7 INSTITUTIONAL USES**

Koolau Poko is home to several public and private institutional campuses. Its secondary school campuses are listed and discussed in Section 4.7. Table 3.8 lists other significant institutions.

<b>Table 3.8: Institutional Campuses in Koolau Poko</b>	
<b>Institution</b>	<b>Location Characteristic</b>
Hawaii Pacific University	In State Conservation District surrounded by open space
Windward Community College	Situated between Kāneohe State Hospital and Kāneohe District Park
Oceanic Institute	Mauka of Kalanianaʻole Highway near Makapuʻu
Hawaii Jobs Corp	Mauka of Kalanianaʻole Highway in Waimanalo
Castle Memorial Hospital	At edge of Kawainui Marsh and the entry to Kailua
Kāneohe State Hospital	Mauka of Windward Community College and Kāneohe District Park to the Conservation District
Hawaii Youth Correctional Facility - Koolau	Makai of Kalanianaʻole Highway at edge of Kailua
Hawaii Youth Correctional Facility - Kawailoa	Mauka of Kalanianaʻole Highway at edge of Kailua

### 3.7.1 POLICIES

The following policies are applicable to institutional campuses:

- ***New Campuses.*** The decrease in population forecast for 2035 for Koolau Poko does not warrant major new schools, hospitals, or similar institutions to serve these communities. No new institutional campuses are proposed in this Plan, although they may be appropriate if they respond to or advance the vision for the region.
- ***Existing Campuses.*** Existing institutions may expand facilities and programs within the campuses they presently occupy; however, because the major institutions are located adjacent to significant scenic resources, ensure that the campuses retain an open space character. Design and site buildings and facilities on the campus to respect the scenic context. Ensure that the architectural character of institutional buildings and structures respect the surrounding urban and natural features, particularly when located adjacent to a residential area or significant natural or historic feature.
- ***Environmental Compatibility.*** Encourage energy efficient features, such as the use of solar panels for heating water, and passive solar design, such as the use of window recesses and overhangs and orientation of openings to allow natural cross-ventilation. Also, incorporate resource conservation measures, such as water flow constrictors and facilities for the sorting of waste materials for recycling, in the design of new development.

### 3.7.2 GUIDELINES

#### ***Architectural Character and Building Massing***

- Reflect in the site plan a campus-like environment with a relatively low building coverage ratio and low profile, emphasize open space and landscaping.
- Vary the architectural character, depending on theme and purpose of the use. Design portions of buildings that are adjacent to or readily visible from residential areas to reflect that residential character or be screened from view from such areas by landscaping.
- Limit building heights to two to three stories or 40 feet, including the roof form. Provide height setback transitions from street frontages, the shoreline, and adjacent residential areas.

#### ***Pedestrian, Bicycle, and Transit Facilities***

- Provide street frontage improvements for bus stops, including a bus shelter and a dedicated loading lane, along all abutting streets that have bus routes.
- Provide a pedestrian pathway from the bus stop to an entrance to the main building of the institution. Clearly indicate the pathway with special paving or markings.

- Design and place bicycle parking in secure places that are visible from the main street or parking entry to the institution.

### ***Visual Screening, Lighting and Signage***

- Buffer the noise and other adverse impacts from parking, loading, and service areas from adjacent residential areas by a combination of walls or berms and landscaped setbacks.
- Plant a landscape screen, consisting of trees and hedges, along streets fronting parking lots or garages. Plant shade trees throughout parking lots.
- Visually screen storage areas for vehicles, equipment, and supplies from the street and adjacent lots by privacy walls and buildings, fronted by landscaping used to soften the appearance of large solid walls.
- Signage is non-illuminated or indirectly illuminated. Outdoor lighting is fully-shielded to avoid light trespass over residential areas.

### **3.7.3 RELATION TO MAP A-3, PUBLIC FACILITIES**

The general locations of existing larger institutions, such as intermediate and high schools, colleges, hospitals and correctional facilities, are indicated on the Public Facilities Map, A-3. Elementary schools, churches, child care centers, fire stations, and other public facility and utility uses serving the area are not specifically designated on the Public Facilities Map, A-3, but are allowed in all residential and commercial areas, subject to appropriate zoning controls to assure compatibility with surrounding uses.

## **3.8 MILITARY USES**

Koolau Poko contains the following military installations: Marine Corps Base Hawaii in Kāneohe (MCB Hawaii) on Mōkapu Peninsula; Marine Corps Training Area Bellows (MCTAB); and, the Bellows Air Force Station in Waimanālo. In 1994, all of the Marine Corps landholdings and installations were consolidated under a single command at MCB Hawaii. This was in part a result of the decision to close the Barbers Point Naval Air Station (BPNAS) in 'Ewa, whose functions were to be absorbed by MCB Hawaii. On January 5, 2000, the Marine Corps acquired 1,049 acres from the Air Force to form MCTAB. The U.S. Air Force retained approximately 274 acres for its existing recreation and training area under Detachment 2, 18th Force Support Squadron.

For safety and security reasons, public access to the MCB Hawaii is restricted. At present, the beach area of MCTAB serves as a site for military exercises and training and a portion of the land near the shoreline is used as a recreation facility for military personnel. Native Hawaiians have lobbied for the return of MCTAB to the State of Hawaii for the use of the Department of Hawaiian Home Lands. However, there has been increasing use of Bellows by the Hawaii Air and Army National Guards in the last decade. This increase in use has also increased noise impacts to surrounding homes. In addition, noise generated by aircraft operating at MCB Hawaii directly impact the residents of Kaneohe, due to the flight patterns used and the particular geographic features of the region. The high volume noise generated from large aircraft at the airport facilities has adversely impacted the quality of life of residents in the surrounding community.

Noise impacts from military installations are not regulated by the Federal Aviation Administration or the Hawaii Department of Health. Community concerns regarding noise impacts are normally directed to the originating installation. Military installations consider themselves a member of the community and routinely work directly with local comprehensive planning efforts. The military takes a pro-active approach to understanding encroachment and community concerns, while at the same time articulating its military mission and operational requirements for

installations, ranges, and training areas. The dialogue supports good communication and partnering. Securing the nation depends on realistic training for its military units. The use of actual weapon systems and detonation of live ordnance, night training, and low-level flight are just a sample of the requirements for representation of real life conditions and effective training. Recognizing that the sounds of military operations can affect people's lives, the military services (Army, Navy, Marines, and Air Force) continues to work with civilian partners and to listen to residents' concerns regarding the sounds associated with military training that may be disruptive to their community.

National defense objectives and budget priorities that are difficult to foresee determine the level of military presence. Nevertheless, more recent events indicate the likelihood of a long-term commitment to military presence and training in Koolau Poko. This Plan therefore assumes that MCB Hawaii and MCTAB will remain under military control. However, portions of MCTAB may continue to be available for civilian use through agreements with the City.

### 3.8.1 POLICIES

- The State of Hawai'i should continue to pursue the release of surplus federal lands, including those at Bellows, for civilian use. When such is released, reserve beachfront area for recreational use in perpetuity. *Mauka* areas could also be used for recreational purposes or for other purposes. Discourage any residential or commercial uses unless they constitute a minor portion of the total site area and are located outside of flood hazard areas and adjacent to existing similar uses.
- Encourage energy efficient features, such as the use of solar panels for heating water and electricity, and passive solar design such as the use of window recesses and overhangs and orientation of openings to allow natural cross-ventilation. Also, incorporate resource conservation measures, such as water flow constrictors and facilities for the sorting of waste materials for recycling, in the design of new development.
- Encourage pro-active and periodic communication between the military and neighboring community organizations, including affected residences of military activities, to disclose and address adverse impacts attributed to military operations. Share in advance with the community and affected residences, schedules for training exercises anticipated to have a significant noise impact and provide contact information for its Public Affairs Office or the Community Plans and Liaison Officer.

### 3.8.2 GUIDELINES

#### *Architectural Character and Building Massing*

- When buildings and structures are visible from an adjacent non-military use, reflect the scale and design character of the adjacent non-military use or screen from view from such areas by landscaping.
- Limit building heights to two to three stories or 40 feet, including the roof form, except to meet specific mission-critical design requirements. Height setback transitions are provided from streets, the shoreline, and adjacent residential areas.

#### *Pedestrian, Bicycle, and Transit Facilities*

- Provide street frontage improvements for bus stops, including a bus shelter and a dedicated loading lane along all abutting streets that have bus routes.
- Provide a clearly indicated pedestrian pathway, such as special paving or marking, from the bus stop to the base's main entrance.

- Design and place bicycle parking in secure places that are visible from the main street or parking entry.

#### ***Visual Screening, Lighting and Signage***

- Buffer the noise and other adverse impacts from parking, loading, and service areas from adjacent residential areas by a combination of solid walls or berms and landscaped setbacks.
- For parking lot lighting, use fully-shielded fixtures and low intensity lamps.
- Plant a landscape screen, consisting of trees and hedges, along streets fronting parking lots or garages. Plant shade trees throughout parking lots.
- Visually screen storage areas for vehicles, equipment, and supplies from the street and adjacent lots by privacy walls and buildings, fronted by landscaping used to soften the appearance of large solid walls.
- Use non-illuminated or indirectly illuminated signage. Fully shield lighting to avoid light trespass into residential and public areas.

#### **3.8.3 RELATION TO MAP A-2, LAND USE**

Portions of military lands that are occupied by identifiable urban uses, such as housing, commercial establishments and military buildings of an industrial character, are reflected on the map in the same way that comparable civilian uses are. Military lands used for training exercises, munitions storage or similar uses that have an open space character are represented in the Land Use Map, A-2. Other lands under military control that have no specified use or that are designated as protected habitats are represented in the same way as Preservation areas under civilian control.

When lands are released from military jurisdiction, the use depicted on the Land Use Map, A-2, shall be the basis for determining the appropriate civilian use. Where major deviations from these designated uses are proposed, an amendment of the Plan and its Land Use Map may be required if large tracts of land are involved.

## **Honolulu - Land Use**

#### 4. PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES

The vision for Koolau Poko will be implemented in part through application of the policies and guidelines for public facilities and infrastructure, which are presented in the following sections.

This chapter is organized under the following headings:

##### Section

- 4.1 Transportation Systems
- 4.2 Water Systems
- 4.3 Wastewater Management
- 4.4 Electrical and Communications Systems
- 4.5 Solid Waste Handling and Disposal
- 4.6 Drainage Systems
- 4.7 School and Library Facilities
- 4.8 Civic and Public Safety Facilities and Community Resilience

#### 4.1 TRANSPORTATION SYSTEMS

This section describes the existing road, transit, bikeway and pedestrian network in Koolau Poko as well as plans for future improvements. These elements are shown in Map A-3, Public Facilities, in Appendix A. The section concludes with policies and guidelines to direct future transportation system development in Koolau Poko with the understanding it will be part of an island-wide multi-modal transportation system.

Act 54 (Session Laws Hawaii, 2009) requires State and County transportation departments to adopt and implement a complete streets policy and establishes a task force to determine necessary standards and guidelines. The intent of a complete streets policy is to create and configure a connected street system that provides for all users, including but not limited to, pedestrians, bicyclists, and transit passengers of all ages and abilities.

##### 4.1.1 ROADWAY NETWORK

The Koolau Poko Sustainable Communities Plan Area is served by several highways that provide access across the Koolau Mountain Range and other parts of the island:

- **Likelike Highway, Pali Highway, and the H-3 Freeway** traverse the Koolau Mountain Range and provide direct access between the windward and leeward sides of the island. The latter, a U.S. Interstate opened in 1997, begins at the MCB Hawai'i in Kāneohe and connects to H-1 and the Moanalua Freeway at Halawa.
- **Kamehameha and Kahekili Highways** connect to trans-Koolau highways and link Koolau Poko to other windward Oahu locations. In the mid-1990's, Kahekili Highway was widened to six lanes from Likelike Highway to Kahuhipa Street, and to five lanes from Kahuhipa Street to Haiku Road.
- **Kalaniana'ole Highway** links Koolau Poko to communities in East Honolulu and serves as a scenic, secondary route for travel between Kailua/Waimānalo and Honolulu.

The 2035 Oahu Regional Transportation Plan (ORTP) serves as a guide for the development of recommended major surface transportation facilities and programs. It identifies short- and long-term plans for major highway projects, transit improvements and transportation demand management (TDM) measures (e.g. park-and-ride lots and rideshare programs). The plan lists projects by the time period in which they are expected to be completed. Some projects



identified are conceptual or generic in nature and serve as “placeholders” in order to qualify for federal funding rather than as indicators of specific projects or solutions. The following projects are identified in the current ORTP. These are in addition to islandwide projects. The ORTP is currently being updated to year 2040.

#### 2011 - 2020 Time Period

- Construct safety improvements to Kamehameha Highway from Hale’iwa to Kahaluu.
- Construct safety and operational improvements along Kamehameha Highway between Kaalaea Stream and Hygienic Store.
- Construct operational and safety improvements to Kalanianaʻole Highway between Olomana Golf Course and Waimānalo Beach Park.
- Protect shoreline along Kamehameha Highway and other locations.

#### 2021 - 2035 Time Period

- Widen Kahekili Highway from 2 to 4 lanes from Kamehameha Highway to Haikū Road, to include:
  - Enabling contraflow in the existing right-of-way between Hui Iwa Street and Haiku Road, and
  - Making intersection improvements at Hui Iwa Street and Kamehameha Highway

The above listed projects were based on a preliminary anticipated growth in population and economic activity in 2006 and may not be necessarily needed or desirable in light of revised projections.

In addition to the projects listed under the ORTP, appropriate measures to reduce risks and increase resiliency should be implemented, where feasible, to respond to the impacts of sea level rise due to climate change. Improvement and/or relocation of roadways and associated infrastructure should be considered for new public and private projects in shoreline and storm surge impact areas.

### 4.1.2 TRANSIT SYSTEM

The Bus system in Koolau Poko is organized in three service categories:

- **Suburban trunk service**, which provides direct, multi-stop connections between suburban neighborhoods and activity centers within Koolau Poko;
- **Suburban feeder service**, which provides suburban neighborhoods that are not directly served by trunk routes access to the transit system -- namely to express and trunk service routes; and
- **Express service**, which provides direct non-stop connections between Koolau Poko and the major activity centers in the urban core of Honolulu.

To support the express bus service for commuters, a transit center is proposed within the Regional Town Center of Kāneohe to function as a collection and distribution hub. The transit center proposal considers parking facilities to provide more convenient access for bicyclists, pedestrians and riders of the “circulator” buses or vans. This, in turn, will stimulate economic and community activity in the Regional Town Center, as envisioned in Chapter 2 of this Plan.

### 4.1.3 BIKEWAY SYSTEM

Bike Plan Hawaii (2003), a State master plan for bikeways, defines the various types of bikeways:

- **Signed Shared Roadway.** Any street or highway specifically designated by signs for the shared use of bicycles and motor vehicles and/or pedestrians. Such facilities are of two types: a widened curb lane in an urban-type area or a paved right shoulder in a rural-type area. The Signed Shared Roadway is, according to Bike Plan Hawaii, "...the preferred route for bicycle use," when mainly due to land width or other mitigating factors.
- **Bicycle Lane.** A portion of a roadway designated by striping, signing, and/or pavement markings for the preferential or exclusive use of bicycles. The right-of-ways assigned to bicyclists and motorists are delineated to provide for more predictable movements of each. Only crossflows by motor vehicles or pedestrians to gain access to driveways or parking facilities or bus stops are allowed.
- **Shared Use Path.** A bikeway that is physically separated from motorized vehicular traffic by an open space or barrier, and is either within the highway right-of-way or has an independent right-of-way. Often shared with pedestrians, skaters, joggers and other non-motorized users.

In Koolau Poko, the existing bikeway system consists of discontinuous segments of bike lanes, bike routes, and bike paths in Kāneohe, Kailua, Lanikai, and Waimānalo. Significant community interest has been communicated regarding connection of segments and expansion of the bikeway system in general. The State's bikeway master plan proposes substantial additions to Koolau Poko's bikeway system to create an interconnected grid through the more populated areas and links to East Honolulu via Kalaniana'ole Highway and to Koolau Loa via Kamehameha Highway. The creation of the grid will enhance the potential for bike travel for short commuting and incidental trips. Also, the grid can be expanded by marking bicycle lanes where the existing right-of-way width permits on local streets in residential neighborhoods as part of a "traffic calming" program.

In 2012, the City Council adopted the Oahu Bike Plan, which builds upon the 1999 Honolulu Bicycle Master Plan.

#### 4.1.4 PEDESTRIAN CIRCULATION

For the past several decades commercial developments and residential subdivisions have been required to install sidewalks along street frontages, but there are many areas throughout Koolau Poko where there are inadequate surfaces or clearances for walking within the road rights-of-way.

High costs and adverse environmental effects make it impractical and undesirable to install formal sidewalks along all roadways in rural and older, low-density suburban areas. In most sections, the volume or speed of vehicular traffic is low enough to allow pedestrians to share the road surface or move over to the road shoulder while a vehicle passes. In areas where there are conflicts between vehicular and pedestrian travel, safety should be improved by making relatively modest changes to the right-of-way to slow vehicular speed, enhance sight distances, and separate vehicular, and pedestrian traffic.

Most street frontages in higher density residential areas and commercial districts have public sidewalks, but many are too narrow or too cluttered with utility and street light poles, signposts, traffic control boxes and other fixtures to accommodate comfortable and safe pedestrian movement. Even street trees may become obstacles rather than amenities for pedestrians when the sidewalk is too narrow or the trees are inappropriately placed.

An integrated approach to planning for pedestrians is needed in the areas where activity is more intensive. The Regional Town Centers of Kailua and Kāneohe - especially the latter -- should be improved significantly by designing and implementing a pedestrian circulation plan to provide a safe, convenient and attractive network of public walkways consisting of sidewalks, streamside paths and passageways through or along parking lots and buildings. The circulation plan should not only designate routes, but also provide detailed design guidelines for pavement width and material, rehabilitation of footpaths in older residential neighborhoods (including asphalt

footpaths), street crosswalks, landscaping, signage, street fixtures, transit stops, and other elements of the pedestrian environment. The recently passed “Complete Streets” ordinance, which addresses these issues and promotes an integrated planning and design approach City-wide, should be implemented.

#### 4.1.5 POLICIES

- Reduce reliance on the private passenger vehicle by promoting transportation system management and travel demand management measures for both commuting and local trips.
- Encourage the provision of infrastructure to support alternative fuel vehicles.
- Improve adequate and improved mobility between communities, shopping, and recreation centers; especially by enhancing transit, pedestrian, bicycle, and other forms of personal mobility vehicle modes of travel.
- Reduce conflicts between pedestrian travel and vehicular travel and improve pedestrian safety.
- Promote connectivity in the design of new or enhancement of existing roadway networks.
- Maintain adequate person-carrying capacity for peak-period commuting to and from work in the Primary Urban Center.

#### 4.1.6 GUIDELINES

##### Commuter Travel

- Encourage the Department of Transportation’s Highways Division to construct new bridges that do not flood at Waiāhole and Waikāne stream crossings at Kamehameha Highway.
- Provide improved services and facilities for express buses, such as more frequent, larger-capacity and more comfortable vehicles.
- Provide park-and-ride and bus transfer facilities as a joint or modified use of an existing parking area or adjacent to uses that are related to commuter trips, such as child-care centers and convenience stores.
- Establish transit centers to function as collector or distribution hubs which provide an interface between “circulator” shuttle and trunk bus routes.
- Promote ridesharing, vanpooling, and bicycle-sharing.
- Increase person-carrying capacity on trans-Koolau highways and Kalanianaʻole Highway for commuter travel without expanding rights-of-way or exacerbating delays in access to the highway from collector streets during peak periods.

##### Local Trips

- Identify and take measures to reserve the option for potential future right-of-ways acquisitions at locations where minor connections between existing local street would improve mobility and reduce congestion on collector streets;
- Implement roadway modifications recommended in the Kahaluu Community Master Plan (2007) and the Kāneohe Town Plan (2009);

- Modify rights-of-way by changes to travelway widths, curb radii, pavement width, pavement texture, installation of appropriate signage, and more generous landscape planting in selected areas; especially along designated bike lanes and routes, principal pedestrian routes, and street crossings, and near bus stops.
- Expand the bikeway network by implementing the proposals in the State of Hawaii Bike Plan Hawaii Master Plan (2003) and the City and County of Honolulu Oahu Bike Master Plan (2012). Safety is an important concern.
- Design streets to accommodate personal mobility vehicles for travel within and between town cores and residential areas.

## 4.2 WATER SYSTEMS

In 1987, the State enacted the Water Code (HRS Chapter 174C) in order to protect, control, and regulate the use of the State's water resources. This Code is implemented through the Hawaii Water Plan which addresses water conservation and supply issues on a statewide level by incorporating county water plans and water-related project plans.

The Oahu Water Management Plan (OWMP) is being updated using the watershed approach to water resource management for each of the eight Development Plan and Sustainable Communities Plan areas. The Koolau Poko Watershed Management Plan (KPWMP) was adopted in 2012. The goal of the KPWMP is to formulate an environmentally holistic, community-based, and economically viable plan that balances: (1) the preservation and management of Koolau Poko's watersheds, and (2) sustainable ground and surface water use and development to serve present users and future generations. The KPWMP can be accessed at:

<http://www.boardofwatersupply.com/water-resources/watershed-management-plan/koolau-poko-plan>. The KPWMP provides existing and future water demand projections to 2035.

### 4.2.1 POTABLE WATER

The Board of Water Supply (BWS) is the principal purveyor of potable water in Koolau Poko. The BWS Six-Year Capital Improvement Program for fiscal years 2015-2020, completed in February, 2015, sets forth BWS's planned infrastructure improvements for the City and County of Honolulu, including the Koolau Poko municipal water system. In 2015, the region consumed 13.4 million gallons per day (mgd) of potable water, approximately 4.0 mgd of which was imported from sources within the Koolau Loa region. The BWS projects future water demand based on population growth rather than number of dwellings. Therefore, while additional housing is expected to be built in Koolau Poko, notably by the Department of Hawaiian Home Lands (DHHL) in Waimānalo and Waiāhole, with the slight decline in projected population over the next couple of decades (as noted in Chapters 1 and 2) potable water demand in the region is expected to remain stable, especially when water conservation measures are implemented. No new source, storage, or transmission mains are planned in the region, but existing source, storage, and water mains must be repaired and replaced as needed.

### 4.2.2 IRRIGATION WATER

#### *Waiāhole and Waikāne*

The State of Hawaii developed a 1 mgd water system to supply the residents and farmers in the Waiāhole Valley Agricultural Park. Farmers use only about 0.1 mgd from this source since the valley is not fully planted, and they can draw free water from the McCandless pipeline, which can deliver 0.5 mgd. Irrigation water for taro and other

crops is also drawn from Waiāhole Stream, whose flow has become more abundant since the CWRM's decision on the Waiāhole Ditch matter.

### ***Waimānalo***

In Waimānalo, the State provides water to farmers from the Maunawili Ditch, which was built by Waimānalo Sugar Company. Its source is high-level water tunnels, springs, and streams in Maunawili and Waimānalo Valley. The system delivers an average of about 0.75 mgd of water.

### ***Other Water Systems***

In many areas, farmers rely on relatively expensive water from the Board of Water Supply. However, some farmers rely on local springs, streams, groundwater wells, and rainfall. A few taro growers take advantage of ancient irrigation systems built by early Hawaiians.

#### **4.2.3 POLICIES**

- Integrate management of all potable and non-potable water sources, including groundwater, stream water, stormwater, and water recycling, following State and City legislative mandates.
- To protect watersheds, retain existing acreage that is designated as Preservation Area.
- Adopt and implement water conservation practices in the design of new developments and the modification of existing uses, including landscaped areas.
- Encourage all new development to install and use dual water systems.

#### **4.2.4 GUIDELINES**

- Where new reservoirs and other above-ground infrastructure is necessary, avoid impacts to significant scenic resources; where such impacts are unavoidable, implement appropriate mitigation measures. Design and locate new water supply facilities to be compatible with the scenic environment.
- Require installation of low-flush toilets, flow constrictors, and other water conserving devices in commercial and residential developments.
- Investigate the feasibility of bulk-heading Waiāhole Ditch to restore water in the natural dikes.
- Utilize climate-appropriate, indigenous plant material and drip irrigation systems in newly installed, smaller-scale landscaped areas.
- Use recycled (R-1 or R-2) water for the irrigation of golf courses, as well as for landscaping, and agricultural areas where this would not adversely affect potable groundwater supply or other aspects relating to public health.
- Investigate the feasibility of small-scale rain catchment systems in agricultural areas to use for irrigation, groundwater recharge, and filtering of stormwater runoff sediments. (See related discussion in Section 4.6.2.)
- Confirm that adequate potable and non-potable water is available prior to approval of new residential and commercial development.

### **4.3 WASTEWATER MANAGEMENT**

Koolau Poko's wastewater systems are organized into three service areas. The boundaries of the municipal Kailua-Kāneohe-Kahaluu Service Area extend from Kaōio Point and Waikāne Valley to the north, to Wailea Point and Lanikai/Keolu Hills to the south, and inland along the ridgeline of the Koolau Mountain Range. The municipal

Waimānalo Service Area is bounded by Keolu Hills to the northwest, Waimānalo Bay to the northeast, Makapuu Point to the east, and the Koolau Mountain Range ridgeline to the south. The Marine Corps Base Hawaii on the Mōkapu Peninsula has an independent sewage collection, treatment and disposal system under the control of the military.

#### **4.3.1 KAILUA-KĀNEOHE-KAHALUU WASTEWATER SERVICE AREA**

The Kailua-Kāneohe-Kahaluu area is served by the Kailua Regional Wastewater Treatment Plant (WWTP). As part of a regional plan, the Kailua WWTP receives wastewater flows from the Kāneohe and ‘Āhuimanu areas. The Kailua WWTP serves as a secondary treatment facility and has an average design capacity of 18.0 mgd and a 1995 average flow of approximately 12.3 mgd. The former treatment plants at Kāneohe and ‘Āhuimanu were converted to preliminary treatment facilities (screening and grit removal only) in late 1994. Wastewater flows from the entire region are now conveyed to the Kailua WWTP for treatment and are then discharged through the Mōkapu Outfall. The system has experienced major problems which resulted in overloads and spills. To remedy the situation, a new gravity sewer tunnel is currently being constructed to replace the existing force main that connects the Kāneohe WWPTF with the Kailua Regional WWTP. Other improvements at the Kāneohe WWPTF are also under construction.

Unsewered areas in the service area are primarily in the Kahaluu area. For much of these areas, Sewer Improvement Districts have been identified and are being implemented, but no plans are in place for areas north of Waihee Road. There are also some small pockets of unsewered areas in Kāneohe and Kailua.

Population projections for the Kailua-Kāneohe-Kahaluu area indicate a declining population between 2010 and 2035. However, in order to address the problems mentioned above and to accommodate projected five-year peak storm flows, substantial expansions and modifications of the Kailua WWTP, the Kāneohe and ‘Āhuimanu Wastewater Preliminary Treatment Facilities (WWPTF), and the collection system were and are continuing to be made.

Major proposed improvements include:

##### ***Kailua Regional WWTP***

Expansion of plant capacity to handle secondary treatment of up to 68 mgd. Major improvements include a new influent pumping station, additional primary and secondary clarifiers, additional biotower and biotower pumping station, and upgrade of the effluent pumping station. An ultraviolet disinfection facility is also incorporated in the planned improvements.

##### ***Kāneohe WWPTF***

Preliminary treatment capacity upgrade to 46 mgd, to include a new screening and grit removal facility, new influent pumping station, additional odor control, additional storage and flow equalization capacity, and equalization tanks.

##### ***‘Āhuimanu WWPTF***

New screening and grit removal facility, and new odor control and flow equalization tank improvements.

***Collection System***

Improvements to the collection system included the provision of relief lines throughout the Kailua and Kāneohe basins, increased pump station capacities, and addition of equalization basins adjacent to the Kailua Road, Kailua Heights, and Enchanted Lakes Wastewater Pumping Stations.

**4.3.2 WAIMĀNALO WASTEWATER SERVICE AREA**

Approximately 65 percent of residences in the Waimānalo Wastewater Service Area is served by a centralized wastewater collection, treatment, and disposal system.

Wastewater is collected by a network of gravity sewers, and is then treated at the Waimānalo Wastewater Treatment Plant, which has a design capacity of 0.6 million gallons per day (mgd) and average flow of approximately 0.585 mgd. Wastewater from a residential area located within the western portion of the service area is pumped by the Kahawai Stream Wastewater Pump Station (WWPS).

Homes in Waimānalo that are not connected to the public sewers are served by individual wastewater systems, which are generally either cesspools or septic tanks with leaching fields. The unsewered areas include certain portions of the low lying coastal areas and all of the inland agricultural lots. In addition, nearly 15 percent of the homes in sewerred areas are not connected to the sewer system and continue to use individual wastewater systems.

There are water quality and public health concerns associated with the continued use of individual treatment systems (primarily cesspools) in the low-lying coastal areas. Algal blooms have occurred periodically in the past in the nearshore waters of Waimānalo. It is uncertain whether nutrients from individual wastewater treatment systems, stormwater runoff, and/or treatment plant effluent promoted such algal blooms.

Between 2000 and 2035, residential population serviced by the Waimānalo WWTP is projected to increase from approximately 10,087 to 10,745 residents, or by about 6.5 percent. The service area population is projected to grow primarily due to new housing development proposed by the Department of Hawaiian Home Lands (DHHL), and expansion of the wastewater collection system to service existing unsewered dwellings.

To address these concerns, the average design capacity of the Waimānalo WWTP will be increased from 0.7 mgd to 1.1 mgd<sup>9</sup>. The expansion will include a new secondary biological treatment process, an effluent filtration system, additional injection wells, new sludge thickening facilities, an upgraded electrical system, and added personnel and maintenance facilities. There will also be an ultraviolet disinfection system and effluent pumping facilities to allow the use of recycled water for irrigating selected agricultural lots and the Olomana Golf Links.

**4.3.3 POLICIES**

- Direct all wastewater produced within the Community Growth Boundary to municipal or military sewer service systems.
- Treat and recycle, where feasible, wastewater effluent as a water conservation measure.
- Mitigate visual, noise, and odor impacts associated with wastewater collection and treatment systems, especially when they are located adjacent to residential designated areas.

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<sup>9</sup> Hawaii Pacific Engineers. Waimānalo Wastewater Facilities Plan, April 1997.

- Use reclaimed water for irrigation and other uses, where feasible, in accordance with the Guidelines for the Treatment and Use of Recycled Water (May 15, 2002) by the State Department of Health and the No Pass Line established by the Board of Water Supply.

#### 4.3.4 GUIDELINES

- Complete planned improvements to the Kailua Regional WWTP service area facilities.
- Complete planned improvements to the Waimānalo WWTP service area facilities.
- Replace outdated individual cesspools with septic tanks and individual wastewater systems in areas outside of planned municipal wastewater service areas, employing public programs or policies to support private conversion efforts.
- Provide adequate horizontal separations and landscape elements (e.g. berms and windrows) between wastewater facilities and adjacent residential designated areas.

#### 4.4 ELECTRICAL AND COMMUNICATIONS SYSTEMS

The demand for electrical power in Koolau Poko is expected to be generally proportionate to the modest level of projected population decline. Hawaiian Electric Company is not planning to construct new trans-Koolau transmission lines, substations or power generating facilities in the Koolau Poko region. However, replacement or repair of components of the transmission and distributions system should be anticipated over the next couple of decades. Underground placement of overhead lines should be accomplished, especially where they are exposed to high winds or other conditions that cause power outages or where they detract from a high quality view of natural features, such as identified in Appendix Map A-1, Open space.

The growth in telecommunications systems is more likely to outpace population growth. The 1990's decade saw substantial development of the telecommunications infrastructure throughout the island, including Koolau Poko. Many new antennae and relay devices were installed throughout the region, usually at higher elevations to provide adequate line-of-sight or coverage. Competition between communications companies contributed to the proliferation of facilities, and often made cooperation in the collocation of communications devices a challenge.

Technological advances in fiber optics and insulation will probably make it more feasible to bury power and communications cables in the future, creating an opportunity to develop more reliable and less visually intrusive transmission and distribution systems.

Antennas have been around as long as we have had radio and television services. Antennas associated with communication purposes have grown tremendously especially since the U.S. introduction of mobile communication devices in the early 1980's. While the telecommunication industry has provided more convenient communication capabilities for individuals, it has also increased the public agencies' abilities to provide faster and more efficient responses to those in need, particularly on an emergency basis.

While the benefits of telecommunications industry cannot be disputed, communities have opposed the antennas due to aesthetic impacts, particularly on public views and on the neighborhood character. Their visibility has increased, especially where antennas are mounted on free-standing towers.

The public has also raised concerns about the environmental effects of electromagnetic field exposure associated with radio transmissions, as evidenced by the presence of antennas. However, the Federal Communications Commission (FCC) is responsible for evaluating the human environmental effects of radio frequency (RF) emissions from FCC-regulated transmitters. The federal guidelines specifically preclude local decisions affecting



environmental effects of radio frequency emissions, assuming that the provider is in compliance with the Commission's RF rules.

#### **4.4.1 POLICIES**

- Design system elements and incrementally replace facilities such as sub-stations, transmission lines and towers to avoid or mitigate any potential adverse impacts on scenic and natural resource values and to enhance system reliability.
- Place new utility distribution lines underground and implement a long-range program for systematically relocating existing overhead lines underground.
- Encourage co-location of antennas; towers should host the facilities of more than one service provider to minimize their proliferation and reduce visual impacts.
- Mount antennas onto existing buildings or structures so that public scenic views and open spaces will not be negatively affected. However, except for the occupant's personal use, antennas on single-family dwelling roofs in residential districts are not appropriate.
- Use stealth technology (i.e. towers disguised as trees) especially on free-standing antennas towers in order to blend in with the surrounding environment and minimize visual impacts.

#### **4.4.2 GUIDELINES**

- Initiate a region-wide program to place utility lines underground and relocate and/or streamline existing overhead utility and communications lines, focusing on the following priority areas:
  - Streets within Regional Town Centers, especially where overhead utility lines conflict with existing or planned street tree canopies;
  - Locations where overhead utility lines are prominently visible within a scenic viewshed identified in Appendix Map A-1.
  - Locations where major construction projects within rights-of-way present the opportunity to coordinate the undergrounding of facilities through shared trenching and to minimize construction-related disruptions.
- Where full undergrounding of utility lines is cost-prohibitive or impractical due to disruption of existing uses and utility connections, utility poles may be visually streamlined by undergrounding lower-hanging communications lines and related equipment, if this would result in substantial visual improvement at a much lower cost.
- Promote the use of renewable energy sources and energy conservation measures through both regulatory and tax incentive measures.
- Co-locate communications and power equipment and devices with similar facilities in order to minimize the number of supporting structures and dispersal sites.

### **4.5 SOLID WASTE HANDLING AND DISPOSAL**

Solid waste collection, transport, and disposal operations on the island are provided by the City Department of Environmental Services, Refuse Division. Municipal refuse collection trucks provide curbside pickup for most single-family residences. Refuse collection for commercial and multi-family apartment uses is provided by private haulers. Individuals may deliver recyclable items to collection containers that are located throughout the region. They may also dispose of trash and large items that cannot be picked-up by the municipal refuse truck at one of Koolau Poko's two refuse convenience centers, in Kapaa and Waimānalo.

Collected refuse is taken from the Kapaa Transfer Station to a recycling center, incinerator or a sanitary landfill. Incineration, handling the majority of the island's waste disposal, is done at the H-POWER plant, located in the 'Ewa region. The City's sanitary landfill is at Waimānalo Gulch, also in the 'Ewa region.

Potential new landfill sites on Oahu are extremely limited because of stringent federal and state environmental requirements. Koolau Poko has not had a sanitary landfill since the closure of the Kapaa site in 1997.

A reduction of the amount of refuse going to landfills would lessen transportation costs and the need for landfill space. This can be possibly achieved by full participation in the waste sorting and collection program by individual households, commercial buildings, government offices, parks maintenance, etc. By sorting out green waste which can be recycled into usable mulch, and materials such as cardboard, paper, and beverage bottles and cans which can be recycled into usable material, the amount of refuse headed to landfills and overall waste may be significantly reduced.

#### **4.5.1 POLICIES**

- Continue efforts to establish more efficient waste diversion and collection systems.
- Promote waste reduction, re-use and recycling.

#### **4.5.2 GUIDELINES**

- Promote the recycling of waste materials by providing expanded collection facilities and services, and public outreach and education programs.
- Expand the use of automated refuse collection in residential areas.
- Develop programs for reducing the production of solid waste.
- Provide a convenience refuse transfer station, including a green-waste drop-off site, to serve Kahaluu at a location close to the Kamehameha Highway in the area between 'Āhuimanu and Waikāne.
- Analyze and approve siting and/or expansion of sanitary landfills based on island-wide studies and siting evaluations.

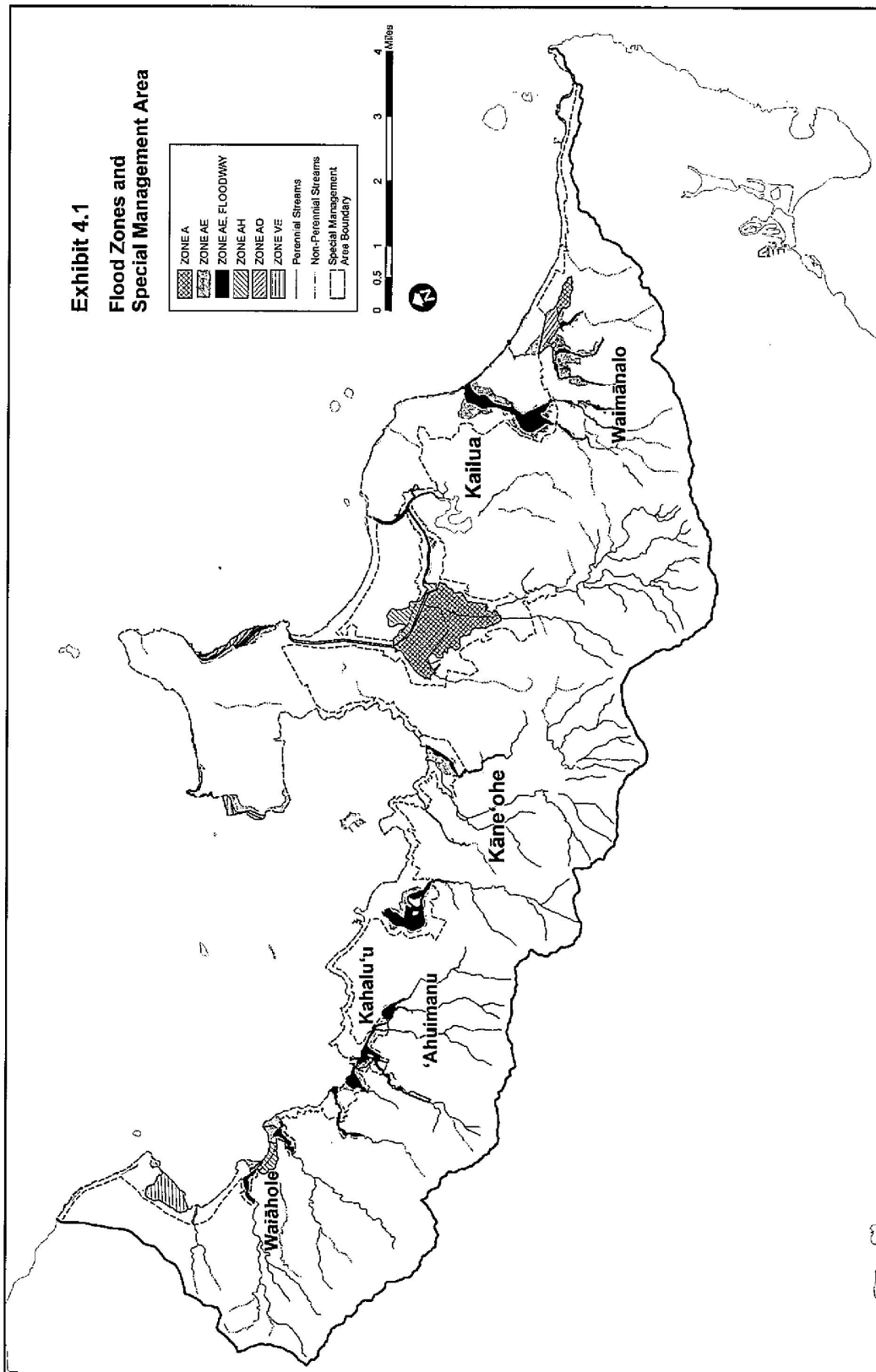
### **4.6 DRAINAGE SYSTEMS**

The *mauka* reaches of Koolau Poko are among the wettest areas of the island and the source of numerous perennial streams, which are listed in Table 4.1.

The water quality and riparian habitat of many of these streams has been adversely impacted by diversions, channel alterations and polluted stormwater runoff. These problems are generally more severe along stream segments that traverse highly urbanized areas, but irrigation systems, water well development and land use conditions in agricultural and conservation areas have also created impacts. Still, Koolau Poko contains significant stream segments of high resource value, and the quality of many other segments could be improved by restoring natural habitat and adopting stream corridor management practices.

All of Koolau Poko's major watersheds have urban and agricultural areas in regulatory flood zones (see Exhibit 4.1). In the 1960's and 1970's, several large flood control projects were undertaken to remove or reduce the most frequent and severe threats of flooding. The most visible results of those flood projects are the Kawainui Marsh and flood berm, the Kahaluu lagoon, and the Hoomaluhia dam and stormwater detention basin. Following a major flood event in 1987, improvements were made to the design and maintenance of the Kawainui flood control project.

<b>Table 4.1: Environmental Quality and Flood Zones of Perennial Streams in Koolau Poko</b>			
<b>Stream</b>	<b>Environmental Quality</b>		
	<b>Aquatic</b>	<b>Riparian</b>	<b>Areas in Flood Zone</b>
Hakipuu	Moderate	—	Agricultural lots
Waikāne	Moderate	—	Agricultural lots
Waiāhole	Moderate	Substantial	Agricultural lots
Waihee	—	—	Agricultural lots
Kaala	Moderate	—	Agricultural lots
Kahaluu	Moderate	—	Agricultural lots
Heeia	Moderate	Outstanding	Wetlands
Keaahala	Moderate	—	—
Kamooalii	—	—	Hoomaluhia Park
Kāneohe	Moderate	Substantial	—
Kawa	—	—	Golf Course
Kawainui	Low	Outstanding	—
Maunawili	—	Outstanding	Portions of Maunawili and Coconut Grove residential areas
Kapaa	—	—	Portions of Coconut Grove residential area
Kaelepulu	Low	Substantial	Wetlands; portion of Enchanted Lakes residential area
Waimānalo	—	Substantial	Agricultural lots; Saddle City residential area; Bellows AFS
Source: State of Hawaii Commission on Water Resource Management and The National Park Service, Hawaii Stream Assessment: A Preliminary Appraisal of Hawaii's Stream Resources, December 1990; State of Hawaii Department of Land and Natural Resources, General Flood Control Plan for Hawaii, September 1983.			



Some of Koolau Poko's agricultural irrigation systems have become *de facto* drainage systems. The Waiāhole, Kailua and Maunawili Ditches divert some stormwater from downstream areas. Problems occur when abandoned irrigation structure, such as the reservoir for the former Waimānalo Plantation, fall into disrepair and the responsibility for their maintenance is unclear.

Due to the high cost and adverse environmental effects of formal flood control structures, flood protection measures have turned to non-structural approaches. In 1980, the City adopted development standards based on the Federal Flood Insurance Program to prevent encroachments into floodways and reduce the risk of property damage. In 2000, the City adopted storm drainage standards to address both the quantity and quality of storm runoff for flood control and environmental quality purposes<sup>10</sup>. Periodic maintenance of stormwater basins, including wetlands, and stream channels and outlets is another element of the flood protection strategy. Soil conservation measures, especially in agricultural areas, are also important to reduce sediment and maintain the downstream capacity of the stream channel.

#### 4.6.1 POLICIES

- Promote drainage system design that emphasizes control and minimization of non-point source pollution and the retention of stormwater on-site and in wetlands.
- Develop a comprehensive study of local flooding and drainage problems, including a phased plan for improvements.
- Design and construct modifications needed for flood protection in a manner that maintains habitat and aesthetic values, and avoids and/or mitigates degradation of stream, coastline and nearshore water quality.
- Include where practical, the integration of pedestrian and bicycle connections for the regional open space network as part of drainageway improvement planning.
- View stormwater as a potential irregular source of water that should be retained for recharge of the aquifer rather than quickly moved to coastal waters.
- Select natural and man-made vegetated drainageways and retention basins as the preferred solution to drainage problems wherever they can promote water recharge, help control non-source pollutants, and provide passive recreation benefits.
- Keep drainageways clear of debris to avoid the flooding problems that have occurred in the past.
- Low Impact Development strategies are recommended.

#### 4.6.2 GUIDELINES

- Emphasize retaining or detaining stormwater for gradual release into the ground as the preferred strategy for management of stormwater.
- Prevent the blocking of downstream channels during major storm events by properly maintaining large-capacity boulder and debris basins in upper valleys above urbanized areas.
- Integrate planned improvements to the drainage system into the regional open space network by emphasizing the use of retention basins, creation of passive recreational areas, and recreational access for pedestrians and bicycles without jeopardizing public safety.
- In places where the hardening of stream channels is unavoidable or highly desirable to prevent significant loss of property or threat to public health and safety, design improvements in a manner which protects natural resource and aesthetic values of the stream, consistent with the guidelines expressed in Section 3.1.3.4.

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<sup>10</sup> The Rules Relating to Storm Drainage Standards was updated in 2012.

- Require periodic maintenance of stream channels and stormwater detention basins, including natural wetlands, to improve and retain their capacity for flood conditions while taking care to maintain their biological and aesthetic values.
- Designate a public agency to assume jurisdiction over abandoned irrigation ditches and reservoirs for the purpose of maintaining them as important elements of the flood control system.

#### 4.7 SCHOOL AND LIBRARY FACILITIES

Public schools in the Koolau Poko Sustainable Communities Plan area, listed in Table 4.2, are part of the Department of Education's (DOE) Windward District. Most recent enrollment figures show that the majority of schools in Koolau Poko are operating under capacity. Consequently, DOE does not plan to increase classroom capacity through new construction or expansion of existing facilities. During this time period, however, other improvements are planned for a number of schools in the region. These include renovation of cafeterias and libraries, and construction of new administration buildings. Additional demand for classroom space generated by future residential developments can be absorbed by the existing facilities. If necessary, school boundaries could be adjusted to allocate additional demand to schools that have the most available capacity. Also, future residential developments may be subject to a school impact fee. This fee will help pay for improvements in order to accommodate the additional students who will live in the future residential developments.

<b>Table 4.2: Public School Enrollment and Capacity</b>			
<b>School</b>	<b>2009-2010 Enrollment</b>	<b>2008-2009 Capacity</b>	<b>Under/(Over) Capacity</b>
<b>Elementary</b>			
‘Āhuimanu	415	491	76
Aikahi	495	620	125
Ben Parker	283	507	224
Enchanted Lake	420	606	186
Heeia	484	736	252
Kaelepulu	193	228	35
Kahaluu	233	357	124
Kailua	356	530	174
Kainalu	509	700	191
Kāneohe	618	672	54
Kapunahala	568	600	32
Keolu	175	245	70
Lanikai	303	330	27
Maunawili	404	487	83
Mōkapu	794	720	(74)

<b>Table 4.2: Public School Enrollment and Capacity</b>			
<b>School</b>	<b>2009-2010 Enrollment</b>	<b>2008-2009 Capacity</b>	<b>Under/(Over) Capacity</b>
Pope	230	390	160
Puohala	232	612	380
Waiāhole	63	159	96
Waimānalo (Elem. & Inter.)	501	600	99
<b>Intermediate</b>			
Kailua	680	1,113	433
King	663	1,043	380
<b>High School</b>			
Castle	1,421	1,738	317
Kailua	902	1,159	257
Kalāheo	859	1,051	192
Olomana (Inter. & High)	136	189	53
Source: State of Hawaii, Department of Education, Facilities and Support Services Branch, November 2009			

Private schools have a relatively small presence in Koolau Poko. As of 2009, Koolau Poko's 11 private schools had a combined enrollment of 2,921 (see Table 4.3). If enrollment increases in these private schools, it is likely that enrollment will decline in area public schools because most students are expected to be drawn from within the region rather than outside.

<b>Table 4.3: Private Schools in Koolau Poko - 2008-2009</b>			
<b>School</b>	<b>PS/K-8</b>	<b>9-12</b>	<b>TOTAL</b>
Kailua Christian Academy	20	29	49
Koolau Baptist Church Academy	156	50	206
Le Jardin Academy	632	190	822
Redemption Academy	34	26	60
Saint Ann School	388	0	388
Saint Anthony	355	0	355
Saint John Vianney	274	0	274
Saint Mark Lutheran	181	0	181
Trinity Christian	283	0	283

**Table 4.3: Private Schools in Koolau Poko - 2008-2009**

<b>School</b>	<b>PS/K-8</b>	<b>9-12</b>	<b>TOTAL</b>
Windward Adventist	61	0	61
Windward Nazarene	242	0	242
Source: Hawaii Association of Independent Schools Enrollment Report 2008-2009.			

Colleges, universities, and research institutions in Koolau Poko include the University of Hawaii's (UH) Windward Community College, UH's Hawaii Institute of Marine Biology, UH's College of Tropical Agriculture and Human Resources Waimanalo Research Station, and Hawaii Pacific University. These institutions utilize the outdoors as open classrooms, taking advantage of Koolau Poko's natural environment and biota. They also add to Koolau Poko's diversity and quality of life.

Koolau Poko contains three public libraries administered by the DOE. The regional library is located in Kāne'ohe. The other two libraries are in Kailua and Waimānalo, the latter of which is incorporated in the Waimānalo Elementary and Intermediate School. No additional libraries are planned.

#### **4.7.1 POLICIES**

- Approve new residential developments only after the State Department of Education confirms that adequate school facilities, either at existing schools or at new school sites, will be available at the time new residential units are occupied.
- Have developers pay their fair share of costs to ensure provision of adequate school facilities.
- Consider schools as community resources for learning about specialized environmental, cultural and historic subjects related to Koolau Poko and each of its communities.

#### **4.7.2 GUIDELINES**

- Encourage coordination between the department of parks and recreation and the DOE regarding the development and use of athletic facilities such as playgrounds, play fields and courts, swimming pools, and gymnasiums where the joint use of such facilities would maximize use and reduce duplication of function without compromising the schools' athletic programs.
- Support the DOE's requests for fair share contributions from developers to ensure that adequate school facilities are in place.
- Apply the guidelines for institutions in Section 3.7.2 when a new public or private school campus or a significant increase in enrollment capacity at one of the existing campuses is proposed.

### **4.8 CIVIC AND PUBLIC SAFETY FACILITIES AND COMMUNITY RESILIENCE**

Civic centers in Koolau Poko include several State of Hawai'i facilities. The City's Satellite City Hall for the region is located in the Windward City Shopping Center. Satellite City Halls offer many basic services for residents, including bus pass sales and bicycle registration. The State of Hawaii operates regional or area service centers for unemployment insurance in the Regional Town Centers of Kailua and Kāne'ohe and a food stamp office near



Windward City Shopping Center. The State's Windward Health Center and the District Court for Koolau Poko-Koolau Loa are located adjacent to the Kāneohe State Hospital, Windward Community College and Kāneohe District Park, forming a secondary civic center for Kāneohe.

Koolau Poko public safety facilities consist of police, fire and ambulance stations, and emergency shelters. Police sub-stations are located in Kāneohe and Kailua, both of which are located within their respective Regional Town Centers. The Honolulu fire department (HFD) operates fire stations in Kailua, Kāneohe, Waimānalo and Kahaluu. The military maintains a fire station on the Marine Corps Base Hawaii. To provide adequate response time throughout the region, a future fire station is planned at Kualoa. Ambulance service, staffed by the City's Emergency Medical Services Division, is provided from each of the HFD fire stations except Kahaluu, whose service area is covered from the Kāneohe station. An ambulance unit is planned in Kaaawa where an ambulance bay has been completed at the new Kaaawa fire station.

Emergency shelters in the event of a potential disaster will be opened selectively depending on the severity of the situation as determined by the Department of Emergency Management. Shelter locations for the Koolau Poko and Koolau Loa regions are listed on Table 4.4. Kailua has been designated as a disaster-ready community. Other communities should be encouraged to become disaster-ready communities as well. Emergency planning should be updated according to the most recent Federal Emergency Management Agency and National Oceanic and Atmospheric Administration flood inundation maps.

<b>Table 4.4: Emergency Shelters for Koolau Poko</b>	
<b><u>Kāneohe/Kahaluu</u></b>	<b><u>Kailua/Mākapu/Waimānalo</u></b>
‘Āhuimanu Elementary School	‘Aikahi Elementary School
Kapunahala Elementary School	Enchanted Lake Elementary School
Benjamin Parker Elementary School	Keolu Elementary School
Castle High School	Kailua Middle School
Kāneohe Elementary School	Lanikai Elementary School
He‘eia Elementary School	Maunawili Elementary School
Kahaluu Elementary School	Mōkapu Elementary School
Waiāhole Elementary School	Kalaheo High School
King Middle School	Pope Elementary School
Puohala Elementary	Kailua Elementary School
	Kainalu Elementary School
	Kaliua High School
	Waimānalo Elementary and Middle School

Community resilience is the ability of a community to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. In order to protect lives, livelihoods, and quality of life, communities should plan for damages and disruptions to buildings and infrastructure systems from natural,

technological, and human-caused hazards. Planning for a more resilient community involves a comprehensive, risk-based approach that is tailored to their community's needs for maintaining vital services. The U.S. Department of Homeland Security and the National Institute of Standards and Technology, U.S. Department of Commerce, provides policy, support information and guidelines for community resilience planning and implementation strategies that will better prepare communities for future hazard events. The City and County of Honolulu, department of emergency management, prepared various plans and operations guides to prepare, prevent, protect, respond, and recover from hazards.

**4.8.1 POLICIES**

- Provide adequate staffing and facilities to ensure effective and efficient delivery of basic governmental service and protection of public safety.
- Locate regional civic facilities in the Regional Town Centers of Kāneohe and/or Kailua.
- Encourage the development of more emergency shelters.
- Encourage disaster resilient communities.

**4.8.2 GUIDELINES**

- Locate permanent Satellite City Halls in the Regional Town Centers of Kāneohe and Kailua to reinforce these areas as a regional focal point or gathering spot for activities and services.
- Design new public buildings such as schools and recreation centers to serve a secondary function as an emergency shelter.
- Design new City buildings which are used for public assembly and able to serve as emergency shelters such that they can withstand a Category 3 hurricane.
- Survey and retrofit, as appropriate, existing public buildings to serve a secondary function as hurricane-resistant emergency shelters.
- Provide incentives for private organizations to create hurricane-resistant shelter areas in their facilities and for homes to include hurricane-resistant safe rooms.

## **Honolulu - Land Use**

## 5. IMPLEMENTATION

Many counties, cities, and other local jurisdictions on the U.S. mainland have instituted comprehensive planning programs that emphasize proactive, community-based planning, and implementation processes. These local governments have sought to establish a strong link between planning policies and guidelines, and specific organization, funding and actions needed to implement a variety of public and private projects and programs. The following sections are intended to strengthen the linkage to implementation to realize the vision for the future and the policies and guidelines articulated in this Plan. Implementation will vary depending upon the priorities and resources of each department.

This chapter is organized under the following headings:

### Section

- 5.1 Overview and Planning Implementation Tools
- 5.2 Public Facilities Investment Priorities
- 5.3 Development Priorities
- 5.4 Special Area Plans
- 5.5 Functional Planning
- 5.6 Review of Zoning and Other Development Applications
- 5.7 Five-Year Sustainable Communities Plan Review
- 5.8 Implementation Matrix

### 5.1 OVERVIEW AND PLANNING IMPLEMENTATION TOOLS

Implementation of the Koolau Poko Sustainable Communities Plan will be accomplished by:

- Initiating zoning map and development code amendments to achieve consistency with the vision, policies, and guidelines of the Sustainable Communities Plan;
- Guiding public investment in infrastructure through Functional Plans and Special Area Plans in support of the vision, policies, and guidelines of the Sustainable Communities Plan;
- Reviewing zoning and other development applications based on how well they support, conform to, and carry out the purposes of the Sustainable Communities Plan;
- Incorporating Sustainable Communities Plan priorities through the Public Infrastructure Map and the City's annual budget process;
- Advising the State government on the content of the Sustainable Communities Plan and seeking to conform State actions including those of DHHL to the vision, policies, and guidelines of this Plan; and
- Conducting a review of the vision, policies, guidelines, and CIP priority investments of the Ko'olau Poko Sustainable Communities Plan every five years and recommending revisions as necessary.

### 5.2 PUBLIC FACILITY INVESTMENT PRIORITIES

The vision for Koolau Poko requires the cooperation of both public and private agencies in planning, financing, and improving infrastructure. The City must take an active role in planning infrastructure improvements, such as land acquisition and site improvements for proposed parks, provision of adequate public access to the shoreline and mountain areas, provision of pedestrian, bicycle, and other transportation options, and improvements to wastewater and stormwater management systems and other proposals of this Plan.

### 5.3 DEVELOPMENT PRIORITIES

Projects to receive priority in the approval process are those which:

- Land acquisition and improvements for public projects that are consistent with the Sustainable Communities Plan's vision, policies, and guidelines;
- Action on applications for land use and other regulatory approvals that are consistent with the Sustainable Communities Plan's vision, policies, and guidelines; and
- Use of vacant usable parcels or sites ready for redevelopment and conform to the Sustainable Communities Plan Map A-2, Land Use.

### 5.4 SPECIAL AREA PLANS

For areas requiring particular attention, Special Area Plans provide more detailed policies and guidelines than are provided by the Sustainable Communities Plan. The form and content of Special Area Plans depend on what characteristics and issues need to be addressed in greater detail in planning and guiding development or use of the Special Area.

Special Area Plans can be used to guide land use development and infrastructure investment in Special Districts, Redevelopment Districts, or Resource Areas. Plans for Special Districts provide guidance for development and infrastructure investment in areas with distinct historic or design character or significant public views. Plans for Redevelopment Districts provide strategies for the revitalization or redevelopment of an area. Plans for Resource Areas provide resource management strategies for areas with particular natural or cultural resource values.

In Koolau Poko, Special Area Plans are proposed for the following locations and purposes:

- ***Kailua Regional Town Center.*** A plan to improve pedestrian circulation, public transit service, landscaping and public open spaces, street fixtures and signage, and building appearance in the central commercial district and civic center.
- ***Koolau Greenbelt.*** A plan to restore, protect, and maintain the area at the base of the Koolau Mountain Range through a variety of mechanisms that may include land trusts and tax incentives.
- ***Haikū Valley, Waihee and Waikāne Nature Preserves, Kawainui Marsh, and Nuupia Fishponds*** Plans for improved public access and preservation of these resources should be prepared.

Other Special Area Plan opportunities may be identified as the Sustainable Communities Plan is implemented.

### 5.5 FUNCTIONAL PLANNING

Functional planning is the process through which various City agencies determine needs, assign priorities, phase projects, and propose project financing to further implement the vision, policies, and guidelines articulated in the Sustainable Communities Plan. This process may take a variety of forms, depending upon the missions of the various agencies involved, as well as upon requirements imposed from outside the City structure, such as federal requirements for wastewater management planning. Typically, functional planning occurs as a continuous or iterative activity within each agency.

Through the functional planning process, City agencies responsible for developing and maintaining infrastructure and public facilities or for provision of City services review existing functional planning documents and programs. As a result of these reviews, the agencies then update, if required, existing plans or prepare new long-range

functional planning documents that address facilities and service system needs. Updates of functional planning documents are also conducted to assure that agency plans will serve to further implement the Sustainable Communities Plan as well as to provide adequate opportunity for coordination of plans and programs among the various agencies.

The number and types of functional planning documents will vary from agency to agency, as will the emphases and contents of those documents. A typical agency may develop a set of core documents such as:

- A resource-constrained long-range capital improvement program. A “resource-constrained” program is one that identifies the fiscal resources that can be reasonably expected to be available to finance the improvements.
- A long-range financing plan, with identification of necessary new revenue measures or opportunities.
- A development schedule with top priorities for areas designated for earliest development.
- Service and facility design standards, including level of service guidelines for determining adequacy.

Other documents may also be developed as part of an agency’s functional planning activities, such as master plans for provision of services to a specific region of the island. In some cases, functional planning activities will be undertaken in cooperation with agencies outside the City structure, such as the transportation planning activities that are conducted in association with the Oahu Metropolitan Planning Organization.

Functional planning is intended to be a proactive public involvement process which provides public access to information about infrastructure and public facility needs assessments, alternatives evaluations, and financing. Outreach activities should involve Neighborhood Boards, community organizations, landowners, and others who may be significantly affected by the public facilities and infrastructure projects or programs to be developed to further implement the policies of the Sustainable Communities Plan.

The functional planning process should be characterized by opportunities for early and continuing involvement, timely public notice, public access to information used in the evaluation of priorities, and the opportunity to suggest alternatives and to express preferences. The functional planning process provides the technical background for Capital Improvement Program and public policy proposals that are subject to review and approval by the City Council. Consequently, any functional planning proposal which is inconsistent with, or varies from, the vision, policies, and guidelines of the Sustainable Communities Plan shall only be approved as an amendment to the Plan.

## **5.6 REVIEW OF ZONING AND OTHER DEVELOPMENT APPLICATIONS**

A primary way in which the vision of the Koolau Poko Sustainable Communities Plan will guide land use will be through the review of applications for zone changes and other development approvals. Approval for all development projects will be based on the extent to which the project conforms to and carries out the purposes of the policies, and guidelines of the Sustainable Communities Plan.

Projects that do not involve significant zone changes will be reviewed by the department of planning and permitting for conformance with the policies, development priorities, and guidelines of the Koolau Poko Sustainable Communities Plan and the population policies of the General Plan. For mixed-use zoning allowing residential use, the applicant should prepare an analysis of the projected population impacts of the change to verify that such impacts will not be inconsistent with the population policies of the General Plan as they apply to Koolau Poko. Those projects requiring an Environmental Assessment (EA) or Environmental Impact Statement (EIS) shall follow the provisions of Hawaii Revised Statutes, Chapter 343.

**5.6.1 ADEQUATE FACILITIES REQUIREMENT**

All projects requesting zone changes shall be reviewed to determine if adequate public facilities and infrastructure will be available to meet the needs created as a result of the development. Level of Service Guidelines to define adequate public facilities and infrastructure requirements will be established during the Capital Improvement Program.

In order to guide development and growth in an orderly manner as required by the City's General Plan, zoning and other development approvals for new developments should be approved only if the responsible City and State agencies indicate that adequate public facilities and utilities will be available at the time of occupancy or if conditions the functional agency indicates are necessary to assure adequacy are otherwise sufficiently addressed.

The department of planning and permitting, as part of its report on the consistency of the project with the Koolau Poko Sustainable Communities Plan vision, policies, and guidelines, will review and summarize any individual agency's findings regarding public facilities and utilities adequacy that are raised as part of the EA/EIS process. The department of planning and permitting will address these findings and any additional agency comments submitted as part of the agency review of the zone change application and recommend conditions that will be included in the conditional zoning approval to insure adequacy of facilities.

**5.7 FIVE-YEAR SUSTAINABLE COMMUNITIES PLAN REVIEW**

The Department of Planning and Permitting shall conduct a comprehensive review of the Koolau Poko Sustainable Communities Plan and shall report its findings and recommended revisions to the Planning Commission and the City Council five years after adoption and every five years thereafter. It is intended the Community Growth Boundary will remain fixed through the 2035 planning horizon.

In the Five-Year review, the Koolau Poko Sustainable Communities Plan will be evaluated to see if the regional vision, policies, guidelines, and implementing actions are still appropriate, with particular attention to the issue of sustaining long-term agriculture.

**5.7.1 ADOPTION OF THE SUSTAINABLE COMMUNITIES PLAN AND EXISTING LAND USE APPROVALS**

This Sustainable Communities Plan will go into effect upon its adoption by ordinance. Land use approvals granted under existing zoning, Unilateral Agreements, and approved Urban Design Plans will remain in force and guide entitlement decisions until any zoning action to further implement the vision, policies, and guidelines of the Koolau Poko Sustainable Communities Plan is initiated. If an EA or EIS was accepted in the course of a Development Plan land use approval for a project, it should be acceptable to meet the requirement for an initial project EA/EIS when zone change applications are submitted for subsequent phases of the project unless the project scope and land uses are being significantly changed from that described in the initial EA/EIS.

**5.8 IMPLEMENTATION MATRIX**

This section provides a summary of the guidelines in Chapters 3 and 4 of this Plan that identify specific physical improvements and actions in order to help organize and facilitate plan implementation.

Table 5-1 lists each of the guidelines and identified related plans, regulatory code or action, and the public or private entities responsible for implementing the action. The table is organized by land use and infrastructure category, with the categories listed according to the order of Chapters 3 and 4.

The table is not exclusive. Programs and initiatives that are consistent with the Plan's policies and guidelines may be added. In addition, new funding sources or public-private partnerships may expand and/or alter policy implementation.

- The first column of the table - Policies/Guidelines - is comprised of the guideline statements for each land use category. Policy statements are used if the land use category does not include guidelines.
- The second column - Program - relates each statement to a specific regulatory code, functional plan or other action. The term "project review" indicates the review of discretionary land use approvals, such as State land use, zoning, and special management area use permits. In some instances, To Be Determined (TBD) was used to indicate that the related code/plan/action was not clear. TBD actions are intended to be identified and developed by the agencies responsible for implementation.
- The third column - Agency - identifies the public and/or private entities responsible for implementing the policy or guideline. Although many of the implementing actions fall under DPP's jurisdiction, some actions are the responsibility of other Federal, State or City departments or public agencies, while a few have been assigned to private entities or individual landowners.
- The last column - Role - describes the role of the named agency in carrying out the code revision or action, either as primary implementer, or as an advocate or partner of the primary implementer. For the implementation of certain guidelines there is more than one primary implementer if more than one code revision or action is necessary or multiple jurisdictions are involved.



Table 5.1: Implementation Matrix			
Policies/Guidelines	Program	Agency	Role
<b>Sec 3.1.3.1 Open Space Preservation - Mountain Areas</b>			
Improve access to mountain areas and enhance the physical condition and recreational and educational value of hiking trails by fully implementing the recommendations in the State of Hawaii's Na Ala Hele Program Plan, providing adequate funding for the management of issues related to increased access, such as trail maintenance, weed control, and eradication of non-native predators.	CIP, OPS	DLNR	Implementer
<p>Create public access to the former U.S. Coast Guard Omega Station site, including Haikū Stairs, and combine this parcel with the adjoining City and County of Honolulu site for the proposed Haikū Valley Cultural and Nature Preserve in order to:</p> <ul style="list-style-type: none"> <li>• Provide recreational, cultural and educational benefits; and</li> <li>• Help protect resources in the <i>makai</i> portion of the Heeia watershed, including a high-quality perennial stream, a significant wetland habitat for waterbirds, migratory waterfowl and shorebirds, and an ancient Hawaiian fishpond.</li> </ul>	CIP	DPR DLNR	Implementer Advocate
Improve the sites that have been acquired for Waihee Valley Nature Park and Waikāne Nature Preserve in a manner that preserves the area's natural scenic quality and provides educational and passive recreation opportunities.	CIP	DPR CBO	Implementer Advocate
Promote the preservation of remaining undeveloped lands at the foot of the Koolau Mountain Range through protective regulatory measures, tax incentives for the establishment of conservation easements and management programs on private properties, and public acquisition of fee simple or partial interest, where necessary to create the Koolau scenic resource area or "green belt" from Waimānalo to Kualoa.	TAX, CIP	DLNR CBO	Implementer Advocate & Implementer
Locate structures at higher elevations of slopes only for purposes of public safety or compelling public interest, when there is no feasible alternative to fulfill the public need, and when adequate mitigation measures have been taken to reduce or avoid impact on the scenic and natural environment.	Project Review	DLNR	Implementer
Maintain, protect, and/or restore native forests in the State Conservation District, especially by identifying and protecting endangered species habitats and other sensitive ecological zones from threats such as fire, alien species, feral animals, and human activity and disturbance.	OPS	DLNR FED CBO	Implementer Implementer Implementer

Table 5.1: Implementation Matrix			
Policies/Guidelines	Program	Agency	Role
Provide access to existing mountain trails through residential areas, through acquisition of easements or rights-of-way, if necessary, and work with the military and agricultural landowners to provide access through those lands to mountain trails, as well, consistent with security needs.	OPS, CIP	DLNR	Implementer
<b>Sec 3.1.3.2 Open Space Preservation - Shoreline Areas</b>			
Maintain existing <i>makai</i> view channels along Kalanianaʻole Highway between Makapuu Point and Waimānalo Beach Park; along Kawaihoa Road and North Kalāheo Avenue in Kailua; along Lilipuna Road in Kāneohe; and along Kamehameha Highway north of Kāneohe. Avoid visual obstructions, such as walls and dense landscaping.	Project Review, LUO	DPP DOT DFM	Implementer Implementer Implementer
Create and maintain new <i>makai</i> view channels along Kamehameha Highway and Kahekili Highway north of Kāneohe by: <ul style="list-style-type: none"> <li>Acquiring shoreline properties along the highway either in fee or by obtaining easements and maintenance agreements with private landowners, giving priority to locations where there are actual or potential vistas of perennial streams, wetlands, fishponds and off-shore islands; and</li> <li>Selective clearing of dense vegetation and the removal of structures.</li> </ul>	CIP, OPS OPS	DOT DFM	Implementer Implementer
Maintain the untamed landscape quality of the Makapuu viewshed, with any modification to this area being done for the purpose of health and safety and in a manner that continues the landscape character of the scenic shoreline corridor on the East Honolulu side of Makapuu Point.	Project Review OPS	DLNR DPP DOT	Implementer Implementer Implementer
Establish buffer zones for the protection of rare coastal resources and recognition that such resources should be defined and identified.	OPS	DLNR CBO	Implementer Advocate
Increase opportunities for physical access to the shoreline areas of Kāneohe and Kailua by acquiring additional shorefront areas, with following locations as priorities: <ul style="list-style-type: none"> <li>The site of the Kāneohe Wastewater Pre-Treatment Facility, to be named Waikalua Bayside Park, with possible expansion into Kokokahi YWCA facility through either acquisition or joint use agreement;</li> </ul>	SAP CIP	DDC/DPR DLNR	Implementer Implementer
<ul style="list-style-type: none"> <li>King Intermediate School and an area north of Heeia Kea Landing, which may require some realignment of a portion of Kamehameha Highway to create adequate land area <i>makai</i> of the roadway; and</li> </ul>			

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<ul style="list-style-type: none"> <li>A site in either the Oneawa Beach area, near the surf spot known as “Castles” or in the frontage along Kalaheo Avenue between Kailua Beach Park and Kalama Beach Park.</li> </ul>			
Improve existing pedestrian rights-of-way to the shoreline by providing on-street or off-street parking nearby; secured bicycle racks where the access point adjoins an existing or planned bikeway, such as along Mokulua Drive in Lanikai and Kāneohe Bay Drive in Kāneohe; and provisions for emergency vehicle access and lateral access along the shoreline.	SAP CIP	DDC/DPR DLNR	Implementer Implementer
Prepare beach management plans to maintain lateral access along popular beaches that are subject to long-term and seasonal erosion, particularly at Lanikai and Kualoa, emphasizing non-structural approaches and prevention of adverse effects on adjacent coral reef ecosystems such as greater shoreline setbacks for new structures along these and other unstable shoreline areas. Effective beach management plans are very location specific and incorporate the consideration of long-term effects such as climate change and sea level rise, as well as seasonal and long-term erosion and accretion.	SAP	DLNR/DPP	Implementer
Locate and design exterior lighting to avoid disturbance to seabirds and marine mammals, using DLNR guidelines.	LUO, Project Review	DPP DLNR	Implementer Advocate
Designate the Alāla Point to Wailea shoreline as an erosion-prone area and prepare a beach management plan for this area, focusing beach restoration activities on the Bellows Air Force Station beach and Kaupō beach.	SAP	DLNR	Implementer
Designate the shoreline along Kamehameha Highway adjacent to Kualoa Ranch to Kualoa Point as an erosion-prone area and prepare a beach management plan for this area.	SAP	DLNR	Implementer
Pursue measures to render all shoreline accretion as public (State) property in perpetuity in order to preserve shorelines as a public resource.	CIP	DLNR	Implementer
Prohibit the use of shore armoring structures, considering alternative measures such as beach replenishment.	Project Review CIP	DPP/DLNR DLNR	Implementer Implementer
Modify shoreline setbacks as needed to protect the natural shoreline, lessen the impact to coastal processes, and address sea level rise.	LUO	DPP	Implementer
Analyze the possible impact of sea level rise for new public and private projects in shoreline areas and incorporate, where appropriate and feasible, measures to reduce risks and increase resiliency to impacts of sea level rise.	Project Review CIP	DPP DOT DTS DDC	Implementer

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<b>Sec 3.1.3.3 Open Space Preservation - Wetlands, Wildlife Preserves and Nature Parks</b>			
Prepare use and management plans for Heeia Marsh, Waihee Valley Nature Park, Haikū Valley Cultural and Nature Preserve, and Waikāne Nature Preserve and develop those sites pursuant to those plans.	SAP	DDC/DPR	Implementer
Encourage owners of private wetlands, such as Waihee Marsh (also known as “Haia Moi”), and other wildlife habitats, to prepare and abide by use and management plans for those resources and to investigate the various State and Federal programs that provide incentives for landowners to manage their lands for the benefit of wildlife.	SAP TAX	PRIV DLNR	Implementer Advocate
Prepare and implement a plan to establish a Koolau Greenbelt.	SAP OPS	DLNR CBO	Implementer Advocate
Prohibit encroachment or intensification of residential or other urban uses near wildlife sanctuaries and nature parks.	Project Review	DPP	Implementer
Prepare wildlife preserve management plans emphasizing conservation and restoration of native plants, birds, fish and invertebrates.	SAP	DLNR USFWS	Implementer Implementer
Minimize the adverse effects of artificial lighting on wildlife and human health by balancing the need of outdoor lighting for night utility, security, and desire for reasonable architectural expression with the need to conserve energy and protect the natural environment.	Project Review OPS	DPP DTS/DOT	Regulator Implementer
<b>Sec 3.1.3.4 Open Space Preservation - Natural Gulches, Streams and Drainageways</b>			
Preserve the natural aesthetic and biological values of gulches, streams and drainageways as part of the open space system by implementing the stream classifications, design guidelines and actions contained in the Koolau Poko Watershed Management Plan for the protection of natural stream beds and habitat and the restoration of degraded streams.	OPS SWM, Project Review	DFM DPP	Implementer Implementer
Alter natural drainageways only when necessary to provide flood protection for existing developed areas, and in a way that preserves aesthetic and biological values, and avoids degradation of stream, coastline and nearshore water quality. For example, impacts on biological conditions may be mitigated, as appropriate, by using v-shaped bottom channels for periods of low stream flow, rip-rap boulder lining of stream banks, streamside vegetation and similar strategies to shade, cool and aerate the waters of the stream and provide riparian and stream bottom habitat.	CIP OPS SWM	DDC DFM DPP	Implementer Implementer Regulator

Table 5.1: Implementation Matrix			
Policies/Guidelines	Program	Agency	Role
Incorporate erosion control measures and best management practices, as cited in the Hawaii's Coastal Nonpoint Pollution Control Program Management Plan to prevent pollution of wetlands, streams, estuaries and nearshore waters.	SWM, Project Review	DPP	Regulator
<b>Sec 3.1.3.4 Open Space Preservation - Other Open Space Elements</b>			
<i>Agriculture</i>			
<ul style="list-style-type: none"> <li>Design and locate buildings and other facilities that are accessory to an agricultural operation in a way that minimizes visual impacts within the view corridors identified in Appendix Map A-1.</li> </ul>	Project Review	DPP	Regulator
<ul style="list-style-type: none"> <li>Retain the open space character of land adjacent to Kawaiinui Marsh and within the Hawaii Youth Correctional Facility to visually separate and define the edges of the Maunawili, Olomana and Pōhākapu and Kukunono residential neighborhoods.</li> </ul>	Project Review	DLNR	Implementer
<i>Golf Courses</i>			
<ul style="list-style-type: none"> <li>Maintain golf courses to provide view amenities for adjacent urban areas, especially from well-used public rights-of-way, parks and vista points. Where necessary, redesign golf course facilities or layouts to reduce the visual prominence of protective screens or large accessory buildings.</li> </ul>	Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>Design and maintain golf courses to avoid or minimize environmental impacts – such as siltation, pesticide and fertilizer runoff, destruction of coastal, riparian and wetland habitat - using as a guideline the Office of Planning publication, Golf Course Development in Hawaii - Impacts and Policy Recommendations.</li> </ul>	Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>Optimize the function of golf courses as passive drainageways, maximizing their potential to retain or detain stormwater runoff.</li> </ul>	Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>Provide safe access through golf courses, as necessary, for regional continuity of pedestrian and bicycle systems.</li> </ul>	Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>When necessary for safety reasons, use landscape screening, setbacks and modifications to the golf course layout rather than fencing or solid barriers.</li> </ul>	Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>Provide appropriate buffers between golf courses and surrounding residential areas.</li> </ul>	Project Review	DPP	Implementer

Table 5.1: Implementation Matrix			
Policies/Guidelines	Program	Agency	Role
<i>Cemeteries</i> <ul style="list-style-type: none"> <li>Maintain the open space character of cemeteries through very low lot coverage ratios.</li> <li>Where located in the State Conservation District or in the preservation area designated by this Plan, limit above-grade structures to maintain open space character.</li> <li>Limit above-grade structures to ceremonial or religious buildings; grave markers of modest size; and necessary administrative and maintenance support buildings that are minimally visible from public rights-of-way, entries and vista points.</li> </ul>	Project Review  Project Review  Project Review	DPP  DPP, DLNR  DPP	Regulator  Regulator  Regulator
<b>3.1.4 Other Natural Resources</b>			
Require surveys to identify endangered species habitat, and require appropriate mitigation and protection measures to address impacts due to developments.	OPS	DLNR FED CBO	Implementer Implementer Implementer
Minimize glare and obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary by fully shielding lighting (no light above the horizontal plane) fixtures and using lower wattage.	Project Review OPS	DPP DTS/DOT	Regulator Implementer
Adopt outdoor night lighting standards that help reinforce the difference between urban and rural communities.	Project Review	DPP	Implementer
<b>3.2.1 Island-Wide Parks</b>			
<i>Passive or Nature Parks</i> <ul style="list-style-type: none"> <li>Acquire and develop the proposed Ha'ikū Valley Cultural and Nature Preserve, including access to Haikū Stairs.</li> <li>Improve the Waikāne Nature Preserve and Waihee Valley Nature Park.</li> </ul>	CIP  CIP	DDC/DPR  DDC/DPR	Implementer  Implementer
<i>Active Recreation Areas</i> <ul style="list-style-type: none"> <li>Acquire additional shoreline land for parks in Kāneohe and Kailua with particular attention to increasing shoreline access in Kāneohe.</li> <li>Locate bus stops and loading areas at principal entries and adjacent to convenient pedestrian accesses to main activity areas within the park.</li> </ul>	CIP  CIP	DDC/DPR  DDC/DPR	Implementer  Implementer

**Table 5.1: Implementation Matrix**

<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<ul style="list-style-type: none"> <li>Provide amenities and service facilities to accommodate “tailgate” picnics in parking areas for sporting events, including shading canopy trees within the parking lot as well as nearby picnic tables and outdoor grills.</li> </ul>	CIP	DDC/DPR	Implementer
<ul style="list-style-type: none"> <li>Locate areas designed for sporting events that attract high numbers of people along major collector streets and separate them as much as possible from residential areas and significant wildlife habitats.</li> </ul>	CIP	DDC/DPR	Implementer
<ul style="list-style-type: none"> <li>Expand active recreational facilities by incorporating facilities such as playfields and playcourts in regional and beach parks and in the former sanitary landfill site at Kapaa.</li> </ul>	CIP	DDC/DPR	Implementer
<b>Sec 3.2.2 Community-Based Parks</b>			
<i>Community-Based Parks</i> <ul style="list-style-type: none"> <li>Design and site structural improvements and landscaping in community-based parks in such a way as to enhance the aesthetic value of these open space elements.</li> </ul>	CIP, OPS	DDC/DPR	Implementer
<ul style="list-style-type: none"> <li>Mitigate visual impacts of large recreation buildings or structures, lighting, parking lots, perimeter fencing along major collector streets and other utilitarian elements through building design, plantings or other appropriate visual screens adjacent to residential areas and major roadways.</li> </ul>	CIP, OPS	DDC/DPR	Implementer
<ul style="list-style-type: none"> <li>Encourage adaptive re-use and/or modest expansion of existing facilities over the construction of new structures to minimize impacts on open space.</li> </ul>	CIP, OPS	DDC/DPR	Implementer
Prepare a functional plan for the acquisition of new community-based parks in Kailua, Kāneohe, Kahaluu, and Waimānalo.	SAP	DDC/DPR	Implementer
Have master plans for development of new parks or redevelopment of existing parks provide for facilities and accessible pathways from surrounding streets to facilitate pedestrian and bicycle access to parks.	SAP, CIP	DDC/DPR	Implementer
Explore ways, through cooperative agreements and mutual indemnifications with the UH, DOE and non-profit organizations, to design and operate facilities to achieve efficiencies and reduce duplication in the development and use of athletic, recreation, meeting, and parking facilities.	OPS	DDC/DPR, DOE, CBO	Implementer

Table 5.1: Implementation Matrix			
Policies/Guidelines	Program	Agency	Role
Pursue the development of greenways along the following streams and drainage channels: Kāneohe Stream, from Kāneohe Bay to Kahekili Highway; Kawainui Stream, from Kailua Bay to Kawainui Marsh; Kawa Stream, from Mokulele Drive to Kāneohe Bay Drive; and Kaelepulu Stream, from Kailua Bay to Kaelepulu Pond	CIP, SAP, Project Review	DDC, DPP	Implementer
<b>Sec 3.3.2 Historic and Cultural Resources</b>			
<i>Cultural and Archaeological Sites</i> <ul style="list-style-type: none"> <li>Require preservation <i>in situ</i> only for those features that the State Historic Preservation Officer has recommended such treatment.</li> <li>Determine the appropriate preservation methods on a site-by-site basis in consultation with the State Historic Preservation Officer.</li> <li>Determine appropriate delineation of site boundaries and setback and restrictions for adjacent uses based on whether a site is listed and/or is eligible for listing on the State and/or National Register of Historic Places and on a site-by-site basis in consultation with the State Historic Preservation Office.</li> <li>Include sight lines that are significant to the original purpose and value of the site in criteria for adjacent use restrictions.</li> <li>Determine the appropriateness of public access on a site-by-site basis in consultation with the State Historic Preservation Office and the owner of the land on which the site is located.</li> </ul>	Project Review  Project Review  Project Review  Project Review  Project Review	DLNR  DLNR  DLNR  DLNR  DLNR PRIV, CBO	Implementer  Implementer  Implementer  Implementer  Implementer Advocate
<i>Historic Sites</i> <ul style="list-style-type: none"> <li>Promote the identification, survey and listing of sites that are eligible for the Hawaii or National Registers of Historic Places.</li> </ul>	OPS	DLNR	Implementer
<ul style="list-style-type: none"> <li>Preserve the architectural character, landscape setting and visual context of historic and cultural landmarks through appropriate zoning standards and development controls, as necessary, and public outreach programs such as design guidelines for the maintenance, renovation or expansion of older dwellings.</li> <li>Provide incentives for the preservation and maintenance of historic sites and allow for adaptive reuse through a permit review process.</li> </ul>	LUO, Project Review OPS  TAX, LUO	DPP DLNR  DLNR, BFS DPP	Implementer Implementer  Implementer Implementer



Table 5.1: Implementation Matrix			
Policies/Guidelines	Program	Agency	Role
<b>Sec 3.4.2 Agricultural Use</b>			
Limit the floor area of dwellings and prevent inappropriate urban uses, such as meeting facilities and conditional uses that have no direct relationship to agricultural or local community needs. Permit a dwelling only if is accessory to a verifiable agricultural use of the same lot.	LUO	DPP	Implementer
Require new residential development to maintain an adequate buffer when adjacent to agricultural lands, giving consideration to topographic barriers, prevailing winds, and the noise and air-borne emissions associated with the type of agricultural operation.	LUO, Project Review	DPP	Implementer
Adopt standards for roadway and other infrastructure design that are appropriate and intended for continued agricultural use rather than residential use.	SR&R	DPP	Implementer
Require the acknowledgement of agricultural standards in the subdivision process and in all deeds to lots.	SR&R	DPP	Implementer
Focus performance standards for agricultural zoning districts on preventing degradation of the natural environment, maintaining the viability of agricultural uses, and protecting the health and safety of agricultural workers rather than on disturbance to residential uses.	LUO PHS	DPP DOH	Implementer Implementer
2. Encourage development proposals of more than two lots to apply for cluster housing which provides a larger, contiguous area reserved for agriculture use.	SR&R, LUO	DPP	Implementer
Structure property tax assessments and rates to encourage long-term leases for agricultural operations. Also, adopt lower development fees and standards for agricultural subdivisions that do not involve the construction of dwellings.	TAX	BFS DPP	Implementer Advocate
Adopt zoning standards that promote the use of natural energy sources to support agricultural uses.	LUO	DPP	Implementer
Permit revenue-producing activities on lots where a commercial agricultural operation is being conducted, as ancillary uses. Allow these activities only if they do not interfere with surrounding agricultural uses. Examples of compatible activities include camping; picnicking, horseback riding, training and instruction; rodeos; polo matches; and tours of botanical gardens, fishponds, and <i>kalo</i> loi. Private parties promoting agricultural production or agriculture-related educational activities may be compatible, depending on the intensity of use and the location and size of the property. Recreational activities involving motorized vehicles and thrill craft are generally not be considered compatible.	LUO	DPP	Implementer

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<b>Sec 3.5.2.1 Residential Use - Rural Communities</b>			
<p>Adopt development standards and design guidelines for residential-designated areas in rural areas which:</p> <ul style="list-style-type: none"> <li>• Minimize impervious surfaces</li> <li>• Require greater building setbacks than in suburban residential zoning districts;</li> <li>• Generally limit building heights to two stories;</li> <li>• Allow relatively narrow roadway widths</li> <li>• Allow alternative sidewalk designs, as compared to suburban residential neighborhoods, providing they comply with public safety and ADA standards;</li> <li>• Allow the use of detention basins and grassed swales for stormwater drainage instead of concrete curbs and gutters;</li> <li>• Avoid the geographic clustering and concentration of group living facilities and group homes;</li> <li>• Promote passive solar design, such as the use of sloped roof forms with wide overhangs, and residential-scaled energy conservation and natural energy harnessing devices;</li> <li>• Promote water conservation measures, such as flow constrictors, xeriscaping, and use of non-potable water sources for irrigation; and</li> <li>• Achieve an overall residential density of no greater than four principal dwelling units per acre.</li> </ul>	LUO	DPP	Implementer
<b>Sec 3.5.2.2 Residential Use - Suburban Communities</b>			
<p>Adopt development standards and design guidelines for lots designated for residential use in urban fringe areas in order to:</p> <ul style="list-style-type: none"> <li>• Retain the physical character and definition of neighborhoods and minimize long-term adverse impacts of expansions of existing homes and new infill development on surrounding neighborhoods;</li> <li>• Enhance the identities of neighborhoods through the use of landscaping, natural features, and building form and siting;</li> </ul>	LUO, BLDG	<p>DPP DPP</p> <p>DPP</p>	<p>Implementer Implementer</p> <p>Implementer</p>

**Table 5.1: Implementation Matrix**

<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<ul style="list-style-type: none"> <li>Encourage appropriate scale and privacy with respect to surrounding residential properties when infill development such as new homes or expansion of existing homes occurs;</li> <li>Provide a range of housing at varying densities, depending on the characteristics of the surrounding neighborhood and the physical features of the site, but not to exceed six dwelling units per acre;</li> <li>Limit building height to two stories;</li> <li>Reduce the visual dominance of vehicular parking on residential lots and discourage the paving of yards;</li> <li>Discourage the use of solid barrier walls that obscure views of the front yard and dwelling entrances from the street;</li> <li>Prohibit development on slopes of 40 percent or greater that have soil characteristics indicating potential instability for building purposes;</li> <li>Avoid the geographic clustering or concentration of group living facilities and group homes that are licensed by the State;</li> <li>Promote passive solar design, such as the use of sloped roof forms with wide overhangs, and residential-scaled energy conservation and natural energy harnessing devices; and</li> <li>Promote water conservation measures, such as flow constrictors, xeriscaping, and use of non-potable water sources for irrigation.</li> </ul>		DPP	Implementer
		DPP	Implementer
		DPP	Implementer
		DPP	Implementer
		DPP	Implementer
		DPP	Implementer
		DPP	Implementer
		DPP	Implementer
	BWS	BWS	Advocate
<p>Implement traffic safety measures for streets in residential neighborhoods, including:</p> <ul style="list-style-type: none"> <li>Install traffic calming modifications at selected street locations where speeding is a chronic problem;</li> <li>Install additional lighting or more visually prominent crosswalks at selected intersections where pedestrian safety is a concern;</li> <li>Post signs or install striping for designated bike routes and bike lanes; and</li> <li>Make sidewalk or pathway improvements and undertake operational measures that are identified as part of a Safe Routes to Schools or Complete Streets program, or other pedestrian safety initiatives.</li> </ul>	CIP OPS	DTS DOT	Implementer Advocate

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<p>Adopt zoning maps that recognize existing residential apartment developments, but allow new apartment development only under the following circumstances:</p> <ul style="list-style-type: none"> <li>• The site is at least one acre in size and is located in close proximity to a Regional Town Center;</li> <li>• The building height does not exceed three stories; and</li> <li>• The density does not exceed 30 units per acre.</li> </ul>	Zoning Maps, Project Review	DPP	Implementer
<b>Sec 3.6.1.1 Commercial and Industrial Uses - Rural Commercial Centers</b>			
<p>Architectural Character and Building Mass</p> <ul style="list-style-type: none"> <li>• Encourage the rustic appearance in building forms, with pitched roof forms or “false-front” parapets characteristic of rural towns in Hawai’i.</li> <li>• Promote individual business establishments that are relatively small and focused on provision of goods and services primarily to the surrounding rural community or agricultural activities.</li> <li>• Site buildings close to the roadway in the manner of a traditional rural village.</li> <li>• Keep meeting facilities, other than public schools or service facilities, relatively small in area and focused on accommodating the needs of the surrounding rural community or agricultural activities.</li> </ul>	LUO, Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>• In Kahaluu, improve the commercial center in the vicinity of the Kamehameha Highway-Kahekili Highway intersection in accordance with the design recommendations of the Kahaluu Community Master Plan.</li> </ul>	CIP	DDC	Implementer
<p>Visual Screening, Lighting and Signage</p> <ul style="list-style-type: none"> <li>• Encourage informal landscaping, subdued road signage and lighting, and parking lots visually subordinate to the buildings and landscaping.</li> <li>• In Kahaluu, implement the landscape, fencing and signage improvements in public rights-of-way and in lands recommended in the Kahaluu Community Master Plan.</li> </ul>	<p>LUO, Project Review</p> <p>CIP</p>	<p>DPP</p> <p>DOT</p>	<p>Implementer</p> <p>Implementer</p>

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<b>Vehicular Access</b> <ul style="list-style-type: none"> <li>Study the impact of large vehicles on residential streets and implement its recommendations where warranted.</li> <li>In Kahaluu, implement the traffic calming and transportation measures, i.e., roadway treatments, bus stop relocation, and bikeway that are recommended in the Kahaluu Community Master Plan.</li> </ul>	CIP  CIP	DTS Community  DOT, DTS	Implementer Advocate  Implementer
<b>Outlying Commercial Uses</b> <ul style="list-style-type: none"> <li>Outside of the Rural Commercial Centers, structures occupied by existing commercial, light industrial or community facility uses may be rebuilt or remodeled within their present floor area, provided they meet the design guidelines for Rural Commercial Centers.</li> <li>Further explore and define the needs for a community baseyard and vocational training center in Waimānalo, as part of the implementation of the Waimānalo Business Plan.</li> </ul>	LUO, Project Review  CIP	DPP  DDC	Implementer  Implementer
<b>Sec 3.6.1.2 and 3.6.1.3 Commercial and Industrial Uses - Suburban and Community Commercial Centers</b>			
<b>Architectural Character and Building Mass</b> <ul style="list-style-type: none"> <li>Retain the residential character; height, size, and massing of buildings for compatibility with adjacent residential areas.</li> </ul>	LUO, Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>Limit the total floor area of Suburban Community Centers to a maximum 100,000 square feet and limit aggregate floor area of all properties within Community Commercial Centers to 350,000 square feet.</li> <li>Encourage gable and hip-form roofs, using breaks in the roof line to reduce the apparent scale of large roof plates.</li> <li>Express residential character by using exterior materials and colors that are contextual with the neighborhood character.</li> </ul>			
<b>Vehicular Access</b> <ul style="list-style-type: none"> <li>Provide access to the parking and loading areas from a collector street, when available.</li> </ul>	LUO, Project Review Subdivision	DPP	Implementer

**Table 5.1: Implementation Matrix**

<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<ul style="list-style-type: none"> <li>Encourage use of shared driveways to access parking areas between buildings.</li> <li>Permit access to a local residential street only if it is for emergency or secondary access and would not encourage through traffic along the local street.</li> </ul>			
<b>Pedestrian and Bicycle Facilities</b> <ul style="list-style-type: none"> <li>Provide pedestrian access from the public sidewalk or other off-site pedestrian pathway to the entrance of establishments in the commercial center that does not require crossing a traffic lane or parking lot aisle or driveway.</li> <li>Provide direct pedestrian connection from the interior walkways in the commercial center to a bus stop, if a bus stop is nearby.</li> <li>Provide bicycle racks for security. Locate bicycle racks to be visible and readily accessible from the street entry.</li> </ul>	LUO, Project Review	DPP, PRIV	Implementer
<b>Visual Screening, Lighting, and Signage</b> <ul style="list-style-type: none"> <li>Visually screen parking and service areas from streets and residential areas.</li> <li>Include a landscaped screen of trees and hedges along the street frontages and property lines.</li> </ul>	LUO, Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>Use only fully-shielded lighting which does not exceed the minimum standards necessary to meet safety and security requirements in parking lots.</li> <li>Ensure compatibility between the type, size, design, placement, and color of signage and the context of adjacent facilities and uses.</li> </ul>			
<b>Sec 3.6.2.3 Commercial and Industrial Uses - Regional Town Centers (Kailua and Kāne'ohe)</b>			
<b>Mix of Uses</b> <ul style="list-style-type: none"> <li>Locate public uses serving a regional purpose – such as Satellite City Halls, regional libraries, police substations, post offices, and civic centers – within or adjacent to Regional Town Centers and not in outlying areas. Public facilities that have smaller service areas or that are an integral part of a regional network, such as elementary schools, fire stations, pump stations, and utility substations, may be located in outlying areas.</li> </ul>	CIP	DDC, DAGS DPP	Implementer Advocate

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<ul style="list-style-type: none"> <li>Locate service industrial uses within enclosed buildings.</li> </ul>	LUO, Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>Locate, design, and operate uses that generate undue noise levels in a way that will keep noise to an acceptable level in adjacent areas.</li> </ul>	LUO, Project Review	DPP	Implementer
<b>Architectural Character and Building Massing</b> <ul style="list-style-type: none"> <li>Allow variation in architectural character, depending on the context, the theme, and the community's approved urban design guidelines for the particular center. For portions of commercial center buildings that are adjacent to, or readily visible from, residential areas, encourage architectural character that reflects and are compatible with the residential character; or screen from view from such areas by landscaping.</li> <li>Avoid blank facades on portions of buildings visible from public areas by using texture, articulation, color, and fenestration to create visual interest.</li> <li>Limit building heights to 40 feet, as is currently established, with height setback transitions from street frontages, the shoreline, and adjacent residential areas.</li> <li>Limit the total floor area belonging to a single business to 90,000 square feet.</li> </ul>	LUO, Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>Locate street facades of buildings at or near the street property line and incorporate display windows. Orient the primary entries to commercial establishments toward the sidewalk.</li> <li>Locate parking for individual commercial structures behind or to the side of the building. Secondary entries to business establishments may be provided from parking areas.</li> <li>Encourage the development of cooperative parking agreements among neighboring businesses and landowners.</li> </ul>			
<b>Pedestrian, Bicycle, and Transit Facilities</b> <ul style="list-style-type: none"> <li>Provide street frontage improvements for bus stops, including a bus shelter and a dedicated loading lane, along all abutting streets that have bus routes.</li> </ul>	CIP	DTS/DDC	Implementer

**Table 5.1: Implementation Matrix**

<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<ul style="list-style-type: none"> <li>Provide a pedestrian pathway from the bus stop to an entrance to the main building of the commercial center. The pathway should be clearly indicated with special paving or markings and covered to provide weather protection, where feasible, if the commercial center building is not directly connected to the bus shelter.</li> <li>Provide bicycle racks for security. Locate bicycle racks to be visible and readily accessible from the street entry to the commercial center.</li> </ul>	LUO, Project Review	DPP	Implementer
<b>Visual Screening, Lighting and Signage</b> <ul style="list-style-type: none"> <li>Buffer noise and other adverse impacts related to parking, loading and service areas from adjacent residential areas with proper siting and by landscaped berms or solid walls fronted by landscaping.</li> <li>Plant a landscape screen, consisting of trees and hedges, along streets fronting parking lots or garages.</li> <li>Visually screen storage areas for vehicles, equipment, and supplies from the street and adjacent lots by privacy walls and buildings, fronted by landscaping to soften the appearance of large solid walls.</li> <li>Signage may be directly illuminated, but discourage use of direct illumination of building features. Use only fully-shielded lighting should be shielded to avoid direct visibility from residential areas.</li> </ul>	LUO, Project Review	DPP	Implementer
<b>Sec 3.6.2.4 Light and Extractive Industry</b>			
<b>Visual Screening, Lighting and Signage</b> <ul style="list-style-type: none"> <li>Buffer noise and other adverse impacts from quarrying operations from adjacent urban uses, wildlife preserves and public roads by a combination of landscaped berms and setbacks.</li> <li>For light industrial uses, buffer noise and other adverse impacts from parking, loading and service areas from adjacent urban uses, wildlife preserves and public roads by a combination of solid walls or berms and landscaped setbacks.</li> <li>Plant a landscape screen, consisting of trees and hedges, along roads fronting parking lots or garages.</li> </ul>	LUO, SWM, Project Review	DPP	Implementer



<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<ul style="list-style-type: none"> <li>Visually screen storage areas for vehicles, equipment, and supplies from adjacent roads, wildlife preserves and urban uses by privacy walls and by building orientation. Soften the appearance of screening walls by landscaping in front.</li> <li>Use fully-shielded lighting that balances the needs for public safety, security, energy conservation, and wildlife protection.</li> </ul>			
<b>Drainage and Waste Material</b> <ul style="list-style-type: none"> <li>Manage stormwater runoff through application of Best Management Practices (BMPs) or containment or filtering onsite. To minimize the creation of impervious surfaces, alternatives to hardscape are encouraged. Avoid discharge into adjacent wildlife preserves, water resources, sanitary sewage systems, or other urban use areas.</li> <li>Prevent leachates from underground storage tanks or fill material from migrating offsite, applying particularly stringent measures to sites near wildlife preserves.</li> <li>Prevent litter and other waste material from encroaching into adjacent sites through the use of proper operational means, as well as landscaping.</li> </ul>	SWM, PHS	DPP, DOH	Implementer
<b>Sec 3.7.2 Institutional Uses</b>			
<b>Architectural Character and Building Massing</b> <ul style="list-style-type: none"> <li>Reflect in the site plan a campus-like environment with a relatively low building coverage ratio and low profile, emphasize open space and landscaping.</li> <li>Vary the architectural character, depending on theme and purpose of the use. Design portions of buildings that are adjacent to or readily visible from residential areas to reflect that residential character or be screened from view from such areas by landscaping.</li> <li>Limit building heights to two to three stories or 40 feet, including the roof form. Provide height setback transitions from street frontages, the shoreline, and adjacent residential areas.</li> </ul>	LUO, Project Review	DPP	Implementer

**Table 5.1: Implementation Matrix**

<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<b>Pedestrian, Bicycle, and Transit Facilities</b> <ul style="list-style-type: none"> <li>• Provide street frontage improvements for bus stops, including a bus shelter and a dedicated loading lane, along all abutting streets that have bus routes.</li> <li>• Provide a pedestrian pathway from the bus stop to an entrance to the main building of the institution. Clearly indicate the pathway with special paving or markings.</li> <li>• Design and place bicycle racks to provide security and be visible from the main street or parking entry to the institution.</li> </ul>	CIP  Project Review  LUO, Project Review	DTS/DDC  DPP  DPP	Implementer  Implementer  Implementer
<b>Visual Screening, Lighting and Signage</b> <ul style="list-style-type: none"> <li>• Buffer the noise and other adverse impacts from parking, loading, and service areas from adjacent residential areas by a combination of walls or berms and landscaped setbacks.</li> <li>• Plant a landscape screen, consisting of trees and hedges, along streets fronting parking lots or garages. Plant shade trees throughout parking lots.</li> <li>• Visually screen storage areas for vehicles, equipment, and supplies from the street and adjacent lots by privacy walls and buildings, fronted by landscaping used to soften the appearance of large solid walls.</li> </ul>	LUO, Project Review	DPP	Implementer
<ul style="list-style-type: none"> <li>• Signage is non-illuminated or indirectly illuminated. Outdoor lighting is fully-shielded to avoid light trespass over residential areas.</li> </ul>			
<b>Sec 3.8.2 Military Areas</b>			
<b>Architectural Character and Building Massing</b> <ul style="list-style-type: none"> <li>• When buildings and structures are visible from an adjacent non-military use, reflect the scale and design character of the adjacent non-military use or screen from view from such areas by landscaping.</li> <li>• Limit building heights to two to three stories or 40 feet, including the roof form, except to meet specific mission-critical design requirements. Height setback transitions are provided from streets, the shoreline, and adjacent residential areas.</li> </ul>	Base Master Plan	MIL DPP	Implementer Advocate

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<b>Pedestrian, Bicycle, and Transit Facilities</b> <ul style="list-style-type: none"> <li>• Provide street frontage improvements for bus stops, including a bus shelter and a dedicated loading lane along all abutting streets that have bus routes.</li> <li>• Provide a clearly indicated pedestrian pathway, such as special paving or marking, from the bus stop to the base's main entrance.</li> <li>• Design and place bicycle racks to provide security and be visible from the main street or parking entry.</li> </ul>	Base Master Plan	MIL	Implementer
<b>Visual Screening, Lighting and Signage</b> <ul style="list-style-type: none"> <li>• Buffer the noise and other adverse impacts from parking, loading, and service areas from adjacent residential areas by a combination of solid walls or berms and landscaped setbacks.</li> <li>• For parking lot lighting, fully-shielded fixtures and low intensity lamps.</li> <li>• Plant a landscape screen, consisting of trees and hedges, along streets fronting parking lots or garages. Plant shade trees throughout parking lots.</li> <li>• Visually screen storage areas for vehicles, equipment, and supplies from the street and adjacent lots by privacy walls and buildings, fronted by landscaping used to soften the appearance of large solid walls.</li> </ul>	Base Master Plan	MIL	Implementer
<ul style="list-style-type: none"> <li>• Use non-illuminated or indirectly illuminated signage. Fully shield lighting to avoid light trespass into residential and public areas.</li> </ul>			
<b>Sec 4.1.6 Transportation Systems</b>			
<b>Commuter Travel</b> <ul style="list-style-type: none"> <li>• Encourage the Department of Transportation's Highways Division to construct new bridges that do not flood at Waiāhole and Waikāne stream crossings at Kamehameha Highway.</li> <li>• Provide improved services and facilities for express buses, such as more frequent, larger-capacity and more comfortable vehicles.</li> <li>• Provide park-and-ride and bus transfer facilities as a joint or modified use of an existing parking area or adjacent to uses that are related to commuter trips, such as child-care centers and convenience stores.</li> </ul>	INF, CIP, OPS  INF, CIP, OPS  INF, CIP, OPS	DOT  DTS  DTS	Implementer  Implementer  Implementer

**Table 5.1: Implementation Matrix**

<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
<ul style="list-style-type: none"> <li>Establish transit centers to function as collector or distribution hubs which provide an interface between “circulator” shuttle and trunk bus routes.</li> </ul>	INF, CIP, OPS	DTS	Implementer
<ul style="list-style-type: none"> <li>Promote ridesharing and vanpooling.</li> </ul>	OPS	DOT	Implementer
<ul style="list-style-type: none"> <li>Increase person-carrying capacity on trans-Koolau highways and Kalanianaʻole Highway for commuter travel without expanding rights-of-way or exacerbating delays in access to the highway from collector streets during peak periods.</li> </ul>	INF, CIP, OPS	DOT	Implementer
<b>Local Trips</b> <ul style="list-style-type: none"> <li>Identify and take measures to reserve the option for potential future right-of-ways acquisitions at locations where minor connections between existing local street would improve mobility and reduce congestion on collector streets.</li> </ul>	INF, CIP	DTS, DOT DPP	Implementer Advocate
<ul style="list-style-type: none"> <li>Implement roadway modifications recommended in the Kahaluu Community Master Plan and the Kāneohe Town Plan.</li> </ul>	INF, CIP	DTS, DDC	Implementer
<ul style="list-style-type: none"> <li>Modify rights-of-way by changes to travelway widths, curb radii, pavement width, pavement texture, installation of appropriate signage, and more generous landscape planting in selected areas; especially along designated bike lanes and routes, principal pedestrian routes and street crossings, and near bus stops. Expand the bikeway network by implementing the proposals in the State of Hawaiʻi Bikeway Master Plan and the City and County of Honolulu Oahu Bike Master Plan.</li> </ul>	SR&R OPS	DPP DTS, DDC	Implementer Implementer
<ul style="list-style-type: none"> <li>Design streets to accommodate personal mobility vehicles for travel within and between town cores and residential areas.</li> </ul>	CIP	DOT, DTS, DDC	Implementer
<b>Sec 4.2.4 Water Systems</b>			
Where new reservoirs and other above-ground infrastructure is necessary, avoid impacts to significant scenic resources; where such impacts are unavoidable, implement appropriate mitigation measures.	CIP	BWS	Implementer
Require installation of low-flush toilets, flow constrictors, and other water conserving devices in commercial and residential developments.	BLDG	DPP BWS	Implementer Advocate

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
Investigate the feasibility of bulk-heading Waiāhole Ditch to restore water in the natural dikes.	INF	BWS	Implementer
Utilize climate-appropriate, indigenous plant material and drip irrigation systems in newly installed, smaller-scale landscaped areas.	LUO, Project Review CIP	DPP, BWS DDC/DPR, PRIV	Implementer Implementer
Use recycled (R-1 or R-2) water for the irrigation of golf courses, as well as for landscaping, and agricultural areas where this would not adversely affect potable groundwater supply or other aspects relating to public health.	CIP, OPS Project Review	PRIV, ENV BWS, DPP	Implementer Implementer
Investigate the feasibility of small-scale rain catchment systems in agricultural areas to use for irrigation, groundwater recharge and filtering of stormwater runoff sediments.	INF	BWS, U.S.D.A. Soil Conserva- tion Service	Implementer
Confirm that adequate potable and non-potable water is available prior to approval of new residential and commercial development.	Project Review	BWS	Implementer
<b>Sec 4.3.4 Wastewater Management</b>			
Complete improvements to the Kailua WWTP service area facilities	INF, CIP OPS	DDC ENV	Implementer Implementer
Complete planned improvements to the Waimānalo WWTP service area facilities.	INF, CIP OPS	DDC ENV	Implementer Implementer
Replace outdated individual cesspools with septic tanks and individual wastewater systems in areas outside of planned municipal wastewater service areas, employing public programs or policies to support private conversion efforts.	PHS	DOH, ENV, PRIV	Implementer
Provide adequate horizontal separations and landscape elements (e.g. berms and windrows) between wastewater facilities and adjacent residential designated areas.	INF, CIP OPS	DDC ENV	Implementer Implementer
<b>Sec 4.4.2 Electrical and Communications Systems</b>			
<p>Initiate a region-wide program to place utility lines underground and relocate and/or streamline existing overhead utility and communications lines, focusing on the following priority areas:</p> <ul style="list-style-type: none"> <li>• Streets within Regional Town Centers, especially where overhead utility lines conflict with existing or planned street tree canopies;</li> <li>• Locations where overhead utility lines are prominently visible within a scenic viewshed identified in Exhibit 3.2.</li> </ul>	INF, CIP	UTIL DDC, DOT, DPP	Implementer Advocate

**Table 5.1: Implementation Matrix**

<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
Locations where major construction projects within rights-of-way present the opportunity to coordinate the undergrounding of facilities through shared trenching and to minimize construction-related disruptions.			
Where full undergrounding of utility lines is cost-prohibitive or impractical due to disruption of existing uses and utility connections, utility poles may be visually streamlined by undergrounding lower-hanging communications lines and related equipment, if this would result in substantial visual improvement at a much lower cost.	INF, CIP	UTIL DDC, DOT, DPP	Implementer Advocate
Promote the use of renewable energy sources and energy conservation measures through both regulatory and tax incentive measures.	OPS, TAX,  BLDG, LUO	UTIL, PUC, TAX, DBEDT DPP	Implementer  Implementer
Co-locate communications and power equipment and devices with similar facilities in order to minimize the number of supporting structures and dispersal of sites.	Project Review	DLNR, DPP	Implementer
<b>Sec 4.5.2 Solid Waste Handling and Disposal</b>			
Promote the recycling of waste materials by providing expanded collection facilities and services, and public outreach and education programs	OPS	ENV	Implementer
Expand the use of automated refuse collection in residential areas.	OPS	ENV	Implementer
Develop programs for reducing the production of solid waste.	OPS	ENV	Implementer
Provide a convenience refuse transfer station, including a green-waste drop-off site, to serve Kahaluu at a location close to Kamehameha Highway between ‘Āhuimanu and Waikāne.	INF, CIP, OPS	ENV	Implementer
Analyze and approve siting and/or expansion of sanitary landfills based on island-wide studies and siting evaluations.	INF	ENV	Implementer
<b>Sec 4.6.2 Drainage Systems</b>			
Emphasize retaining or detaining stormwater for gradual release into the ground as the preferred strategy for management of stormwater.	SWM, Project Review	DPP, DFM	Implementer
Prevent the blocking of downstream channels during major storm events by properly maintaining large-capacity boulder and debris basins in upper valleys above urbanized areas.	OPS	DFM	Implementer

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
Integrate planned improvements to the drainage system into the regional open space network by emphasizing the use of retention basins, creation of passive recreational areas, and recreational access for pedestrians and bicycles without jeopardizing public safety.	CIP, INF	DDC,DTS, DFM DPR	Implementer Advocate
In places where the hardening of stream channels is unavoidable or highly desirable to prevent significant loss of property or threat to public health and safety, design improvements in a manner which protects natural resource and aesthetic values of the stream, consistent with the guidelines expressed in Section 3.1.3.4.	CIP	DDC ENV	Implementer Advocate
Emphasize periodic maintenance of stream channels and stormwater detention basins, including natural wetlands, to improve and retain their capacity for flood conditions while taking care to maintain their biological and aesthetic values.	OPS	DFM ENV	Implementer Advocate
Designate a public agency to assume jurisdiction over abandoned irrigation ditches and reservoirs for the purpose of maintaining them as important elements of the flood control system.	OPS	DLNR	Implementer
<b>Sec 4.7.2 School and Library Facilities</b>			
Encourage coordination between the Department of Parks and Recreation and the DOE regarding the development and use of athletic facilities such as playgrounds, play fields and courts, swimming pools, and gymnasiums where the joint use of such facilities would maximize use and reduce duplication of function without compromising the schools' athletic programs.	OPS	DOE, DPR	Implementer
Support the DOE's requests for fair share contributions from developers to ensure that adequate school facilities are in place.	OPS	DPP, LUC	Implementer
Apply the guidelines for institutions in Section 3.7.2 when a new public or private school campus or a significant increase in enrollment capacity at one of the existing campuses is proposed.	Project Review CIP	DPP DAGS, DOE, PRIV	Implementer Implementer
<b>Sec 4.8.2 Civic and Public Safety Facilities and Community Resilience</b>			
Locate permanent Satellite City Halls in the Regional Town Centers of Kāneohe and Kailua to reinforce these areas as a regional focal point or gathering spot for activities and services.	CIP, OPS	DDC, DCS	Implementer

<b>Table 5.1: Implementation Matrix</b>			
<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
Design new public buildings such as schools and recreation centers to serve a secondary function as an emergency shelter.	OPS, CIP	DAGS, DOE, DDC DEM	Implementer  Advocate
Design new City buildings which are used for public assembly and able to serve as emergency shelters such that they can withstand a category 3 hurricane.	OPS, CIP	DDC DEM	Implementer Advocate
Survey and retrofit, as appropriate, existing public buildings to serve a secondary function as hurricane-resistant emergency shelters.	OPS, CIP	DAGS, DOE, DDC DEM	Implementer  Advocate
Provide incentives for private organizations to create hurricane-resistant shelter areas in their facilities and for homes to include hurricane-resistant safe rooms.	LUO,TAX CIP	DPP, TAX DEM	Implementer Advocate



## **Honolulu - Land Use**

## APPENDIX A: CONCEPTUAL MAPS

This appendix includes three conceptual maps used to illustrate the vision for Koolau Poko’s future development. The maps include:

Map A-1: Open Space  
Map A-2: Land Use  
Map A-3: Public Facilities

These maps illustrate the long-range vision of the future of the plan area and the major land use, open space, and public facility policies that are articulated in the plan. In examining these maps the reader should keep in mind that:

1. These maps are general and conceptual, and are not intended to be used to determine specific land use boundaries. Such boundaries are to be determined during the review of specific land use or public facilities investment decisions, and their exact locations are to be guided by the vision and policies of this Plan.
2. These maps illustrate the Plan’s visions and policies which are presented in Chapters Two, Three, and Four. These policy statements are considered the most important elements of the Plan.

The maps are considered illustrations of policies. However, the text should be consulted to determine the appropriate application of the Plan vision, policies, and guidelines for any specific project or location. In case of disagreement, the text should prevail over the map depiction.

A brief explanation of the terms used in each of these maps follows.

### A.1 COMMUNITY GROWTH BOUNDARY

The Community Growth Boundary (CGB) is intended to define and contain the extent of developed or “built” areas of Koolau Poko’s urban fringe and rural communities. Its purpose is to provide an adequate supply of land to support the region’s established suburban and rural communities while protecting lands outside the boundary for agricultural and open space preservation values. Areas within the CGB are generally characterized by significant tracts of residential, commercial, industrial or mixed-use development, and smaller, more dispersed, less intensively developed residential communities and towns areas that are clearly distinguishable from the unbuilt or more “natural” portions of the region. Each generation should re-evaluate the relevance of the boundary in light of their own time.

From north to south, the Koolau Poko CGB generally circumscribes the residential district of Waikāne, the residential, business, and industrial districts of Waiahole and Waihee; and the residential, low-density apartment and business districts of Kahalu‘u and ‘Āhuimanu. The CGB should also include approximately 24 acres of land in ‘Āhuimanu (TMK Nos. 4-7-032:001 through 4-7-032:005; 4-7-032:007 through 4-7-032:009; 4-7-032:025; 4-7-032:036; and 4-7-032:51) to allow for rezoning from the agricultural district to the residential district, for the development of individual homes for the existing long-time residents.

In Kāneohe, the CGB begins at the southern end of Heeia Fishpond and follows the residential district towards Kahekili Highway, and encompasses almost all of the country district lots of the Haikū Plantation. Thereafter, the CGB follows the residential district towards and encompasses the Haikū Village, Windward Community College and the Hawai‘i State Hospital, including the Keapuka residential district and an agricultural district located

between the H-3 Highway and the Keapuka residential district. Thereafter, the CGB heads north to the Likelike Highway and Kahekili Highway intersection before heading south and then east along the residential district of Keapuka towards and encompassing most of Hawaiian Memorial Park, the proposed expansion of the Hawaiian Memorial Park, the proposed Kawaewae Heiau cultural preserve, and the Hawaii State Veterans Cemetery before heading northeast to Kokokahi. The extension of the CGB in this area is solely limited to 28.2 acres for the expansion of the active cemetery area, and 14.5 acres for the proposed Kawaewae Heiau cultural preserve, and should not be construed to be suitable for any other urban-type development on the old 156-acre Pikoiloa Tract. The CGB contains the residential districts of Waikalua, Kokokahi, Mahinui before terminating at the intersection of H-3 Highway and Kāneohe Bay Drive. In this area, the CGB includes the Kapaa industrial district and further north, portions of the military installation at Mōkapu Peninsula are also included in the CGB.

At north Kailua, from the coast, the CGB follows the residential district adjacent to the Nuupia Fishpond, heading south along Kawainui Marsh to Kailua Town Center, then along the base of the ridge line above Enchanted Lakes Subdivision and thereafter, along Kalanianaʻole Highway. Kaelepulu Pond and its drainage outlet to the Kailua Beach are excluded from the CGB. From Kalanianaʻole Highway, the CGB winds northward along the Kailua Heights, Keolu Hills, and Kaiwa Ridge residential districts. Thereafter, the CGB follows the Lanikai residential district until its terminus at Wailea Point. South of Kawainui Marsh, the CGB encompasses the residential districts of Pohakupu and Maunawili. On the east, the CGB generally encompasses the residential and business districts of Waimānalo Town, including recent expansions to Hawaiian homesteads. Further east, the CGB includes the Waimānalo Beach residential districts on either side of Kalanianaʻole Highway including recent Hawaiian Homestead lot additions located in the agricultural district.

## **A.2 AGRICULTURAL AREA**

Agricultural areas are lands with agricultural value by virtue of current agricultural use or high value for future agricultural use, including those areas identified as Prime, Unique, or Other Important lands on the Agricultural Lands Important to the State of Hawaii (ALISH) maps. These are lands suitable for crop growing, grazing and livestock raising, flower cultivation, nurseries, orchards, aquaculture, or similar activities.

Under the State Constitution, the State is to identify Important Agricultural Lands (IAL). Once identified, these lands cannot be rezoned except under a “super majority” vote. To date, IAL lands have not been identified. In 2005, Act 183 was adopted to address this mandate. It established a two-step process:

- The State Legislature would adopt incentives to assure the long term use and protection of IAL.
- The State Legislature would approve adequate funding to allow the counties to prepare maps identifying IAL lands which would then be adopted by the State Land Use Commission.

Act 233, enacted in 2008, adopted the incentive programs. To date, no state funding has been appropriated to the City and County of Honolulu for the mapping; however, the Department of Planning and Permitting has begun the mapping process. Lands identified for agricultural purposes by this Plan are serving as a basis for the county mapping process.

In Koolau Poko, the Agricultural Areas include the following:

- Areas in the agricultural districts, except areas in the inventory of Hawaiian Memorial Park and the Hawaiʻi State Veterans Memorial Cemetery, developed golf courses, and public nature preserves or nature parks;

- Areas in the country district, except those parcels immediately adjoining a residential district lying within the Community Growth Boundary; and
- The campus of Le Jardin Academy.

### A.3 PRESERVATION AREA

The Preservation Area is established to protect undeveloped lands which form an important part of the region's open space fabric, but that are not valued primarily for agricultural uses. Such lands include important wildlife habitat, archaeological or historic sites, significant landforms or landscapes over which significant views are available, and development-related hazard areas.

The Preservation Area generally includes undeveloped lands that:

- Are necessary for protection of watersheds, water resources, and water supplies;
- Are necessary for the conservation, preservation, and enhancement of sites with scenic, historic, archaeological or ecological significance;
- Are necessary for providing and preserving park lands, wilderness and beach reserves, and for conserving natural ecosystems of endemic plants, fish, and wildlife, for forestry, and other activities related to these uses;
- Are located at an elevation below the maximum inland line of the zone of wave action, and marine waters, fishponds, and tidepools unless otherwise designated;
- Comprise offshore and outlying islands unless otherwise classified;
- Are generally characterized by topography, soils, climate or other related environmental factors that may not be normally adaptable or presently needed for urban community or agriculture use;
- Have general slopes of 20 percent or more that provide for open space amenities and/or scenic values;
- Are susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention, and lands necessary to the protection of the health, safety and welfare of the public by reason of soil instability or the land's susceptibility to landslides and/or inundation by tsunami and flooding;
- Are used for state or city parks outside the Community Growth Boundary; or
- Are suitable for growing commercial timber, grazing, hunting, and recreation uses, including facilities accessory to such uses when such facilities are compatible with the natural and physical environment.

The Preservation Area is intended to include the following:

- Areas within the State Conservation District and other areas within the preservation district, but not located within the Community Growth Boundary or Agricultural Areas as described above;
- Public nature preserves and nature parks;
- Golf courses and cemeteries not located within the Community Growth Boundary and/or Agricultural Areas as described above;
- Military lands, except those at MCB Hawai'i developed with uses associated with the residential, apartment, commercial, industrial and mixed-use districts;
- Correctional and detention facilities mauka of Kalaniana'ole Highway; and
- The campuses of the Oceanic Institute and Sea Life Park.

The Preservation Area excludes such features, sites or areas located within the Community Growth Boundary or Agricultural Areas.

#### A.4 MAP A-1: OPEN SPACE

The Open Space Map illustrates the region's major open space patterns and resources as outlined in Chapter 3. It highlights major open space elements and resources, including agricultural and preservation lands, major recreational parks and golf courses, important views, and important boundaries.

This map also indicates the general locations of community and neighborhood parks, public access points along the shoreline, and major trails providing mountain access.

#### A.5 MAP A-2: LAND USE

The Land Use Map shows the desired long-range land use pattern for Koolau Poko, i.e., the land use pattern that will be realized through implementation of the Koolau Poko Sustainable Communities Plan. The map contains the following plan elements within the Community Growth Boundary:

**RESIDENTIAL.** The category consists of single-family homes in areas currently configured with relatively large lots, e.g., lots of one acre or more and referred to as "rural communities". Also within the "rural communities" the category consists of single-family homes in "country" settings, in areas with current lot sizes ranging from just less than one acre to about one-eighth acre (future subdivisions, if any, of "rural communities" areas are anticipated to have lots no smaller than about one-quarter acre). Within the "suburban communities", the "Residential" category consists of single-family homes or townhouses with individual entries.

**LOW-DENSITY APARTMENT.** These uses generally refers to low-density, low-rise multi-family residences, including townhouses, stacked flats and apartment buildings. Dwelling units in these buildings may share common exterior entries.

**RURAL COMMERCIAL CENTER.** These centers are labeled "RC" and generally represent clusters of commercial establishments intended to service the surrounding rural community. Uses typically include grocery and sundry stores and other services and shops catering to common household convenience items, as well as establishments providing goods and services in support of agricultural activities.

**SUBURBAN COMMERCIAL CENTER.** These centers are labeled "SC" and generally represent clusters of commercial establishments intended for neighborhood service. Uses typically include grocery and sundry stores and other services and shops catering to common household- or neighborhood-level convenience items.

**COMMUNITY COMMERCIAL CENTER.** These centers are labeled "CC" and generally represent clusters of commercial establishments with a retail shopping center as a nucleus and encompassing up to 50 acres. In addition to the uses found in Neighborhood Commercial Centers, Community Commercial Centers may include offices, service industrial establishments, entertainment facilities and social centers.

**REGIONAL TOWN CENTER.** The Regional Town Centers for Koolau Poko are comprised of the main town areas of Kailua and Kaneohe. These centers are labeled with the designation "TC." The Regional Town Centers may contain a wide variety of uses, including commercial establishments, civic services, mixed use commercial-residential areas, and mixed use industrial-commercial areas.

**INDUSTRIAL.** Industrial areas lying outside the Regional Town Centers are found at Kapaa and the MCB Hawai'i.

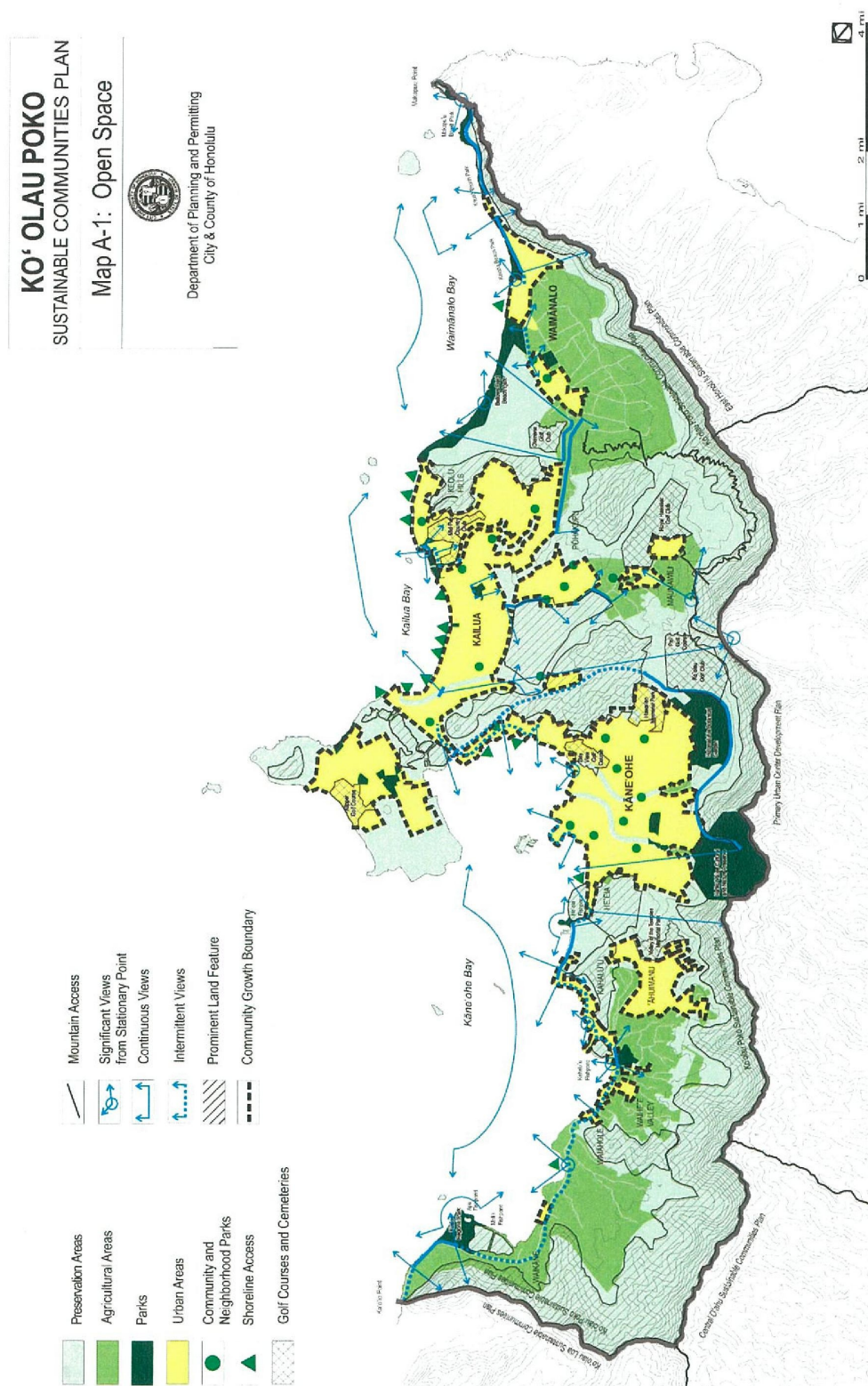
**INSTITUTIONAL.** Major institutional uses include: the Oceanic Institute near Makapuu; the Job Corps campus in Waimānalo; the correctional and detention facilities and corporation yards adjacent to Mount Olomana and the Pohakupu neighborhood; Castle Medical Center; the windward campus of Hawaii Pacific University; and the combined campus areas of Windward Community College and the Hawaii State Hospital.

**MILITARY.** The general areas of MCB Hawaii and Bellows that are used primarily for activities related to national defense are shown on the Land Use Map. At MCB Hawaii, these areas are distinguished from other support areas used for housing, preservation, recreation, and commercial and industrial activities although it is recognized that those support areas will remain integral to the base.

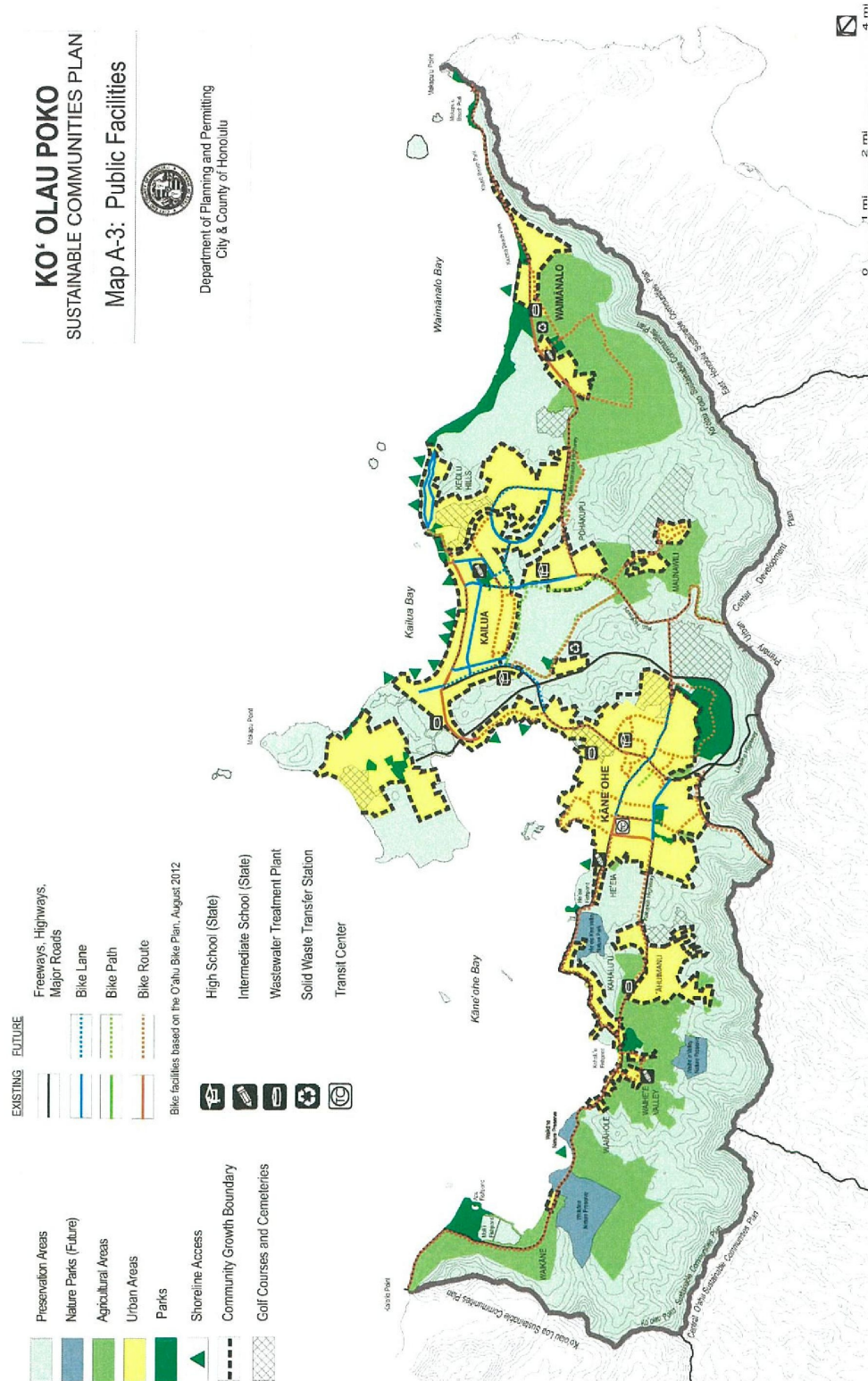
**PUBLIC FACILITIES.** The existing highways and major roads, the Kailua and Waimanalo wastewater treatment plants, and public intermediate and high schools are depicted with appropriate symbols, and are shown primarily to provide points of orientation.

#### **A.6 MAP A-3: PUBLIC FACILITIES**

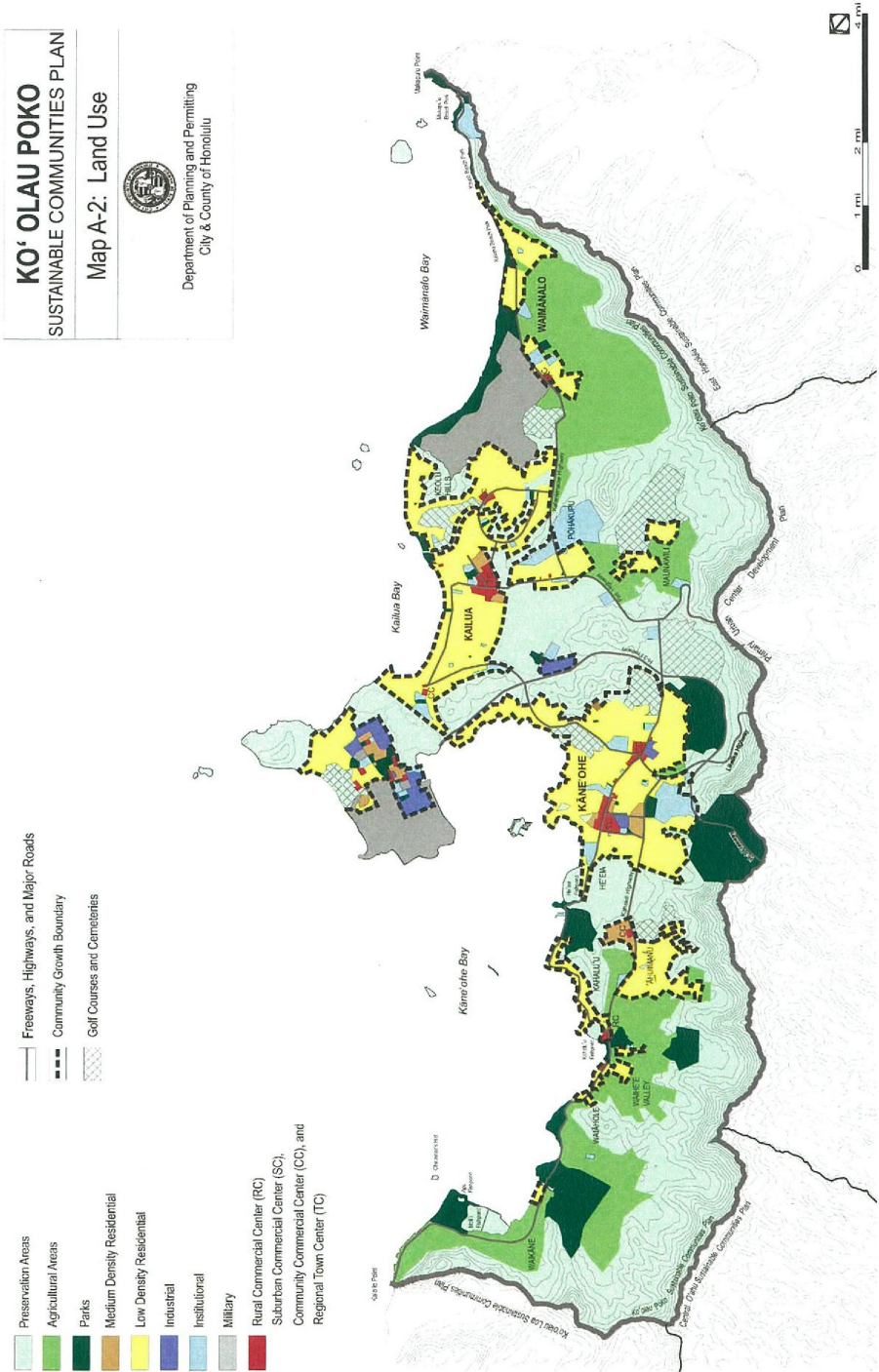
The Public Facilities Map illustrates major existing and future public facilities and major privately-owned facilities including golf courses. Its purpose is to display the public resources or assets available within the region. It also depicts general locations of future transit centers and future bike facilities.











## ARTICLE 7: KOOLAU LOA

### Sections

24-7.1	Definitions
24-7.2	Applicability and intent
24-7.3	Adoption of the Koolau Loa sustainable communities plan
24-7.4	Existing zoning and subdivision ordinances
24-7.5	Consistency
24-7.6	Implementation
24-7.7	Zoning change applications
24-7.8	Review of development and other applications
24-7.9	Annual capital improvement program review
24-7.10	Five-year review
24-7.11	Biennial report
24-7.12	Authority
24-7.13	Severability
24-7.14	Conflicting provisions

### § 24-7.1 Definitions.

For the purposes of this article, the following definitions apply unless the context clearly indicates or requires a different meaning.

***Charter or Revised Charter.*** The Revised Charter of the City and County of Honolulu 1973, as amended.

***City.*** The City and County of Honolulu.

***Council.*** The city council of the City and County of Honolulu.

***County.*** The City and County of Honolulu.

***Department or Department of Planning and Permitting.*** The department of planning and permitting of the City and County of Honolulu.

***Development.*** Any public improvement project, or any public or private project requiring a zoning map amendment.

***Development Plan or Sustainable Communities Plan.*** A plan document for a given geographic area which consists of conceptual schemes for implementing and accomplishing the development objectives and policies of the general plan for the several parts of the City and County of Honolulu.

***Director.*** The director of planning and permitting.

***Environmental Assessment*** and ***EA***. A written evaluation prepared in compliance with the environmental quality commission's procedural rules implementing HRS Chapter 343 to determine whether an action may have a significant environmental effect.

***Environmental Impact Statement*** and ***EIS***. An informational document prepared in compliance with the environmental quality commission's procedural rules implementing HRS Chapter 343; and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic and social welfare of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

***Finding of No Significant Impact*** and ***FONSI***. A determination based on an environmental assessment that the subject action will not have a significant effect and, therefore, will not require the preparation of an environmental impact statement.

***Functional Plan***. The public facility and infrastructure plans prepared by public agencies to further implement the vision, policies, principles, and guidelines set forth in the Koolau Loa sustainable communities plan.

***General Plan***. The general plan of the City and County of Honolulu as defined by Charter § 6-1508.

***Hawaii Revised Statutes*** or ***HRS***. Hawaii Revised Statutes, as amended.

***Planning Commission***. The planning commission of the City and County of Honolulu.

***Project Master Plan***. A conceptual plan that covers all phases of a development project. The project master plan shall be that portion of an EA or EIS which illustrates and describes how the project conforms to the vision for Koolau Loa, and the relevant policies, principles, and guidelines for the site, the surrounding lands, and the region.

***Revised Ordinances of Honolulu*** or ***ROH***. Revised Ordinances of Honolulu, as amended.

***Significant Zone Change***. A zone change which involves at least one of the following:

- (1) Any change in zoning of 10 or more acres of land to any zoning district or combination of zoning districts, excluding preservation or agricultural zoning districts;
- (2) Any change in zoning of more than five acres to an apartment, resort, commercial, industrial or mixed use zoning district; or
- (3) Any development which would have a major social, environmental, or policy impact, or major cumulative impact due to a series of applications in the same area.

***Unilateral Agreement***. A conditional zoning agreement made pursuant to the city's land use ordinance as part of the process of enactment of an ordinance for a zone change and that imposes conditions on a landowner's or developer's use of the property.

(1990 Code, Ch. 24, Art. 7, § 24-7.1) (Added by Ord. 99-72)

**§ 24-7.2 Applicability and intent.**

- (a) The Koolau Loa sustainable communities plan area encompasses the entire area from the mountains to the northeastern shoreline of Oahu stretching from Waialeale on the northwest end, along the ridgeline of the Koolau Mountain Range in a southeasterly direction to Kaoio Point at its southeast end.
  - (b) It is the intent of the Koolau Loa sustainable communities plan to provide a guide for orderly and coordinated public and private sector development in a manner that is consistent with applicable general plan provisions, including the designation of Koolau Loa as a rural area where growth will be managed so that “an undesirable spreading of development is prevented.”
  - (c) This article and the Koolau Loa sustainable communities plan are not regulatory. Rather, they are established with the explicit intent of providing a coherent vision to guide resource protection and land use within Koolau Loa. This article shall guide for Koolau Loa any development, public investment in infrastructure, zoning and other regulatory procedures, and the preparation of the city’s annual capital improvement program budget.
- (1990 Code, Ch. 24, Art. 7, § 24-7.2) (Added by Ord. 99-72)

**§ 24-7.3 Adoption of the Koolauloa sustainable communities plan.**

- (a) This article is adopted pursuant to Charter § 6-1509 and provides a self-contained sustainable communities plan document for Koolau Loa. Upon enactment of this article, all proposed developments will be evaluated against how well they fulfill the vision for Koolau Loa enunciated in the Koolau Loa sustainable communities plan and how closely they meet the policies, principles, and guidelines selected to implement that vision.
  - (b) The plan entitled “Koolau Loa sustainable communities plan,” attached as an exhibit to this ordinance, is adopted by reference and made part of this article.
  - (c) Chapter 24, Article 1, entitled “Development Plan Common Provisions,” in its entirety is no longer applicable to the Koolau Loa plan area. This article, and the Koolau Loa sustainable communities plan, as adopted by reference by this ordinance, shall supersede any and all common provisions previously applicable to the Koolau Loa area.
  - (d) Ordinance 83-9 entitled, “Article 7, Koolauloa: Part I Development Plan Special Provisions for Koolauloa,” and “Part II Development Plan Maps (Land Use and Public Facilities Maps) for Koolauloa,” as amended, is repealed in its entirety.
- (1990 Code, Ch. 24, Art. 7, § 24-7.3) (Added by Ord. 99-72)

**§ 24-7.4 Existing zoning and subdivision ordinances.**

- (a) All existing subdivisions and zoning ordinances approved before February 14, 2000\* for projects, including but not limited to those subject to unilateral agreements, shall continue to remain in effect following February 14, 2000.\*
- (b) Subdivision and zoning ordinances applicable to the Koolau Loa sustainable communities plan area enacted before February 14, 2000\* shall continue to regulate the use of land within demarcated zones of the Koolau

Loa sustainable communities plan area until such time as the subdivision and zoning ordinances may be amended to be consistent with the Koolau Loa sustainable communities plan.

- (c) Notwithstanding adoption of the Koolau Loa sustainable communities plan, any application for subdivision actions and land use permits accepted by the department for processing before February 14, 2000\* shall continue to be subject only to applicable zoning and subdivision ordinances and rules in effect when the application is accepted for processing.

(1990 Code, Ch. 24, Art. 7, § 24-7.4) (Added by Ord. 99-72)

***Editor's note:***

*\* "February 14, 2000" is substituted for "the effective date of this ordinance."*

**§ 24-7.5 Consistency.**

- (a) The performance of prescribed powers, duties, and functions by all city agencies within the area subject to this article shall conform to and implement the policies and provisions of this article. Pursuant to Charter § 6-1511.3, public improvement projects and subdivision and zoning ordinances shall be consistent with the Koolau Loa sustainable communities plan.
- (b) Any questions of interpretation regarding the consistency of a proposed development with the Koolau Loa sustainable communities plan and the objectives and policies of the general plan shall ultimately be resolved by the council.
- (c) In determining whether a proposed development is consistent with the Koolau Loa sustainable communities plan, the responsible agency shall primarily take into consideration the extent to which the development is consistent with the vision, policies, principles, and guidelines set forth in the Koolau Loa sustainable communities plan.
- (d) Whenever there is a question regarding consistency between existing subdivision or zoning ordinances, including any unilateral agreements, and the Koolau Loa sustainable communities plan, the existing subdivision or zoning ordinances shall prevail until such time as they may be amended to be consistent with the Koolau Loa sustainable communities plan.

(1990 Code, Ch. 24, Art. 7, § 24-7.5) (Added by Ord. 99-72)

**§ 24-7.6 Implementation.**

Implementation of this article relating to the Koolau Loa sustainable communities plan will be accomplished by the following:

- (1) Initiating zoning map and development code amendments to achieve consistency with the policies, principles, and guidelines of the Koolau Loa sustainable communities plan;
- (2) Guiding public investment in infrastructure through functional plans which support the vision of the Koolau Loa sustainable communities plan;

- (3) Recommending approval, approval with modifications, or denial of developments for which zoning and other development approvals are sought based on how well they support the vision of Koolau Loa sustainable communities plan;
- (4) Incorporating the Koolau Loa sustainable communities plan priorities through the public infrastructure map and the city's annual budget process;
- (5) Evaluating progress in achieving the vision of the Koolau Loa sustainable communities plan periodically and presenting the results of the evaluation in the biennial report to the council which is required by Charter § 6-1510.4; and
- (6) Reviewing the vision of the Koolau Loa sustainable communities plan every five years and revising, as necessary, on the basis of that review, the policies, guidelines, and capital improvement program investments therein.

(1990 Code, Ch. 24, Art. 7, § 24-7.6) (Added by Ord. 99-72)

#### **§ 24-7.7 Zoning change applications.**

- (a) All zone change applications relating to land in the Koolau Loa sustainable communities plan area will be reviewed by the department for consistency with the general plan, the Koolauloa sustainable communities plan, and any applicable special area plan.
  - (1) The director will recommend either approval, approval with changes or conditions, or denial. The director's written review of the application shall become part of the zone change report which will be sent to the planning commission and the council.
  - (2) A project master plan shall be a part of an EA or EIS for any project involving 10 acres or more of land. The director shall review the project master plan for its consistency with the Koolau Loa sustainable communities plan.
  - (3) Any development or phase of a development already covered by a project master plan which has been fully reviewed under this article shall not require a new project master plan; provided that the director determines that the proposed zone change is generally consistent with the existing project master plan for the affected area.
  - (4) If a final EIS has already been accepted for a development, including one accepted before February 14, 2000,\* then a subsequent project master plan shall not be required for the development.
- (b) For projects which involve a significant zone change, an EA shall be submitted to the department of planning and permitting. However, any development or phase of a development which has already been assessed under the National Environmental Policy Act, HRS Chapter 343, ROH Chapter 25, or this article, and for which a FONSI has been filed or a required EIS has been accepted, shall not be subject to further EA or EIS requirements under this chapter.
- (c) For projects requiring an environmental assessment, the EA will be reviewed by the department. Based on review of the environmental assessment, the director will determine whether an environmental impact statement will be required or whether a FONSI may be issued.

(d) Zone changes shall be processed in accordance with this section, Section 5.5 of the Koolau Loa sustainable communities plan, and Chapter 21.

(1990 Code, Ch. 24, Art. 7, § 24-7.7) (Added by Ord. 99-72)

***Editor's note:***

*\* "February 14, 2000" is substituted for "the effective date of this ordinance."*

**§ 24-7.8 Review of development and other applications.**

The review of applications for zone changes and other development approvals will be guided by the vision of the Koolau Loa sustainable communities plan. Decisions on all proposed developments shall be based on the extent to which the project enabled by the development approval supports the policies, principles, and guidelines of the Koolau Loa sustainable communities plan.

The director may review other applications for improvements to land to help the responsible agency determine whether a proposed improvement supports the policies, principles, and guidelines of the Koolau Loa sustainable communities plan.

(1990 Code, Ch. 24, Art. 7, § 24-7.8) (Added by Ord. 99-72)

**§ 24-7.9 Annual capital improvement program review.**

Annually, the director shall work jointly with the director of budget and fiscal services and the applicable city agencies to review all projects in the city's capital improvement program and budget for compliance and consistency with the general plan, the Koolau Loa sustainable communities plan and other development and sustainable communities plans, any applicable special area plans, and appropriate functional plans. The director will prepare a written report of findings.

(1990 Code, Ch. 24, Art. 7, § 24-7.9) (Added by Ord. 99-72)

**§ 24-7.10 Five-year review.**

(a) The department shall conduct a comprehensive review of the Koolau Loa sustainable communities plan every five years after February 14, 2000\* and shall report its findings and recommended revisions to the city council.

(b) The Koolau Loa sustainable communities plan will be evaluated to assess the appropriateness of the plan's regional vision, policies, design principles and guidelines, and implementing actions, as well as its consistency with the general plan.

(c) Nothing in this section shall be construed as prohibiting the processing of a revision to the Koolau Loa sustainable communities plan in accordance with the Charter.

(1990 Code, Ch. 24, Art. 7, § 24-7.10) (Added by Ord. 99-72)

***Editor's note:***

*\* "February 14, 2000" is substituted for "the effective date of this ordinance."*

**§ 24-7.11 Biennial report.**

In addition to meeting the requirements of Charter § 6-1510.4, the department of planning and permitting's biennial report shall also address the county's achievements and progress in fulfilling the vision of the Koolau Loa sustainable communities plan.

(1990 Code, Ch. 24, Art. 7, § 24-7.11) (Added by Ord. 99-72)

**§ 24-7.12 Authority.**

Nothing in this article shall be construed as an abridgement or delegation of the responsibility of the director, or of the inherent legislative power of the council, to review or revise the Koolau Loa sustainable communities plan pursuant to the Charter and the above procedures.

(1990 Code, Ch. 24, Art. 7, § 24-7.12) (Added by Ord. 99-72)

**§ 24-7.13 Severability.**

If this article or the application thereof to any person or property or circumstances is held invalid, such invalidity shall not affect other provisions or applications of this article which can be given effect without the invalid provision or application, and to this end the provisions of this article are declared to be severable.

(1990 Code, Ch. 24, Art. 7, § 24-7.13) (Added by Ord. 99-72)

**§ 24-7.14 Conflicting provisions.**

This article shall, with respect to the Koolau Loa sustainable communities plan area, prevail should there be any conflict with the common provisions or any other provisions under Chapter 24.

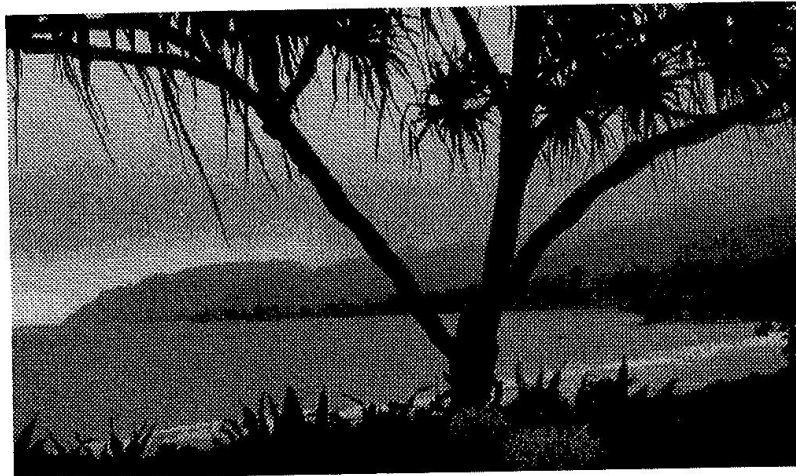
(1990 Code, Ch. 24, Art. 7, § 24-7.14) (Added by Ord. 99-72)



## **Honolulu - Land Use**

**KO'OLAU LOA**  
***SUSTAINABLE COMMUNITIES PLAN***

**CITY AND COUNTY OF HONOLULU**  
**DEPARTMENT OF PLANNING AND PERMITTING**



**OCTOBER 1999**

**EFFECTIVE DATE: FEBRUARY 14, 2000**  
**OFFICE OF THE CITY CLERK**

## **Honolulu - Land Use**

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## PREFACE

The Koolauloa *Sustainable* Communities Plan has been prepared in accordance with the Charter-prescribed requirements for development plans and is to be accorded force and effect as such for all Charter- and ordinance-prescribed purposes. It is one of eight community-oriented plans intended to help guide public policy, investment, and decision-making through the 2020 planning horizon. Each of these plans addresses one of eight geographic planning regions on Oahu, responding to specific conditions and community values of each region.

Of the eight documents, the plans for Ewa and the Primary Urban Center, to which growth and supporting facilities will be directed over the next 20 years, have been entitled “Development Plans.” They will be the policy guide to development decisions and actions needed to support that growth. Plans for the remaining six areas, which are envisioned as relatively stable regions for which public actions will focus on supporting existing populations, have been entitled “*Sustainable* Communities Plans” in order to appropriately indicate their intent.

Koolauloa is a *Sustainable* Communities Plan. Its vision statement and supporting provisions are oriented toward maintaining and enhancing the region’s ability to sustain its unique character, current population, growing families, lifestyle, and economic livelihood that all contribute to its vitality and future potential.

## P.1 THE *SUSTAINABLE* COMMUNITIES PLAN PROCESS

This document is the culmination of a planning effort led by the City and County of Honolulu’s planning department and its successor agency, the department of planning and permitting. This effort comprised a process that encouraged and enabled significant involvement from the region’s neighborhood boards, community associations, groups of business leaders, religious and cultural organizations, private landowners, institutions and numerous individuals. In its final form, the plan will have incorporated input received from seven meetings of a 26-member Community Advisory Committee (CAC) and two community-wide meetings held from November 1997 to December 1998.

## P.2 THE HONOLULU LAND USE PLANNING AND MANAGEMENT SYSTEM

The City and County of Honolulu guides and directs land use and growth through a three-tier system of objectives, policies, planning principles, guidelines and regulations. The General Plan forms the first tier of this system. First adopted by resolution in 1977, the General Plan is a relatively brief document, consisting primarily of one-sentence statements of objectives and policies. It has been amended several times, but the basic objectives and policies set forth in the 1977 plan remain intact.

The second tier of the system is formed by the Development Plans and *Sustainable* Communities Plans, which are adopted and revised by ordinance. These plans address eight geographic regions of the island, including the Primary Urban Center, East Honolulu, Central Oahu, Ewa, Waianae, North Shore, Koolauloa and Koolaupoko. Under the current revision program, the Primary Urban Center and Ewa retain the title “Development Plan.” The other regions are now referred to as “*Sustainable* Communities Plans” to reflect their policy intent.

The third tier of the system is composed of the implementing ordinances, including the Land Use Ordinance (Honolulu’s zoning code) and the City’s Capital Improvement Program. Mandated by the City Charter, these ordinances constitute the principle means for implementing the City’s plans. These ordinances are required to be consistent with the General Plan, the Development Plans, and each other.



In addition to these three Charter-mandated tiers, the Development Plans are supplemented by two planning mechanisms that are not required by the Charter, including the functional planning process and special area planning. Functional planning activities, some of which are mandated by state or federal regulations, provide long-range guidance for the development of public facilities such as the water system, wastewater disposal, and transportation. Special area plans are intended to give specific guidance for neighborhoods, communities, or specialized resources.

### **P.3 AUTHORITY OF THE DEVELOPMENT AND *SUSTAINABLE* COMMUNITIES PLANS**

The authority of the Development and *Sustainable* Communities Plans is derived from the City Charter, which mandates preparation of a General Plan and Development Plans to guide “the development and improvement of the city.” Together with the General Plan, the Development Plans provide a policy context for the land use and budgetary actions of the City. This is the authority the originally adopted Development Plans carried, and it remains unchanged in the revised Plan presented in this document.

The Charter provides that “public improvement projects and subdivision and zoning ordinances shall be consistent with the development plan for that area.” Although the Development Plans are not themselves regulatory, they “regulate the regulators.” They are policy tools and are to be used, in conjunction with the programs and budgets of the City, to accomplish the objectives of the City and as guides for the decisions made in the private sector.

### **P.4 WHY THE DEVELOPMENT PLANS HAVE BEEN REVISED**

In 1992 the City Charter Commission recommended, and the voters of Honolulu adopted, amendments to the City Charter. Chief among its findings, the Charter Commission concluded that the Development Plans were overly detailed and had created processes that duplicated the zoning process. To eliminate this unnecessary duplication, the 1992 Charter amendments changed the definition of Development Plans from “relatively detailed plans” to “conceptual schemes.”

The 1992 Charter amendments established that the purpose of the Development Plans is to provide:

- “priorities . . . (for the) coordination of major development activities;” and
- sufficient description of the “desired urban character and the significant natural, scenic and...cultural resources . . . to serve as a policy guide for more detailed zoning maps and regulations and public and private sector investment decisions.”

In response to the 1992 Charter amendments, the planning department launched a thorough review of the Development Plans. The goal of that review was the revision of all eight of the Development Plans to bring them into conformance with the Charter-mandated conceptual orientation. The revised plan presented in this document conforms to that mandate.

### **P.5 BASIS FOR THE KOOLAULOA *SUSTAINABLE* COMMUNITIES PLANS**

This section traces the origins of the major themes that are the core of this *Sustainable* Communities Plan, and which were developed through direct input by Koolauloa residents.

### P.5.1 VALUES, ISSUES AND PRELIMINARY VISION

In an initial meeting in November 1997 focused on the values, issues and vision for Koolauloa, a series of questions were discussed with the CAC, including:

- 1) Values:     *What do you like about Koolauloa and your community?*  
                   *What makes Koolauloa special?*  
                   *What do you think of when you picture your community?*
- 2) Issues:     *What don't you like about your community and your region?*  
                   *What changes are happening that you like, which don't you like?*
- 3) Vision:     *What do you want in the community for the future of your children's children?*  
                   *What should we keep and what should we change?*

This interactive process helped the City to document the core values of the Koolauloa people, the most important issues, and people's hopes and dreams for the region's future. A brief summary of CAC/resident comments is provided below.

**a. Values.** Koolauloa is an uncrowded rural area. Each community has a small-scale commercial and economic base and agricultural enterprises which exist in harmony with its towns and villages. The natural beauty and dramatic scenery is a lasting impression for residents and visitors, with "more green than concrete." From its mountain watersheds and streams to its coastal wetlands, nearshore waters, beaches, reefs, and offshore islands, the region is endowed with natural and scenic resources.

This country community is made up of a series of coastal villages and inland areas distinguished from each other by the mountain ridges which extend from the main Koolauloa spine to the area's coastal plain. Area residents value community involvement in the planning process to beautify, preserve, redevelop and revitalize the region. Koolauloa people care about youth and education. They believe they are part of a "healthy community." Koolauloa is a close knit, small community, characterized by an island feeling of the *aloha* spirit and *'ohana*, which values the revitalizing of its culture through *lōkahi* (unity), *hoopono* (to correct), *laulima* (cooperation), *mālama* (care for), and *aloha 'āina* (love of the land). Its ocean, beach parks and inland/*mauka* open space areas are valued recreational resources.

**b. Issues.** Residents want to maintain and enhance the country communities with an *ahupuaa* collection of villages. Efforts should be made to beautify, preserve, redevelop and revitalize the area, with community involvement to have an impact on the planning process. People want to protect the natural beauty and rich resources of the mountains, watersheds, streams, wetlands, coastline, reefs, and offshore islands.

The community is looking for ways to create employment in the area, to provide options to the long commutes to jobs in town, and to encourage the creation of low-impact businesses that are compatible with the country setting, such as health industry, eco-tourism and diversified agriculture. It has suggested re-thinking of certain regulations for rural areas to respond to the country setting. Overcrowding in local housing should be relieved with quality affordable housing that fits the region's rural character.

Other issues include the need for improvements to enhance safety on Kamehameha Highway, more dependable sewer, water and drainage systems, improved beach park and inland park facilities, and protection of open space areas with scenic and recreational values. The State of Hawaii should be encouraged to help Koolauloa with more

funding for facilities and services. The communities should be free from crime, gangs, and drugs, with the help of community policing. The area should focus on becoming a “healthy community” with strong educational institutions. The Hawaiian culture should be revitalized in Koolauloa through *lōkahi*, *hoopono*, *laulima*, *mālama*, and *aloha ‘āina*.

**c. Preliminary Vision.** Koolauloa should remain as an uncrowded rural area with low population density, and limited growth in Kahuku, Lāie and Hauula. Each community will have its own small-scale commercial and economic base. Elements of the vision include the following:

- Agricultural interests should exist in harmony with built areas. This includes expanded diversified agricultural activities, agriculture-related commercial opportunities tied into the region’s communities, centralized facilities for processing to share costs, and farmer’s markets/aquaculture markets serving both local residents and attracting visitors. Products sold would include shrimp, prawns, fish, fruits, vegetables, cut flowers, ornamental plants, and crafts by local artisans.
- Resource areas will be managed in mountain watersheds, streams and wetlands, as well as the coastline resources, reefs, and offshore islands. Scenic views in Koolauloa will be preserved through land use policies and guidelines which protect the most sensitive areas of natural beauty and dramatic scenery.
- Activities on land will be properly planned to protect water quality in nearshore waters and streams. Future development in Koolauloa will integrate natural buffers, and implement erosion controls and best management practices to protect surface water quality.
- Quality affordable housing will be made available in the communities of Kahuku, Lāie and Hauula. Housing sites will be planned to fit the rural character. A model for rural area affordable housing will be created, possibly incorporating use of clustered, low-rise development, integrated open space, and single-family and multi-family types. Rural infrastructure standards will be instituted to enable dedication of roads without excessive built features for streets, drainage, etc.
- Oahu’s tourism industry will be promoted and encouraged by retaining and enhancing Koolauloa’s image and setting as an uncrowded rural area, as it provides visitors an experience of the “old Hawaii.” Tourism to Koolauloa will be encouraged, centered at the existing Kuilima Resort and Polynesian Cultural Center. Beach parks, *mauka* parks and ecologically compatible outdoor recreational opportunities are other visitor attractions that will be promoted and encouraged.
- Kamehameha Highway will be improved with safety measures such as wider shoulders, turning lanes, improved lighting, drainage and intersection configurations. Each community will have dependable sewer, water and drainage systems. Energy conservation will be expanded through commercial wind and solar power operations.
- Country communities will be maintained as intact units in an *ahupuaa* type of organization, defined by significant landscape features. Design character will be improved in village highway corridors with scenic design areas. Redevelop/expand village centers behind Kamehameha Highway in well-planned, clustered commercial centers, instead of stringing retail outlets along the highway frontage.
- Koolauloa will have safe communities, free from crime, gangs and drugs, with caring neighbors and community policing. Koolauloa will continue and expand its effort to function as a “healthy community” with strong educational institutions that capitalize on the unique resources and setting of the region. Promote the various commercial health industry uses possible, such as elder care/assisted living, health retreats, specialty clinics, etc. Improve public educational facilities in the Windward region to a level comparable with other districts on Oahu.
- Hawaiian culture will be revitalized in Koolauloa communities through *lokahi*, *hoopono*, *laulima*, *mālama*, and *aloha ‘āina*. Redeveloped areas and new developments will be planned with sensitivity to the culture and environment. Beach park facilities will be improved for residents of the region and visitors. Ecologically compatible outdoor recreational opportunities, such as hiking, biking, camping,

agricultural tours, eco-tours, etc., will be encouraged, provided the activities do not have adverse impacts to existing resources and uses.

## **P.5.2 SURVEY OF COMMUNITY DEVELOPMENT PATTERNS**

In March 1998, a Briefing Package was issued to the CAC to provide a background and setting for the Koolauloa *Sustainable Communities* area. A second CAC/public meeting held in April focused on a slide presentation which elicited specific comments regarding the values and vision for the region. The presentation addressed the regional land use types and the specific identity of each community in Koolauloa. Photographic slide images were shown to depict the existing character found within seven major land use categories. Examples from within and outside Koolauloa were used for images of Open Space/Scenic Areas, Agricultural Areas, Commercial Centers, Residential Neighborhoods, Resort Areas, Community Facilities, and Recreational Areas.

The community development patterns survey considered the future vision and identity for the six settlement communities found in Koolauloa. Representative images of each community were presented in slides showing the communities of Kahuku, Lāie, Hauula, Punaluu, Kahana and Kaaawa. Participants provided oral and written comments regarding the images presented. The responses form the basis for the City's documentation of a community development pattern in Koolauloa. The following is a summary of these responses:

**Open Space Preservation** - Preserve the rural character of Koolauloa. The regional setting of uncluttered scenic vistas is vital to the character of Koolauloa. The recommendations and policies of the Coastal View Study should be adopted.

**Parks and Other Recreational Facilities** - There is a need for parks with playfields, especially for soccer. Other new facilities could include a skateboard park, an indoor facility (gym), pool, ball fields, and biking/walking trails near the ocean. Build facilities to serve the local population, not as an attraction for islandwide park users, and improve existing facilities.

**Economic Development: Agriculture** - Promote diversified agriculture and aquaculture. Preserve and maximize the use of existing agricultural lands. Develop niche markets for Hawaiian crops (taro, ti leaves), and exotic and tropical fruits. Link to resort/visitor industry. Market items in small roadside stands or larger farmer's markets. Combine other uses with agriculture such as agricultural tours, and open produce markets.

**Economic Development: Commercial** - Renovate and maximize the use of existing commercial centers. Establish areas in each community for cooperative markets: corn, watermelon, aquaculture in Kahuku, taro and greens in Lāie, and arts and crafts in Punaluu. Commercial centers should have a rural, village-style character. Strip development should be avoided, and commercial centers should be clustered, except for a few country stores and roadside stands.

**Economic Development: Resort/Visitor Industry** - Encourage creative resort/visitor industry attractions and accommodations such as retreats, cultural attractions, luaus, weddings, eco-tours, and water-based and outdoor recreational activities. Existing resort/visitor destinations generally should be contained, or allow for controlled expansion or enhancement based on market demand and infrastructure capacity. Acknowledge Turtle Bay Resort and the Polynesian Cultural Center as major attractions that may be sufficient to accommodate long-term visitor industry needs.

**Economic Development: Health Industry** - Maintaining Kahuku Hospital and its emergency care is viewed as critical before any new facilities can be considered. Other facilities or services requested by community members

include a dialysis center, drug treatment and mental health programs, preventative care health and wellness programs, and the expansion of existing clinics into outlying areas. Traditional culturally based healing practices could be integrated, where it is economically viable/feasible and with proper licensing.

**Economic Development: Light Industrial** - Appropriate types of light industrial uses should be sited in Lāie and Kahuku. Light industrial uses could be combined or mixed with compatible commercial uses.

**Economic Development: Education/Research/Technology** - BYU-Hawaii could serve as a catalyst for new facilities or enterprises in education, cultural studies, technology, language, business, computer software development, and Hawaiian horticulture. BYU-H could be a training center. A technology park could be developed adjacent to the campus. Emphasize agriculture and aquaculture training/education in local schools. Support the 20-year long-range plan for Kahuku High School.

**Housing Communities** - The existing older housing stock needs to be rehabilitated and brought up to code and, in some cases, provided with adequate water, sewer, drainage and electricity. New housing is needed for area residents first. It should not be built for people from other parts of the island, but for Koolauloa residents. Housing should be “affordable” and well-designed. Multi-family housing is needed and could be clustered with surrounding open areas for landscaping and play. There is a need for affordable rental housing and apartments, some of which are needed for senior citizens.

Areas identified for new housing were Lāie, Kahuku and Hauula. There should be a balance between containing the communities’ growth and maintaining the open countryside. Housing should be sensitively sited so as to protect *mauka* and *makai* views. There was a split response regarding drawing a “hard line” at the base of the slopes to limit any *mauka* housing development. Responses included: it should be looked at on an individual basis, the “no-pass line” should serve as the boundary, restrict housing to where it can be built, most of the available lands are *mauka*, and it varies by community.

**Other General Comments** - Rehabilitate, improve, and fully utilize the existing assets of Koolauloa (parks, housing, commercial areas, agricultural land, resort areas, etc.). The area needs rural development standards and village-style design. People would like to be employed within Koolauloa and not drive into town. Need to bring/create employment opportunities within the district. Create more affordable housing, multi-family housing, and rentals. Maintenance of the area’s existing infrastructure is important. We need a delineation between town and country.

### P.5.3 INTRODUCTION OF MAJOR THEMES

The third CAC/public meeting was held in June 1998 to discuss the proposed conceptual basis for the Koolauloa *Sustainable Communities Plan*. The concept for Koolauloa emerged from the community’s input and participation at the November 1997 and April 1998 meetings, as well as from various planning studies and agency meetings that have been undertaken. These concepts are expressed below in the overall “Vision” for Koolauloa, the “Major Themes” which organize the living environment in accordance with the vision, and finally the “Implementation Tools” which are mechanisms to achieve the vision. Together, they are intended to provide the foundation for the *Sustainable Communities Plan*’s more detailed policies and guidelines, which will direct the future land use and development decisions in Koolauloa.

**VISION:** *Maintain the Rural Character of the Koolau Loa Region*

**THEMES:**

- *Rural Communities:* Maintain the existing rural development pattern in Koolauloa through in-fill of vacant lands in Kaaawa, Punaluu and Hauula, with moderate targeted growth in Lāie and Kahuku.
- *Agricultural Areas:* Reserve agricultural lands for diversified agriculture.
- *Preservation and Park Areas:* Provide for access to mountain and shoreline resources for recreational and cultural purposes. Preserve scenic views of ridges, valley slopes, prominent land features and coastal views.

**IMPLEMENTATION TOOLS:**

Koolauloa consists of natural resource elements and man-made expressions. The tools we use to protect its rural character include: *ahupuaa* divisions, rural community boundaries, village centers, and rural development standards.

**Ahupuaa Divisions:** As recommended by the CAC, we must recognize and enhance traditional *ahupuaa* divisions and distinctions between the various communities in Koolauloa. Natural breaks between existing communities (open areas and shoreline views) must be retained or expanded to preserve a separation between the natural and built environment within each *ahupuaa*.

The *ahupuaa* concept is a way of defining the region's distinctive communities by establishing organizational boundaries along mountain ridgelines which extend from the Koolau spine to the coast, as shown in Figure 2-1. This defines the prototypical rural Hawaii community, surrounded by agricultural areas, with preservation along *mauka* slopes and oceanfronts. This pattern extends along the entire coastline, with significant natural open space breaks between built areas, enabling the unique identities of individual communities to be expressed.

**Rural Community Boundary:** To maintain an identifiable rural community edge and to prevent sprawl and encroachment into agricultural lands and open space, a rural community boundary is proposed. This preserves the relationship between the natural landscape of the mountain range and ocean to the man-made landscape of agricultural fields and small rural communities so as to maintain the rural character of the region. This implementation tool recognizes that lateral development along this coast has been the trend, and now seeks to contain and manage growth *mauka/makai*.

The rural community boundary is shown as a generalized line around the settlement area (as shown in the *ahupuaa* concept image). In the *Sustainable Communities Plan* this is not a fixed line but rather an expression of the policy intent dividing agriculture and residential uses. Without this line, lateral expansion along the coast will continue, open space breaks are lost, and Koolauloa's communities will lose their unique identity. The *Sustainable Communities Plan* intends to reinforce this policy by recognizing the *ahupuaa* division and creating a rural community boundary.

**Village Centers (Kauhale):** Establish village center design guidelines to help ensure that new development will be in keeping with the low-rise, low density rural character of the region. (Kauhale is the Hawaiian reference for a village center.) Another image (Figure 3-3) was prepared to present a typical reinforcement of what might exist at centers in Koolauloa. The Kahuku center was used for this example, providing an expression of how the village center could be revitalized. The center needs more critical mass and signage to increase visibility. There would be community-based retail activities to reinforce the existing center. The theme of Kahuku is the

plantation heritage, and the commercial center is developed in relation to the theme. This would not be a western style front like Haleiwa town – it's more a plantation quality/camp. The center could consider converting small old houses into shops in a cluster, through which people could wander through, enjoy, shop, eat, and learn about the culture. Consistent with the community's desire to re-energize the commercial centers, we build around what exists and express the specific community theme in design.

**Rural Development Standards:** Establish rural standards for new housing developments in order to preserve the country lifestyle. Encourage rural housing clusters or neighborhoods which are defined by open space and blend into the surrounding landscape with as little disruption as possible to the scenic quality of the area.

Promote a new ordinance for rural development standards that is appropriate to the country with reduced pavement widths, curbs, gutters, and sidewalks. This keeps subdivision costs lower and makes the neighborhood more livable.

The image (Figure 3-2) is a rural neighborhood with ample landscaping, narrow pavement, and no curbs, gutters, and sidewalks. The individual lot appears bigger - or it feels bigger. The street side is an informal mix of public and private domain. It's like some of the old Kailua neighborhoods, or the mill camps. It gives a greater sense of community, instead of feeling like a standard urban subdivision.

#### **P.5.4 CONCEPTUAL *SUSTAINABLE* COMMUNITIES PLAN LAND USE MAP**

The Conceptual *Sustainable* Communities Plan Land Use Map in Appendix A was also presented and discussed at the June 1998 meeting. Major themes were presented for each *ahupuaa*, with arrows identifying the primary visual orientation along each section. A proposed Rural Community Boundary was shown as a heavy dashed line around each community, with some pockets of agriculture or park/preservation within this boundary. Major themes identified for each *ahupuaa* are summarized as follows:

**Kawela.** Major themes are resort *makai* of Kamehameha Highway and diversified agriculture *mauka* of it. There would be no change to the Kuilima Resort development area. The only new change would be the military lands *mauka*. Between Kawela/Kahuku, the major themes are wetlands and aquaculture *makai* and diversified agriculture *mauka*, with a continuation of the existing pattern here. This forms a natural/open space break between the resort and Kahuku town.

**Kahuku.** The major themes are plantation heritage, health and wellness, and agriculture/aquaculture. There is potential for expanded health-related support facilities adjacent to Kahuku Hospital. Expansion of the Kahuku High School campus is included. Limited expansion of the residential area is allowed, primarily to accept affordable housing that is conditioned in the Unilateral Agreement for the Kuilima Resort zone change approval.

**Mālaekahana.** Major themes of ranching and aquaculture would continue *mauka* of Kamehameha Highway. On the *makai* side, any increase in density or redevelopment should be avoided. Mālaekahana should remain as an open space break between Kahuku and Lāie to avoid lateral growth.

**Lāie.** Major themes for Lāie are sustainable community, education and cultural tourism. Aside from Kuilima Resort, this is the employment center of Koolauloa, and a community-based master plan has been developed. The Lāie plan includes light industry, commercial, technology enterprise/BYU-H, and residential uses. The rural community boundary includes: a portion of light industry *mauka* of the Cackle Fresh Store site, a new tech park, and expansion of the commercial area, Polynesian Cultural Center, and *mauka* residential area.

The natural break of open space/agriculture which separates Lāie and Hauula should be maintained to retain the identity of each community. If the current pattern continues, the communities of two district characters will eventually meet. The break between Kahuku and Lāie should also be retained. This is a good example of the application of the *ahupuaa* concept and rural community boundary. Limited development that will occur will be *mauka* - not lateral, and it will not diminish the rural character of the region. Yet these changes will accommodate the need for modest growth for jobs and housing at Lāie.

**Hauula, Punaluu, Kahana and Kaaawa.** These are stable communities, with no significant projected growth. Some new homes could be built as a result of infill on lands with existing zoning and *Sustainable Communities Plan* designation. There are major themes of managed growth at Hauula, diversified agriculture/healing center at Punaluu, environmental/cultural heritage at Kahana, diversified agriculture and eco-tourism at Kaaawa. No new expansion areas are proposed for these communities. In addition, scenic *mauka* and *makai* views should be preserved and enhanced.

## CONCLUSION

As a result of comments from the CAC/public meetings and community-at-large, the *Sustainable Communities Plan* for Koolauloa has been formulated around the core value of retaining and enhancing the rural quality of the region. The fundamental concept for facilitating this is the use of an *ahupuaa* concept for organizing and distinguishing individual communities. With implementation of rural community boundaries, current and future needs of the region are accommodated without compromising rural quality. Other implementation tools, such as enhancement of village centers, and creation of rural subdivision standards, are used to further reinforce the rural character.

## EXECUTIVE SUMMARY

The Koolauloa *Sustainable Communities Plan* is incorporated into Ordinance 99-72 by reference, and is organized in five chapters and an appendix, as follows:

- Chapter 1: Koolauloa's Role in Oahu's Development Pattern defines the region's role and identity within the overall framework of island planning and land management.
- Chapter 2: The Vision for Koolauloa's Future summarizes the community's vision for the future of the region, and lists important elements of that vision.
- Chapter 3: Land Use Policies, Principles, and Guidelines is the plan's policy core. It provides policy guidance for the region's various land use elements.
- Chapter 4: Public Facilities and Infrastructure Policies and Principles outlines policies, principles, and actions needed to support the land use policies of Chapter 3.
- Chapter 5: Implementation addresses needs for carrying out provisions outlined by the plan.

The contents of each chapter are briefly summarized below.



**E.1 Chapter 1: Koolauloa's Role in Oahu's Development Pattern**

Consistent with the provisions of the General Plan, Koolauloa is projected to maintain its country character and to experience very little growth over the plan's 20-year planning horizon. The plan supports this and includes policies to limit the growth of the region's housing and commercial development, protect cultural and natural resources, and retain the patterns of development characteristic of the region.

**E.2 Chapter 2: The Vision for Koolau Loa's Future**

The vision for Koolauloa seeks to preserve the region's rural character and its natural, cultural, scenic, and agricultural resources. The region will remain country, characterized by small towns and villages with distinct identities that exist in harmony with the natural settings of mountain ridges and winding coastline. Key elements of the vision for Koolauloa include:

- Establish Rural Community, Agricultural and Preservation Boundaries.
- Preserve and enhance the natural, recreational and cultural resources which contribute to Koolauloa's sense of "Old Hawaii."
- Preserve agricultural lands and encourage diversification of agricultural-related enterprises to maintain its viability.
- Enhance the existing recreational areas and resources which offer a variety of outdoor recreational activities and cultural experiences.
- Establish rural area development standards to maintain the rural character of residential areas in Koolauloa.
- Enhance the character of the region's commercial areas and recognize the contribution of country stores to Koolauloa's rural fabric.

**E.3 Chapter 3: Land Use Policies, Principles and Guidelines**

This chapter presents general policies, planning principles and guidelines for land use and resource management in Koolauloa. General policies related to each land use type are summarized for each land use category.

**E.3.1 OPEN SPACE PRESERVATION**

- Maintain the region's rural character, protect scenic views, and provide recreational resources.
- Define clear boundaries and separations between existing communities.

**E.3.2 AGRICULTURAL AREAS**

- Preserve the availability and crop production potential of agricultural lands.
- Protect agricultural lands from conversion to uses that are primarily residential, industrial or commercial.
- Encourage diversification of agriculture-related enterprises.
- Allow residential use in agricultural areas only as secondary to agricultural activity.
- Allow facilities necessary to support intensive cultivation to be located in agricultural areas.
- Allow for appropriate nonagricultural uses that are of a compatible open space and resource character, such as outdoor recreation, on agricultural lands not currently suitable for intensive cultivation.
- Recognize the function of agricultural areas as an important part of the region's natural drainage system.

**E.3.3 PARKS AND RECREATION AREAS**

- Maintain and enhance existing parks by utilizing under-developed park land area and improving the condition of existing facilities.
- Employ appropriate siting and screening for park facilities.
- Ensure environmental compatibility in the design and construction of park facilities.
- Integrate recreational opportunities with the characteristics of the surrounding community.
- Integrate new community-based parks within the neighborhoods and communities they serve. Integrate the provision of new parks with development of larger new residential development.

**E.3.4 HISTORIC AND CULTURAL RESOURCES**

- Emphasize physical references to Koolauloa's history and cultural roots.
- Protect existing visual landmarks and support the creation of new, culturally appropriate landmarks at *ahupuaa* boundaries.
- Preserve and restore historic and cultural resources associated with native Hawaiian and pre-contact periods.
- Preserve significant historic features from earlier periods such as the plantation era.
- Retain, wherever possible, significant vistas associated with archaeological features.

**E.3.5 RESIDENTIAL USES**

- Respect and help to preserve the natural setting of the Koolauloa region by requiring development in residential areas to be sensitive to physical constraints and have minimal impact on the area's rural character.
- Provide a sufficient capacity within the Rural Community Boundary to accommodate existing and future housing needs.
- Maintain the existing residential capacities for the communities of Kaaawa, Hauula and Punaluu. Future residential needs in these communities will be met through infill residential development.
- Adopt zoning, subdivision and related project design regulations which foster a rural character in new residential developments and improvements to existing residential areas.
- Encourage and support the development of affordable housing in the region in order to meet the needs of a variety of market sectors, existing pent-up demand for housing, and overcrowded housing conditions.

**E.3.6 COMMERCIAL AREAS**

- Support the maintenance, redevelopment, or expansion of various types of commercial establishments in the region in keeping with their type and purpose, and appropriateness to the character and needs of the communities they serve.
- Maintain and enhance the rural character of the recognized commercial areas including: Kahuku Country Town, Lāie Rural Regional Commercial Center, Hauula Rural Community Commercial Center, and various country store sites within the region.

**E.3.7 INDUSTRIAL AND TECHNOLOGY PARK AREAS**

- Minimize the visibility of large building volumes and tall building or machinery elements from residential areas, commercial and civic districts, resort areas, and parks through careful site planning and use of ample landscaping.

- Locate and buffer operations that discharge air or water pollutants, or noise, in areas where they would impose the least potential harm on the natural and human environment.
- Establish and maintain a campus-like setting and low-intensity development at the Lāie Technology Park.

**E.3.8 VISITOR FACILITIES**

- Maintain existing plans to establish a major resort destination at Kuilima to provide a major source of jobs, improve shoreline access and use opportunities for residents, and create other amenities for use by residents and visitors.
- Renew and expand facilities as necessary to maintain the viability and vitality of the Polynesian Cultural Center (PCC).
- Adopt appropriate regulations for appropriate location, operation, and allowable uses of eco-tourism facilities.

**E.3.9 INSTITUTIONAL USES**

- Support the retention and long-term viability of Kahuku Hospital through land use policies, public facility improvements and community assistance programs.
- Encourage limited development of other health and wellness facilities in Koolauloa in order to enhance job opportunities and the availability of a “continuum of care” for local residents, in a manner which is compatible with adjacent uses and the region’s rural character.
- Brigham Young University-Hawaii should continue to evoke a sense of place that distinguishes it as an important educational and cultural institution and unique asset to the Koolauloa region.
- The University should maintain its strong community-orientation and continue to serve the Koolauloa region as a center of Hawaiian and other Polynesian cultures, as well as support community activities and services and provide adult educational opportunities.
- The design of new facilities should be environmentally sensitive and reflect the appropriate architecture and culture of the existing campus and adjacent residential areas.

**E.4 Chapter 4: Public Facilities and Infrastructure Policies and Principles**

This chapter presents the general policies and planning principles for the major issues relating to public facilities and infrastructure in Koolauloa. General policies related to each facility type are summarized in this chapter.

**E.4.1 TRANSPORTATION SYSTEMS**

- To retain Koolau Loa’s role as a predominantly rural area with limited future growth, its transportation system should provide:
  1. Adequate access between communities, shopping and recreation areas in Koolauloa.
  2. Highway improvements, developed in consultation with Koolauloa communities, which emphasize highway safety as the highest priority while providing efficient, pleasant travel experiences.
  3. Adequate capacity for peak travel to and from community centers.
- Reduce reliance on the private passenger vehicle by promoting travel demand management measures (e.g., carpool and vanpool programs) for both commuting and local trips.
- Provide an integrated system of bikeways as a means of transportation to and from work, school, shopping and recreation, including rides to playgrounds and beach parks.

**E.4.2 WATER ALLOCATION AND SYSTEM DEVELOPMENT**

- Integrate management of all potable and nonpotable water sources, including groundwater, stream water, stormwater and effluent, following State and City legislative mandates.
- Adopt and implement water conservation practices in the design of new developments and the modification of existing uses, including landscaped areas.

**E.4.3 WASTEWATER TREATMENT**

- Provide collection systems, where practical, to eliminate individual cesspools, to protect aquifers, streams, estuaries and nearshore waters from contamination.
- Replace outdated individual cesspools with septic tanks and leaching fields.
- Treat and beneficially use, where feasible, reclaimed water for irrigation as a water conservation measure.

**E.4.4 ELECTRICAL POWER DEVELOPMENT**

- Locate and design system elements such as renewable electrical power facilities, substations, communication sites, and transmission lines, including consideration of underground transmission lines, to mitigate any potential adverse impacts on scenic and natural resources, as well as public safety considerations.

**E.4.5 SOLID WASTE HANDLING AND DEVELOPMENT**

- While the region is not expected to contribute significantly to future increases in Oahu's solid waste management demands and does not contain sites suitable for the processing or disposal of solid waste on an islandwide scale, Koolauloa can and should play a part in the City's efforts toward recycling, waste diversion and more efficient solid waste collection.

**E.4.6 DRAINAGE SYSTEMS**

- Emphasize and implement comprehensive or systemic solutions to local flooding and drainage problems.
- Emphasize control and minimization of nonpoint source pollution and the retention of stormwater on-site and in wetlands in the design of drainage systems in accordance with existing City, State and Federal regulations while maintaining the existing habitat capability and water quality of streams and nearshore waters.
- View stormwater, where appropriate, as a potential irregular source of water for recharge of the aquifer that should be retained for absorption rather than quickly moved to coastal waters.
- When drainageways must be modified for flood control purposes, select approaches and solutions which:
  1. Improve existing habitat capability;
  2. Maintain existing rural and aesthetic qualities;
  3. Avoid degradation of existing coastline and estuarine areas or nearshore water quality;
  4. Avoid degradation of the quality of water entering nearshore waters;
  5. Avoid increase in the volume or rate of freshwater intrusion into nearshore waters.
- Encourage coordination between public agencies and private landowners on needed drainage improvements with community input.
- Keep drainageways clear of debris to avoid flooding problems.

- Create buffer zones and/or setbacks along rivers and streams. In keeping with the *ahupuaa* concept, and to support the anadromous fish life cycle, streams should be protected along their entire length from headwaters to the ocean.
- The State should assess areas of Kamehameha Highway where the pavement diverts or detains overland flow of stormwater runoff causing localized flooding of the highway and *mauka* properties.

#### **E.4.7 SCHOOL FACILITIES**

- Approve new residential development only after the DOE certifies that adequate school facilities, either at existing schools or at new school sites, will be available when the development is completed.
- Have developers pay their fair share of all costs needed to ensure provision of adequate school facilities for the children living in their developments.
- Support the implementation of the Kahuku High School Master Plan.

#### **E.4.8 CIVIC AND PUBLIC SAFETY FACILITIES**

- Support adequate staffing and facilities to ensure effective and efficient delivery of basic governmental service, emergency and primary medical services, and protection of public safety.
- Develop a regional library for Koolauloa.
- Provide emergency shelters in Koolauloa.

### **E.5 Chapter 5: Implementation**

This section discusses the measures necessary to ensure timely implementation of the plan, including those measures that will minimize disruption during the transition into the plan. Among the measures addressed by this chapter, changes to the zoning maps and the Land Use Ordinance will be necessary to achieve consistency with the *Sustainable Communities Plan*, as will various other regulatory codes and standards. This chapter also addresses monitoring of plan implementation and provides for biennial reporting as well as comprehensive review of the plan at five-year intervals.

### **E.6 Appendix**

The appendix provides three color maps that illustrate some of the plan's textual provisions. Because these maps are intended merely to be illustrative of the text, if there are any conflicts between the maps and the text, the text shall prevail.

## **1. KOOLAU LOA'S ROLE IN OAHU'S DEVELOPMENT PATTERN**

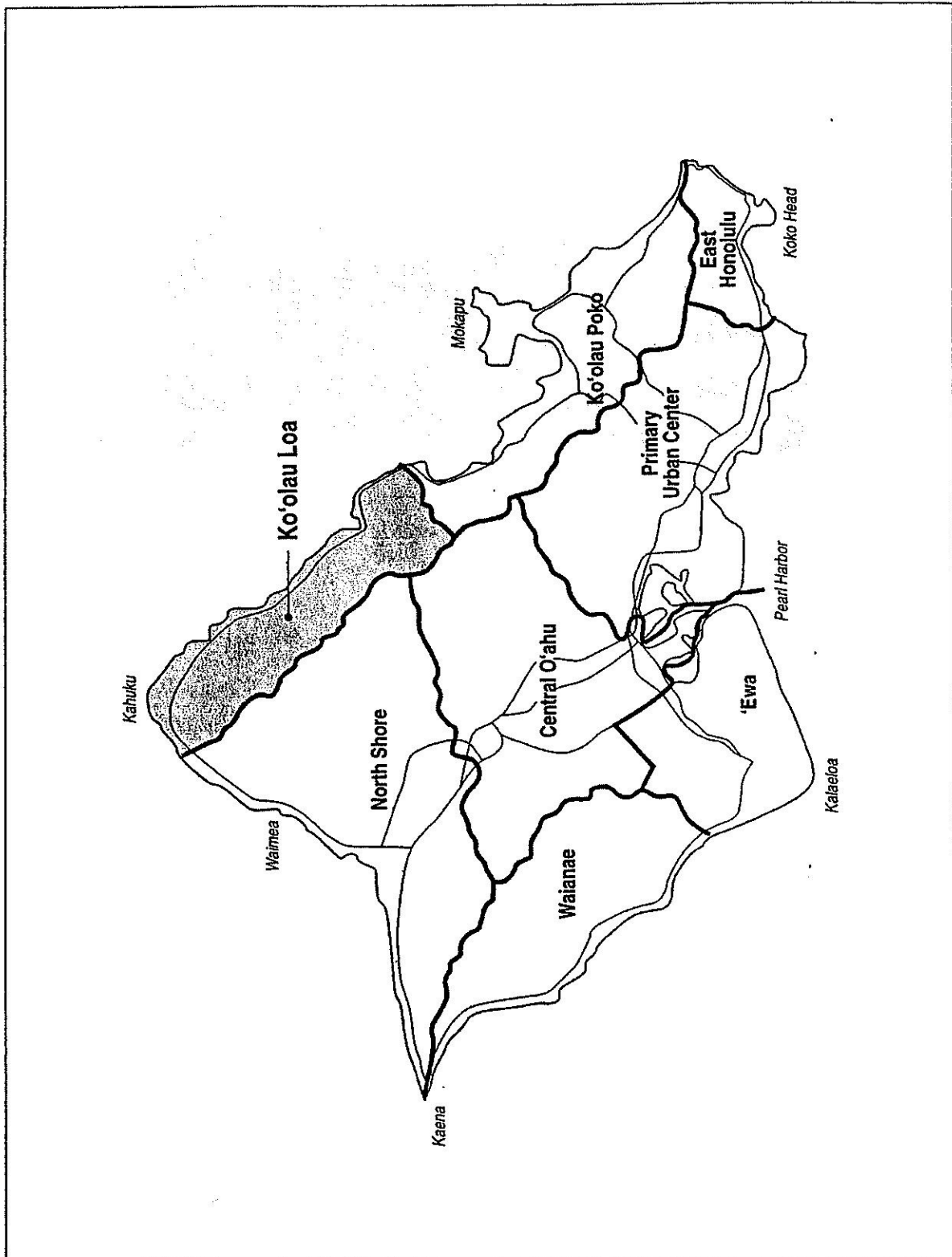
The General Plan of the City and County of Honolulu designates the Koolauloa *Sustainable* Communities Plan Area, shown in **Figure 1-1**, as a rural area and specifies that its natural resources and predominately “country” character should be maintained by allowing only limited development in established communities.

The sparsely populated Koolauloa region spans the northern half of Oahu's windward coast. It is bordered on the north by the Waialeale community just beyond Kawela Bay, and on the south by the ridgeline just beyond the north end on Kāneohe Bay. The residential communities located along Kamehameha Highway, the only arterial roadway linking this area with the North Shore and Koolaupoko, include Kahuku, Lāie, Hauula, Punaluu, Kahana and Kaaawa. The rural character of this region and its cultural and agricultural history are reminiscent of old Hawaii. The *Sustainable* Communities Plan's vision is to maintain and enhance the man-made and natural elements that make Koolau Loa's rural character so unique and special.

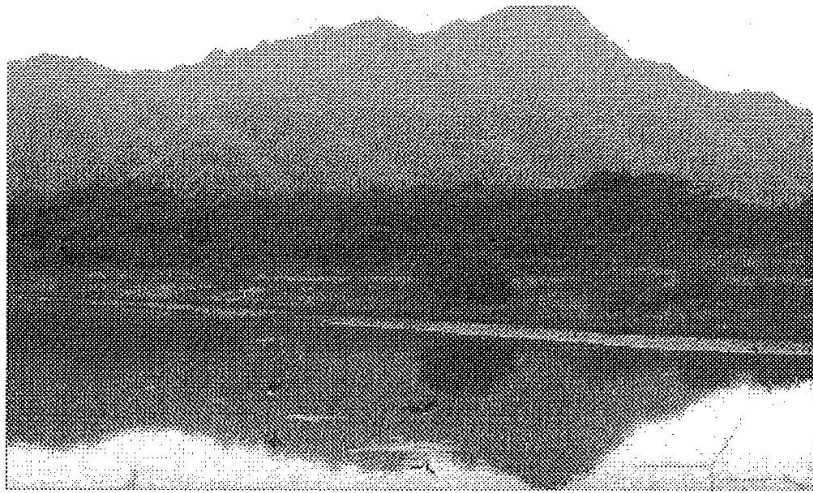
This update reaffirms Koolauloa's role in Oahu's development pattern as intended in the General Plan policies by establishing the following principles for future land use and development in the *Sustainable* Communities Plan Area:

- Recognize traditional *ahupuaa* divisions and distinctions and incorporate the *ahupuaa* concept as the primary basis for land use planning in Koolauloa.
- Maintain and, where possible, expand critical open space areas and shoreline views between the existing pattern of community development so as to preserve a separation between the natural and built environment within each *ahupuaa*.
- Preserve the existing strong relationship between the natural landscape of the mountains to the ocean, and the man-made landscape of agricultural fields and small rural communities.
- Promote diversified agriculture and aquaculture on existing agricultural lands in accordance with the General Plan policy to support agricultural diversification in all rural areas on Oahu.
- Preserve continuous coastal views and scenic views of ridges, valley slopes, and prominent land features.
- Provide for new employment-based development which will offer quality jobs and be compatible with the existing communities' rural fabric and the natural environment.
- Limit future resort development to the existing zoned lands in secondary resort areas at Kahuku Point-Kawela Bay area and Lāie.
- Support and encourage improvements at existing educational and recreational facilities.
- Preserve the “country” lifestyle as expressed by rural housing clusters or neighborhoods which are defined by open space and blend into the surrounding landscape with as little disruption as possible to the scenic quality of the area.
- Establish rural residential development standards so that new infrastructure and site layout requirements will be in keeping with the desired rural character of the region.
- Establish country town design guidelines for commercial and other nonresidential use areas so that new development will be in keeping with the region's rural character.
- Promote access to mountain and shoreline resources for recreational purposes and traditional hunting, fishing, gathering, religious, and cultural practices.

**Figure 1-1: Development Plan and *Sustainable* Communities Area for O’ahu**



## 2. THE VISION FOR KOOLAULOA'S FUTURE



This chapter presents the vision for Koolauloa's future, its key elements and the general framework for implementation. Together they provide the foundation for the *Sustainable Communities Plan's* more detailed policies, principles and guidelines discussed in Section 3.0 which will direct future land use and development decisions in the Koolauloa region. The vision emerged through community input and participation, as well as planning studies and agency meetings.

The vision for Koolauloa extends to the year 2020. Between 1998 and 2020, Koolauloa is projected to experience very little growth. The country will remain country, with managed growth occurring in Lāie and Kahuku. It is projected that Koolauloa's population will increase from 14,271 in 1995 to approximately 15,093 residents by 2020, an increase of less than one percent per year over a 25-year period.

The vision for Koolauloa seeks to preserve the region's rural character and its natural, cultural and scenic resources. The community envisions a safe and healthy community based on strong family values, where residents have access to quality jobs, affordable housing and ample recreational opportunities within the region. Koolauloa will remain country, characterized by small towns and villages with distinctive identities that exist in harmony with the natural settings, defined by the mountain ridges and scenic open spaces which help give the region its unique form of organization.

A fundamental component of this vision is the *ahupuaa* concept, which is illustrated in **Figure 2-1**. It is used as the organizing basis for land use planning and natural resource management in Koolauloa. Adapted to reflect the region's contemporary development patterns, it recognizes traditional *ahupuaa* divisions between existing communities and helps to enhance the distinctions between the natural and built environment. The materials that follow summarize the elements of this vision which the *Sustainable Communities Plan* seeks to support.

### **2.1 ESTABLISH RURAL COMMUNITY, AGRICULTURE AND PRESERVATION BOUNDARIES**

Three types of boundaries have been established to guide development and preserve open space and agricultural areas. These are the Rural Community Boundary, the Agricultural Boundary, and the Preservation Boundary. It is intended that these boundaries will remain fixed through the 2020 planning horizon. They are intended to help guide future



development, redevelopment, and resources management within existing zoning designations or future zoning designations and other standards or guidelines that may be developed in response to the provisions of this plan, other established entitlements, or in accordance with pertinent policy and character described in this plan.

### 2.1.1 RURAL COMMUNITY BOUNDARY

The Rural Community Boundary is established to define, protect, and contain communities in areas that the General Plan designates “rural” and that exhibit the physical characteristics of rural lifestyles. This boundary is intended to provide adequate lands to accommodate a modest increase in population, to allow development of facilities needed to support these established communities, to protect such communities from the more intense land uses and patterns of development associated with more urbanized areas, and to protect areas outside the boundary for agriculture or other resource or open space values. The Rural Community Boundary may include lands designated “park,” “agriculture,” “preservation,” or areas with development-related hazards such as steep slopes or unstable soils; it is intended these areas will not be developed with uses unsuitable to their designations or in ways that may tend to exacerbate those hazards.

Rural communities defined by this boundary consist of smaller, more dispersed, less intensively developed residential communities and towns than those of urban areas. Development character should be generally low-density, low-rise, small scale, and reflective of a “country” setting. Within residential areas, the landscaping and front yards that provide the foregrounds to the dwellings should be the principal visual elements. In commercial areas, the pedestrian environment and associated amenities should predominate, and storefronts on both sides of the street should be simultaneously perceivable. Buildings should be oriented to encourage interaction between the public and private domains.

The main objectives of the Rural Community Boundary are to:

- *Preserve Agricultural Lands, Significant Open Space, and Natural Resources.* The Rural Community Boundary should prevent the encroachment of development onto productive agricultural lands, and protect agricultural lands, significant open space, and natural resources outside the boundary.
- *Promote an Efficient Development Pattern.* The Rural Community Boundary primarily focuses new development to “infill” sites within the existing communities. A compact form of development concentrated in the existing communities along the coast will result in relatively lower development costs, more efficient utilization of existing urban infrastructure systems, and reduced reliance on the automobile by making transit, walking, and bicycling more feasible and attractive as alternative modes of travel.
- *Provide Sufficient Capacity for Projected Growth.* The community areas within the Rural Community Boundary contain ample capacity to accommodate anticipated residential and commercial development to the year 2020. Due to anticipated long-term job growth and diversified employment opportunities within the Kuilima Resort area and the Lāie community, the *Sustainable Communities Plan* allows for limited expansion of residential areas in Kahuku and Lāie, in addition to previously designated but undeveloped residential areas within each community.
- *Protect Natural and Scenic Resources.* Significant natural landscape features can be more effectively protected from physical changes by more clearly limiting the potential area for new community development through the Rural Community Boundary. These natural scenic landscape elements include the mountain ridges, valleys, open areas, and coastal resources.

The Rural Community Boundary generally circumscribes the built sections of Kaaawa, Kahana, Punaluu, Hauula, Lāie and Kahuku. It also includes pockets of agricultural lands and parks, which should be preserved and maintained as such unless otherwise designated, to retain the open space character within the Rural Community Boundary.

Figure 2-1: Ahupuaa Concept



**2.1.2 AGRICULTURAL BOUNDARY**

The Agricultural Boundary is established to protect important agricultural lands for their economic and open space values, and for their value in helping to give the region its identifiable rural character. Important agricultural lands include lands currently in agricultural use and lands with high value for future agricultural use. They include agriculturally important lands designated “prime,” “unique,” or “other” on the Agricultural Lands of Importance to the State of Hawaii (ALISH) maps.

The primary use of all lands within the Agricultural Boundary must be agriculture or directly supportive of the agriculture industry. Exceptions include “institutional” uses, which must be developed and operated to maintain compatibility with agricultural uses.

**2.1.3 PRESERVATION BOUNDARY**

The Preservation Boundary is established to protect undeveloped lands that are not valued primarily for agriculture but which form an important part of the region’s open space fabric. Such lands include important wildlife habitat, archeological or historic sites, significant landforms or landscapes over which significant views are available, development-related hazard areas.

The Preservation Boundary generally circumscribes undeveloped lands that:

- Are necessary for protection of watersheds, water resources and water supplies;
- Are necessary for the conservation, preservation and enhancement of sites with scenic, historic, archeological, or ecological significance;
- Are necessary for providing and preserving park lands, wilderness and beach reserves, and for conserving natural ecosystems of endemic plants, fish and wildlife, for forestry, and other activities related to these uses;
- Are located at an elevation below the maximum inland line of the zone of wave action, and marine waters, fishponds, and tidepools unless otherwise designated.
- Comprise offshore and outlying islands unless otherwise classified.
- Are generally characterized by topography, soils, climate or other related environmental factors that may not be normally adaptable or presently needed for urban community, rural community, or agricultural use;
- Have general slopes of 20 percent or more which provide for open space amenities and/or scenic values;
- Are susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention, and lands necessary to the protection of the health, safety and welfare of the public by reason of soil instability or the lands’ susceptibility to landslides and/or inundation by tsunami and flooding;
- Are used for state or city parks outside the Rural Community Boundary; or
- Are suitable for growing of commercial timber, grazing, hunting, and recreation uses, including facilities accessory to such uses when such facilities are compatible with the natural and physical environment.

The Preservation Boundary excludes such features, sites or areas located within the Rural Community or Agricultural Boundaries.

## 2.2 PRESERVE AND ENHANCE THE NATURAL, RECREATIONAL AND CULTURAL RESOURCES WHICH CONTRIBUTE TO KOOLAULOA'S SENSE OF "OLD HAWAII"



### Kahana Bay

Protection of this region's resources and rural character has island-wide importance because of its unique quality and beauty to both residents and visitors. Natural resources will be conserved through retaining natural drainageways and protecting valuable plant and wildlife habitats. Open space will be preserved in recreation and preservation areas, parks, and agricultural areas. The *Sustainable Communities Plan* calls for the protection of this region's many significant scenic mauka and makai views of mountain ridges, valleys, slopes and coastline.

Of Koolauloa's many natural resources, the following wetlands are listed by the U.S. Fish and Wildlife Service (USFWS) O'ahu Team as significant (as of September 10, 1998) because of the occurrence and abundance of native waterbirds, including the endangered Hawaiian stilt (*aeo*), Hawaiian coot (*'alae keokeo*), Hawaiian duck (*koloa maoli*), Hawaiian moorhen (*'alae ula*), and migratory waterfowl and shorebird. The USFWS-listed wetland areas include:

- Turtle Bay Golf Course Ponds
- Kuilima Mitigation Pond
- Kuilima Sewage Treatment Pond
- Punahoolapa Marsh
- James Campbell Natural Wildlife Refuge, Kii Unit and Punamanō Unit 5
- Kahuku Aquafarms (former AmOrient)
- Airstrips Ponds
- Kahuku Prawn Farm
- Lāie Aquaculture Farm/Po'ohaili Wetlands
- Hauula
- Punaluu Prawn Farm
- Kahana State Park/Huilua Pond
- Kaaawa Wetlands

Other natural resources include streams and gulches which contain important biological, scenic, cultural and recreational values that should be preserved and protected from development or incompatible activities. Perennial

streams and stream corridors are designated as Preservation on the Open Space, Land Use, and Public Facilities Maps in Appendix A. In addition, the following streams and gulches in Koolauloa were identified in the State Commission on Water Resource Management, Hawaii Stream Assessment (December 1990) as having outstanding aquatic resources:

- Koloa Gulch
- Kaluanui Stream
- Punuluu Stream
- Kahana Stream
- Kaaawa Stream
- Makaua Stream

It should be noted that the above lists of wetlands and streams are based on available information. Those not listed above are just as worthy of protection as they may contain other resources or may have resources as good as those listed above but were not classified as such because of incomplete or inadequate information. In general, any activities in the vicinity of streams and wetlands need to ensure that their biological, scenic, cultural, or recreational values are not impaired.

A *konohiki* approach to management of natural resources should be re-established and maintained in order to properly sustain and protect them. In summary, *konohiki* practices focused on *sustainable* usage and systematic management of natural resources, respecting ecosystem relationships and using the *ahupuaa* as a contextual or management unit. This approach should be used in the management, monitoring, and regulating of uses to avoid resource misuse or mismanagement.

The Koolauloa region also contains several different types of historic and cultural resources. For example, the plantation era is an important period that made a substantial contribution to the development of this region. Reminders of that period, such as the Kahuku Sugar Mill, are valuable records of the past. Significant historic features from earlier pre-contact periods or significant vistas associated with cultural features should also be preserved wherever possible.

### 2.3 PRESERVE AGRICULTURAL LANDS

The *Sustainable* Communities Plan calls for the preservation of agricultural lands and encourages diversification of agricultural-related enterprises in order to maintain the viability of agriculture throughout Koolauloa. Over 25 percent - or more than 9,000 acres - of the Koolauloa region is designated for Agricultural use on the *Sustainable* Communities Plan. Successful agricultural operations including truck crops, vegetables, taro, and flowers and landscaping plants are currently being pursued on former sugarcane lands and in the mauka valleys throughout the region. In addition, aquaculture uses have been developed in outlying areas near Kahuku and in rural areas and mauka valleys within Mālaekahana, Punaluu, and Kaaawa.



### **Punaluu Agriculture**

Agricultural lands are protected from development through the establishment of the Rural Community and Agriculture Boundaries. By supporting the active use of these lands for agricultural purposes, the opportunity to retain and protect diversified agriculture and aquaculture activities on small and large farms is enhanced.

## **2.4 ENHANCE EXISTING RECREATIONAL AREAS AND RESOURCES**



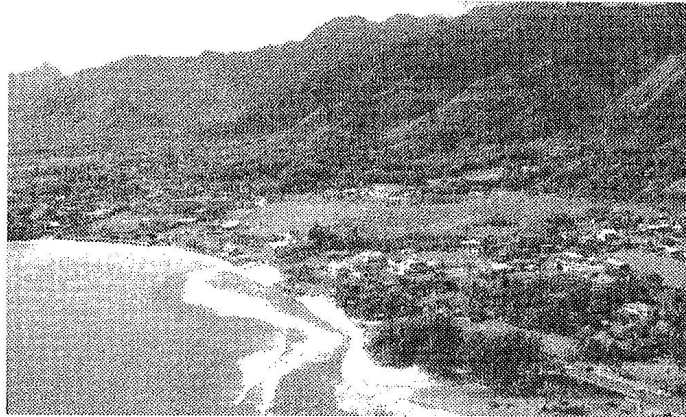
### **Beach Park Picnic Area**

The Koolauloa *Sustainable* Communities Plan Area contains significant areas and resources which offer a variety of outdoor recreational opportunities, as well as cultural experiences such as at Kahana Valley. The region contains numerous beach parks along its coastline and State parks such as Kaliuwaa (Sacred Falls), Mālaekahana, and Kahana Valley. These resource areas should be recognized as important open space and recreation assets of the Koolauloa region.

The existing parks and recreation areas should be maintained and enhanced to utilize the region's abundance of natural and scenic resources for the enjoyment of residents and visitors. At the same time, the value of these resources should

be protected from overuse. Existing beach access should be maintained and new shoreline access properties should be acquired along narrow stretches of ocean-front land as opportunities arise. An open space system of landscaped pathways will link communities together along major roadways, streams, wetlands and other drainageways.

## **2.5 ESTABLISH RURAL AREA DEVELOPMENT STANDARDS TO MAINTAIN THE RURAL CHARACTER OF RESIDENTIAL AREAS**



### **Hauula's Rural Setting**

Appropriate rural residential development standards should be established in order to retain the rural character unique to the Koolauloa region. New regulations should be adopted and residential subdivisions should be characterized by larger house lots, ample landscaping, and narrower paved streets without the requirement for sidewalks, curbs and gutters.

The need for additional housing related to long-term growth in Koolauloa will be met primarily by the “infill” development of existing vacant lands within each of the region’s rural communities. In addition, the *Sustainable Communities Plan* allows for limited expansion of residential areas in Kahuku and Lāie, to accommodate long-term housing needs related to projected employment growth at Kuilima Resort and to an expansion of diversified employment opportunities in Lāie.

The physical changes brought about by infill home construction or expansion in existing, built-up neighborhoods will be slower and subtler than the development of moderate-sized vacant parcels. In any case, effective residential lot and subdivision development standards should be adopted to limit building height, lot coverage, paving width of streets, and enhance landscaping in order to reflect the rural character of Koolauloa.

## **2.6 ENHANCE THE CHARACTER OF THE REGION’S COMMERCIAL AREAS AND RECOGNIZE THE CONTRIBUTION OF COUNTRY STORES TO KOOLAULOA’S RURAL FABRIC**

The character of the region’s commercial areas, as well as its stand-alone “Country Stores,” should be enhanced through design guidelines that are appropriate to the scale and theme of the region and communities they serve. (See Section 3.6 for a description of types of commercial areas.) Rural architectural style guidelines should be drafted for the Kahuku Sugar Mill, and Lāie and Hauula shopping centers, with building and landscape treatment recommendations unique to the character and needs of each of these commercial areas.

Design guidelines should also be established to provide information regarding the appropriate rehabilitation or renovation of existing commercial centers and country-store operations. “Country Store”-type establishments are an important part of Koolauloa’s character and should be allowed to renovate or reconstruct accordingly. These small businesses provide convenient locations for residents to eat out, get groceries or gather to socialize; and for visitors to shop in locally run stores and purchase a variety of handcrafted items. In general, these businesses should be limited to their existing locations and not expanded along Kamehameha Highway in order to maintain the rural character of the region’s “front door” and avoid the creation of a commercial strip along the coastline.



## **Honolulu - Land Use**

### **3. LAND USE POLICIES, PRINCIPLES, AND GUIDELINES**

The key element in implementing the vision for Koolauloa's future, as described in Section 2.0, will be the application of the ahupua'a concept to land use planning and development decisions. This concept defines the essence of Koolauloa's rural character and provides the foundation for the organization of land uses within the region. The land use general policies, and the planning principles and guidelines presented below provide greater detail as to how the ahupua'a concept should be applied to achieve this vision.

#### **3.1 OPEN SPACE PRESERVATION**

Open space preservation is a key element of the vision for Koolauloa's future. Long-term protection and preservation of scenic resources, agricultural areas, natural areas, and recreational areas are important to maintaining the rural character of Koolauloa for both residents and visitors.

##### **3.1.1 GENERAL POLICIES**

Open space will be used to:

- Maintain the region's rural character, protect scenic views and provide recreational resources.
- Define and maintain clear boundaries and separations between existing communities.

##### **3.1.2 PLANNING PRINCIPLES**

The general policies listed above provide the basis for the following planning principles:

- *Enhance the Visual and Physical Definition of Rural Communities.* Koolauloa's rural residential communities are generally visually defined and separated physically due in large part to the topography of the region. These open space "gaps" as well as the large expanses of open space mauka of the Rural Community Boundary, need to be maintained so they will continue to provide the basic definition of the region's rural development pattern.
- *Provide Passive and Active Open Spaces.* The open space system consists of areas in both active and passive uses. Active areas include community-based and State parks, golf courses and agricultural fields. Passive areas include the State Conservation District, fallow land in the State Agricultural District, drainage and utility corridors, nature preserves, and other fallow lands left undeveloped due to physical or hazard constraints. Beach parks and shoreline areas may be either active or passive, depending on the extent to which the landscape has been modified by grading and construction of facilities and the intensity of public use.
- *Promote Accessibility of Recreational Open Space.* Public parks and most golf courses will be accessible for recreational use, but the open space system should also promote the accessibility of shoreline and mountain areas (as required by City Ordinance and State law). Access to mountain trails and shoreline areas should be readily available. Where required, this includes the provision of parking areas that are conducive to the environment.
- *Dual Use of Roadway and Drainageway Corridors.* Roadways should be attractively landscaped to serve as linear open space features and create an inviting environment for walking, jogging and biking. Where physical modification of natural drainageways is necessary to provide adequate flood protection, modifications should attempt to the extent possible to: maintain existing habitat capacity, maintain existing rural character and aesthetic quality, and avoid increase in rate and volume of freshwater run-off into near-shore waters.

### 3.1.3 GUIDELINES

The following provides a brief description of regional open space resources in Koolauloa. They are followed by guidelines for carrying out the general policies and planning principles related to each open space element.

#### 3.1.3.1 Mountain Areas and Trails

Major trails, which are inventoried by the State Department of Land and Natural Resources (DLNR), provide access to the mountainous areas of Koolauloa. Within the region, the State's Na Ala Hele Program actively manages the Hauula Loop, Mā kua Gulch, and Maakua Ridge trails. These trails all begin along the mauka edge of Hauula, extend for 2.5 to 3.0 miles each, and provide valuable and often unique backcountry experiences.

Other trails in the region which are under private ownership could add other, equally valuable wilderness experiences if issues of public access, use, and safety could be satisfactorily addressed. These trails include but are not limited to the Koolau Ridge Trail, which offers simultaneous views of Central Oahu and the Windward coastlines and valleys, and the Castle Trail, which begins in Punaluu. Access to mauka resources to maintain traditional gathering rights should be provided, in accordance with State Law.

Guidelines pertaining to mountain areas are as follows:

- Maintain, protect, and/or restore native forests in the State Conservation District.
- Identify and protect endangered species habitats and other important ecologically sensitive areas from such threats as fire, alien species, feral animals and human activity.
- Avoid disturbances caused by utility corridors and other uses on areas with high concentrations of native species.
- Maintain and enhance mauka trail systems, including parking areas and signage at trailheads.
- Support State efforts to seek opportunities for cooperative agreements with private landowners to gain access to trails leading to public lands.

#### 3.1.3.2 Shoreline Areas

The Koolauloa shoreline extends for over 20 miles between Kaaawa Valley and Kawela Bay. The shoreline provides residents and visitors with significant active and passive recreational resources, and contributes significantly to the region's rural Hawaiian character and lifestyle. Therefore, mauka-makai and lateral public access to the shoreline should be maintained and improved to the greatest extent possible. In addition to their recreational value, shoreline areas also provide significant scenic value. It is important to retain and, where possible, expand visual access to the shoreline from the coastal highway. It is equally important to maintain the physical integrity of these shoreline areas. The State Department of Land and Natural Resources (DLNR) has developed a Coastal Lands Program to manage growth along the state's shoreline, to balance conservation and development, and to oversee the implementation of technical recommendations and policies embodied in the Coastal Erosion Management Plan (COEMAP) to ensure sustainable coastal development.

Guidelines pertaining to shoreline areas are:

- Maintain and, where possible, enhance the physical integrity and habitat value of shoreline areas.
- Preserve rare coastal resources including coastal strand vegetation, sand dunes, and anchialine pools. Establish buffer zones around these resources where necessary.
- Maintain existing makai view openings along the coastal highway. Avoid obstructions, such as walls and heavy landscaping which block views, except where necessary for safety reasons. Maintain public beach

parks to avoid unnecessary landscape screening or the placement of park structures within the view corridor. Recommendations of the Coastal View Study (1987) should be incorporated.

- To the extent possible, acquire shallow developed beach-front lots which would be impractical to redevelop given existing zoning standards or wave hazard considerations in order to improve public access and lateral shoreline views along Kamehameha Highway.
- Require additional minimum setbacks for structures near the shoreline and implement other management strategies to protect unstable sandy beach areas that impact Kamehameha Highway along the Kaaawa, Punaluu and Hauula shorelines.
- Maintain the untamed landscape quality of the Kahuku shoreline.
- Protect nearshore coral reefs from damaging activities such as soil erosion, nonpoint source pollution, dredging, and alterations to near-shore water circulation.

### 3.1.3.3 Wildlife Sanctuaries

Koolauloa contains the following wildlife sanctuaries and preserves (**Figure 3-1**):

- *State Seabird Sanctuaries.* There are five islands designated as State Seabird Sanctuaries which are located off the coast of Lāie and Mālaekahana: Mokuauia, Kīhewamoku, Pulemoku, Kukuihoolua, and Mokualāi. These off-shore islands are managed by the State Department of Land and Natural Resources, Division of Forestry and Wildlife, and provide habitats for the wedgetail shearwater as well as other migratory waterbirds.
- *National Wildlife Refuge.* The United States Fish and Wildlife Service manages over 160 acres at the Punamanō and Kii pond units which together constitute the James Campbell National Wildlife Refuge. These refuges provide wetland habitat for four endangered native Hawaiian waterbirds (*aeo*, *‘alae keokeo*, *kōloa maoli*, *‘alaeula*).

Guidelines relating to wildlife sanctuaries in Koolauloa are as follows:

- Respect and establish an appropriate balance between natural habitats and human uses in the management of wildlife sanctuaries. Appropriate buffers between uses should be established wherever necessary. In general, there should be no reduction in preservation zoning in the vicinity of Kahuku’s Punaho’olapa Marsh, Punamanō and Kii Pond National Wildlife Refuges.
- Encourage landowners to establish additional sanctuaries in other areas within the region that provide habitats for endangered wildlife, flora and fauna.

### 3.1.3.4 Natural Gulches, Streams and Drainageways

The ridges and valleys of the Koolauloa mountain range form natural streams and drainageways throughout the region. Significant perennial streams which are identified in the streams, and drainageways include State Commission on Water Resource Management, *Hawaii Stream Assessment*, (December 1990) and other drainageways as identified by the department of design and construction or department of planning and permitting. Significant wetlands include those identified by the Army Corps of Engineers.

These stream channels are the primary means for carrying water from the inland areas to the ocean and are generally capable of handling normal rainfall runoff. However, during periods of intense rainfall, some of these drainageways overflow and create flooding problems. Section 4.6, “Drainage Systems” summarizes these conditions. In these cases, improvements which effectively address and correct the causes of these flood conditions are needed.

Guidelines pertaining to natural gulches, streams and drainageways in Koolauloa are:

- Preserve the aesthetic and biological values of natural gulches, streams and drainageways as part of the open space system. Protect ecologically sensitive areas and ecosystems which should be maintained and enhanced as open space elements. Any activities in the vicinity of these areas need to ensure that the open space system will not be significantly impacted or that biological values will not be significantly degraded.
- Minimize soil erosion, runoff of pesticides, fertilizers and other non-point source contaminants into streams, wetlands and marine habitats with strategies such as stream setbacks, erosion control devices, integrated pest management plans, and revegetation of disturbed areas. Incorporate erosion control measures and best management practices, as cited in Office of State Planning, *Hawaii Coastal Zone Management Program, Hawaii's Coastal Nonpoint Pollution Control Program Management Plan*, Volume I (June 1996), to prevent pollution of wetlands, streams, estuaries, and nearshore waters.
- Where feasible, establish setbacks along rivers, streams, and shoreline areas to preserve these resources and protective buffer zones around biologically sensitive areas to minimize habitat disturbance. Where possible, provide access as part of the open space network.
- Uses in these areas should be limited to conservation uses, compatible recreational uses such as walking and bicycling, protection of traditional and customary Hawaiian rights, and controlled diversion for agricultural purposes. Avoid development in ecologically sensitive areas; if activities are allowed, minimize impacts and implement mitigative measures that will fully offset any loss of resources.
- Protect and maintain stream habitat values along the entire stream length, from the headwaters to the ocean, to avoid degradation or interruption of habitat for native organisms.
- To the extent possible, limit any modifications to natural gulches and streams, except for measures which are necessary for flood protection. If modifications are needed, take all possible steps to preserve water quality and protect aesthetic and biological resources. These could include stream-side vegetation and rip-rap boulder lining of stream banks; channelization should be a last resort and should be limited to v-shaped bottom channels to maintain a stream flow during low rainfall periods and/or other measures that maintain environmental habitat qualities and capabilities.
- Enhance, restore and preserve streams while providing public access.
- Develop an implementation schedule with input from community and public agencies to establish permanent instream flow standards. The setting of instream flow standards should weigh the benefits of instream and non-instream uses of water resources, including the economic impact of restrictions of such uses.

### 3.1.3.5 Community-Based Parks

There are approximately 29 acres of community-based parks in Koolauloa. As discussed further in Section 3.3, community-based parks include district, community, neighborhood, and mini parks. The main purpose of community-based parks is to provide active recreation space for the region's residents in the form of playfields and other facilities. In addition to meeting the active recreational needs of the region, community-based parks also serve as open spaces that add aesthetic value by providing visual relief from and contrasts to urban land uses.

Guidelines pertaining to community-based parks in Koolauloa are:

- Expand or provide new community-based parks in areas where there is a lack of sufficient facilities and where recreational needs of residents are not being adequately met.
- Design and site structural improvements and landscaping in community-based parks so as to create or add to the aesthetic value of these open space elements.



### 3.1.3.6 Golf Courses

There are three golf courses in Koolauloa: The Links at Kuilima, an 18-hole course; the nine-hole Turtle Bay Country Club course; and the City and County's nine-hole course at Kahuku. All three golf courses are open to public play. These golf courses are important elements of Koolauloa's open space system because they provide areas for active recreation while preserving the visual quality of the northern end of the region. In addition to their open space value, the location, design, and grading of golf courses, and siting of water features can contribute in a significant way to a passive stormwater drainage management system. Wildlife habitats are enhanced or created as a by-product of retention/detention capabilities that this integrated system provides.

Guidelines pertaining to golf courses in Koolauloa are:

- Optimize and maintain the function of golf courses as passive drainageways to maximize their potential to serve as drainage retention areas, as well as wildlife habitats.
- Maintain golf course designs to provide view amenities for adjacent urban areas, including public rights-of-way, parks and vista points.
- Provide safe access through golf courses, as necessary, for regional continuity of shoreline access.
- When necessary for safety reasons, use screening, landscape treatment, setbacks, and modifications to the course layout rather than fencing or solid barriers.
- Golf courses must be designed to minimize environmental impacts such as siltation, pesticide and fertilizer runoff, and destruction of coastal, riparian and wetland habitat. New golf courses should conform to Office of State Planning, *Golf Course Development in Hawaii – Impacts and Policy Recommendations* (1992).

### 3.1.3.7 Kahuku Military Training Area

The United States Army utilizes approximately 9,363 acres of *mauka* lands above the Kuilima Resort and Kahuku Town for military training purposes, of which they own 8,214 acres, purchased recently from the Estate of James Campbell. This large area of *mauka* lands is an important open space and visual resource along Koolauloa's northern boundary. Approximately one-half of the training area is located within the State Conservation District. These undeveloped lands which border the agricultural areas of the lower plains should as much as possible be maintained in their natural state.

Guidelines pertaining to the Kahuku Military Training Area are:

- The U.S. Army should manage its training area lands to minimize potential adverse drainage impacts to the lowland areas in Kahuku Town. Storm water runoff from the Kahuku Training Area should not be increased from existing conditions, and long-term measures should be considered to reduce runoff flowing toward Kahuku Town.
- Prohibit live-fire training in the area. This is consistent with the Army's stated position that the Kahuku Training Area will be used for tactical maneuver training with no live-fire.
- Conduct training exercises in a manner that will not significantly disturb the natural vegetation; alter the landform that contributes to runoff; and affect the flow of natural streams and drainageways. For example, the Army's current policy of restricting or prohibiting blanks and pyrotechnic use during the dry seasons to minimize any fire hazard should be maintained as long as this area is used for training purposes.

### 3.1.4 RELATION TO OPEN SPACE MAP

The following components of the regional open space system are shown on the Open Space Map in Appendix A:

- *Mountain Areas.* These areas are to remain outside of the designated Rural Community Boundary.
- *Natural Gulches and Drainageways.* Gulches in the steeper sloped areas both within and beyond the Rural Community Boundary are indicated for preservation.
- *Shoreline Areas.* Shoreline areas with high scenic or wildlife value, generally along the Kahuku coastline between Mālaekahana and Kahuku Point, are designated for preservation.
- *Parks.* Areas designated as parks are labeled with the park's name and, where space allows on the maps in Appendix A, the general location and land area of the park is outlined and colored.
- *Golf Courses.* The three golf courses in Koolauloa are shown because of their recreational value and visual contribution to the landscape.
- *Kahuku Training Area.* Although depicted as a military training area on the map, these lands are an important open space resource that should to the greatest extent possible be maintained in their natural wild state.

### 3.2 AGRICULTURAL AREAS

A key component of Koolauloa's rural character and open space is the agricultural lands found throughout the region. Whether actively cultivated in diversified crops or aquaculture, or used for more passive ranching activities, agricultural lands serve as important natural separators between the concentrations of small rural communities.

The *Sustainable Communities Plan* protects agricultural lands from urban development through the establishment of the Rural Community and Agricultural Boundaries. By supporting the active use of these lands for agricultural purposes, the opportunity to retain and protect diversified agriculture and aquaculture activities on small and large farms is enhanced.

The *Sustainable Communities Plan* calls for the preservation of agricultural lands and encourages diversification of agriculture-related enterprises to maintain the viability of agriculture throughout Koolauloa. Over 25 percent - or more than 9,000 acres - of the Koolauloa region is designated for Agricultural use on the *Sustainable Communities Plan*. Agricultural operations including truck crops, vegetables, taro, indigenous Hawaiian plants, shrubs, trees, and flowers and landscaping plants are currently being pursued on former sugarcane lands and in the *mauka* valleys throughout the region. Aquaculture uses have also been developed in outlying areas near Kahuku and in rural areas and *mauka* valleys within Mālaekahana, Punaluu and Kaaawa. These agricultural activities contribute significantly to the diversified economic base for the Koolau Loa region and provide local employment opportunities for area residents.

In addition to the above activities, a vocational training facility has been proposed for relocation on lands *mauka* of Kamehameha Highway, opposite the Turtle Bay Golf Course. The relocated facility should be evaluated in the context of whether it has any adverse impact to the environment, agricultural uses and the rural character of the region.

#### 3.2.1 GENERAL POLICIES

The following general policies relate to the agricultural areas designated in the Koolauloa *Sustainable Communities Plan*:

- Preserve the availability and crop production potential of lands designated as Agriculture in the Koolauloa *Sustainable Communities Plan*.
- Protect agricultural lands from conversion to uses that are primarily residential, industrial, or commercial in purpose.
- Encourage the diversification of agriculture-related enterprises for the continued production of truck-crops, vegetables, flowers and landscaping plants, aquaculture and ranching activities.



- Allow residential use in agricultural areas only as secondary to agricultural activity. In all such cases, the site's primary use should be agricultural and either the owner/occupant or lessee(s) should be actively engaged in crop or livestock production for the duration of their tenure.
- Allow facilities necessary to support intensive cultivation of arable agricultural lands to be located in agricultural areas.
- Allow for appropriate nonagricultural uses that are compatible with open space and resource character, such as recreational or educational programs, or other uses consistent with the character of a rural agricultural area which provide supplemental income necessary to sustain the primary agricultural activity. There should be a direct connection between those activities and the maintenance of agricultural uses on the same or nearby properties.
- Recognize the function of agricultural areas as an important part of the region's natural drainage system. Cultivation activities or physical improvements in agricultural areas should not adversely modify critical natural drainageways.
- Agricultural uses should be designed to minimize environmental impacts such as soil erosion, siltation, pesticide and fertilizer runoff and avoid destruction to coastal, riparian, and wetland habitat.

### 3.2.2 PLANNING PRINCIPLES

The general policies listed above provide the basis for the following planning principles:

- *Maintain the Long-Term Economic Viability of Agricultural Lands.* To preserve active agricultural uses and provide employment opportunities for Koolauloa residents, reserve lands currently designated as Agriculture on the Koolauloa Sustainable Communities Plan principally for such uses. No actions or uses that would undermine or irreversibly compromise their long-term availability or agricultural production capabilities should be permitted.
- *Recognize the Contribution of Agricultural Lands to Koolauloa's Rural Character.* Koolauloa's rural character is in large part defined by the region's agricultural areas. Allowable uses should be appropriate to onsite or adjacent resources and open space settings. Any onsite development must be low-key, low-impact and predominately open space in character.

### 3.2.3 GUIDELINES

Guidelines relating to agricultural areas are:

- Discourage subdivision of Agricultural designated and zoned lands for residential uses, except for farm dwellings that have bona fide agricultural activities on site.
- Cluster agricultural subdivisions that include farm dwellings to avoid the inefficient use of more productive agricultural lands and to reduce infrastructure costs. Locate agricultural subdivisions near similar subdivisions or rural communities.
- Maintain adequate buffers between agricultural lands and new residential development, with consideration given to prevailing winds and the noise or air-borne emissions associated with the type of agricultural operation.
- Design and locate buildings and other facilities that are accessory to an agricultural operation in a way that minimizes the impact on nearby community and residential areas, and the road system.

### 3.2.4 RELATION TO OPEN SPACE AND LAND USE MAPS

Agricultural areas are depicted in light green on the Open Space and Land Use Maps in Appendix A:

- *Agricultural Areas.* The Open Space and Land Use Maps depict agriculture lands outside the Rural Community Boundary. However, there are also pockets of agricultural lands within the boundary which should be protected and maintained for agricultural purposes, unless otherwise designated.

### 3.3 PARKS AND RECREATION AREAS

This section begins with an overview of island-based parks, community-based parks, and other recreation areas in Koolauloa, and is followed by general policies, planning principles, and guidelines for development of these resources. The location of the region's major parks and recreational areas is shown on the Open Space Map, Land Use Map, and Public Facilities Map in Appendix A.

#### 3.3.1 OVERVIEW

The City and County of Honolulu department of parks and recreation (DPR) develops and maintains a system of park and recreation facilities that it classifies in a hierarchical manner. The largest and most specialized parks are classified as "Island-Based Parks" since they serve the needs of all O'ahu residents, while "Community-Based Parks" serve more localized populations.

##### 3.3.1.1 Island-Based Parks and Other Recreation Areas

This group includes regional parks, beach/shoreline parks, beach/shoreline rights-of-way, nature parks/reserves, botanical gardens, golf courses, and zoological parks (**Table 3-1**). DPR's standard for island-based parks is eight acres for every 1,000 persons. The location of public parks and recreation areas in Koolau Loa was shown previously in **Figure 3-1**.

Table 3-1: Types of DPR Island-Based Parks	
Regional Parks	Large areas that may serve the entire island or a region of the island and may include a variety of recreation types and facilities, natural and cultural sites.
Beach/Shoreline Parks	Areas and sites along the shoreline that may include facilities and support services for water activities, sunbathing, picnicking, and other passive activities.
Beach/Shoreline Rights-of-Way	Access lanes to beaches and the shoreline where residential or other uses prevent development of a beach/shoreline park.
Nature Parks/Reserve	Areas maintained primarily to preserve or conserve unique natural features.
Botanical Gardens	Areas developed for the recreational and educational appreciation of specific types of plants and plant communities.

As shown in **Table 3-2**, Koolauloa has eight island-based beach/ shoreline parks, that are maintained by the Department of Parks and Recreation. A brief description of these and State parks and golf courses is provided below.

- ***Beach and Shoreline Parks***

As noted, there are eight beach and shoreline parks scattered along the coastline in Koolauloa. The Department of Parks and Recreation has no current plans for additional beach park development in Koolauloa. The Koolauloa *Sustainable Communities Plan Area* does not have a regional park, nor are there plans to designate one within the district. The closest regional parks are at Kualoa and Haleiwa.

<b>Table 3-2: Island-Based Parks and Golf Courses in Koolauloa</b>	
<b>Park Type/Name</b>	<b>Acreage</b>
<b>Regional Parks</b>	
None	—
<b>Beach/Shoreline Parks</b>	
Hauula Beach Park	9.1
Kaaawa Beach Park	2.0
Kalaeoio Beach Park	0.8
Kokololio Beach Park	15.5
Lāie Beach Park	4.5
Makaua Beach Park	0.2
Punaluu Beach Park	2.9
Swanzy Beach Park	<u>4.8</u>
Subtotal	39.8
<b>Nature Parks/Reserves</b>	
None	—
<b>Botanical Gardens</b>	
None	—
<b>Golf Courses</b>	
Kahuku Golf Course	68.0
<b>Total</b>	107.8

<b>Table 3-3: State Parks in Koolauloa</b>	
<b>Park Type/Name</b>	<b>Acreage</b>
Kahana Valley	5,228.7
Mālaekahana	110.0
Sacred Falls	1,375.9
Lāie Point	<u>1.4</u>
<b>Total</b>	6,716.0

- ***Golf Courses***

There are three golf courses within Koolauloa, of which two are privately owned courses located adjacent to Kamehameha Highway at Kuilima Resort. The Kahuku municipal golf course, which is under the Department of Enterprise Services' jurisdiction, is a nine-hole course located along the coastal shoreline makai of Kahuku town.

Golf courses are considered open space and aesthetic resources while also serving a practical purpose by reducing flooding and nonpoint pollution by helping retain stormwaters. However, they are highly land intensive, typically occupying 150 to 200 acres for an 18-hole course. The Sustainable Communities Plan does not envision the development of additional golf courses within the Koolauloa region; but one could be considered in Kahuku if it serves to mitigate the drainage problem that currently exists there.

- ***Other Park Resources***

The Koolauloa Sustainable Communities Plan Area also contains three significant and unique State Parks: Kahana Valley, Sacred Falls and Mālaekahana. These State Parks offer a variety of camping, hiking and recreational opportunities, as well as cultural experiences such as at Kahana Valley, for residents and visitors alike. Managed by the State department of land and natural resources (DLNR), these parks are recognized as important open space and recreational assets in the Koolauloa Sustainable Communities Plan (See Table 3-3). A master plan for Kahana Valley was developed in 1974 and policies for its implementation are currently in place. The DLNR has recently completed a study on restoration of Huilua Fishpond in Kahana Valley.

### 3.3.1.2 Community-Based Parks

Community-based parks serve more localized populations. This group includes district, community and neighborhood parks, as well as other smaller park areas (**Table 3-4**).

<b>Park Type</b>	<b>Average Size (Acres)</b>	<b>Population Service Size</b>	<b>Typical Facilities</b>
District	20	25,000	Playfields, playcourts, passive areas, gym/recreation complex, swimming pool
Community	10	10,000	Playfields, playcourts, passive areas, recreation building
Neighborhood	6	5,000	Playfields, playcourts, passive areas, comfort station
Mini Park	Varies	High Density Area	Benches, picnic tables, children's play area

Koolauloa contains only two community-based park areas totaling approximately 26 acres. These are the 16-acre Kahuku District Park and the 10-acre Hauula Community Park located adjacent to the elementary school (**Table 3-5**).

In evaluating community-based recreational park needs, the DPR uses a standard of two acres per every 1,000 person, although the figure can vary according to each community's or region's situation. Based on this population standard and Koolauloa's 1990 population of 14,340, the community-based parks in the region meet the standard. However, there are five distinct communities in Koolauloa which are widely spaced along the region's linear coastline. An overall park standard based on total population does not adequately address concerns related to separation and distance

that should be taken into consideration when assessing the adequacy of existing community-based parks. It is more appropriate to look separately at the needs of each individual community in rural areas like Koolauloa.

<b>Table 3-5: DPR Community-Based Parks in Koolau Loa</b>	
<b>Park Type/Name</b>	<b>Acreage</b>
<b>District Parks</b>	
Kahuku District Park	15.9
<b>Community Parks</b>	
Hauula Community Park	10.4
<b>Neighborhood Parks</b>	
None	—
<b>Mini Parks</b>	
None	—
<b>Total Park Area</b>	26.3

### 3.3.2. GENERAL POLICIES

The following general policies relate to island-based parks, community-based parks and other recreational resources in Koolauloa:

#### 3.3.2.1 Island-Based Parks and Other Recreation Areas

- Maintain and enhance, to the extent possible, existing island-based parks by utilizing land area that has not been fully developed for recreational use and improving the condition of existing facilities. These island-based parks are a critical component of the region's abundance of natural and scenic resources and contribute to the attractiveness and accessibility of Koolauloa's coastline and mauka areas for both residents and visitors.
- Establish a wilderness coastline park/reserve from Kuilima Resort to Kahuku Town. Wetland preserve areas should be integrated with the park resources. Any activities or uses proposed for these areas should be carefully reviewed as to their potential impacts on the integrity and viability of this wetland complex.
- Consider an expansion of the existing Kahuku public golf course if it serves to mitigate the drainage problem that currently exists there.
- Develop an integrated system of bikeways to link parks and recreation areas. Consider use of the O R & L tracks where feasible.

#### 3.3.2.2 Community-Based Parks

- Support the development of a community park with a community center facility in Lāie.
- Expand the Hauula Community Park by acquiring adjacent parcels, when feasible, to include a multi-purpose recreation facility.
- Provide neighborhood parks in Kaaawa, Punaluu, and Kahuku (Adams Field) to serve the residential population of these small communities.

- Support the development of a gymnasium and pool complex at Kahuku District Park to service the Koolauloa communities.
- Larger new residential developments will generate larger community-based “neighborhood” recreational needs and may, because of their size, also have the capability of supplying neighborhood park space to satisfy these needs within the development, where it would be most rational, safe, and needed.

### **3.3.3. Planning Principles**

The general policies for parks and recreation complexes are supported by the following planning principles:

- *Appropriate Siting and Screening.* Carefully site active playfields and supporting facilities for intensive use, and use generous landscaping and screening to reduce the potential impacts on surrounding areas.
- *Environmental Compatibility.* Construct park facilities in a manner that avoids adverse impacts on natural resources or processes in the coastal zone or any other environmentally sensitive area. In the design of recreation areas, incorporate natural features of the site and use landscape materials that are indigenous to the area where feasible to retain a sense of place.
- *Community Integration.* Link recreational attractions in these parks with the surrounding area through the use of connecting roadways, bikeways, walkways, and landscape features or architectural design. Support establishment of community gardens in unused park areas to expand gardening opportunities for area residents.

### **3.3.4 GUIDELINES**

The following guidelines provide more specific direction for implementing the general policies and planning principles for the parks and recreation areas discussed above.

#### **3.3.4.1 Beach or Passive Parks**

- Preserve and enhance coastal-oriented beach and passive park resources by maintaining existing facilities and making site improvements as required.

#### **3.3.4.2 Community-Based Parks**

- Continue coordination efforts between the City Department of Parks and Recreation and the State Department of Education to co-locate neighborhood or community parks with elementary or intermediate schools. Facilities should be designed and operated to achieve efficiencies and reduce duplication in the development and use of athletic, recreation, meeting and parking facilities, wherever possible, either by dedication, or upon agreements between the developer, DOE, and DPR. Co-located parks should be ready for public use upon opening.
- Where feasible, site community and neighborhood parks at the center of neighborhoods to maximize accessibility.
- Provide for accessible pathways from surrounding streets to facilitate pedestrian and bicycle access to parks in master plans for development of new parks or redevelopment of existing parks.

#### **3.3.4.3 ACTIVE RECREATION AREAS**

- Locate bus stops or loading areas at principal entries and adjacent to convenient pedestrian access to main activity areas within the park.

- Minimize the visibility of perimeter fencing and maintenance facilities through landscape plantings or other appropriate visual screens adjacent to residential areas and major roadways.

### 3.3.5 RELATION TO OPEN SPACE AND LAND USE MAPS

The following components of the parks and recreation areas are shown on the Open Space and Land Use Maps in Appendix A:

- *Parks.* Areas designated as parks are labeled with the park's name and, where space allows on the maps in Appendix A, the general location and land area of the park is outlined and colored.
- *Golf Courses.* The three golf courses in Koolau Loa are shown because of their recreational value and visual contribution to the landscape.
- *Shoreline Areas.* Shoreline areas with high scenic or wildlife value, generally along the Kahuku coastline between Mālaekahana and Kahuku Point, are designated for preservation and are located outside the Rural Community Boundary.

## 3.4 HISTORIC AND CULTURAL RESOURCES

Sections 3.4.1, 3.4.2, 3.4.3, and 3.4.4 provide an overview and a listing of policies, planning principles and guidelines for the preservation of historic and cultural resources in Koolauloa.

### 3.4.1 OVERVIEW

The Koolauloa region contains several different types of historic and cultural sites which are representative of its history and are valuable as historic records and cultural references. The treatment of a particular site should vary according to its characteristics and potential value.

Early periods are represented by physical remnants of the historic landscape and archaeological sites. In the 1930's, an archaeological survey of Oahu documented approximately 57 sites within the region of Koolauloa. Many of these sites, however, may have since been destroyed by land altering activities such as agricultural cultivation and development.

The plantation era is also an important period which made a substantial contribution to and imprint on Koolauloa's history. Reminders of that period, such as the Kahuku Sugar Mill, are significant and valuable as records of the past.

There are literally hundreds of archaeological features known to exist in Koolauloa, which attests to the richness of the region's cultural heritage. There are also numerous legends and historical accounts from Koolauloa's past which are important in Hawaiian culture. Table 3-6 presents a sample of the more well-known significant sites found in different parts of the Koolauloa region. McAllister (1933) is the most comprehensive report of the major archaeological features documented from field work in the early 1900's. A more recent field studies of site-specific development areas have identified additional archaeological sites, which is recorded with the State department of land and natural resources, historic preservation division.

**Table 3-6** lists examples of significant pre-contact sites believed to be present in Koolauloa. Although not listed in the table, there may also be other archaeological sites on undeveloped parcels, especially in areas deep within the region's valleys. More comprehensive listing of these sites are recorded in the following references:

- J. Gilbert McAllister, *Archaeology of O'ahu* (1933)

- E.P. Sterling and C. C. Summers, *Sites of Oahu* (1978)
- Fornander & Thrum, *Ancient Oahu*
- Burial Sites Program Inventory/O’ahu Burial Council
- State Historic Preservation Division Records

<b>Table 3-6: Significant Cultural and Pre-Contact Sites in Koolauloa</b>		
<b>Feature</b>	<b>Location</b>	<b>Reference</b>
Waikane stone	Kawela	McAllister Site 259
Punamanō water hole	Kahuku Point	McAllister Site 261
Kalaewila heiau	Kahuku Point	McAllister Site 266
Waiāpuka pool	Mālaekahana	McAllister Site 275
Paeo Fishpond	Lāie	McAllister Site 277
Nioi heiau	Lāie	McAllister Site 281
Laniloa Point	Lāie	McAllister Site 284
Kaliuwaa Valley	Kaluanui	McAllister Site 290
Maka heiau	Punaluu	McAllister Site 291
Huilua fishpond	Kahana	McAllister Site 301
Source: McAllister, J. Gilbert, <i>Archaeology of Oahu</i> 1933		

### 3.4.2 GENERAL POLICIES

- Emphasize physical references to Koolauloa’s history and cultural roots.
- Protect existing visual landmarks and support the creation of new, culturally appropriate landmarks at ahupuaa boundaries.
- Preserve and restore historic and cultural resources associated with native Hawaiian and pre-contact periods.
- Preserve significant historic features from earlier periods such as the plantation era.
- Retain, wherever possible, significant vistas associated with archaeological features.
- Revitalize Hukilau Beach.

### 3.4.3 PLANNING PRINCIPLES

The treatment of a particular historic or cultural site should depend upon its characteristics and potential value. The following planning principles should be used to determine appropriate treatment:

- *Preservation and Protection.* Implement in situ preservation and appropriate protection measures for sites that have high preservation value because of their good condition or unique features.
- *Compatible Setting.* Determine the appropriate treatment for an historic site by the particular qualities of the site and its relationship to its physical surroundings. The context of an historic site is usually a significant part of its value. Care should be taken in the planning and design of adjacent uses to avoid conflicts or abrupt contrasts that detract from or destroy the physical integrity, historic or cultural value of the site.



- *Accessibility and Interpretation.* Establish the degree of public access and interpretation that would best promote the preservation of the historic, cultural and educational value of a site. Public access to and interpretation of an historic site may take many forms. In some cases, it may be highly advisable to restrict access to protect the physical integrity or sacred value of the site, while in other cases it may be necessary to recognize that some form of low-impact economic use is an appropriate and feasible way to preserve it.

#### 3.4.4 GUIDELINES

The following guidelines apply to cultural, historical and archaeological sites and implement the general policies and planning principles listed above:

- Require preservation in situ only for those features that the State Historic Preservation Officer has recommended such treatment in conjunction with the community.
- Determine the following on a site-by-site basis in consultation with the State Historic Preservation Officer, O‘ahu Burial Council, local Hawaiian cultural organizations, and the owner of the land on which the site is located, and the community:
  - appropriate preservation methods;
  - appropriate delineation of site boundaries and setbacks;
  - appropriate restrictions on uses and development of adjacent lands; and
  - the appropriateness of public access and interpretation.
- Include sight lines and view planes that are significant to the original purpose and value of the site in any restrictions placed on adjacent uses and development.

### 3.5 RESIDENTIAL USES

An overview of existing and new residential communities in Koolauloa is presented below. This is followed by a description of general policies and guidelines that apply to existing and planned residential developments.

#### 3.5.1 OVERVIEW

The establishment of a Rural Community Boundary is intended to contain the spread of development into significant agricultural and preservation areas. The need for additional housing in Koolauloa will be met primarily by the “infill” development of existing vacant lands within each of the region’s rural communities, and by allowing the limited expansion of residential areas in Kahuku and Lāie. These areas are contiguous to existing development and will accommodate housing needs in Kahuku related to long-term projected employment growth at Kuilima Resort and in Lāie related to an expansion of diversified employment opportunities.

Vital, contemporary communities oriented toward meeting the needs of their residents often offer a network of amenities to facilitate and enhance individual, family, and community life. At their best, they may offer parks and landscaped public open spaces, churches, community centers, and other places for social and civic functions, residences or other facilities for persons with special needs, and safe, pleasant bicycle and pedestrian connections that link homes and important destinations. While this plan refrains from prescribing what the specific ingredients of any given community should be, it takes this opportunity to cite the need, in each community, for appropriate elements which aid and enhance the act of living as well as residence.

While development of moderate-sized vacant parcels may be readily visible and their effects may be more immediately apparent than infill development of small parcels and single lots, the physical changes brought about by incremental intensification in existing built-up neighborhoods through infill and home expansions would be slower and more subtle.

Nevertheless, the long-term cumulative impact of the gradual transformation of small parcels and single lots could adversely affect the character of existing neighborhoods in the absence of effective residential lot and subdivision design and development standards which limit building height, lot coverage, paving width of streets, and promote landscaping.

### 3.5.2 GENERAL POLICIES

The following general policies are applicable to existing and new residential communities:

- Respect and help to preserve the natural setting of the Koolauloa region by requiring development in residential areas to be sensitive to physical constraints and have minimal impact on the area's rural character.
- Provide a sufficient capacity within the Rural Community Boundary to accommodate existing and future housing needs. Allow for limited expansion of residential areas in Kahuku and Lāie to meet existing pent-up demand, and anticipated future housing needs related to long-term planned job growth at Kuilima Resort and new diversified employment opportunities in Lāie.
- Maintain the existing residential capacities for the communities of Kaaawa, Hauula and Punaluu. Future residential needs in these communities will be met through infill residential development on appropriately zoned vacant lots within existing neighborhoods. No new housing areas are designated in these areas.
- Adopt zoning, subdivision and related project design regulations which foster a rural character in new residential developments and improvements to existing residential areas.
- Encourage and support the development of affordable housing in the region in order to meet the needs of a variety of market sectors, existing pent-up demand for housing and overcrowded housing conditions.

### 3.5.3 Planning Principles

- *Rural Character of Neighborhoods.* Enhance the design character of existing housing areas and of infill and new residential development through the application of rural development standards which will help to maintain the relatively rural quality of Koolauloa's neighborhoods and residential areas. This concept is illustrated in **Figure 3-2**.
- *Variety of Housing Types.* Provide a variety of housing types in order to meet the appropriate housing needs unique to each community and the physical characteristics of potential building sites. **Table 3-7** presents density and height guidelines for existing and planned residential developments.

Table 3-7: Density and Height Guidelines by Residential Density Category		
Residential Category	Density (Housing Units)	Building Height
Rural	1 per acre	Not over two stories.
Rural Residential	5-8 per acre	Not over two-stories, but may vary according to required flood elevation, slopes, and roof form.
Low Density Apartment	10-20 per acre	Generally not over three stories, but may vary according to required flood elevation, slope, protection of natural features and roof form.

### 3.5.4 GUIDELINES

Except for pockets of apartments in Punaluu and proposed ones that were previously approved for Lāie, the majority of the housing in Koolauloa consists of rural residential areas. Some of these areas typically exhibit the physical characteristics of a rural context, including:

- Smaller lot coverage and larger setbacks than encountered in more urbanized areas;
- Low-rise structures, generally not exceeding two stories;
- Relatively narrow roadway widths;
- Use of grassed swales rather than curbs and gutters; and
- Rural-oriented landscaping.

This plan recognizes three categories of residential development: Rural, Rural Residential, and Low Density Apartment. Guidelines for these areas are as follows:

#### 3.5.4.1 Rural

This category consists of single-family homes on relatively large lots, e.g., lots of one acre or more. Development is low intensity and generally consists of a single-family home, ancillary structures if necessary, low site coverage, and a predominance of landscaped open space. They are located on existing country-zoned lands between Lāie and Kaaawa. No intensification in the use of existing Rural areas nor creation of new Rural areas is intended. Existing Rural parcels are recognized, valid uses; however, no new Rural lots should be permitted.

Two variants of the Rural category are recognized by this plan:

- Inside the Rural Community boundaries, Rural areas may be developed as large-lot residential uses.
- Outside the Rural Community Boundary, Rural areas should be used primarily for agricultural uses.

#### 3.5.4.2 Rural Residential

This category is intended to describe the bulk of existing and new residential developments located within the Rural Community boundaries. These areas consist of single-family homes in “country” settings. Typical residential lot sizes range from just less than one acre to about one-eighth acre. Alternate development forms, such as cluster or PD-H approaches which result in greater amounts of open space and common facilities, may also be used.

New Rural Residential development may occur through infill development on existing vacant lots in the region, or in areas designated for residential development in Kahuku and Lāie. In Lāie, a total of 550 units are planned for two areas *mauka* of BYU-H to accommodate existing resident need and residential needs generated by future economic development of Lāie. Except for 100 units, all of these units have been previously approved. In Kahuku, the final phase of Kahuku Villages proposes 177 affordable housing units. No additional housing units are proposed for Kahuku, but any future affordable housing should be accommodated *mauka* of Kahuku Elementary School, within the State Urban District Boundary, with the support of the Kahuku community.

Existing Residential Districts on Oahu generally allow for lot sizes of 3,500 to 20,000 square feet with a range of 2 to 10 or 12 units per acre. To address identified market sector needs for lots of 5,000 to 10,000 square feet in the region, densities for designated Rural Residential areas in Koolauloa should range from 5 to 8 units per acre or up to 10 units for cluster and PD-H development that preserve open space. They should adhere to the following guidelines:

- Establish rural development standards that foster a rural character by limiting building height and lot coverage; reducing current requirements for the paving width of residential streets; eliminating or modifying the requirement for curbs, sidewalks and gutters; and encouraging ample landscaping (**Figure 3-2**).
- Housing development generally should not be sited on areas where the slope exceeds 20 percent. Where this does occur, housing should be developed to avoid adverse visual impacts, potential slope stability problems and increased runoff. Soils engineering and view studies may be necessary to determine the appropriate density and site design for such locations.
- Building scale, roof form, and the quality of materials for infill and new development, as well as future modifications to existing homes, should be generally compatible with the predominant form of existing homes on adjacent properties and with the neighborhood as a whole. Building heights generally should not exceed two stories, but may vary according to required flood elevation, protection of natural features, slope, and roof form. Modification of zoning standards for residential development, such as provisions for building scale or spacing, roadway widths, or sidewalks, and/or changes in existing zoning district categories, may be necessary to promote rural character.
- Sites on level terrain with fewer development constraints may have overall site densities approaching the higher end of the range for Rural Residential use. To achieve higher density while providing an attractive living environment, optional design or rural development standards for clusters and planned unit developments should be promoted in lieu of conventional subdivision provisions.

#### **3.5.4.3 Low Density Apartment**

This category consists of predominately two- and three-story townhouse complexes, stacked flats, or low-rise apartment buildings with a maximum height of 40 feet. Densities may be in the range of 10 to 20 dwelling units per acre. There is only one existing Low Density Apartment area within Koolauloa which includes the two multi-story buildings in Punaluu along the *makai* side of Kamehameha Highway.

Low density apartment development may take place within the previously approved apartment district near the Lāie Water Reclamation Facility to provide more affordable housing for the residents of Lāie and nearby communities, or special needs housing for the elderly, the disabled, or other groups. No new Low Density Residential areas are planned.

Low Density Apartment development should adhere to the following guidelines:

- Limit building heights to three stories or 40 feet, including roof form, with heights above 40 feet allowed only when necessary due to the required flood elevation, steep slope of the site, or the desire to protect important natural features. Gabled or similar roof forms should be used to reflect a primarily rural residential design character.
- Employ design techniques such as building form and orientation, location of entries and landscape screening, etc., to maintain the existing residential scale and provide greater privacy and individual identity for housing units.

#### **3.5.4.4 Special Needs Housing**

Special Needs Housing does not indicate a specific housing or building type, rather, it refers to facilities designed for certain segments of the population with special living requirements. Categories of special needs groups include low- and moderate-income sectors, senior citizens, disabled people, and people with health problems or individuals who need other forms of special care. Often such housing includes special features, such as congregate dining and social rooms; laundry, housekeeping and personal assistance services; shuttle bus services for residents; and skilled nursing

beds or physical therapy clinics. Special needs housing should be located in close proximity to transit services and commercial centers.

- In general, apply Low Density Apartment building height and density guidelines to Special Needs Housing sites, as described in Section 3.5.4.3.
- Special Needs Housing, as an exception to standard density situations, may have densities up to 30 units per acre if they consist primarily of smaller dwelling units with residential scale and character. Special Needs Housing may have congregate living facilities, and are for elderly and/or disabled residents who, for the most part, do not rely on or require personal automobiles for travel.
- Whenever possible, locate special needs housing close to public transit, community services and commercial centers.
- Allow heights above 40 feet, subject to community and agency review, only when necessary due to the required flood elevation, steep slope of the site, or the desire to protect important natural features. Gabled or similar roof forms should be used to reflect a primarily rural residential design character.
- Ensure compatibility of building scale, roof form, and materials with adjacent residential uses.

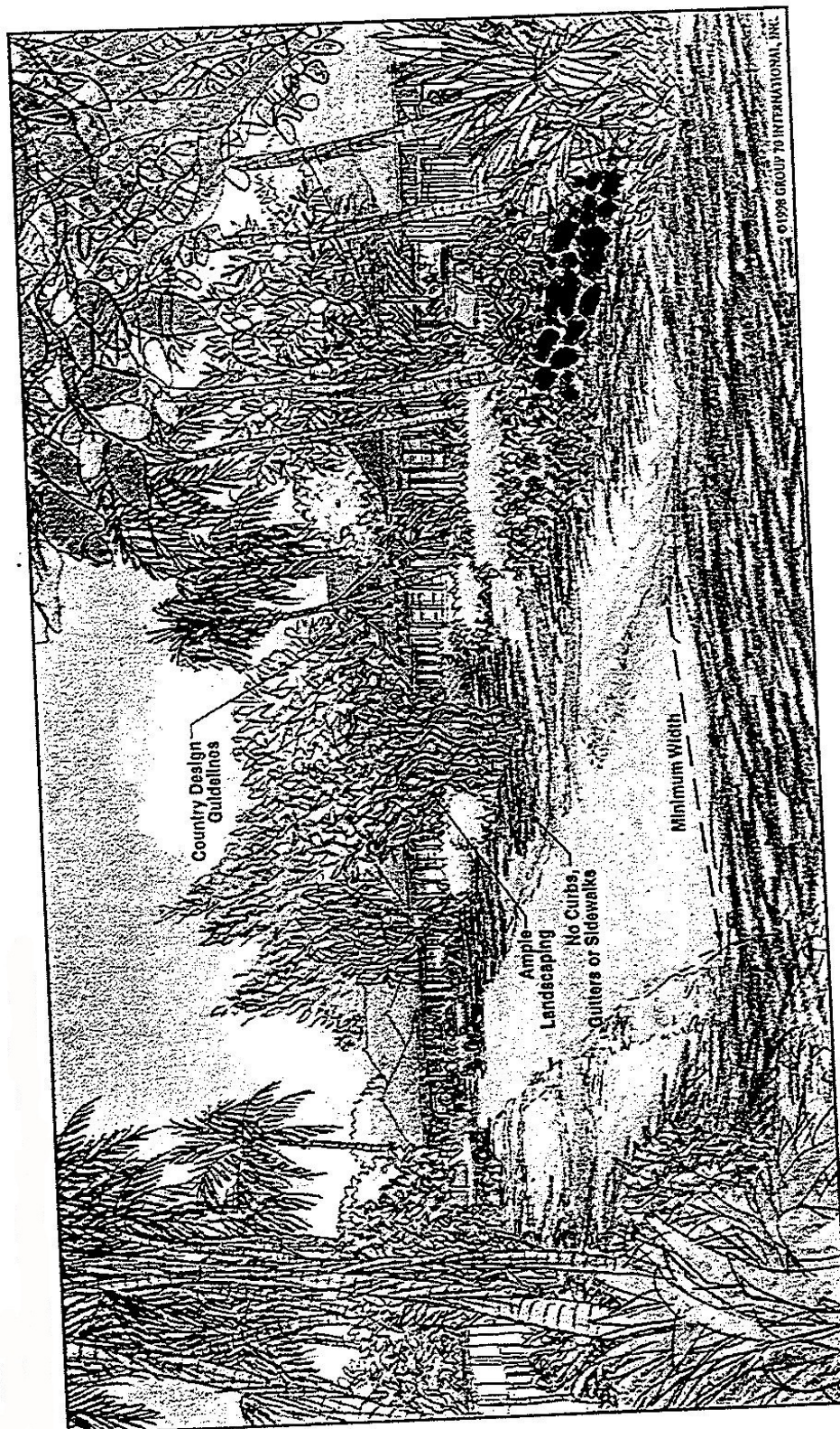
### 3.5.5 Relation to Land Use Map

Conceptual locations for rural residential areas are shown on the Koolauloa Land Use Map in Appendix A, while the other residential areas are not designated on the Land Use Map.

- *Rural.* Rural areas are recognized where they occur as a pre-existing use but not depicted on the map. No new areas are planned.
- *Rural Residential.* Areas with this designation should be zoned as residential subject to appropriate siting considerations, and to the policies, principles and guidelines provided in Sections 3.5.1 through 3.5.4.
- *Low Density Apartment.* General locations for such sites are not shown on the map but are noted in Section 3.5.4.3, Low Density Apartment.
- *Special Needs Housing.* To allow flexibility in the location of Special Needs Housing and to promote flexible site design that preserves natural features or scenic elements, this land use is not specifically designated on the Land Use Map, but it is allowed in residential areas subject to project-by-project review for compatibility with surrounding uses.

The following nonresidential uses are not specifically designated on the Land Use Map, but are allowed in all residential areas: elementary schools, parks, churches, community centers, child care centers, and public facilities and utilities serving the area. It should be noted that some of these uses do require project review and issuance of permits before they can be developed within a residential area.

Figure 3-2: Rural Residential Development Standards





### 3.6 COMMERCIAL AREAS

#### 3.6.1 OVERVIEW

Commercial establishments in Koolauloa range in type from small, individual stores along Kamehameha Highway to a grouping of many shops and other commercial enterprises clustered together to form a shopping area. They are:

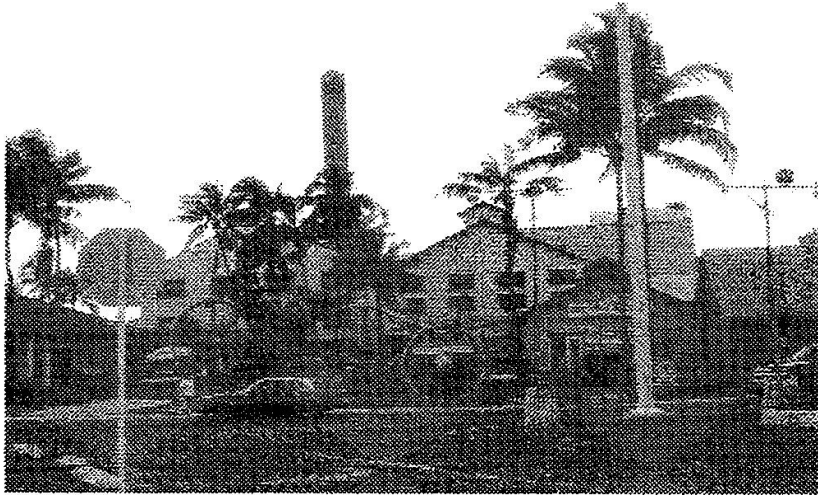
- Country Town
- Rural Regional Commercial Center
- Rural Community Commercial Center
- Country Stores

Brief descriptions of each type follow:

- *Country Town.* The country town generally distinguishes itself from its larger, often new urban counterparts by its compactness, small scale and mixture of different land uses, located in close proximity to each other. The land use mixture may include retail and office commercial, dining establishments, compatible service business and light industry activity, and some residential uses. Buildings are usually 1 to 2 stories in height and built to the street property line. Commercial activity is along street frontage in typically “Mainstreet” settings. Country towns often lend identity to adjacent rural communities.

The commercial district at the north end of Kahuku Village is designated as a Country Town. While current uses are primarily retail shops and restaurants, the intent is to allow commercial, low impact industrial (crafts manufacturing, light assembly, etc.), and residential uses in a compatible mix that is characteristic of many plantation or neighbor island rural towns. The arrangement of uses and the style and character of building designs would be reminiscent of Kahuku’s plantation heritage.

- *Rural Regional Commercial Center.* The Rural Regional Commercial Center is a consolidated cluster of commercial retail, offices, and dining establishments that serve both the immediate and nearby communities. These establishments may be located on adjacent, individual parcels or on a single, consolidated parcel. It is located along a major roadway to enable convenient access without intrusion into residential communities. Buildings are generally low-profile and small in appearance, may include taller, vertical accents, and are generally compatible with the scale of adjacent residential areas in locations where such adjacencies exist. Its service area may be regional or sub-regional. Lāie Shopping Center is an example of this type of center.
- Characteristics which distinguish this type of commercial establishment from urban or urban fringe counterparts include physical characteristics and type of tenancy. Rural Regional Commercial Centers maintain a rural, small-scale character. Buildings are visually organized, designed, or “broken up” into pieces that approximate or relate to the scale of residential buildings. They also feature elements that are “friendly” to someone walking. They feature covered walkways, open ground-floor storefronts, pathways that offer adequate resting and gathering, as well as walking space, and landscaping to shelter people from the elements and accentuate the Center’s best features. While supermarkets are encouraged, “Big Box” retail is not.



### **Kahuku Sugar Mill and Country Town**

While the character has not yet been fully achieved within the Koolauloa region, the photograph below, depicting the North Shore Marketplace, offers an example of the type of atmosphere a rural commercial center, whether regional or community, can assume.



### **Possible Setting for a Rural Commercial Center**

The business center in the middle of Lāie is designated as a Rural Regional Commercial Center. It provides a mix of retail shopping, restaurant, personal service, entertainment and professional office uses that serve a regional consumer base which includes local residents, residents from neighboring communities and, to a limited extent, tourists. It is operated as a unit with shared parking and center management.



- *Rural Community Commercial Center.* The rural community commercial center is a small cluster of commercial and service businesses which service primarily the immediate community. Since most are located along highways, these centers also attract visitors and residents from outside the immediate community.

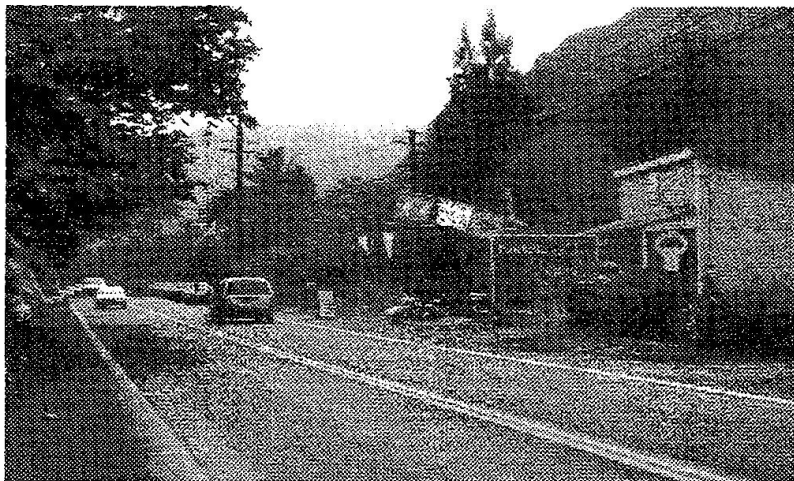
This type of center typically consists of a cluster of establishments on individual land parcels or a shop consolidated into one or a group of buildings on a single parcel, as at the Hauula Kai Center. Structures are generally low-profile (1 to 2 stories) and small in scale.

The shopping center at Hauula, located at a prominent site at the north or Lāie end of the town, is designated as a Rural Community Commercial Center. It provides a limited mix of convenience retail shopping and service uses that meet the day-to-day needs of residents living in nearby neighborhoods. Like Lā'ie's town center, it is operated as a unit with shared parking and center management.

A community-based forum to examine ways to revitalize the site was sponsored by Na Lei Malama, a coalition of community members and providers of health, education, and social services in September 1998. Ideas offered included convenience or community-oriented stores, restaurants, professional services, movie theatres, social service centers, and a cultural arts center with a regional as well as local draw. Approaches toward achieving revitalization ranged from renovation to redevelopment.

- *Country Stores.* This category generally refers to isolated, freestanding retail or eating establishments located on commercially zoned lands or which exist as legally nonconforming uses. Its purpose is to recognize such establishments and to provide guidance for renovation, reconstruction, or minor expansion of these facilities. It is not intended to provide for new country stores.

Country stores are generally small in scale and low in intensity of uses, often assuming residential size and character. Their character generally approximates that of old neighborhood grocery stores. These businesses serve a variety of purposes, including convenience retail, shops selling art and crafts and other specialty items, and restaurants. Most cater almost exclusively to the needs of area residents, but some such as the restaurants and art studios depend heavily on the business of island residents and visitors who are traveling through the area.

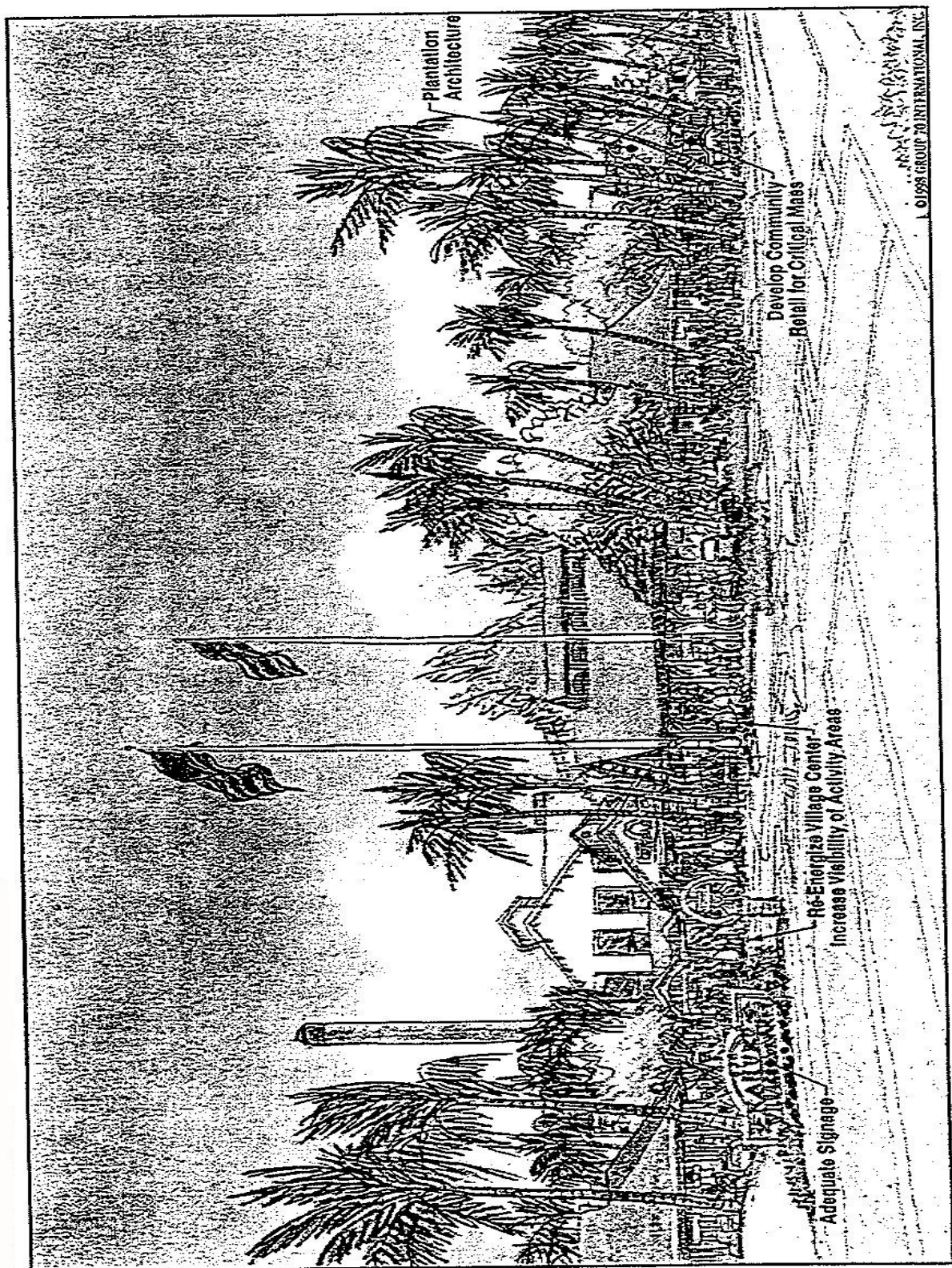


**Koolau Loa Country Store**

### 3.6.2 GENERAL POLICIES

- *Kahuku Country Town (Figure 3-3)*
  - Maintain a plantation town character that reflects the building forms and exterior appearance of traditional commercial and mixed-use buildings in Hawaii's plantation communities. The existing mill should continue to be a dominant element and visual reference for the town. It may be appropriate to adopt design guidelines that would make future structures at or adjacent to the Mill visually compatible with it.
  - Permit limited expansion to create sufficient critical and diversified mass for the center's continued viability to meet local and visitor shopping needs.
  - Allow for compatible mixtures of commercial, industrial and residential uses within the Country Town district. Emphasize commercial uses along the Kamehameha Highway frontage.
  - Emphasize commercial and related uses conducive to pedestrian activity at the street level along main street frontages. Adequate landscaping and where possible and appropriate, bikeway and public transportation provisions, should be part of any program to improve public thoroughfares through these locations.
- *Lāie Rural Regional Commercial Center*
  - Introduce a rural architectural character which incorporates appropriate themes and building forms reflective of the diverse heritage of Lāie's residents.
  - Provide for a modest expansion of the district in order to meet future resident and visitor needs associated with Lāie's anticipated long-term housing and employment growth, and the expansion of visitor attractions. Given its size, and potential mix of uses, Lāie's center has potential as a focal point for the region's shopping and services, and limited expansion is appropriate in order to better serve adjoining communities as well as local residents.
  - Limit uses primarily to commercial retail, business service establishments, professional offices and public uses such as a satellite city hall, library, post office, or other similar facilities, that provide services to Lāie and surrounding communities.
- *Hauula Rural Community Commercial Center*
  - Maintain low-rise profile and small building scale, and emphasize rural character in the maintenance, renovation, or redevelopment of the center or site. Such actions or those which involve changes in the tenant mix to improve the range and quality of local shopping and service uses should be oriented toward maintaining the center's primarily community-oriented role.
  - Emphasize a mix of retail and service uses which meet the day-to-day shopping needs of Hauula's residents.
- *Country Stores*
  - Recognize the contribution that existing country store-type establishments make to Koolauloa's unique rural character by allowing them to remain and, where necessary, be renovated or reconstructed in accordance with appropriate design criteria.
  - In general, limit these establishments to their existing locations and prohibit expansion that would alter their country store character or create commercial strips along Kamehameha Highway.

Figure 3-3 Commercial Areas Design Guidelines





**3.6.3 PLANNING PRINCIPLES AND GUIDELINES FOR ALL COMMERCIAL AREAS**

- *Architectural Style*
  - Utilize building forms and details which reflect the region's rural character and incorporate the style and any desirable distinctive features of buildings in the community in which they are located.
  - Encourage the use of false fronts, sloped roofs, and breaks in the roof line to reduce the apparent scale of large roof plates in commercial buildings with multiple storefronts.
  - Avoid blank façades on portions of buildings visible from a street by using texture, articulation, color, windows, or other openings to create visual interest.
  - Reflect a more residential scale and character in the portions of commercial buildings that are adjacent to or readily visible from residential areas, or screen them from view with landscaping.
- *Building Scale and Massing*
  - Limit commercial buildings to a maximum 40 feet in height, including roof form. In general, buildings should maintain a low-rise, rural scale.
  - Avoid the use of large, continuous buildings in new commercial developments. Commercial buildings adjacent to residential areas should be designed to recognize the balance between commercial needs and residential concerns. In general, the physical composition of height, size, and massing of commercial buildings in these locations should be compatible with adjacent residential development.
- *Site Design and Access*
  - Provide for the general visibility from Kamehameha Highway of buildings within commercial centers, and employ adequate and appropriately designed signage at entries.
  - Provide access to parking and loading areas primarily from Kamehameha Highway for the shopping areas in Kahuku and Lāie, and exclusively for the Rural Community Commercial Center (Hauula) and country store establishments that front the highway.
  - Employ site design practices and provide facilities which promote pedestrian, bicycle and public transit access.
  - Improve bus stops in front of commercial centers, including pull-out bus stop lanes and shelters for waiting passengers.
  - Provide racks for bicycle parking at all commercial centers and locate them where they are secure and visible from entry points or other heavy circulation areas.
- *Visual Screening, Lighting and Signage*
  - Plant a landscape screen consisting of trees and hedges along streets fronting parking lots.
  - Provide shade trees throughout parking lots.
  - Visually screen service areas from public and residential areas.
  - Require indirect illumination for signage visible from residential areas.

**3.6.4 PLANNING PRINCIPLES AND GUIDELINES FOR KAHUKU COUNTRY TOWN (FIGURE 3-3)**

- *Architectural Style*
  - Incorporate architectural themes and details in new buildings and building renovations which reflect the traditional built forms and cultural heritage of Kahuku and other plantation communities in Hawaii.
- *Building Scale and Massing*
  - Promote the development of two-story as well as one-story buildings to accommodate and encourage the desired mix of uses. The existing sugar mill should continue to be the visually dominant structure for the town.
  - Keep buildings relatively small in size and distinctive in character, and avoid the development of long “shopping center”-type structures.
  - Group buildings and related public spaces in a way which fosters a pedestrian orientation and encourages travel on foot between different establishments.

**3.6.5 PLANNING PRINCIPLES AND GUIDELINES FOR LĀIE RURAL REGIONAL COMMERCIAL CENTER**

- *Architectural Style*
  - Employ architectural design strategies, forms, and details in new building design which reduce the sense of building mass of the center. Incorporate architectural forms and details in future renovations of existing buildings which visually reduce their apparent size.
  - Establish a more distinctive rural architectural character for the center through the use of Polynesian themes and built forms.
- *Building Scale and Massing*
  - Maintain the existing center’s low-rise building scale consistent with the character of surrounding residential development.
  - To the extent possible, site new buildings in a manner which emphasizes a pedestrian orientation and encourages travel on foot between new and existing establishments. Future renovation, redevelopment or expansion of the Rural Regional Commercial Center should take or create opportunities to implement a primarily pedestrian-oriented, village-like setting, in contrast to its current linear form.

**3.6.6 PLANNING PRINCIPLES AND GUIDELINES FOR HAUULA RURAL COMMUNITY COMMERCIAL CENTER**

- *Architectural Style*
  - Encourage and support existing building renovation or site redevelopment in a manner which reflects a more rural character architecture than its current “big box” urban form (see Section 3.6.3).
- *Site Design*
  - Increase landscaping within the parking lot and along the center’s Kamehameha Highway frontage in order to soften its appearance and improve its compatibility with the community’s rural character.

### 3.6.7 PLANNING PRINCIPLES AND GUIDELINES FOR COUNTRY STORES

- *Architectural Style*
  - Encourage renovations to existing establishments which maintain or, where appropriate, improve upon the traditional stand-alone “country store” architectural style found in Hawaii’s rural communities.
  - Require the architectural character of any redeveloped buildings to be harmonious with adjacent developments and setting in form, material, finishes and color.
- *Building Scale and Massing*
  - Retain the existing stand-alone, small-scale, limited setback, one-story height building form in the redevelopment of any existing establishments.

### 3.6.8 RELATION TO LAND USE MAP

Commercial areas are shown on the Koolauloa Land Use Map in Appendix A as follows:

- *Country Town.* The general location of the Kahuku Country Town is designated by an orange diamond.
- *Rural Regional Commercial Center.* The general location of the Lāie Rural Regional Commercial Center is designated by an orange triangle.
- *Rural Community Commercial Center.* The general location of the Hauula Rural Community Commercial Center is designated by a smaller orange triangle.
- *Country Stores.* Due to their relatively small-scale, their locations are not depicted on the Land Use Map. The following are existing country stores within Koolauloa: Country Kitchen and Crouching Lion Inn in Kaaawa; Ahi’s Restaurant, Kaya’s and the Punaluu Art Gallery in Punaluu; Masa’s, Wu Store and Ching Tong Leong in Hauula; Cackle Fresh Store, Lāie Cash & Carry, and Hukilau Cafe in Lāie; and Walsh Farm (Tanaka’s) in Kahuku. The Koalau Loa Sustainable Communities Plan intends no new locations for country stores.

## 3.7 INDUSTRIAL AND TECHNOLOGY PARK AREAS

Industrial areas are intended for light and service-related industrial uses associated with repair, processing, construction, manufacturing, transportation, wholesaling, distribution, storage and similar economic activities. These areas should also include a range of compatible commercial activities.

High Tech Parks are areas intended for light, technology, and service-oriented industrial and business uses in a campus-like setting. Development intensity is low, while open space and landscaping are the predominant visual and physical elements.

### 3.7.1 GENERAL POLICIES

Industrial uses serving the Koolauloa area should be located in the existing Kahuku industrial site or the proposed Lāie Industrial Park planned for approximately 25 acres mauka of the Cackle Fresh Store on Kamehameha Highway. The Kahuku Sugar Mill industrial site may also accept agricultural support activities. This should provide adequate space for light industrial functions such as small warehousing facilities; repair facilities for automobiles, appliances and agricultural machinery; light manufacturing such as wood products and local crafts; and agricultural support industries

including processing for biomedical and plant products. Development of the site should respect and adequately address on-site and adjacent cultural and natural resource values in compliance with applicable federal and state regulations. Particular consideration should be given to archeological, historic, habitat, water quality and other values and characteristics of streams, wetlands, and other natural or cultural resources. In addition, on-site development and associated activities should take care to avoid adverse impacts on adjacent land uses and activities.

High technology enterprises such as telecommunications, technological support services, computer parts manufacturing, business education, multi-language translation, and research and development facilities should be located in the Lāie Technology Park planned for approximately 28 acres mauka of the Brigham Young University – Hawaii (BYU-H) campus.

Appropriately developed, the industrial area and the technology enterprise park will serve to establish an appropriate land supply and locations for these uses and provide a more competitive market for businesses seeking to locate these activities.

### **3.7.2 PLANNING PRINCIPLES AND GUIDELINES FOR INDUSTRIAL AREAS**

The following planning principles apply to the industrial park area:

- *Appropriate Scale and Siting.* Minimize the visibility of large building volumes and tall building or machinery elements from residential areas, commercial and civic districts, resort areas, and parks through careful site planning and use of ample landscaping.
- *Environmental Compatibility.* Locate and buffer operations that discharge air or water pollutants, even when treated, in areas where they would impose the least potential harm on the natural environment, in case the treatment process fails to perform adequately. Uses that generate high noise levels should be located and operated in a way that will keep noise to an acceptable level in existing and planned residential areas.

Guidelines to implement the general policies and planning principles are:

- *Use Allocation.*
  - Provide mostly small lots within the Lāie industrial park in order to accommodate small business service uses.
  - Allow retail establishments as accessory uses only.
  - No buildings should be primarily used for offices or business services.
- *Building Height and Mass.*
  - Building heights should generally not exceed 40 feet.
  - Buildings should maintain a low-rise, rural character and be compatible with surrounding land uses which include agricultural lands, open space, and residential areas. Employ building coverage that is appropriate to the rural environment; avoid use of large, continuous buildings; and minimize visibility of structures with careful site planning and ample landscaping.
- *Visual Screening.*
  - Minimize the visibility of parking, storage, industrial equipment and operations areas from the street by planting a landscape screen of trees and hedges along street frontages.

### 3.7.3 PLANNING PRINCIPLES AND GUIDELINES FOR TECHNOLOGY PARKS

The following planning principles apply to the technology park areas:

- *Appropriate Scale and Siting.* The character of the technology park should be relatively low in scale and visibility. The form of the structures should be modeled on campus-like business parks, but the architectural style should be in keeping with and blend into the rural character of the technology park's setting and adjacent uses. The buildings should not be visible from off-site scenic viewpoints looking mauka, and the site should be carefully planned and ample landscaping used so the development is integrated into its surroundings.
- *Environmental Compatibility.* The technology park is primarily intended for emerging and technology-oriented industries and support services. Uses that should not be permitted in the technology park include uses that: produce noise and noxious emissions; uses connected with agricultural production; large-scale retailing/wholesaling commercial operations; dwelling units or overnight accommodations of any kind.

Guidelines to implement the general policies and planning principles are:

- *Use Allocation.*
  - Uses are intended to be emerging and technology-oriented industries, including but not limited to telecommunications, business education, and research and development facilities.
  - Allow retail establishments as accessory uses only.
- *Building Height and Mass.*
  - Building heights should generally not exceed 40 feet.
  - Buildings should maintain a low-rise, rural character and be compatible with surrounding land uses which include agricultural lands, open space, and residential areas. Employ building coverage that is appropriate to the rural environment; avoid use of large, continuous buildings; and minimize visibility of structures with careful site planning and ample landscaping.
- *Visual Screening.*
  - Soften the visual impacts of parking, storage, industrial equipment and operations areas from the street by planting a landscape screen of trees and hedges along street frontages. The planting of native trees is encouraged.

### 3.7.4 RELATION TO LAND USE MAP

The industrial and technology park areas are shown on the Koolauloa Land Use Map in Appendix A as follows:

- *Industrial Park.* The location of the existing industrial site in Kahuku and the planned Lāie Industrial Park are designated by light purple colored areas that represent their general location and shape.
- *Technology Park.* The location of the planned Lāie Technology Park is designated by a lavender colored area that represents its general location and shape.

## 3.8 VISITOR FACILITIES

Facilities for visitor activities and accommodations in Koolauloa will be centered at Kuilima Resort and the Polynesian Cultural Center, which includes the Rodeway Inn and adjacent Resort-zoned parcels. Eco-tourism operations can be



located at Kaaawa Valley (Kualoa Ranch) and Lāie, where such uses can be made compatible and integrated with adjacent agricultural land uses.

### **3.8.1 KUILIMA RESORT**

Located at the north end of Koolauloa, this is one of two major resort destinations, the other being Ko Olina in 'Ewa, planned for Oahu as supplemental to the resort experience offered by Waikiki. The master plan for Kuilima integrates resort-hotel, resort- condominium, resort-commercial, golf, tennis, and other recreation, and wetland and shoreline preserve areas.

#### **3.8.1.1 General Policies**

Plans to establish a major resort destination at Kuilima should be maintained. It will provide a major source of jobs for Koolauloa and North Shore residents, significantly improve shoreline access and use opportunities for residents, and include other amenities that can be enjoyed by residents and visitors alike.

#### **3.8.1.2 Planning Principles**

The following planning principles apply to the Kuilima Resort.

- *Design Character.* Kuilima Resort is conceived as a destination resort relating to and integrated with the rural North Shore of Oahu. It is envisioned as a resort overlaid with the simplicity and timelessness of a *kamaaina* country estate with characteristic hospitality and elegance.
- *Appropriate Scale and Siting.* The master plan reflects the estate-like quality in the low density of buildings, the lush and extensive landscaping on all parcels and common areas, and the gracious entry drive servicing the entire property.
- *Environmental Compatibility.* Kuilima Resort is within a unique environment with several major constraints and guidelines for development, which have been factored into the siting for major facilities. New resort facilities should respect constraints of flooding, wetlands, sand dunes, wildlife, and archaeology.
- *Community Integration.* The master plan includes dedicated public parks at Kawela Bay and Kahuku Point, as well as community access and parking for shoreline use at multiple locations within the resort.

#### **3.8.1.3 Guidelines**

Guidelines for the development of Kuilima Resort should follow the adopted Kuilima Resort Design Guide and Kuilima Resort Architectural Guidelines, which include the following:

- *Built Form.*
  - Express the kamaāina architectural themes of the resort through building design.
  - Make building massing and configuration compatible with the intimate character of the resort.
  - Develop projects in multistructure complexes rather than single monolithic buildings.
- *Natural Environment.* Preserve and enhance existing features of topography, landscape and views unique to the various use zones within the development.
- *Shoreline Access.* Enhance public access to the shoreline through the creation of two new major shoreline parks. Access through the main resort should also be retained with public parking provided.

- *Views and Vistas.* Site and landscape buildings in a manner that protects and emphasizes the dramatic coastal views from within the resort.
- *Landscaping.* Provide lush and extensive landscaping on all parcels and common areas, and the entry drive servicing the entire property. Integrate mature trees into the complexes.

### 3.8.1.4 Kuilima Resort Master Plan

The Kuilima Resort Master Plan, **Figure 3-4**, depicts the planned and zoned land uses within the Kuilima Resort. Land uses include the following:

*Resort.* Sites for resort and low- to medium-density residential units are indicated.

*Commercial.* A resort commercial area is planned adjacent to the existing Turtle Bay Hilton.

*Golf Course.* The existing 27-hole golf course is planned to integrate portions of the former golf course area (now open space) to become two 18-hole golf courses.

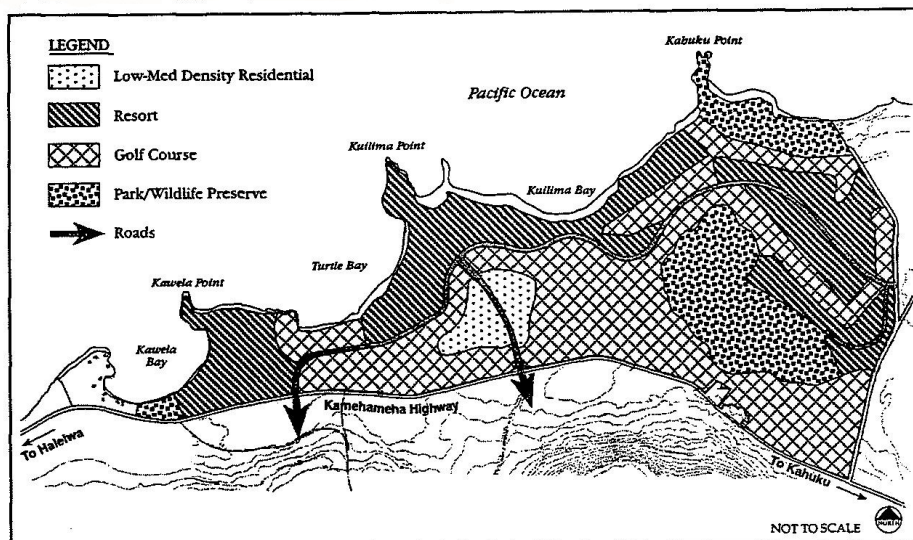
## 3.8.2 VISITOR ATTRACTIONS

### 3.8.2.1 General Policies

Plans to renew and expand facilities as necessary to maintain the viability and vitality of the Polynesian Cultural Center (PCC) should be supported. Expansion of PCC may include expanding toward Hau'ula and into the vacant resort-zoned land adjacent to the Rodeway Inn.

The Center, one of Oahu's leading visitor attractions, is unique in its primary orientation toward Pacific Island themes. To maintain its continued viability, visitor attractions like the PCC must remain constantly aware of market trends and be able to adjust on a timely basis to changing visitor interests.

**Figure 3-4: Kuilima Resort Land Use Map**



### 3.8.2.2 Planning Principles

The following planning principles apply to the Polynesian Cultural Center (PCC):

- *Design Character.* Expansion facilities should be consistent with the Polynesian themes expressed in the existing center. The PCC should continue to improve its overall design character and outward appearance as a Polynesian attraction, with emphasis toward tropical landscaping.
- *Appropriate Scale and Siting.* Expansion areas should be low-rise in character and set back from the roadway and adjacent uses. The architectural character of new facilities should respect the region's rural features.
- *Accessibility.* Impacts to Kamehameha Highway traffic flow should be minimized by focusing traffic through existing intersections without creating new driveway connections to the highway.

### 3.8.2.3 Guidelines

Guidelines for the development of the Polynesian Cultural Center are:

- *Built Height and Mass.*
  - Design and construction of new facilities or renovations should be consistent with existing architectural character or appropriate Polynesian themes.
  - Portions of the Center adjacent to residential areas should be organized and designed to relate compatibly in scale, materials, character, color, and function with existing residential structures and activity.
  - Where functionally practical and visually appropriate, use breaks in roof lines to reduce scale and apparent building mass.
- *Accessibility.*
  - Access from Kamehameha Highway should be limited to the current number of access points.
- *Views and Vistas.*
  - Place any new parking and service areas behind the buildings or otherwise visually screen them from streets and residential areas.
  - Provide view channels of the shoreline from Kamehameha Highway through any new facilities that are located on the *makai* side of the highway.
- *Landscaping.*
  - Include a landscape screen of trees and hedges in setbacks from street frontages and property lines.
  - Plant and maintain shade trees throughout parking lots.
- *Shoreline Access.*
  - Provide a public pedestrian easement to the shoreline through any new facilities that are located on the *makai* side of Kamehameha Highway.

### 3.8.3 ECO-TOURISM OPERATIONS

Eco-tourism operations are a growing alternative form of tourism activities. They may include guided hiking trips, water-based activities, horseback riding or nature tours, and in some cases overnight camping. These operations could provide new employment and economic opportunities for the residents of Koolau Loa's communities, alleviating the need for people to commute outside of the region for employment.

#### 3.8.3.1 General Policies

Appropriate regulations should be adopted to address where eco-tourism operations should be located, their hours of operation, and allowable uses. Within the Koolauloa region, potential appropriate locations for eco-tourism operations include less productive agricultural lands at Kualoa Ranch and within Kaaawa Valley, and mauka of Lāie's Technology Park site.

#### 3.8.3.2 Planning Principles

The following planning principles apply to eco-tourism operations:

- *Allowable Uses.* Such uses should be low impact, appropriate to sound management of affected resources, compatible with other existing uses in the area, and reflective of community values.
- *Environmental Compatibility.* Eco-tourism uses should be compatible with the natural environment and adjacent uses. Activities should not significantly or negatively alter the natural state of the environment in which they take place or impact other uses.
- *Appropriate Scale and Location.* Facilities used for the assembly of participants and parking of the vehicles should be low-rise and small in scale. They should also be sufficiently set back from public roadways and adjacent properties, and screened with landscaping, so that they are not visible from these locations.
- *Accessibility.* Eco-tourism operations should be reasonably accessible from Kamehameha Highway and should not adversely impact traffic on local streets.

#### 3.8.3.3 Guidelines

Guidelines for the development of eco-tourism operations include the following:

- *Visual Screening.*
  - Visually screen parking areas from roadways, streets and residential areas.
- *Lighting and Signage.*
  - Use only low-level or indirect lighting which meets safety and security requirements.
  - Ensure compatibility between the type, size, design, placement, and color of signage and the context of adjacent uses and the area's rural character.

### 3.8.4 RELATION TO LAND USE MAP

The resort areas at Kuilima Resort north of Kahuku and at Hukilau Resort in Lāie are shown in pink on the Koolau Loa Land Use Map in Appendix A. They represent the general location or size of the resort areas.

- The Polynesian Cultural Center is shown on the Land Use Map in burgundy.

- The locations for eco-tourism operations are not depicted on the map. Their locations are to be determined through appropriate zoning permit processes.

### 3.9 INSTITUTIONAL USES

#### 3.9.1 HEALTH AND WELLNESS FACILITIES

Kahuku Hospital is the primary health care facility in the region. It provides the full range of medical services for both Koolauloa and the North Shore.

In response to the growing demand for alternative methods of health care treatment and prevention programs, specialized facilities are being developed throughout the country which are intended to meet the needs of certain segments of the population, such as the elderly and/or disabled people, those with health problems, and for those wanting to participate in preventative-measure and educational programs. These types of health and wellness facilities can take a variety of forms, ranging from consolidated buildings to relatively small or even residential-scale structures where training and clinical programs could be offered to short-term participants. An example in Koolauloa is the Ponds at Punaluu assisted living facility. In addition to these existing facilities, the Ponds at Punaluu is also proposing a 120-bed long-term care nursing facility, which is currently pending City review.

##### 3.9.1.1 General Policies

Where possible, government land use policies, public facility improvements and community assistance programs should support the retention and long-term viability of Kahuku Hospital. Allow for possible development of other health-related facilities that will support the continued viability of Kahuku Hospital and provide critical complimentary health services for the community.

A limited development of other health and wellness facilities in Koolauloa should be encouraged in order to enhance job opportunities and the availability of a “continuum of care” for local residents. Such facilities should be located and designed in a manner which is compatible with adjacent uses and the region’s rural character.

##### 3.9.1.2 Planning Principles

The following planning principles apply to health and wellness operations:

- *Design Character.* Health and wellness facilities should be low-density, residential-scale buildings. The visibility of buildings or outdoor activities should be minimized through site planning and landscaping.
- *Compatibility with Environmental and Adjacent Uses.* Facilities should be sited so that the intensity of uses and hours of operation are compatible with adjacent uses. The built environment should avoid adverse impacts on natural resources. To retain a sense of place, facilities should incorporate natural features and landscape materials that are indigenous to the area.
- *Accessibility.* Facilities should be easily accessible from a collector street or major roadway while minimizing negative impacts on residential streets. Sufficient on-site parking should be provided.

##### 3.9.1.3 Guidelines

Guidelines for the development of Health and Wellness Operations include the following:

- *Building Height and Mass.* Maintain a rural character in the height, size, and massing of buildings in order to be compatible with adjacent residential or commercial uses.
- *Landscaping.* Minimize the visibility of parking areas from the street by planting a landscape screen along street frontages.

### 3.9.2 BRIGHAM YOUNG UNIVERSITY – HAWAII

Brigham Young University-Hawaii (BYU-H) is a four-year college with an annual enrollment of approximately 2,000 students from numerous countries around the world. The existing BYU-H campus is approximately 210 acres in size and has significant land area available to accommodate planned future improvements to academic programs, student and faculty housing, and other support facilities. A technology park, which may be affiliated with the University, has been designated adjacent to the *mauka* end of the BYU-H campus. Development policies and guidelines for the technology park are addressed in Section 3.7.

Brigham Young University-Hawaii should continue to evoke a sense of place that distinguishes it as an important educational and cultural institution and unique asset to the Koolauloa region. The following are general principles for development and maintenance of the campus:

- The University should maintain its strong community-orientation and continue to serve the Koolauloa region as a center of Hawaiian and other Polynesian cultures, as well as support community activities and services and provide adult educational opportunities.
- The design of new facilities should be environmentally sensitive and reflect the appropriate architecture and culture of the existing campus and adjacent residential areas.

### 3.9.3 RELATION TO LAND USE MAP

Institutional areas are shown on the Koolauloa Land Use Map in Appendix A as follows:

- *Health and Wellness.* Locations for existing and possible new health and wellness facilities are not depicted on the Land Use Map in Appendix A. They are permitted in all areas subject to project-by-project review for compatibility with surrounding uses. An example of a potentially suitable location is the vacant site adjacent to Kahuku Hospital.
- *Institutional.* The general locations of existing schools are indicated by special symbols. Brigham Young University-Hawaii's campus is designated by a blue colored area that represents its general location and shape. Churches, child care centers, fire stations, hospitals, and other public facility and utility uses serving the area are not specifically designated on the Land Use Map, but are allowed in all residential and commercial areas, subject to appropriate zoning controls to assure compatibility with surrounding uses.

## **Honolulu - Land Use**

#### **4. PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND PRINCIPLES**

The vision for Koolauloa will be implemented in part through application of the general policies and principles for public facilities and infrastructure which are presented in Sections 4.1 through 4.8.

##### **4.1 TRANSPORTATION SYSTEMS**

This section describes the existing road, transit, and bikeway network in Koolauloa as well as plans for future improvements. These elements are shown on the Public Facilities Map in Appendix A. The section concludes with general policies and planning principles to guide future transportation system development in Koolauloa.

###### **4.1.1 OVERVIEW**

###### **4.1.1.1 Roadway System**

The only arterial highway in Koolauloa is Kamehameha Highway (State Highway 83). It is also the only roadway linking the northerly windward Oahu coastline communities to North Shore to the west and Ko'olau Poko to the southeast. Kamehameha Highway is a scenic highway, passing directly along the shoreline in several sections, providing dramatic ocean and coastal vistas and *mauka* views of the Koolau Mountains.

Kamehameha Highway is a two-lane highway for its entire length in Koolauloa. In recent years, modest improvements have been made along this 19-mile section of coast highway, including paved shoulders, drainage improvements, lighting, bus turn-outs and left-turn lanes at busy intersections. While others are being planned, the one existing traffic signal in Koolauloa is located at the entrance to Kahuku High School.

Other significant roadways in Koolauloa are generally *mauka-makai* serving the inland residential areas of Kaaawa, Punaluu, Hauula, Lāie and Kahuku. Key intersections along this coast highway include Polinalina Road in Kaaawa, Kanaka Niāo Road in Kahana Valley, Haleaha Road and Punaluu Valley Road in Punaluu, Kukuna and Hauula Homestead Roads in Hauula, Naniloa Loop and Hale Laa Boulevard in Lāie, Pualalea Road in Kahuku, and Kuilima Drive in Kawela. There are few parallel connector roads within the communities.

Planning and development of major roadways is the shared responsibility of the State department of transportation and the City department of transportation services. Planning and use of federal transportation funds is coordinated through the Oahu Metropolitan Planning Organization (OMPO), a joint City-State agency.

In November 1995, OMPO prepared the 2020 Oahu Regional Transportation Plan (ORTP). According to the ORTP, there are no major improvement projects which would involve increasing the capacity of Kamehameha Highway. Planned improvements involve a long-term bridge replacement program and coastline reinforcement in areas such as Kaaawa, Punaluu and Hauula where coastal erosion has impacted Kamehameha Highway. The community has expressed a need for emergency escape routes, which should be developed without adversely impacting the community.

The community has stated a priority need for safety improvements to the narrow, winding Kamehameha Highway through Koolauloa. These improvements would include widening travel surface and shoulder pavement in critical areas where it would not adversely impact private property rights and cultural and historical sites, lighting and drainage. A left-turn stacking lane is needed at the traffic signal light at Kahuku High School. In addition, driver education and signage are important components for highway safety.



#### 4.1.1.2 TRANSIT SYSTEM

TheBus provides bus service islandwide, including the Koolauloa community. On a normal weekday, nearly 40 percent of transit trips on TheBus are between home and work. More than 40 percent of the weekday trips are for other home-based trips, such as to school or shopping. The remainder are non-home based trips and trips made by visitors.

Two bus routes serve the Koolauloa region:

No. 55                      Kāneohe/Wahiawa Circle Island

No. 88A                    North Shore Express

There are no formal park and ride facilities serving Koolauloa as a central access point for buses and autos. Kuilima Resort serves as a collection point for commuters that take TheBus to work in Honolulu. The State operates a vanpool program where federal tax credits are made available to participating employers and employees. Vanpools work like an express bus on a smaller scale providing door to door service, and they can be effective for outlying areas, particularly when vanpools are arranged by groups with the same employer.

There are no plans to extend or expand the number of bus routes, but the frequency and capacity of transit service will be increased by additions to the islandwide bus fleet. It is anticipated that the number of buses assigned to the Windward Coast will be increased over the next 10 years from 72 to 97, Comprehensive Bus Facility and Equipment Requirements Study (1994). Service will also be enhanced by making roadway and bus facility improvements (i.e., bus turn-outs, bus stop shelters) designed to make bus travel more efficient, convenient, and comfortable.

#### 4.1.1.3 BIKEWAY SYSTEM

The island of Oahu has 55.4 miles of existing bikeways. A State master plan for bikeways, Bike Plan Hawaii (1994), proposes another 293 miles islandwide. The timetable for development will depend upon construction feasibility, including right-of-way acquisition and funding. Bike Plan Hawaii defines the various types of bikeways:

- ***Bicycle Route.*** Any street or highway so designated for the shared use of bicycles and motor vehicles or pedestrians or both. Bike routes are of two types: a) a widened curb lane in an urban-type area; and b) a paved right shoulder in a rural-type area.
- ***Bicycle Lane.*** A portion of a roadway designated by striping, signing, and pavement markings for the preferential or exclusive use of bicycles. Through travel by motor vehicles or pedestrians is not allowed unless specified by law, rule, or ordinance; however, vehicle parking may be allowed for emergencies. Crossflow by motorists to gain access to driveways or parking facilities, and pedestrian crossflows to gain access to parked facilities, bus stops, or associated land use, are allowed.
- ***Bicycle Path.*** A completely separated right-of-way normally designated for the exclusive or semi-exclusive use of bicycles. Through travel by motor vehicles is not allowed unless specified by law, rule or ordinance. Where such a facility is adjacent to a roadway, it is separated from the roadway by a significant amount of open space and/or a major physical barrier (such as trees or a considerable change in ground elevation.)

The State's bikeway master plan proposes a bike route along Kamehameha Highway in Koolauloa. A bikeway plan for bicycle routes along private streets throughout the community of Lāie has also been proposed by the Lāie Community Advisory Group.

#### 4.1.2 GENERAL POLICIES

The following general policies support the vision for a multimodal transportation system for Koolauloa:

- To retain Koolauloa as a predominantly rural area with limited future growth, its transportation system should provide:
  1. Adequate access for all communities, shopping and recreation areas in Koolauloa.
  2. Roadway improvements, developed in consultation with Koolauloa communities, which emphasize highway safety as the highest priority while providing efficient, pleasant travel experiences.
  3. Adequate capacity for peak travel to and from community centers.
- Reduce reliance on the private passenger vehicle by promoting travel demand management measures (e.g., carpool and vanpool programs) for both commuting and local trips.
- Provide an integrated system of bikeways for work, school, shopping trips, and recreation, including rides to playgrounds, beach parks, and other recreational areas.

#### 4.1.3 PLANNING PRINCIPLES AND GUIDELINES

***Commuter Travel.*** For commuter trips, the objective is to ensure that travel time and peak periods do not lengthen commensurate with growth in population.

1. Provide improved services and facilities for express buses, such as more frequent, larger-capacity and more comfortable vehicles and park-and-ride facilities.
2. Promote ridesharing such as carpooling and vanpooling.

***Local Travel.*** For local trips, the objective is to promote alternative modes of travel and less automobile travel.

1. Modify right-of-way design in selected areas, particularly along principal pedestrian routes and street crossings, and near bus stops – e.g., change travelway widths, pavement widths or texture, introduce appropriate signage, and more generous landscape planting.
2. Provide more convenient pedestrian paths within commercial and other high-activity areas to encourage people to walk short distances for multi-purpose trips instead of moving the vehicle to another parking facility.
3. Implement traffic calming measures appropriate for residential areas to reduce speeding in excess of posted limits and discourage use of local streets for bypass or shortcut, thereby sustaining overall safety and enjoyment for pedestrians and bicyclists.
4. Design off-street parking facilities more efficiently to encourage joint use of parking and less pavement area dedicated to parking.
5. Provide safe pedestrian walkways on bridges.

#### 4.2 WATER ALLOCATION AND SYSTEM DEVELOPMENT

In keeping with the rural character of Koolauloa, allocation of water is an important issue. Water management strategies include water conservation, groundwater development, surface water development, desalination, and effluent water reuse, without adversely impacting stream flow or nearshore water quality. In the development of water resources, it is important that the needs of Koolauloa be met first, and that the transmission of water out of Koolauloa will not be detrimental to Koolauloa. Hence, the availability of Koolauloa water for the islandwide water supply needs will first account for all in-district agricultural and urban needs, while balancing the environmental and cultural value of the area's stream systems.

The State enacted the Water Code (HRS Chapter 174C) in 1987 to protect, control and regulate the use of the State's water resources. This Code is implemented through the Hawaii Water Plan which addresses water conservation and supply issues on a statewide level by incorporating county water plans and water-related project plans.

The Oahu Water Management Plan (OWMP), signed into law in 1990, is the City and County of Honolulu's component of the Hawaii Water Plan. The OWMP sets forth strategies to guide the State Commission on Water Resource Management (CWRM) in planning, management, water development, use and allocation of Oahu's water resources. These strategies support the land use policies set forth in the City and County's development plans.

Based on CWRM's 1996 basal permitted uses on Oahu of about 340 million gallons per day (mgd), there is approximately 75 mgd of untapped *sustainable* yield remaining in the islandwide groundwater supply that could be developed. (This estimate accounts for interim instream flow standards.)

In Koolauloa, municipal water is supplied by the Board of Water Supply (BWS) and the Lāie Water Company (LWC). The BWS supplies water to most of Koolauloa, while the LWC provides water to approximately 8,000 residences as well as commercial and agricultural uses in Lāie, BYU-Hawaii, and the Polynesian Cultural Center (PCC). In 1990, BWS and LWC water systems consumed approximately 3.0 mgd of potable water.

Agricultural water, in Koolauloa, is supplied by stream diversions and groundwater wells. Existing and future agricultural water needs will be accounted for in the water management plan for Koolauloa.

The BWS is undertaking an integrated water resources planning process, utilizing community involvement, to provide the next update of the OWMP.

#### **4.2.1 GENERAL POLICIES**

The following general policies seek to maintain an adequate supply of good quality water, retain sufficient acreage in watersheds to insure infiltration into groundwater aquifers, and strengthen the protection of watersheds.

- Protect and preserve streams, wetlands' natural drainage systems, watershed areas and the shoreline and coastal areas. The high quality of the region's nearshore and coastal water should be maintained to benefit recreation, the economy, and the region's natural biological systems. Buffer zones around streams and wetlands should be provided to protect the ecological integrity of these features.
- Retain existing acreage in the State Conservation or the City Preservation Districts to protect watersheds. In addition, important watershed areas which are in designated but unused Agricultural or Urban Districts should be reclassified to the State Conservation or City Preservation Districts, in consultation with affected landowners, community and pertinent resource agencies.
- Integrate management of all potable and nonpotable water sources, including groundwater, stream water, stormwater and effluent, following State and City legislative mandates.
- Adopt and implement water conservation practices in the design of new development and the modification of existing uses, including landscaped areas.
- Where feasible and appropriate, encourage use of nonpotable water for irrigation of landscaping and agricultural lands to conserve the supply of potable water. Consider the use of dual water lines to allow conservation of potable water and the use of nonpotable water for irrigation and other appropriate uses, where practical.

#### 4.2.2 PLANNING PRINCIPLES AND GUIDELINES

- ***Development and Allocation of Potable Water.*** While the State CWRM has final authority in all matters regarding administration of the State Water Code, the BWS should coordinate development of potable water sources intended for urban use on Oahu. The BWS and other public utilities should certify that adequate potable and nonpotable water is available for a new residential or commercial development to be approved. State and private well development projects should be coordinated and made consistent with City water source development plans.
- ***Water Conservation Measures.*** Conserve the use of potable water by implementing the following measures, as feasible and appropriate:
  1. Low flush toilets, flow constrictors and other water conserving devices in commercial and residential developments as required by ordinance.
  2. Indigenous, drought-tolerant plant material and drip irrigation systems in landscaped areas, and use drip irrigation systems.
  3. The use of recycled water for the irrigation of golf courses and other landscaped areas where this would not adversely affect potable groundwater supply.
  4. Future water development should not adversely impact stream flow or nearshore water quality.

#### 4.3 WASTEWATER TREATMENT

The majority of development in Koolauloa is served by individual wastewater treatment systems. Parts of Koolauloa are served by wastewater service areas, including the County wastewater service area in Kahuku and two private wastewater service areas at Kuilima Resort and Lāie.

- ***Kahuku Wastewater Treatment Plant.*** The Kahuku Wastewater Treatment Plant (WWTP) is the only municipal wastewater treatment facility in the Koolauloa region. The facility is located to the north of Kahuku town, beyond the former sugar mill, near the Kii Pond Wildlife Refuge. The facility has a design capacity of 0.4 mgd average flow and is operating at approximately 30 to 40 percent of capacity. The plant receives residential wastewater from Kahuku Villages and the other residential and commercial uses in Kahuku town. The Kahuku WWTP system is designed as a gravity flow collection system from the *mauka* development areas. Disposal is via an injection well system into the brackish groundwater. This facility should be converted to a recycling facility.
- ***Kuilima Wastewater Treatment Plant.*** Kuilima Resort is served by a private wastewater treatment facility, involving a natural oxidation ponds treatment process. The Kuilima WWTP was designed for initial average flows of 0.66 mgd and can be expanded to 1.3 mgd. The resort currently uses less than half of the existing capacity. Reclaimed water from Kuilima Resort is used for golf course irrigation.
- ***Lāie Water Reclamation Facility.*** The Lāie Water Reclamation Facility (WRF) is located in the *mauka* portion of the community behind the BYU-H campus. The Lāie WRF was recently upgraded to provide 0.9 mgd of treatment capacity utilizing an activated sludge aeration/clarifier treatment process. Disposal of the treated effluent is through a combination of water reuse for irrigation (agriculture and landscaping) and subsurface disposal. The expansion of the wastewater collection system is planned for existing un-sewered Lāie residential and proposed new Lāie housing areas. The capacity of the Lāie WRF can accommodate the existing and proposed development in Lāie.

##### 4.3.1 GENERAL POLICIES

The following general policies apply to wastewater treatment in Koolauloa:

- Encourage coordination between public agencies and private landowners in addressing adequacy of wastewater treatment within the region. The planned expansion of the Lāie Water Reclamation Facility proposed for existing and future homes in Lāie should proceed in accordance with applicable State and Federal regulations and conditions of existing land use approvals.
- Provide collection systems, where practical, to eliminate individual cesspools, and to protect aquifers, streams, estuaries, and nearshore waters from contamination.
- Replace outdated individual cesspools with septic tanks and leaching fields.
- Encourage water recycling at Kahuku Wastewater Treatment Plant.
- Treat and beneficially use, where feasible, reclaimed water or irrigation as a water conservation measure.

#### 4.3.2 PLANNING PRINCIPLES AND GUIDELINES

- ***Water Recycling.*** As feasible and appropriate, beneficially use reclaimed water for agriculture and landscaping irrigation, as well as other nonpotable water uses.
- ***Use of Buffer Zones and Landscape Elements.*** Establish and maintain a sufficient separation between wastewater treatment plants and any nearby urban uses to avoid significant adverse odor impacts, and provide sufficient screening which substantially block views of such plants from developed areas, parks and public rights-of-way.
- ***Adjacent Uses.*** Discourage new residential, commercial, resort, or school uses in close proximity to wastewater treatment plants where odors are present.

### 4.4 ELECTRICAL POWER DEVELOPMENT

The Hawaiian Electric Company forecasts that increased demand will create a need for additional islandwide power generation capacity by 2020. Growth policies in the General Plan of the City and County of Honolulu direct significant residential growth to the Primary Urban Center, 'Ewa and Central Oahu Development Plan Areas. Koolauloa is designated as a rural area and is projected to have limited future population growth. As such, Koolauloa will not be a major source of future islandwide power demand. There is the possibility that the wind farm located in Kahuku may be modernized or expanded.

#### 4.4.1 GENERAL POLICIES

The following general policy pertains to electrical power development in Koolauloa.

- Locate and design system elements such as renewable electrical power facilities, substations, communication sites, and transmission lines, including consideration of underground transmission lines, to mitigate any potential adverse impacts on scenic and natural resources, as well as public safety considerations.

#### 4.4.2 PLANNING PRINCIPLES AND GUIDELINES

- ***Facility Routing and Siting Analysis.*** If any new or relocated electrical power facilities, substations, communication sites, or transmission lines or communication towers are necessary, the selection of the route or site of such facilities should be supported by an analysis demonstrating how potential adverse impacts on scenic and natural resources have been mitigated. Although these facilities are not shown on the Public Facilities Map, their routes and sites are reviewed and permitted by administrative agencies of the City when they are within the Special Management Areas.

## 4.5 SOLID WASTE HANDLING AND DISPOSAL

Solid waste collection, transport and disposal operations on the island are a consolidated responsibility of the City department of environmental services, refuse division (for domestic curbside pickup) and private haulers (for commercial and multi-family pickup). In addition, individuals can haul their own trash to one of six convenience centers around Oahu. The collected refuse is ultimately recycled or disposed of either in a waste incineration facility or sanitary landfill.

Incineration at the H-POWER plant in ‘Ewa, accounts for approximately 50 percent of the island’s waste disposal. The City’s sanitary landfill is at Waimānalo Gulch, also in the ‘Ewa region, and has a remaining site life of less than five years under existing load levels. The City has instituted recycling and other waste diversion programs in an effort to extend the useful life of this landfill.

In Koolauloa, there is one convenience center at Lāie where residents can dispose of household rubbish, green waste, and large items. The Lāie Water Reclamation Facility has a green waste composting facility. The next closest facilities are at Kawaihoa Transfer Station north of Haleiwa and Kapaa Transfer Station in Kailua. There are no plans to create an additional convenience center, transfer station or landfill operation in Koolauloa.

### 4.5.1 GENERAL POLICIES

The following general policies apply to solid waste handling and disposal in Koolauloa:

- Support implementation of the Solid Waste Management Plan.
- While the region is not expected to contribute significantly to future increases in Oahu’s solid waste management demands and does not contain sites suitable for the processing or disposal of solid waste on an islandwide scale, Koolauloa can and should play a part in the City’s efforts toward recycling, waste diversion and more efficient solid waste collection.

### 4.5.2 PLANNING PRINCIPLES AND GUIDELINES

- ***Recycling Programs and Facilities.*** Promote the recycling of waste materials by providing expanded collection facilities and services, and public outreach and education programs. Encourage recycling of regional green waste at the City facility and the Lāie Water Reclamation Facility composting operation.
- ***Efficient Solid Waste Collection.*** Expand the use of automated refuse collection in residential areas.

## 4.6 DRAINAGE SYSTEMS

The major streams that drain the valleys of Koolauloa include: Kaaawa Stream, Maakuo Stream, Kawa Stream, Waiono Stream, Kaluanui Stream, Kaipapau Stream, Lāie maloo Stream, Wailele Stream, Kahawainui Stream in Kahana and Lāie, Mālaekahana Stream, Ōhia Stream, Kawela Stream, Oio Stream, “Hospital Ditch,” and other drainageways. These streams originate in the Koolau Range and eventually discharge into the ocean along the Koolauloa coast. The drainage basins vary in size, some being long and narrow, and others including significant collection areas in the agricultural lowlands.

Several drainageways have been prone to flooding during the more intense rainfall events. In particular, lands surrounding Punaluu Stream, Wailele Stream and Mālaekahana Stream have experienced severe flooding during recent years. Kahawainui Stream channel improvements were made in the mid-1990’s, which helped alleviate flooding problems in this part of Lāie. Heavy rainfall at the head of the valleys, combined with debris clogging the lowland

channels, has on occasion overwhelmed the capacity of these drainageways. In many areas of Koolauloa, the pavement of Kamehameha Highway diverts or detains the overland flow of stormwater runoff toward the ocean. This condition can cause localized flooding of the highway and *mauka* side properties.

A federal reconnaissance study examined options for flood control along the Waialele Stream. Construction of flood control improvements including a berm is being considered, with the design of the project being jointly funded by the federal government, City and County of Honolulu, and Hawaii Reserves, Inc.

Drainage problems exist in Kahuku in the lowland floodplains of Ōhia, Kalaeo Kahipa, and Mālaekahana Streams. As existing drainage facilities are inadequate during major storm events, the runoff from *mauka* areas floods the campus of Kahuku High and Intermediate School, as well as portions of the commercial area and the Walkerville residential area. Agencies from the City, State department of land and natural resources, the U.S. Army Corps of Engineers and the Estate of James Campbell are coordinating their efforts in a regional drainage assessment that provides alternative solutions.

Mālaekahana Stream flooding affects Kamehameha Highway and downstream areas. The State Department of Transportation is completing bridge improvements at Mālaekahana Stream to alleviate highway flooding conditions.

#### 4.6.1 GENERAL POLICIES

General policies pertaining to Koolau Loa's drainage areas are:

- Emphasize control and minimization of nonpoint source pollution and the retention of stormwater on-site and in wetlands in the design of drainage systems in accordance with existing City, State and Federal regulations while maintaining the existing habitat capability and water quality of streams and nearshore waters.
- View stormwater, where appropriate, as a potential irregular source of water for recharge of the aquifer that should be retained for absorption rather than quickly moved to coastal waters.
- When drainageways must be modified for flood control purposes, select approaches and solutions which:
  1. Improve existing habitat capability;
  2. Maintain existing rural and aesthetic qualities;
  3. Avoid degradation of existing coastline and estuarine areas or nearshore water quality;
  4. Avoid degradation of the quality of water entering nearshore waters; and
  5. Avoid increase in the volume or rate of freshwater intrusion into nearshore waters.
- Design drainageways for flood control to accommodate a 100-year flood.
- Encourage abutting property owners along streams and/or drainageways to stabilize the banks with vegetation where erosion potential is high.
- Encourage coordination between public agencies and private landowners on needed drainage improvements with community input, and develop a phased plan for improvements.
- Keep drainageways clear of debris to avoid flooding problems.
- The State should assess areas of Kamehameha Highway where the pavement diverts or detains overland flow of stormwater runoff causing localized flooding of the highway and *mauka* properties.

#### 4.6.2 PLANNING PRINCIPLES AND GUIDELINES

Principles to guide the maintenance and improvement of Koolauloa's drainage systems include:

- ***Retention and Detention.*** Emphasize retaining or detaining stormwater for gradual release into the ground as an alternative strategy for management of stormwater.
- ***Stream Channel Improvements.*** Integrate planned improvements to the drainage system into a regional open space network by creating retention basins, passive recreation areas and recreational access for pedestrians and bicycles. Drainage system design should emphasize control and minimization of non-point source pollution. Where the hardening of stream channels is unavoidable, make the improvements in a manner which maintains and protects natural resources and aesthetic values of the stream, and avoid degradation of coastline and of stream and near-shore water quality, consistent with guidelines expressed in Section 3.1.3.4.
- ***Floodplain Management.*** Any future work performed within the 100-year floodplain will have to adhere to the requirements of the Federal Emergency Management Agency (FEMA) and meet all flood-proofing requirements.
- ***Systematic Approach.*** Use a comprehensive, systemic approach to addressing local flooding and drainage problems.

#### 4.7 SCHOOL FACILITIES

Public schools in Koolauloa are part of the State Department of Education's (DOE) Windward District. There are five elementary schools, and one intermediate/high school within DOE's Kahuku Complex. (One of the five elementary schools is Sunset Elementary School which, although in the North Shore Development Plan area, contributes to the enrollment of Kahuku High and Intermediate School.)

Recent enrollment figures for these schools show that some are operating below capacity while some are operating at or near capacity, as shown in Table 4-1. School facilities planning must account for existing and additional demand that could be generated by future residential developments, particularly at Lāie and Kahuku.

Proposed new housing development in Lāie and Kahuku will have an impact on Lāie Elementary School, Kahuku Elementary School, and Kahuku Intermediate and High School. The previous Lāie Master Plan approved by the City Council in 1992 included an 8-acre site for an elementary school. Current Lāie master plan proposals have recommended expansion and improvement of the existing Lāie Elementary School as an alternative to building a new school; but the DOE has recommended that a new school should still be included in the plan. It is expected that prior to zone change approval, the developer will need to work closely with the DOE to ensure that adequate school facilities will be in place to meet the demand generated by new residential development in Lāie. Developers of new residential development in Kahuku will also need to coordinate with the DOE on the adequacy of school facilities to meet the additional demand generated by new residential development.

Kahuku Intermediate and High School is near capacity, below DOE standards in terms of existing facilities and land area, and has serious drainage problems affecting the existing campus, including the athletic facilities. A master plan was completed in November 1997, pending a number of unresolved issues, including drainage impacts in portions of the proposed expansion area. The master plan is intended to bring the campus to DOE Educational Specification Standards, correct adverse building and site (drainage) conditions, provide facilities for new and existing activities and curricula, and expand the school's capacity for a design enrollment of 2,200 students.



<b>Table 4-1: Public School Enrollment and Capacity, Koolauloa</b>		
<b>Facility</b>	<b>1997 Enrollment</b>	<b>1998 Capacity</b>
<b>Elementary</b>		
Sunset	297	511
Kaaawa	182	178
Hauula	355	530
Lāie	821	909
Kahuku	544	534
<b>Intermediate &amp; High School</b>		
Kahuku	1,977	2,019
Source: Department of Education, Facilities and Support Services Branch, 1998.		

The union representing operators of heavy equipment, known as Operating Engineers Local 3, is proposing to establish a permanent vocational training facility in Kahuku *mauka* of Kamehameha Highway across from Turtle Bay Golf Course. The union proposes to relocate its existing field training activities from a nearby 15-acre site to a 190-acre site it plans to buy from Campbell Estate. Of the 190 acres, the union proposes to use approximately 30 to 35 acres as follows: 10 to 15 acres for a classroom and office facility, and up to five 4- to 5-acre sites for practical field training. The remainder of the site would be retained in its current “natural” condition. Since the entire site is typified by rolling terrain, the portions of it left undeveloped could buffer its facilities, field training, and other activity areas from adjacent or nearby uses. The proposed use may be appropriate if it does not create erosion or adverse offsite drainage patterns, or adversely impact agricultural policy, coastal waters, natural or cultural resources, adjacent agricultural activity, or other nearby land uses.

#### 4.7.1 GENERAL POLICIES

General policies relating to school facilities are:

- Approve new residential development only after the DOE certifies that adequate school facilities, either at existing schools or at new school sites, will be available when the development is completed.
- Have developers pay their fair share of all costs needed to ensure provision of adequate school facilities for the children living in their developments.
- Support the implementation of the Kahuku High School Master Plan.

#### 4.7.2 PLANNING PRINCIPLES AND GUIDELINES

The following principles and guidelines should be followed in planning and operating schools in Koolauloa.

- **Shared Facilities.** Coordinate the development and use of athletic facilities such as playgrounds, playfields and courts, swimming pools, and gymnasiums with the DOE where the joint use of such facilities would maximize utilization and reduce duplication of functions without compromising the schools’ athletic programs. (See also Section 3.3.4.2.)

- ***Fair Share Contribution.*** Support the DOE's requests for fair share contributions from developers of residential projects to ensure that adequate school facilities are in place at existing schools to meet the needs of residents.

#### 4.8 CIVIC AND PUBLIC SAFETY FACILITIES

The City and County of Honolulu operates 19 Satellite City Halls islandwide. These facilities offer many basic services for residents, including bus pass sales, bicycle registration, and driver's license renewals. There are no permanent Satellite City Hall facilities in Koolauloa. The Satellite City Hall located in Hauula was closed as a full-time facility in April of 1996, and it has since been replaced by a mobile Satellite City Hall. The City has no plans to build a permanent facility in Koolauloa, but should a permanent facility be considered, the City should examine appropriate alternative locations, including the existing facility at Hauula, or a new one in Lāie.

The Honolulu police department (HPD) services Koolauloa out of the Kahuku Police Substation. Currently, 27 staff and officers (over three watches) are assigned to the area from Kaaawa to Waialeale Stream.

The Honolulu fire department (HFD) operates fire stations in Kaaawa, Hauula and Kahuku. The Kaaawa Fire Station #21 is a new two-story facility equipped with a five-person engine company, an inflatable rescue boat, and two bays that could accommodate an ambulance or other needed equipment in the future. The Hauula Station #15 is equipped with a five-person engine company and a one-person tanker truck. The Kahuku station is equipped with a five-person engine. The HFD has previously proposed a new fire station in Kawela as a long-range project, if and when additional growth in the area justifies construction of a new facility. HFD is also currently planning the relocation of the Hauula Fire Station out of the flood area. HFD has no other plans for new stations in Koolauloa nor do they anticipate increasing personnel at either of the existing stations.

Emergency care is provided from Kahuku Hospital. The Kahuku Hospital is a nonprofit, civic and public safety facility which provides emergency services and a physician base for primary medical services to the Koolauloa community. The hospital is outfitted with modern equipment and facilities, and a medical staff of 15 physicians and 60 employees. The community-owned hospital has received state subsidies and broad community support.

Koolauloa is susceptible to natural hazards such as flooding, tsunamis, tropical storms, hurricanes and high surf conditions. In the event of these hazardous conditions, residents need to evacuate to shelter facilities. There are three shelter facilities in the Koolauloa area, located at Brigham Young University, Kahuku Elementary, and Kahuku High/Intermediate School. Flooding is the most common and recurring hazard. Under heavy, continuous rain and flooding conditions, OCDA plans are in place to evacuate endangered residents as required, and include additional evacuation options in the event of other emergencies.

There are presently 12 civil defense sirens within Koolauloa, of which seven have been upgraded to new solar powered public address capable sirens. The remaining five will be upgraded as funds become available. There are other areas that need siren coverage which will be installed in the future by either the State or developers of new projects as appropriate.

##### 4.8.1 GENERAL POLICIES

The following general policy pertains to public safety facilities:

- Support adequate staffing and facilities to ensure effective and efficient delivery of basic governmental service, emergency and primary medical services, and protection of public safety.
- Support the development of a regional library for Koolauloa.
- Provide emergency shelters in Koolauloa.

#### 4.8.2 PLANNING PRINCIPLES AND GUIDELINES

- **Satellite City Hall.** Consider the establishment of a permanent Satellite City Hall in Koolauloa, using the existing facility in Hau'ula or a new facility in Lāie, either of which could serve as a gathering place for activities and services.
- **Better Utilization of Facilities.** Support the planning and programming of public facilities to create maximum usage flexibility. In addition, encourage interagency coordination in better utilization of existing facilities to provide a more integrated approach to delivering services in the region. Examples could include using school facilities as emergency shelters, requiring that all new public buildings serve a secondary function as an emergency shelter, and establishing satellite city halls as multi-purpose facilities with expanded hours and services for area residents.
- **Maintain Police and Fire/Ambulance Stations.** The only anticipated need for new locations for either police or fire stations is the planned relocation of the Hauula Fire Station to relocate it out of the flood plain. A new site will be selected for the Hauula Fire Station. Accommodate any other necessary improvements through renovation or minor expansion of existing facilities for fire/ambulance and police protection. There is a need for a new ambulance in Kaaawa.
- **Adequate Police and Fire/Ambulance Protection.** Provide adequate staffing and facilities for fire/ambulance and police protection as required to support new developments.
- **Emergency and Primary Medical Services.** Support adequate staffing and facilities to ensure the continued operation and maintenance of Kahuku Hospital. Allow for the possible development of other health-related facilities that will support the continued viability of Kahuku Hospital and provide critical complimentary health services for the community.
- **Creation of Safe Environments.** Promote the creation of safe, crime-deterrent public and private environments by encouraging the use of crime-preventive principles in the planning and design of communities, open spaces, circulation networks, and buildings.
- **Civil Defense Sirens.** Install civil defense sirens as needed to provide advance warning systems for the people residing and working in Koolauloa communities.

## **5. IMPLEMENTATION**

Implementation of the City's revised Development and *Sustainable* Communities Plans will be a major challenge for the City's planners, engineers, and other technical and policy-level personnel, as well as elected officials who determine the allocation of City resources. In contrast to previous Development Plans, which functioned primarily as regulatory guides and a prerequisite for City zoning of parcels proposed for development, the revised plans are oriented toward implementation on a broader scale. They now seek to implement a vision for the future by providing wider guidance for decisions and actions related to land use, public facilities, and infrastructure as well as for zoning matters. As a result, many of their provisions reflect the consultations which occurred throughout the planning process with pertinent implementing agencies and community representatives.

Many other city, county, and town jurisdictions on the U.S. mainland have instituted comprehensive planning programs that emphasize a proactive community-based planning and implementation process. These local governments seek to establish a strong link between planning policies and guidelines, and specific organization, funding, and actions needed to implement a variety of public and private projects and programs. The following sections of this Chapter are intended to strengthen the linkage to implementation to realize the vision of the future presented in this plan.

Implementation of the Koolauloa *Sustainable* Communities Plan will be accomplished by:

- Initiating zoning map and development code amendments to achieve consistency with the policies, principles, and guidelines of the *Sustainable* Communities Plan;
- Guiding public investment in infrastructure through functional plans which support the vision of the *Sustainable* Communities Plan;
- Recommending approval, approval with modifications or denial of developments seeking zoning and other development approvals based on how well they support the vision for Koolauloa;
- Incorporating *Sustainable* Communities Plan priorities through the Public Infrastructure Map and the City's annual budget process; and
- Conducting a review of the vision, policies, principles, guidelines, and CIP priority investments of the Koolauloa *Sustainable* Communities Plan every five years and recommending revisions as necessary.

### **5.1 PUBLIC FACILITY INVESTMENT PRIORITIES**

The vision for Koolauloa requires the cooperation of both public and private agencies in planning, financing, and constructing infrastructure. The City must take an active role in working with the State, private landowners, and the community in planning infrastructure improvements. The priority public facility investments include: drainage improvements in Kahuku, Lāie and Punaluu; highway safety improvements along Kamehameha Highway; and development of neighborhood parks in the region.

### **5.2 DEVELOPMENT PRIORITIES**

Projects to receive priority in the approval process are those which:

- Involve publicly funded improvements that are consistent with the *Sustainable* Communities Plan vision, general policies, and planning principles.
- Involve applications for zoning and other regulatory approvals which are consistent with the *Sustainable* Communities Plan vision, general policies, and planning principles.

- Are located on vacant usable parcels within the Rural Community Boundary and are consistent with the *Sustainable Communities Plan* Land Use Map in Appendix A.

### 5.3 SPECIAL AREA PLANS

For areas requiring particular attention, Special Area Plans provide more detailed policies, principles, and guidelines than the *Sustainable Communities Plans*. The form and content of Special Area Plans depend on what characteristics and issues need to be addressed in greater detail in planning and guiding development or use of the Special Area.

Special Area Plans can be used to guide land use development and infrastructure investment in Special Districts, Redevelopment Districts, or Resource Areas. Plans for Special Districts would provide guidance for development and infrastructure investment in areas with distinct historic or design character or significant public views. Plans for Redevelopment Districts would provide strategies for the revitalization or redevelopment of an area. Plans for Resource Areas would provide resource management strategies for areas with particular natural or cultural resource values.

A coastal wilderness park is being considered for the lands along the Kahuku shoreline from Kahuku Point to Mālaekahana Bay. Planning for this park could be addressed through a Special Area Plan, with particular natural and cultural resource values.

### 5.4 FUNCTIONAL PLANNING

Functional planning is the process through which various City agencies determine needs, assign priorities, establish timing and phasing, and propose financing for projects within their areas of responsibility that will further the implementation of the vision articulated in the *Sustainable Communities Plan*. This process may take a variety of forms, depending upon the missions of the various agencies involved, as well as upon requirements imposed from outside the City structure, such as federal requirements for environmental services planning. Typically, functional planning occurs as a continuous or iterative activity within each agency.

The functional planning process involves annual reviews of existing functional planning documents and programs by the City agencies responsible for developing and maintaining infrastructure and public facilities or for provision of City services. As a result of these reviews, the agencies then update, if required, existing plans or prepare new long-range functional planning documents that address facilities and service system needs. Updates of functional planning documents are also conducted to assure that agency plans will serve to further implement the *Sustainable Communities Plan* as well as to provide adequate opportunity for coordination of plans and programs among the various agencies. The number and types of functional planning documents will vary from agency to agency, as will the emphases and contents of those documents. A typical agency may develop a set of core documents such as:

- A resource-constrained long-range capital improvement program. A “resource-constrained” program is one which identifies the fiscal resources that can be reasonably expected to be available to finance the improvements.
- A long-range financing plan, with identification of necessary new revenue measures or opportunities.
- A development schedule with top priority to areas designated for earliest development.
- Service and facility design standards, including level of service guidelines for determining adequacy.

Other documents may also be developed as part of an agency's functional planning activities, such as master plans for provision of services to a specific region of the island. In some cases, functional planning activities will be undertaken in cooperation with agencies outside the City structure, such as transportation planning activities that are conducted in association with the Oahu Metropolitan Planning Organization.

Functional planning is intended to be a proactive public involvement process which provides public access to information about infrastructure and public facility needs assessments, alternatives evaluation, and financing. Outreach activities should involve the Neighborhood Boards, community organizations, landowners, and other parties who may be significantly affected by the public facilities and infrastructure projects or programs to be developed.

The functional planning process should be characterized by opportunities for early and continuing public involvement, timely public notice, public access to information used in the evaluation of priorities, and the opportunity for the public to suggest alternatives and to express preferences. The functional planning process provides the technical background for the Capital Improvements Program and related public policy proposals which are subject to review and approval by the City Council.

## **5.5 REVIEW OF ZONING AND OTHER DEVELOPMENT APPLICATIONS**

A primary way in which the vision for the Koolauloa *Sustainable* Communities Plan will guide land use is through the review of applications for zone change and other development approvals. Approval for development projects should be based on the extent to which the project supports the vision and policies, and the planning principles and guidelines of the *Sustainable* Communities Plan.

Projects which do not involve significant zone changes will be reviewed by the department of planning and permitting for consistency with the vision, policies, principles, and guidelines of the Koolauloa *Sustainable* Communities Plan during the Zone Change Application process. Those projects requiring environmental assessment shall follow the provisions of Hawaii Revised Statutes, Chapter 343. Projects involving significant zone changes will require an Environmental Assessment.

### **5.5.1 ADEQUATE FACILITIES REQUIREMENT**

All projects requesting zone changes will be reviewed to determine if adequate public facilities and infrastructure are or will be available to meet the needs created as a result of the development. Level of Service Guidelines to define adequate public facilities and infrastructure requirements are established as part of the Capital Improvements Program process.

In order to guide development and growth in an orderly manner as required by the City's General Plan, zoning and other development approvals for new developments should be approved only if the responsible City and State agencies indicate that adequate public facilities and utilities will be available at the time of occupancy, or if conditions the functional agency indicates are necessary to assure adequacy are otherwise sufficiently addressed.

The department of planning and permitting will review the project for consistency with the Koolauloa *Sustainable* Communities Plan vision, and summarize any individual agency's findings regarding public facilities and utilities adequacy which are raised as part of the EA/EIS process. The department will address these findings and any additional agency comments submitted as part of the agency review of the zone change application and recommend conditions that should be included in the Unilateral Agreement or Development Agreement to insure adequacy of facilities.

## 5.6 FIVE-YEAR *SUSTAINABLE* COMMUNITIES PLAN REVIEW

The department of planning and permitting shall conduct a comprehensive review of the Koolauloa *Sustainable* Communities Plan and report its findings and recommended revisions to the Planning Commission and the City Council five years after adoption and every five years thereafter. It is intended that the Rural Community, Agricultural, and Preservation boundaries will remain fixed through the 2020 planning horizon.

## 5.7 TRANSITION FROM THE CURRENT SYSTEM

This section discusses the transition from the former Development Plan to this revised *Sustainable* Communities Plan, including its independence from Development Plan Common Provisions, its relationship to the General Plan guidelines, and the need for review and revision of development codes, standards, and regulations.

### 5.7.1 DEVELOPMENT PLAN COMMON PROVISIONS AND EXISTING LAND USE APPROVALS

This *Sustainable* Communities Plan will go into effect upon adoption by ordinance. At that time, the revised *Sustainable* Communities Plan will become a self-contained document, not reliant on the Development Plan Common Provisions which formerly applied to the Koolauloa Development Plan, as well as all the other Development Plans.

Land use approvals granted under existing zoning, Unilateral Agreements, and approved Urban Design Plans will remain in force and guide entitlement decisions until any new zoning action to further implement the vision and policies of the Koolau Loa *Sustainable* Communities Plan is initiated. If an Environmental Assessment or Environmental Impact Statement (EA/EIS) was accepted in the course of a Development Plan land use approval for a project, it should be acceptable to meet the requirement for an initial project EA/EIS when zone change applications are submitted for subsequent phases of the project, unless the project scope and land uses are being significantly changed from that described in the initial EA/EIS.

### 5.7.2 RELATION TO GENERAL PLAN POPULATION GUIDELINES

The Koolauloa *Sustainable* Communities Plan implements the General Plan population policies (in Population Objective C) as follows:

- The total potential population in the Koolauloa *Sustainable* Communities Plan Area will account for 1.5 percent of Oahu's total population in 2010. This relatively small share of the islandwide population is one tenth of one percent higher than the 1.3 percent - 1.4 percent share stated in Population Objective C, Policy 1 and Policy 2. It represents a declining growth rate from 1.7 percent of the islandwide population in 1990 to 1.6 percent in 1995, and 1.5 percent in 2010. Koolauloa's declining proportion of islandwide share is expected to continue, and it is projected that by the year 2020, Koolauloa's population will account for 1.4 percent of Oahu's total population, which is consistent with the General Plan's population distribution policies.
- Koolauloa's total potential share of islandwide population in 2010 implements Population Objective C, Policy 3, which is to manage physical growth and development in the urban-fringe and rural areas so that an undesirable spreading of development is prevented and that the suburban and country character of these outlying areas can be maintained.
- The General Plan population share for Koolauloa in 2010 according to Population Objective C, Policy 4, should be between 1.3 percent and 1.4 percent of Oahu's total in 2010. The estimated residential development capacity (i.e., assuming all planned and zoned lands are fully developed) for Koolauloa in 2010 is 1.5 percent of the capacity for all of Oahu, or slightly higher than this range. However, much of this

capacity consists of small, scattered parcels that have been zoned for residential use for years but have not been developed due to market and/or physical constraints. Full development of these areas by 2020 is highly unlikely, and it is anticipated that the actual pace of future development in Koolauloa will be consistent with implementing the General Plan population guideline.

Under the new Koolauloa *Sustainable Communities Plan*, projects will be evaluated against how well they fulfill the vision for Koolauloa set forth in the *Sustainable Communities Plan* and how closely they meet the policies, principles, and guidelines selected to implement the vision.

### 5.7.3 REVIEW AND REVISION OF DEVELOPMENT CODES

Upon completion of the Development Plan Revision Program, current regulatory codes and standards should be reviewed and revised, as necessary, to maintain their consistency and effectiveness as standards to guide attainment of the objectives and policies envisioned for all Development Plan or *Sustainable Communities Plan* areas. At the time such reviews are conducted, the following regulatory codes and standards may warrant further review and revision to ensure achievement of the vision for the Koolauloa region, as identified in this Plan, as well as consistency with its policies, principles and guidelines.

- **Land Use Ordinance.** (Chapter 21, Revised Ordinances of Honolulu). Zoning code standards and the zoning map for Koolauloa need to be revised to further implement the policies, principles, and guidelines in the *Sustainable Communities Plan*.
- **Subdivision Rules and Regulations.** (Department of Planning and Permitting, pursuant to Chapter 22, Revised Ordinances of Honolulu). Public right-of-way standards used for subdivision and consolidation of land need to be revised with community input to reflect rural development standards consistent with the transportation policies, principles, and guidelines in the *Sustainable Communities Plan*.
- **Traffic Standards Manual.** (Department of Transportation Services, July 1976, as revised). Standards which are applied to local and most collector streets need to be revised to reflect transportation policies, principles, guidelines in the *Sustainable Communities Plan*.
- **State Highways Division Procedures Manual,** Vol. 8, Chapter 5, Section 4 (State Department of Transportation). These State highway standards need to be reviewed to identify provisions which may conflict with the transportation policies, principles, and guidelines in the *Sustainable Communities Plan*.
- **Standard Details for Public Works Construction** (Department of Planning and Permitting). Engineering standards for the dedication of public works construction need to be revised to reflect *Sustainable Communities* principles and guidelines.
- **Storm Drainage Standards** (Department of Planning and Permitting). Standards for the dedication of drainage systems to incorporate retention basins and the use of v-shaped bottom channels, rip-rap boulder lining of stream banks, and streamside vegetation into the design need to be created to further implement the *Sustainable Communities Plan* policies, principles, and guidelines.
- **Wastewater Management Design Standards** (Department of Design and Construction) and the 1990 Revised Ordinances of Honolulu, Chapter 14 (relating to sewer services). These standards and ordinances may require review to further implement *Sustainable Communities Plan* policies and guidelines, in accordance with established public health and safety standards.



## **Honolulu - Land Use**

**APPENDIX A: OPEN SPACE, LAND USE, AND PUBLIC FACILITIES MAPS**

The Koolauloa *Sustainable* Communities Plan includes three color maps:

- Open Space Map
- Land Use Map
- Public Facilities Map

These maps illustrate the long-range vision of the future of the plan area and the major land use, open space, and public facility policies that are articulated in the plan. In examining them the reader should keep in mind that:

- These maps are general and conceptual.
- They are illustrative of the plan's policy statements, presented in the text of this report.

These policy statements, which appear in the preceding chapters, are considered to be the most important elements of the plan. The maps are considered illustrations of the policies. However, it is recognized that the maps may be more accessible and more interesting than the written policies. This section of the plan, therefore, presents a brief explanation of the contents of each of these maps.

Elements common to each of the three maps include organizing boundaries and four land use designations: "Preservation," "Agriculture," "Parks," and "Military." They are presented below. Common information particular to each map is presented under each map topic.

The maps which follow display Rural Community Boundaries, Agriculture Boundaries, and Preservation Boundaries. These maps are not parcel-specific, but illustrate generalized categories or group of land uses within the region.

Because they are not parcel-specific, the lines depicted by these boundaries do not indicate precise or abrupt demarcations. Rather, the extent of permissible or appropriate uses within these boundaries should be evaluated and determined in concert with relevant sections of the plan's text and specific site characteristics. Summary descriptions of each boundary category follow below.

**Rural Community Boundary**

The Rural Community Boundary defines, protects, and contains the intended extent of the "built-up" or "settled" areas of rural communities. Its purposes are to provide adequate lands to support established communities, to protect such communities from more intense forms of development, and to protect lands outside the boundary for agriculture or other resource or open space values. Areas within this boundary characteristically consist of relatively small, dispersed residential communities and towns. In Koolauloa, the Rural Community Boundary includes the built areas of Kahuku, Lāie, Hauula, Punaluu, Kahana, and Kaaawa.

**Agriculture Boundary**

The Agriculture Boundary is to protect important agriculture lands for their economic and open space values, and for their value in helping to give a region its identifiable character. The boundary is not displayed as a discreet boundary on the Open Space, Land Use, and Public Facilities maps. It is implied rather, by the agricultural land use designations outside the Rural Community Boundary. They include agriculturally important lands designated by ALISH as "Prime," "Unique," or "Other."

**Preservation Boundary**

The primary purpose of the Preservation Boundary is to protect lands which are not valued primarily for agriculture, but which form an important part of a region's open space fabric for their natural, cultural, or scenic resource values. The boundary generally circumscribes undeveloped lands outside the Rural Community and Agricultural Boundaries that are designated as Preservation on the Open Space, Land Use, and Public Facilities maps.

**Preservation**

Preservation lands include those lands not valued primarily for agriculture, but which form an important part of a region's open space fabric. They possess natural, cultural, or scenic resource values, and include important wildlife habitat, cultural sites, significant landforms, views, or hazard areas. They include the following types of land:

- Land necessary for protecting watersheds, water resources and water supplies.
- Lands necessary for the conservation, preservation and enhancement of sites with scenic, historic, archeologic or ecologic significance.
- Lands necessary for providing and preserving park lands, wilderness and beach reserves, and for conserving natural ecosystems of endemic plants, fish and wildlife, for forestry, and other related activities to these uses.
- Lands having an elevation below the maximum inland line of the zone of wave action, and marine waters, fish ponds and tide pools of Oahu unless otherwise designated on the land use map.
- All offshore and outlying islands of Oahu unless otherwise classified.
- Lands with topography, soils, climate or other related environmental factors that may not be normally adaptable or presently needed for urban, rural or agricultural use.
- Lands with general slopes of 20 percent or more which provide for open space amenities and/or scenic values.
- Lands susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention by the State or Federal Government, and lands necessary to the protection of the health, safety and welfare of the public by reason of soil instability or the lands' susceptibility to landslides or inundation by tsunami and flooding, or both.
- Lands used for national, State or both city parks.
- Lands suitable for growing of commercial timber, grazing, hunting, and recreation uses, including facilities accessory to such uses when said facilities are compatible with the natural physical environment.

**Agriculture**

Lands with agricultural value by virtue of current agricultural use or high value for future agricultural use, including those areas identified as Prime, Unique, or Other Important lands on the Agricultural Lands Important to the State of Hawaii (ALISH) maps. "Agriculture" includes lands suitable for crop growing, grazing and livestock raising, flower cultivation, nurseries, orchards, aquaculture, or similar activities.

**Parks**

Public and private parks and recreational facilities, including beach parks, playgrounds, playfields, district parks, botanical gardens, zoos, and golf courses.

**Military**

Lands for military and military support purposes.

## **OPEN SPACE MAP**

The Open Space Map is intended to illustrate the region's major open space patterns and resources as outlined in Chapter 3. It highlights major open space elements and resources, including agricultural and preservation lands, major recreational facilities, important "panoramic" views, natural stream corridors and drainageways, and important boundaries.

*Ahupuaa* boundaries, based on the traditional *ahupuaa* method of land organization, have been adopted for use and displayed in the plan as a method of organizing land uses and enhancing community definition within the region.

## **LAND USE MAP**

This map illustrates the desired long-range land use pattern for the Koolauloa region. It supports the plan's vision and policies. The map includes the following terms:

### **Rural Residential**

Single-family homes in country settings on medium-sized to large lots, on which rural development standards are employed and provisions for pedestrian circulation, landscaping, and open space are emphasized. Rural Residential also contains minor pockets of existing apartments in Punaluu and the previously approved but unbuilt apartment district in Lāie. These apartment areas are not mapped but cited and elaborated on in the text.

### **Country Town**

A small-scale, low-rise, mixed-use center of commerce and community activity in rural character and setting in which principal establishments are oriented on the street. Land use mixtures may include retail, office, and dining establishments, compatible service businesses and light industry, and residential uses. Commercial activity is concentrated along street frontages in typically "Mainstreet" settings.

### **Rural Regional Commercial Center**

A consolidated cluster of small-scale, low-rise retail, office, and dining establishments that serve the immediate and nearby communities. Its primary visual appearance is rural, pedestrian circulation and amenities are emphasized throughout the complex, and structures are compatible in scale and form with adjacent residential areas. While supermarkets are encouraged, "big box" retail is not.

### **Rural Community Commercial Center**

A small cluster of small-scale, low-rise commercial and service businesses which serve primarily the immediate community. Its primary visual appearance is rural. Buildings are generally compatible in scale and form with adjacent residential areas.

### **Resort**

Principally full-service or specialty hotels and apartments, with accessory or supporting uses which enhance the viability of the principal use.

**Visitor Facilities**

Entertainment-oriented visitor attractions with no overnight accommodations.

**Technology Park**

High Tech Park is an area intended for light technology and science-oriented industries and businesses in a campus-like setting. Development intensity is low, while open space and landscaping are the predominant visual and physical elements.

**Industrial**

Facilities for processing, construction, manufacturing, transportation, wholesaling, storage, or similar economic activities, and supporting facilities which directly enhance their viability.

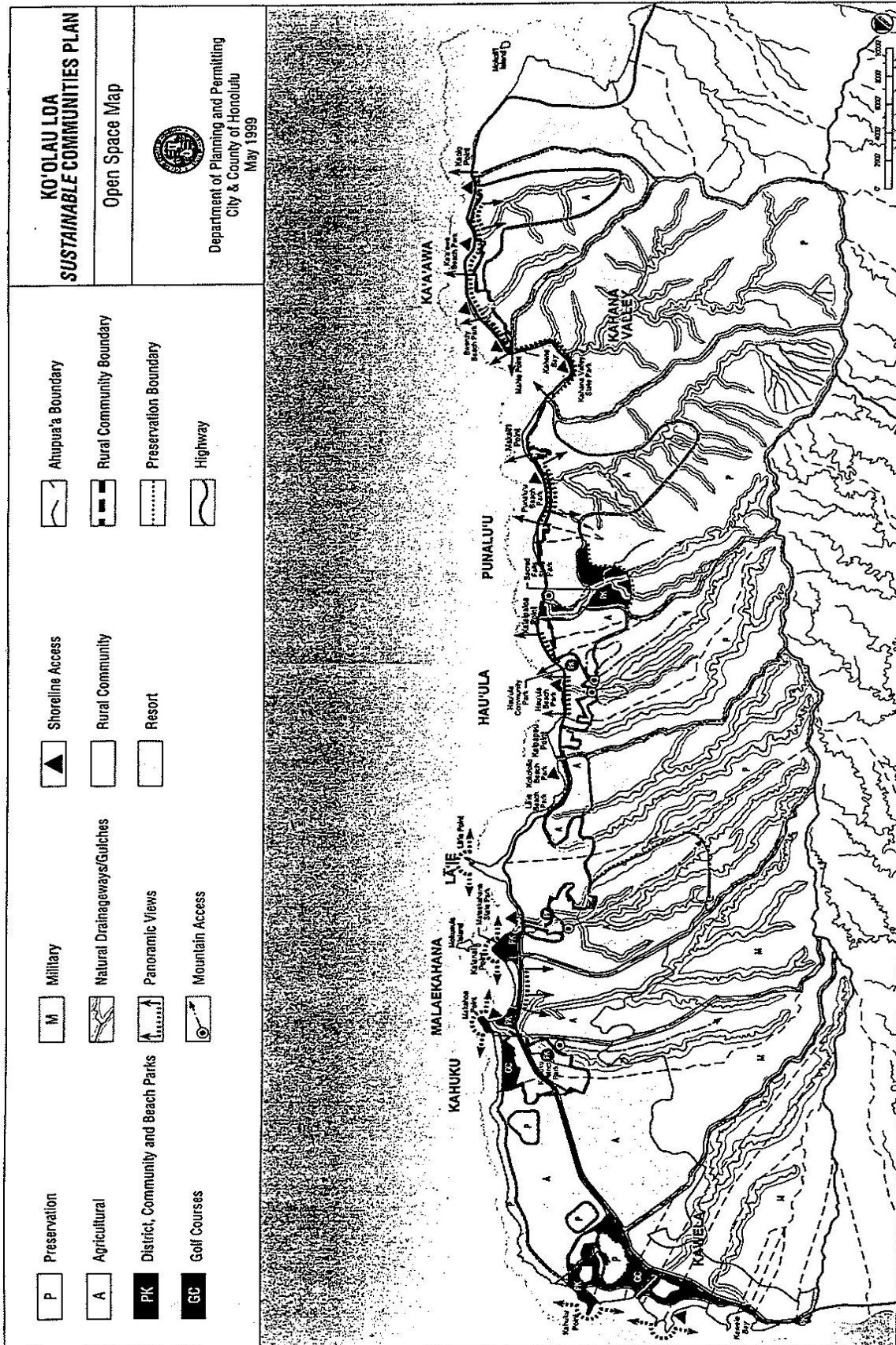
**Institutional**

Facilities for public use or benefit, including schools, churches, hospitals, group living establishments, utilities and infrastructure production or support facilities, civic, public, and social services facilities, and government facilities.

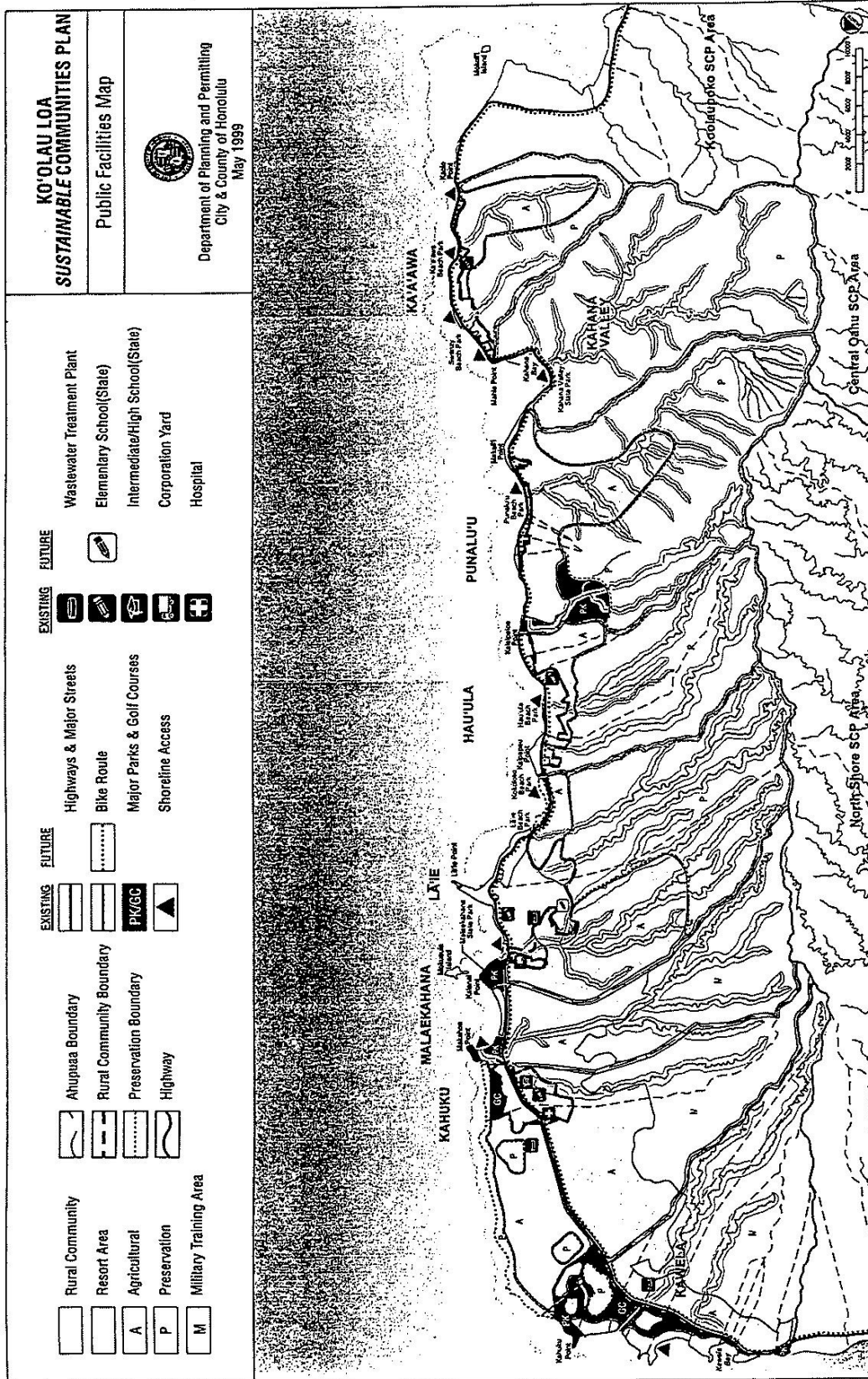
**PUBLIC FACILITIES MAP**

The Public Facilities Map illustrates major existing and future public facilities and privately owned facilities for public use. Its purpose is to display the public resources or assets available in the region. When the plan is adopted, a separate “Public Infrastructure Map,” which will focus on and display facilities eligible for City Capital Improvements Program funding, will also be developed.

For the Koolauloa region, the following types of facilities are displayed: highways, major streets and bike routes; wastewater treatment facilities; elementary, intermediate and high schools; the city corporation yard; and Kahuku Hospital.









## **Honolulu - Land Use**

## ARTICLE 8: NORTH SHORE

### Sections

- 24-8.1 Definitions
- 24-8.2 Applicability and intent
- 24-8.3 Adoption of the North Shore sustainable communities plan
- 24-8.4 Existing zoning and subdivision ordinances, approvals, and applications
- 24-8.5 Consistency
- 24-8.6 Review of development and other applications
- 24-8.7 Zoning change applications
- 24-8.8 Annual capital improvement program review
- 24-8.9 Five-year review
- 24-8.10 Authority
- 24-8.11 Severability
- 24-8.12 Conflicting provisions

### § 24-8.1 Definitions.

For the purposes of this article, the following definitions apply unless the context clearly indicates or requires a different meaning.

***Charter.*** The Revised Charter of the City and County of Honolulu 1973, as amended.

***City.*** The City and County of Honolulu.

***Council.*** The city council of the City and County of Honolulu.

***County.*** The City and County of Honolulu.

***Department* or *Department of Planning and Permitting.*** The department of planning and permitting of the City and County of Honolulu.

***Development.*** Any public improvement project, or any public or private project requiring a zoning map amendment.

***Development Plan* or *Sustainable Communities Plan.*** A plan document for a given geographic area which consists of conceptual schemes for implementing and accomplishing the development objectives and policies of the general plan for the several parts of the City and County of Honolulu.

***Director.*** The director of planning and permitting.

***Environmental Assessment* or *EA*.** A written evaluation prepared in compliance with the environmental council's procedural rules implementing HRS Chapter 343 to determine whether an action may have a significant environmental effect.

***Environmental Impact Statement* or *EIS*.** An informational document prepared in compliance with the environmental council's procedural rules implementing HRS Chapter 343; and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic and social welfare of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

***Finding of No Significant Impact* or *FONSI*.** A determination based on an environmental assessment that the subject action will not have a significant effect and, therefore, will not require the preparation of an environmental impact statement.

***Functional Plan*.** The public facility and infrastructure plans prepared by public agencies to further implement the vision, policies and guidelines set forth in the North Shore Sustainable Communities Plan.

***General Plan*.** The general plan of the City and County of Honolulu as defined by Charter § 6-1508.

***Hawaii Revised Statutes* or *HRS*.** Hawaii Revised Statutes, as amended.

***Planning Commission*.** The planning commission of the City and County of Honolulu.

***Project Master Plan*.** A conceptual plan that covers all phases of a development project. The project master plan also describes how the project conforms to the vision for the North Shore, and the relevant policies and guidelines for the site, the surrounding lands, and the region.

***Revised Ordinances of Honolulu* or *ROH*.** Revised Ordinances of Honolulu, as amended.

***Significant Zone Change*.** A zone change which involves at least one of the following:

- (1) Changes in zoning of 10 or more acres of land to any zoning district or combination of zoning districts, excluding preservation or agricultural zoning districts;
- (2) Any change in zoning of more than five acres to an apartment, resort, commercial, industrial or mixed use zoning district; or
- (3) Any development which would have a major social, environmental, or policy impact, or major cumulative impacts due to a series of applications in the same area.

***Special Area*.** A designated area within the North Shore Sustainable Communities Plan area that requires more detailed planning efforts beyond what is contained in the North Shore Sustainable Communities.

***Special Area Plan*.** A plan for a special area.

***Unilateral Agreement.*** A conditional zoning agreement made pursuant to § 21-2.80 or any predecessor provision that imposes conditions on a landowner or developer's use of the property at the time of the enactment of an ordinance for a zoning change.

(1990 Code, Ch. 24, Art. 8, § 24-8.1) (Ord. 11-3)

#### **§ 24-8.2 Applicability and intent.**

- (a) The North Shore Sustainable Communities Plan area extends from Kaena Point to Waialeale Gulch near Kawela Bay, and from the shoreline to the slopes of the northerly ends of Waianae and Koolau mountain ranges.
  - (b) It is the intent of the North Shore Sustainable Communities Plan to provide a guide for orderly and coordinated public and private sector development in a manner that is consistent with applicable general plan provisions, including the designation of North Shore as a rural area where growth will be managed so that "an undesirable spreading of development is prevented."
  - (c) This article and the North Shore Sustainable Communities Plan are not regulatory. Rather, they are established with the explicit intent of providing a coherent vision to guide resource protection and land use within North Shore. This article shall guide any development for North Shore, public investment in infrastructure, zoning and other regulatory procedures, and the preparation of the city's annual capital improvement program budget.
- (1990 Code, Ch. 24, Art. 8, § 24-8.2) (Ord. 11-3)

#### **§ 24-8.3 Adoption of the North Shore sustainable communities plan.**

- (a) This article is adopted pursuant to Charter § 6-1509 and provides a self-contained sustainable communities plan document for North Shore. Upon enactment of this article, all proposed developments will be evaluated against how well they fulfill the vision for North Shore enunciated in the North Shore Sustainable Communities Plan and how closely they meet the policies and guidelines selected to implement that vision.
  - (b) The plan entitled "North Shore Sustainable Communities Plan," attached as Exhibit A is adopted by reference and made a part of Chapter 24, Article 8, Revised Ordinances of Honolulu.
  - (c) Chapter 24, Article 1, entitled "Development Plan Common Provisions," in its entirety is no longer applicable to the North Shore Sustainable Communities Plan area. The North Shore Sustainable Communities Plan, as adopted by reference by this ordinance, supersedes any and all common provisions previously applicable to the North Shore area.
- (1990 Code, Ch. 24, Art. 8, § 24-8.3) (Ord. 11-3)

#### **§ 24-8.4 Existing zoning and subdivision ordinances, approvals, and applications.**

- (a) All existing subdivisions and zoning approved before May 3, 2011\* shall continue to remain in effect following the enactment of this ordinance.
- (b) Subdivision and zoning ordinances applicable to the North Shore Sustainable Communities Plan area enacted before May 3, 2011\* shall continue to regulate the use of land within demarcated zones of the North Shore

Sustainable Communities Plan area until such time as the subdivision and zoning ordinances may be amended to be consistent with the North Shore Sustainable Communities Plan.

- (c) Notwithstanding adoption of the North Shore Sustainable Communities Plan, applications for subdivision actions and land use permits accepted by the department for processing before May 3, 2011\* shall continue to be subject only to applicable ordinances and rules in effect when the application is accepted for processing. (1990 Code, Ch. 24, Art. 8, § 24-8.4) (Ord. 11-3)

***Editor's note:***

\* "May 3, 2011" is substituted for "the effective date of this ordinance."

**§ 24-8.5 Consistency.**

- (a) The performance of prescribed powers, duties, and functions by all city agencies shall conform to and implement the policies and provisions of this article and the North Shore Sustainable Communities Plan. Pursuant to Charter § 6-1511.3, public improvement projects and subdivision and zoning ordinances shall be consistent with the North Shore Sustainable Communities Plan, as adopted.
  - (b) Any questions of interpretation regarding the consistency of a proposed development with the North Shore Sustainable Communities Plan and the objectives and policies of the general plan shall ultimately be resolved by the council.
  - (c) In determining whether a proposed development is consistent with the North Shore Sustainable Communities Plan, the responsible agency shall primarily take into consideration the extent to which the development is consistent with the vision, policies, and guidelines set forth in the North Shore Sustainable Communities Plan.
  - (d) Whenever there is a question regarding consistency between existing subdivision or zoning ordinances, including any unilateral agreements, and the North Shore Sustainable Communities Plan, the existing subdivision or zoning ordinances shall prevail until such time as they may be amended to be consistent with the North Shore Sustainable Communities Plan.
- (1990 Code, Ch. 24, Art. 8, § 24-8.5) (Ord. 11-3)

**§ 24-8.6 Review of development and other applications.**

The review of applications for zone changes and other development approvals will be guided by the vision of the North Shore Sustainable Communities Plan. Decisions on all proposed developments shall be based on the extent to which the project enabled by the development approval supports the policies and guidelines of the North Shore Sustainable Communities Plan.

The director may review other applications for improvements to land to help the responsible agency determine whether a proposed improvement supports the policies and guidelines of the North Shore Sustainable Communities Plan.

(1990 Code, Ch. 24, Art. 8, § 24-8.6) (Ord. 11-3)

**§ 24-8.7 Zoning change applications.**

- (a) All zone change applications relating to land in the North Shore Sustainable Communities Plan area will be reviewed by the department for consistency with the general plan, the North Shore Sustainable Communities Plan, and any applicable special area plan.
- (1) The director will recommend either approval, approval with changes, or denial. The director's written review of the application shall become part of the zone change report which will be sent to the planning commission and the city council.
- (2) A project master plan shall be a part of an EA or EIS for any project involving 10 acres or more of land. The director shall review the project master plan for its consistency with the North Shore Sustainable Communities Plan.
- (3) Any development or phase of a development already covered by a project master plan which has been fully reviewed under the provisions of this article shall not require a new project master plan, provided the director determines that the proposed zone change is generally consistent with the existing project master plan for the affected area.
- (4) If a final EIS has already been accepted for a development, including one accepted before May 3, 2011,\* then a subsequent project master plan shall not be required for the development.
- (b) Projects which involve a significant zone change shall be required to submit an environmental assessment to the department of planning and permitting before an application for a zone change being accepted. Any development or phase of a development which has already been assessed under the National Environmental Policy Act, HRS Chapter 343, ROH Chapter 25, or this article, and for which a FONSI has been filed or a required EIS has been accepted, shall not be subject to further EA or EIS requirements under this chapter.
- (c) The environmental assessment will be reviewed by the department. Based on review of the environmental assessment, the director will determine whether an environmental impact statement will be required or whether a FONSI may be issued.
- (d) If an environmental impact statement is required, the environmental impact statement must be accepted by the director before a zone change application shall be initiated.
- (e) Zone changes shall be processed in accordance with this section, Section 5.5 of the North Shore Sustainable Communities Plan, and Chapter 21.
- (1990 Code, Ch. 24, Art. 8, § 24-8.7) (Added by Ord. 11-3)

***Editor's note:***

\* "May 3, 2011" is substituted for "the effective date of this ordinance."

**§ 24-8.8 Annual capital improvement program review.**

Annually, the director shall work jointly with the director of budget and fiscal services and the city agencies to review all projects in the city's capital improvement program and budget for compliance and consistency with the general plan, the North Shore Sustainable Communities Plan and other development plans, any applicable

special area plan provisions, and the appropriate functional plans. The director of planning and permitting will prepare a written report of findings to be submitted to the council in accordance with Charter § 6-1503. (1990 Code, Ch. 24, Art. 8, § 24-8.8) (Ord. 11-3)

**§ 24-8.9 Five-year review.**

- (a) The department of planning and permitting shall conduct a comprehensive review of the North Shore Sustainable Communities Plan, adopted by reference in § 24-8.3(b), every five years after the plan's adoption and shall report its findings and recommended revisions to the council.
  - (b) The North Shore Sustainable Communities Plan will be evaluated to assess the appropriateness of the plan's regional vision, policies, and guidelines, and implementing actions, as well as its consistency with the general plan.
  - (c) Nothing in this section shall be construed as prohibiting the processing of a revision to the North Shore Sustainable Communities Plan in the event either the biennial report of the director of planning and permitting or council recommends consideration of such a revision, pursuant to the Charter.
- (1990 Code, Ch. 24, Art. 8, § 24-8.9) (Ord. 11-3)

**§ 24-8.10 Authority.**

Nothing in this article shall be construed as an abridgement or delegation of the responsibility of the director, or of the inherent legislative power of the city council, to review or revise the North Shore Sustainable Communities Plan pursuant to the Charter and the above procedures. (1990 Code, Ch. 24, Art. 8, § 24-8.10) (Ord. 11-3)

**§ 24-8.11 Severability.**

If this article or the application thereof to any person or property or circumstances is held invalid, such invalidity shall not affect other provisions or applications of this article which can be given effect without the invalid provision or application, and to this end the provisions of this article are declared to be severable. (1990 Code, Ch. 24, Art. 8, § 24-8.11) (Ord. 11-3)

**§ 24-8.12 Conflicting provisions.**

This article shall prevail should there be any conflict with any other provisions under Chapter 24. (1990 Code, Ch. 24, Art. 8, § 24-8.12) (Ord. 11-3)





# **NORTH SHORE** **SUSTAINABLE COMMUNITIES PLAN**



City and County of Honolulu  
Department of Planning and Permitting

**April 2011**



## **Honolulu - Land Use**

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### LIST OF ACRONYMS

ALISH	Agricultural Lands of Importance to the State of Hawai‘i
BFS	Department of Budget and Fiscal Services
BMPs	Best Management Practices
BWS	Honolulu Board of Water Supply
CIP	Capital Improvement Program
City OED	City Office of Economic Development
CLP	Coastal Lands Program
COEMAP	Coastal Erosion Management Plan
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
DBEDT	State Department of Business, Economic Development and Tourism
DCS	Department of Customer Services
DDC	Department of Design and Construction
DEM	Department of Emergency Management
DES	Department of Emergency Services
DFM	Department of Facility Maintenance
DLNR	State Department of Land and Natural Resources
DOA	State Department of Agriculture
DOE	State Department of Education
DOH	State Department of Health
DOT	State Department of Transportation
DPP	Department of Planning and Permitting
DPR	Department of Parks and Recreation
DTS	Department of Transportation Services
EA / EIS	environmental assessment / environmental impact statement
ENV	Department of Environmental Services
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
HAR	Hawai‘i Administrative Rules
HBMP	Hawai‘i Beach Management Plan
HECO	Hawaiian Electric Company
HFD	Honolulu Fire Department
HPD	Honolulu Police Department
HPHA	Hawai‘i Public Housing Authority
HRS	Hawai‘i Revised Statutes
IAL	Important Agricultural Lands (Act 183, 2005)
LUC	Land Use Commission
LUO	Land Use Ordinance
mgd	million gallons per day
OMPO	O‘ahu Metropolitan Planning Organization
OTS	O‘ahu Transit Services
OWMP	O‘ahu Water Management Plan
PIM	Public Infrastructure Map
PUC	Public Utilities Commission
ROH	Revised Ordinances of Honolulu

## **Honolulu - Land Use**

STIP	State Transportation Improvement Program
Tax Dept.	State Department of Taxation
TBD	To Be Determined
TMDL	Total Maximum Daily Load
UH	University of Hawai'i
USACE	U.S. Army Corps of Engineers
WMP	Watershed Management Plan
WO SWCD	West O'ahu Soil and Water Conservation District

## PREFACE

The North Shore Sustainable Communities Plan has been prepared in accordance with the Charter-prescribed requirements for development plans, and is to be accorded force and effect as such for all Charter- and ordinance-prescribed purposes. It is one of eight community-oriented plans intended to help guide public policy, investment, and decision-making over the next 25 years. Each of these plans addresses one of eight planning regions on O‘ahu, responding to specific conditions and community values of each region.

Two of the planning regions, ‘Ewa and the Primary Urban Center, are areas where major growth in population and economic activity will be directed over the next 25 years and beyond. The plans for these regions are entitled “Development Plans,” to indicate their role as the policy guides for development decisions and actions needed to support that growth.

The remaining six planning regions, including North Shore, are envisioned to remain relatively stable. The plans for these regions are entitled “Sustainable Communities Plans” and are focused on serving as policy guidelines in support of that goal. The vision statements and supporting provisions for these plans are oriented toward maintaining and enhancing each region’s ability to sustain its suburban or rural character and lifestyle.

There has been a recent surge in widespread community discussions, actions and laws adopted to address sustainability. In 2005, the State Legislature convened a statewide group to draft a Hawai‘i 2050 Plan, with the primary purpose to provide policy recommendations for creating a sustainable Hawai‘i. In 2007, the State established a policy framework and requirements to reduce Hawai‘i’s greenhouse gas emissions to or below the 1990 levels by the year 2020 (Act 234, 2007). Public service announcements dealing with conserving water and electricity abound. The concept of buildings that are designed, built and occupied with environmental considerations at the forefront largely did not exist when the original Development Plans and Sustainable Communities Plans were first adopted. This setting raises the question about the role of such plans. Are they the City’s version of a sustainability plan? The answer is that they are the land development portion of a larger blueprint for sustainability.

As discussed below, the General Plan sets long-term goals for the City and County of Honolulu, across 11 major elements. Perhaps its most substantive chapter deals with population, and hence land development distribution. It sets the growth management strategy for O‘ahu. The Development Plans and Sustainable Communities Plans provide more detail on this land management strategy, assuring that how we use the land now, and in the future, responds to the three major elements of a Sustainable Place: economic health, social equity, and environmental protection. The issues addressed either directly or indirectly by these regional plans certainly overlap with other planning responsibilities of other departments, such as water delivery and consumption, crime reduction, increasing public health, and developing responsive transportation systems. Collectively, these efforts comprise the strategy of developing a sustainable future for O‘ahu.

## P.1 THE SUSTAINABLE COMMUNITIES PLAN PROCESS

This document is the culmination of a planning effort led by the City and County of Honolulu’s Department of Planning and Permitting. This effort comprised a process that encouraged and enabled significant involvement from the region’s neighborhood boards, community associations, business leaders, religious and cultural organizations, private landowners, institutions and numerous individuals. In its final form, this plan will have incorporated input received from the Planning Advisory Committee, three community-wide meetings, and a number of meetings with community leaders and representatives of government agencies.



## **P.2 HONOLULU LAND USE PLANNING AND MANAGEMENT SYSTEM**

The City and County of Honolulu guides and directs land use and growth through a three-tier system of objectives, policies, planning principles, guidelines and regulations. The General Plan forms the first tier of this system. First adopted by resolution in 1977, the General Plan is a relatively brief document, consisting primarily of brief statements of objectives and policies. It has been amended several times, but the basic objectives and policies set forth in the 1977 Plan remain intact.

The second tier of the system is formed by the Development Plans and Sustainable Communities Plans, which are adopted and revised by ordinance. These plans address eight geographic regions of the island, including the Primary Urban Center, East Honolulu, Central O‘ahu, ‘Ewa, Wai‘anae, North Shore, Ko‘olau Loa and Ko‘olau Poko.

The third tier of the system is composed of the implementing ordinances, including the Land Use Ordinance (Honolulu’s zoning code) and the City’s Capital Improvement Program. Mandated by the City Charter, these ordinances constitute the principal means for implementing the City’s plans. These ordinances are required to be consistent with the General Plan, the Development and Sustainable Communities Plans, and each other.

In addition to these three Charter-mandated tiers, the Development Plans and Sustainable Communities Plans are supplemented by two planning mechanisms that are not required by the Charter, including the functional planning process and special area planning. Functional planning activities, some of which are mandated by state or federal regulations, provide long-range guidance for the development of public facilities such as water, wastewater disposal, and transportation. Special area plans are intended to give specific guidance for neighborhoods, communities or specialized resources.

## **P.3 AUTHORITY OF THE DEVELOPMENT PLANS AND SUSTAINABLE COMMUNITIES PLANS**

The authority for the Development Plans and Sustainable Communities Plans (herein referred to as “Development Plans” for simplicity) is derived from the City Charter, which mandates preparation of a General Plan and Development Plans to guide “the development and improvement of the city.” Together with the General Plan, the Development Plans provide policy guidance for the land use and budgetary actions of the City. This is the authority the originally adopted Development Plans carried, and it remains unchanged.

The Charter provides that “public improvement projects and subdivision and zoning ordinances shall be consistent with the development plan for that area.” Although the Development Plans are not themselves regulatory, they “regulate the regulators.” They are policy tools and are to be used, in conjunction with the programs and budgets of the City, to accomplish the objectives of the City and as guides for the decisions made in the private sector.

## **P.4 1992 CHARTER AMENDMENT TO REVISE THE DEVELOPMENT PLANS**

In 1992 the City Charter Commission recommended, and the voters of Honolulu adopted, amendments to the City Charter. Chief among its findings, the Charter Commission concluded that the Development Plans were overly detailed and had created processes that duplicated the zoning process. To eliminate this unnecessary duplication, the 1992 Charter amendments changed the definition of Development Plans from “relatively detailed plans” to “conceptual schemes.”

The 1992 Charter amendments established that the purpose of the Development Plans is to provide:

- “priorities ... (for the) coordination of major development activities”; and

- sufficient description of the “desired urban character and the significant natural, scenic and cultural resources ... to serve as a policy guide for more detailed zoning maps and regulations and public and private sector investment decisions.”

In response to the 1992 Charter amendments, the Planning Department launched a thorough review of the Development Plans. The goal of that review was the revision of all eight of the Development Plans to bring them into conformance with the Charter-mandated conceptual orientation. The revised plan presented in this document conforms to that mandate.

## EXECUTIVE SUMMARY

For many O‘ahu residents and visitors, the North Shore represents “the country,” where people go to find a laid-back island setting reminiscent of O‘ahu’s plantation days. In contrast to urban Honolulu’s metropolitan setting, the North Shore is known for its colorful scenery and unspoiled natural beauty, including world-famous surf, scenic shoreline and white sand beaches, picturesque valleys and coastal *pali*, and vast, open expanses of agricultural lands set against dramatic mountain backdrops. Hale‘iwa and Waialua, the region’s two rural towns, still feature a country atmosphere with low-density residential structures and low-rise buildings housing retail establishments, restaurants, and surf shops. As Honolulu and its suburban areas continue to grow and become increasingly urbanized, it has become more important to maintain the North Shore as an essential haven and respite from the urbanized areas of O‘ahu.

This plan is organized in five chapters and an appendix, as follows:

- **Chapter 1: North Shore’s Role in O‘ahu’s Development Pattern** defines the region’s role and identity within the overall framework of islandwide planning and land use management.
- **Chapter 2: The Vision for North Shore’s Future** summarizes the community’s vision for the future of the region, and describes important elements of that vision.
- **Chapter 3: Land Use Policies and Guidelines** is the Plan’s policy core. It provides policy guidance for the region’s various land use elements.
- **Chapter 4: Public Facilities and Infrastructure Policies and Guidelines** outlines policies and guidelines to support the land use policies of Chapter 3.
- **Chapter 5: Implementation** addresses needs for carrying out provisions outlined by the Plan.

The key recommendations contained in each chapter are summarized in the following section:

### E.1 CHAPTER 1: NORTH SHORE’S ROLE IN O‘AHU’S DEVELOPMENT PATTERN

Chapter 1 provides an overview of the relationship between O‘ahu’s General Plan, and the County’s development plans and sustainable communities plans, and provides specific context for the North Shore Sustainable Communities Plan within this land use paradigm. Consistent with the directed growth policies of the City’s General Plan, the role of the North Shore is to maintain the rural character, agricultural lands, open space, natural environment, recreational resources and scenic beauty of O‘ahu’s northern coast. In line with the General Plan’s policies to preserve the open space and country atmosphere of the rural areas, growth is limited to “infill” areas within or adjacent to built-up areas to accommodate existing and future housing and employment needs.

**E.2 CHAPTER 2: THE VISION FOR THE NORTH SHORE'S FUTURE**

This chapter presents the overarching concepts and goals of the North Shore Sustainable Communities Plan. It includes the Vision Statement for the long-range future of the region, and the Key Vision Elements that the policies and guidelines in this Plan are based upon.

The North Shore's Vision Statement focuses on retaining the unique qualities that have defined the region's attractiveness to residents and visitors alike; scenic open spaces, coastal resources, and the community's cultural and plantation heritage. A stable and diverse agriculture industry, which includes crop production, agricultural processing, and other support facilities, will play a key role in the region's economy and in protecting the region's agricultural lands and open space setting. Hale'iwa and Waialua remain the North Shore's principal commercial and civic centers while retaining their historic and "country town" character. The region will remain "country," with wide open space, vistas, and rural communities. Growth will be limited to Hale'iwa and Waialua.

**E.3 CHAPTER 3: LAND USE POLICIES AND GUIDELINES**

Chapter 3 presents policies and guidelines for the principal types of land uses on the North Shore. The Vision for the North Shore's future described in Chapter 2 is to be implemented through the application of these policies and guidelines. A summary of the major policies related to each land use type is below:

**E.3.1 Open Space and Natural Environment**

Emphasis for the policies and guidelines for Open Space and the Natural Environment is placed on an integrated approach to resource management that underscores the Native Hawaiian concept of "*ahupua'a*". Consistent with this approach, preservation and protection of valued natural features, sensitive lands, agricultural lands and recreational areas are highlighted.

**E.3.2 Agriculture**

The policies and guidelines related to Agriculture recognize the importance of protecting productive agricultural land; encourage the development of regional support facilities and infrastructure; and emphasize the importance of prohibiting improper use and subdivision of agricultural land.

**E.3.3 Parks and Recreation**

Policies and guidelines for Parks and Recreation stress the protection and expansion of recreational resources; the provision of integrated pedestrian and bicycle facilities; the compatibility of recreational resources and activities within the surrounding environment; and connecting expenditures for recreational resources to actual usage of the facilities.

**E.3.4 Historic and Cultural Resources**

The North Shore Sustainable Communities Plan emphasizes the importance of historic and cultural resources as an integral fabric of the North Shore community and underscores the need to properly identify these resources and protect them from development so they can be preserved for future generations.

**E.3.5 Residential Communities**

The policies and guidelines related to Residential Communities clarify the importance of maintaining the Community Growth Boundary and directing the development of new housing units to areas in and around Hale‘iwa and Waialua. A mix of housing units is desired to meet the needs of all North Shore residents, in a manner consistent with rural design and principles of sustainability.

**E.3.6 Commercial Areas**

Guidance for Commercial Areas is focused on respecting rural design guidelines to maintain rural character, including appropriate scale. Importance is also placed on limiting new commercial development to areas within existing commercial districts.

**E.3.7 Industrial Areas**

The importance of Industrial Areas that are compatible with the character of the North Shore is a primary focus of the North Shore Sustainable Communities Plan. The policies and guidelines emphasize that industrial areas should support regional lifestyles while maintaining environmental balance, and providing economic opportunities as well as goods and services for area residents. Preservation of the former Waialua Mill site is also important.

**E.3.8 Visitor Accommodations**

The policies and guidelines for Visitor Accommodations emphasize the importance of a rural lifestyle on the North Shore, and the desire to avoid impacts on residents associated with both increased and illegal visitor units. Provisions are supported that would allow small-scale visitor accommodations in Hale‘iwa with appropriate regulatory review and approval. No new resort zoning is supported for the North Shore.

**E.3.9 Institutional Uses**

Policies and guidelines related to Institutional Uses support convenient public services consistent with the rural character of the region, which make efficient use of available land.

**E.3.10 Military**

Policies and guidelines in this section provide for the maintenance of military installations, and encourage these areas to be maintained in a consistent manner with applicable general policies for residential, industrial, commercial, and other related uses.

**E.4 CHAPTER 4: PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES**

This chapter presents the policies and guidelines related to public facilities and infrastructure systems in the North Shore. General policies related to each facility type are summarized below:

**E.4.1 Transportation Systems**

Transportation Systems are a key element of the North Shore Sustainable Communities Plan and emphasize a variety of policies and guidelines, including: retaining Kamehameha and Farrington Highways as two-lane thoroughfares;

improving mobility and connectivity for area residents; supporting multi-modal systems to reduce automobile dependency; and ensuring that existing roadways can accommodate development prior to construction.

#### **E.4.2 Water Systems**

This section of Chapter 4 provides an overview of the protection and regulation of water resources at the State and County levels, including the preparation of regional watershed management plans for O‘ahu by the Board of Water Supply. Policies and guidelines emphasize the importance of responsible management of water resources; the need for useful water conservation measures (including recycling); the relationship between the health of the agricultural economy and the availability of adequate irrigation sources; and the protection of all water sources from pollutants.

#### **E.4.3 Wastewater Treatment**

Policies and guidelines for Wastewater Treatment call for the provision of adequate public and private wastewater treatment facilities and improvements to the existing wastewater management services to protect the North Shore’s water resources and the health of the community, and support for alternative wastewater technologies that reflect the community’s values and rural character.

#### **E.4.4 Electrical Systems**

Policies and guidelines for Electrical Systems emphasize the importance of adequate and reliable electric service, the need for visually compatible facilities, and support for the use of renewable energy sources and conservation measures.

#### **E.4.5 Solid Waste Handling and Disposal**

The section on Solid Waste Handling and Disposal focuses on providing adequate resources for trash removal, cleanup of illegal dumps, and enforcement of antidumping laws, in addition to stressing the continued importance of recycling and other source reduction programs dedicated to minimizing the amount of solid waste generated.

#### **E.4.6 Drainage Systems**

Policies and guidelines for Drainage Systems call for improvements to mitigate storm runoff and to provide adequate protection from flooding, with an emphasis on low-impact design strategies that minimize nonpoint source pollution and support the retention of stormwater on-site and in wetlands.

#### **E.4.7 School Facilities**

Language in this section calls for the provision and maintenance of school facilities that serve the needs of the community, and a desire to integrate school facilities with other community uses.

#### **E.4.8 Public Safety Facilities**

Policies and guidelines for Public Safety Facilities promote an integrated approach to public safety, which enables police, fire, ocean safety, civil defense, and emergency medical efforts to share resources and information, as appropriate, and adequate staffing and facilities to ensure effective and efficient delivery of basic government services and protection of public safety.

**E.5 CHAPTER 5: IMPLEMENTATION**

This chapter discusses the various measures that support implementation of this Plan, including the regulatory mechanisms, physical improvements, and other actions that are needed to realize the Plan's vision. Section 5.7 presents an Implementation Matrix to help organize and facilitate plan implementation. The Implementation Matrix, which is based on the policies and guidelines presented in Chapters 3 and 4, identifies the specific actions, corresponding plans and/or codes, and public and private entities responsible for implementation.

**E.6 APPENDIX A**

The appendix contains three color maps that illustrate some of the plan's textual provisions. These maps are intended to be conceptual illustrations of the text, and should be considered secondary to the policies and guidelines articulated in the text.

## **Honolulu - Land Use**

## 1. NORTH SHORE'S ROLE IN O'AHU'S DEVELOPMENT PATTERN

The North Shore Sustainable Communities Plan area extends from Ka'ena Point in the west to Waiale'e Gulch near Kawela Bay in the east, with O'ahu's shoreline defining the northern edge and Helemano and the slopes of the Wai'anae and Ko'olau Mountain Ranges to the south. The region consists mostly of agricultural lands and open space, which surround the country towns of Hale'iwa and Waialua and the rural residential communities of Mokulē'ia, Kawaihoa, and Sunset/Pūpūkea.

A number of distinguishing characteristics help define the North Shore's role within the City and County of Honolulu. In contrast to urban Honolulu's metropolitan setting, the North Shore is known for its colorful scenery and unspoiled natural beauty, including world-famous surf, scenic shoreline and white sand beaches, picturesque valleys and coastal *pali*, and vast, open expanses of agricultural lands set against dramatic mountain backdrops. For many O'ahu residents and visitors, the North Shore represents "the country," where people go to find a laid-back island setting reminiscent of O'ahu's plantation days. The North Shore's Native Hawaiian heritage, cultural diversity, and plantation past are reflected in its small rural communities, and its agricultural landscapes and open space resources. Hale'iwa and Waialua, the region's two rural towns, still feature a country atmosphere with low-density residential structures and low-rise buildings housing retail establishments, restaurants, and surf shops. For many, the North Shore is a place for rest and recreation that offers opportunities to enjoy the country atmosphere, numerous white sand beaches, and mountain areas. As Honolulu and its suburban areas continue to grow and become increasingly urbanized, it has become more important to maintain the North Shore as an essential haven and respite from the urbanized areas of O'ahu.

The General Plan directs growth to the Primary Urban Center, Central O'ahu, and 'Ewa regions of O'ahu and limits growth in the urban fringe and rural areas (Exhibit 1.1). It designates the North Shore as a rural area where physical growth and development will be managed so that "an undesirable spreading of development is prevented," and "population densities are consistent with the character of development and environmental qualities desired for the area" (General Plan of the City and County of Honolulu, page 15). The General Plan also specifies that agricultural lands along the Windward, North Shore, and Wai'anae coasts are to be maintained for diversified agriculture.

In this context, the role of the North Shore Sustainable Communities Plan is to maintain the rural character, agricultural lands, open space, natural environment, recreational resources, and scenic beauty of O'ahu's northern coast, in contrast to more urbanized areas of O'ahu such as the Primary Urban Center, East Honolulu, Central O'ahu, and 'Ewa. In line with the General Plan's policies to preserve the open space and country atmosphere of the rural areas, the North Shore Sustainable Communities Plan limits growth to "infill" areas within or adjacent to built-up areas to accommodate existing and future housing and employment needs, and strives to maintain the region's population at 1.7 percent of the island-wide population for the year 2025<sup>1</sup>.

<sup>1</sup> General Plan for the City and County of Honolulu, Section I: Population Objective C Policy 4 (Amended, Resolution 02-205, CD1) seeks a 2025 distribution of O'ahu's residential population as follows:

Distribution of Residential Population	
LOCATION	% SHARE OF 2025 ISLANDWIDE POPULATION
Primary Urban Center	46.0%
'Ewa	13.0%
Central O'ahu	17.0%
East Honolulu	5.3%
Ko'olau Poko	11.6%
Ko'olau Loa	1.4%
North Shore	1.7%
Wai'anae	4.0%
TOTAL	100.0%



This plan reaffirms the North Shore's role as a rural area by establishing the following policies for future land use in the North Shore Sustainable Communities Plan area:

- Maintain the region's rural character by promoting diversified agriculture, preserving scenic open space, and retaining the small-town, country atmosphere of the region's typically low-rise, low-density communities.
- Preserve agricultural lands for current and future agricultural uses and support the diversified agriculture industry.
- Protect and preserve the natural environment and natural resources and features, including: mountain, forest and watershed areas; marshes, rivers, and streams; shoreline areas, fishponds, and bays; and reefs and offshore islands.
- Preserve scenic views of the mountains, coastal *pali* and shoreline areas including *mauka* and *makai* views seen from near shore waters and heavily traveled areas such as Kamehameha Highway, Farrington Highway and Kaukonahua Road.
- Protect cultural, historical, and archaeological resources by promoting the interpretive and educational use of these sites, buildings, and artifacts.
- Manage and sustain ocean and nearshore resources to assure their long-term availability.
- Enhance opportunities for a wide range of recreational activities by providing community-based as well as natural resource-based parks, and by securing convenient public access, including public right-of-ways, bikeways, and pedestrian walkways to beaches and inland recreation areas.
- Facilitate the country lifestyle by establishing rural design guidelines emphasizing open space, landscaping, and the scenic qualities of an area, so that new development will be in keeping with the desired rural character of the region.
- Support businesses which serve the agricultural, educational, health, and tourist industries and the local population, and provide employment for North Shore residents consistent with the low-key rural atmosphere of the North Shore.
- Provide sufficient lands adjacent to built areas of Hale'iwa and Waialua for housing that is compatible with the region's rural character and affordable to area residents, without exceeding the General Plan's population guidelines for the region and remaining in line with General Plan policies to maintain the North Shore as a rural area.

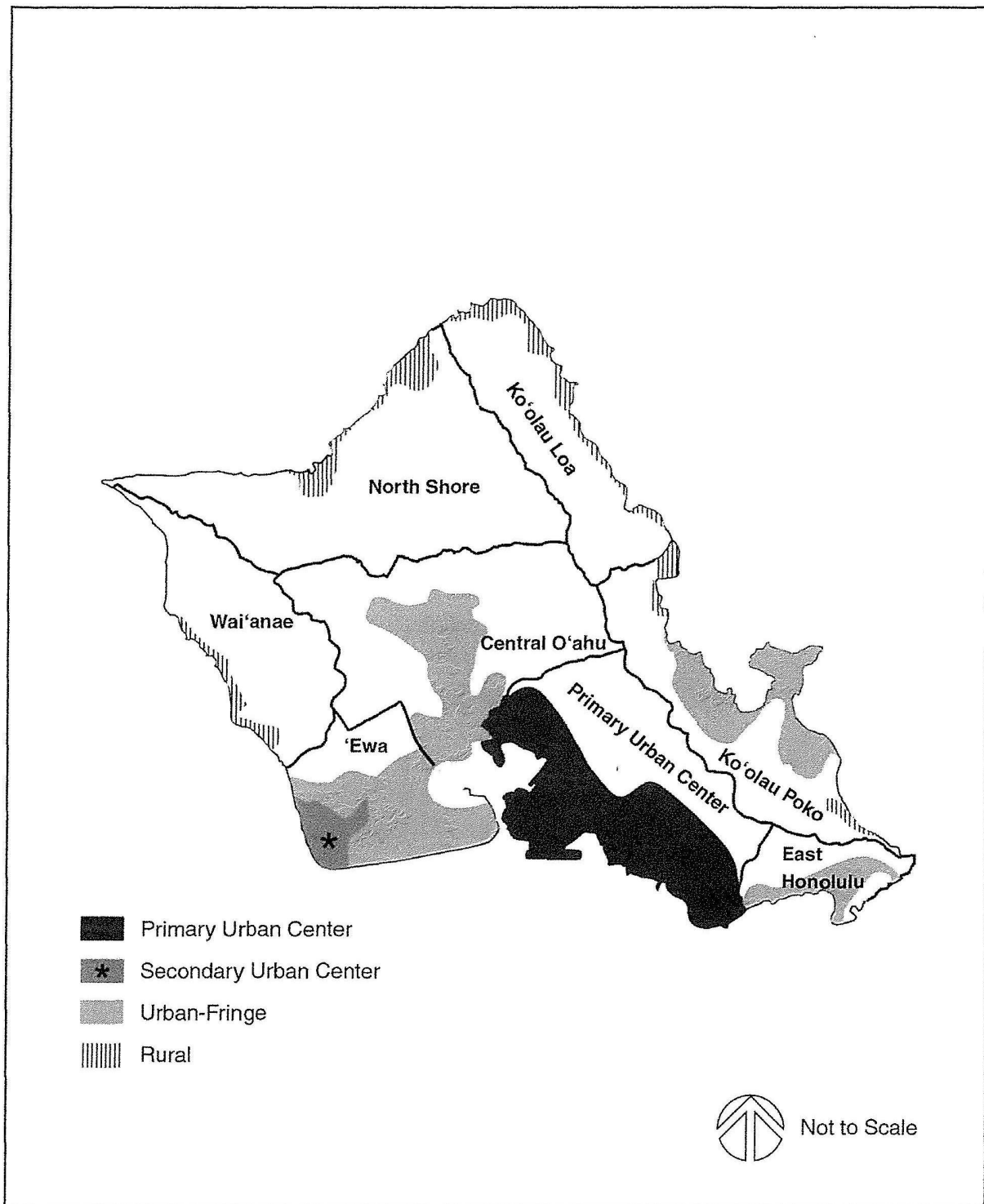


Exhibit 1.1: General Plan Designations

## **Honolulu - Land Use**

## 2. THE VISION FOR THE NORTH SHORE'S FUTURE

This chapter presents the vision for North Shore's future and describes the key elements of this vision. Based on community input and the General Plan's policies for the region, the Vision provides the basis for the Sustainable Communities Plan's policies and guidelines, which, in turn, will direct future land use decisions and natural resource management policies and programs on the North Shore.

The Vision for the North Shore extends to the year 2035, during which time the North Shore is projected to experience very little growth. The region will remain "country," with wide open spaces, agricultural lands and rural communities defining the regional landscape, and growth limited to Hale'iwa and Waialua Towns. Based on the General Plan's population distribution policy, the North Shore's population is projected to account for 1.7 percent of the island-wide population in 2025.

Following World War II and the resultant tourism boom on O'ahu, the North Shore has experienced a steady increase in population. In 1970, the North Shore's population was about 9,200 people, accounting for an estimated 1.4 percent of O'ahu's total population. By 2000, the North Shore's population doubled to nearly 18,400 people, accounting for about 2.0 percent of the island-wide population. Projections from the City's department of planning and permitting (DPP) indicate an estimated 19,517 persons residing in the region in the year 2035.<sup>2</sup> Assuming that the region's population growth rate will continue at the same pace over the next 25 years, DPP projections indicate that there would be about 1,800 more people in the region by 2035 (based on the projected 2010 residential population of 17,724). At more than 1.8 percent of the 2035 projected island-wide population of 1,038,317 residents, the North Shore's 2035 projected residential population would be slightly more than the General Plan's population distribution policy for the North Shore (1.7 percent of the island-wide population). Although the projected regional population growth seems relatively minor when compared with the projected 2035 island-wide population (20,430 and 1,113,620 persons, respectively), many North Shore residents feel that the additional population growth – when compared to the North Shore's current population – is substantial, and also largely inconsistent with the existing rural character and the community's future vision.

### 2.1 VISION STATEMENT

The vision statement for the North Shore describes the desired future conditions in the year 2035 and beyond. This section is written in the present tense, from the perspective of the year 2035 looking back into the past.

"The North Shore in the year 2035 retains the unique qualities that have long defined its attractiveness to residents and visitors alike. Scenic open spaces are protected and maintained, coastal resources are enhanced, and the region's Native Hawaiian heritage, cultural diversity, and plantation past have been carried forward in the revitalization of its communities.

Agriculture is a major contributor to the North Shore's economy, providing a multitude of jobs and economic opportunities for area residents. A varied quilt work of crops and forest products defines vast tracts of agricultural lands. All of O'ahu's residents enjoy the agricultural products grown on the North Shore, and value the North Shore's ability to provide food for the island's population and reduce O'ahu's dependency on imported foods. Coastal waters, beaches, and parks are linked by walkways and bicycle routes creating an ideal backdrop to host a rich array of recreational pursuits. Mountain areas provide safe havens for native plants and wildlife as well as wilderness settings for appropriate backcountry recreation.

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<sup>2</sup> Department of Planning and Permitting. "Socio-Economic Projections, Year 2035." September 2009.

Hale‘iwa and Waialua are the region’s principal commercial and civic centers, and small pockets of rural residential areas remain clustered around Mokulē‘ia, Kawaihoa, and Sunset/Pūpūkea. Residents are proud of their close-knit communities and the many local families in their communities that have a history of multigenerational ties to the North Shore.

The growth of a stable and diverse agriculture industry has ensured the long-term protection of the North Shore’s agricultural lands and open space setting and supported an array of flourishing agricultural enterprises, including crop production, agricultural processing and other support industries, farmers’ markets and agricultural specialty outlets. Along with the continued success of the visitor and recreational industries, the growth of the agriculture industry has resulted in further needs for conventional commercial and industrial services, and an increase in cottage industries.

To maintain the region’s rural character, these new activities are centered at Hale‘iwa and Waialua. Hale‘iwa continues to be the North Shore’s regional commercial center, hosting a variety of specialty outlets, dining establishments, professional and business services, and water sport enterprises, along with low-key, small-scale, country-style visitor accommodations. Waialua is a renewed center for agricultural activity, boasting a revitalized town center for resident-focused commercial services and a resource center for technology education within its schools. While some of the needed new affordable housing has been located in Hale‘iwa, most new residential neighborhoods are located at Waialua.

Both towns retain their historic character and rural charm, while serving as the main employment centers for the region. Similarly, all new residential neighborhoods and their supporting parks, playgrounds, and public services have been developed to standards which reflect their rural settings. In these ways, the North Shore of O‘ahu, long an attraction for Hawai‘i residents and visitors alike, has emerged in the year 2035 as a thriving model rural community that successfully preserves its natural, cultural and historical heritage, links its past with the future, and blends “Old Hawai‘i” with the 21st century.”

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

Each of the key elements of the vision is described in Sections 2.2.1 through 2.2.10.

### **2.2.1 Maintain the Community Growth Boundary to Protect Agricultural, Open Space, and Natural Resources**

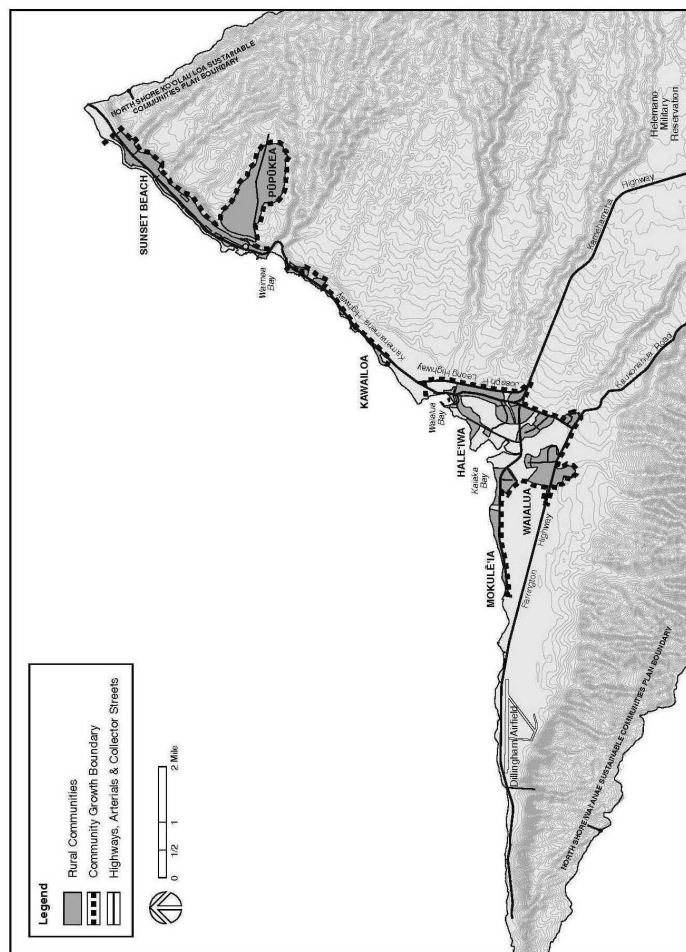
The North Shore is characterized by vast tracts of agricultural lands, open spaces, and natural and cultural resources. To protect these resources from development, the Community Growth Boundary was established to guide development and preserve open space and agricultural areas. It has remained fixed since it was first established in 2000, and no new development has occurred outside the Community Growth Boundary. The Community Growth Boundary has served as a valuable tool to guide resource management, future development or redevelopment within existing zoning designations or future zoning designations, and other standards or guidelines that have been developed in response to plan provisions, other established entitlements, or in accordance with pertinent policy and character described in this plan.

The Community Growth Boundary defines, protects, and contains communities in areas which the General Plan designates “rural” and which exhibit the physical characteristics of rural lifestyles. The boundary provides adequate lands for facilities needed to support established communities, and protects such communities from more intense land uses and patterns of development associated with more urban areas. The Community Growth Boundary also preserves areas outside the boundary for agriculture or other resource or open space values. Where appropriate,

the area within this boundary also contains open space elements considered essential to the character of the rural community being defined. Open space elements within the Community Growth Boundary may include lands designated “Park,” “Agriculture,” “Preservation,” or areas with development-related hazards such as steep slopes or unstable soils.

Rural communities defined by this boundary consist of residential communities and towns that are smaller, more dispersed, and less intensively developed than those in O‘ahu’s urban or urban fringe areas. Development character is generally low density, low rise, small scale, and reflective of a “country” setting. Within residential areas, the landscaping and front yards which provide the foregrounds to their respective residences are the principal visual elements. In commercial areas, the pedestrian environment and associated amenities predominate, and storefronts are typically found on both sides of the street. Commercial buildings are oriented principally toward the street, relate readily to the human scale, and are organized to encourage interaction between the public and private domains.

As shown on Exhibit 2.1, the Community Growth Boundary on the North Shore conceptually defines the limits of residential, commercial, industrial, or other similar uses. As no proposals for these types of uses can be considered outside the Community Growth Boundary, this boundary also prevents the encroachment of development onto agricultural lands and open space resources.



**Exhibit 2.1: Community Growth Boundary**

Areas outside the Community Growth Boundary include agricultural lands as well as preservation lands with important open space, scenic, or natural resource values. Uses such as commercial and industrial development, public and private schools, and residential subdivisions with no bona fide agricultural activities are not permitted in these areas. Permissible land uses outside the Community Growth Boundary include agriculture and limited low-intensity types of outdoor recreational uses where appropriate, such as on nonagricultural lands or agricultural lands that are not suitable for intensive cultivation, provided they do not diminish the agricultural potential of these sites or jeopardize the open space, natural, and scenic character of these resources. Other permitted uses outside the Community Growth Boundary include environmental and educational programs and facilities that are resource compatible, such as a high technology learning center that uses existing facilities at Camp Mokulē‘ia and Camp Erdman in Mokulē‘ia.

Rural communities within the Community Growth Boundary include concentrations of residential, commercial, and industrial uses, as well as the network of roads, parks, and open spaces, which define their edges or give them character. Relative to the State Land Use District boundaries, the Community Growth Boundary generally circumscribes built-up sections of Mokulē‘ia, Waialua, Hale‘iwa, Kawaiiloa, and Sunset Beach that are within the State Urban District. It also includes portions of the State Agricultural District in Sunset Hills and Pūpūkea that are zoned Country, as well as portions of the State Agricultural District *makai* of the highway in Hale‘iwa and Waialua that are designated and zoned for agricultural use. However, except for limited “infill” areas in Hale‘iwa and Waialua Towns that are contiguous to lands designated for residential and commercial use, agricultural lands within the Community Growth Boundary continue to remain in the State Agricultural District and continue to be designated and zoned as Agriculture, so as to maintain the agricultural uses or open space value within the Community Growth Boundary, or both.

Within this boundary, open space continues to define communities, and significant natural resources (such as streams, natural drainageways, wetlands, and fishponds) are protected. New development within the Community Growth Boundary has been limited to infill low-density, low-rise development contiguous to existing built areas, to promote a compact form of development with lower development costs and more efficient utilization of existing infrastructure systems. The infill areas within the Community Growth Boundary have had ample capacity to accommodate residential, commercial, and industrial needs to the year 2035.

### **2.2.2 Promote a Diversified Agricultural Industry**

A healthy agricultural industry continues to generate economic opportunities that are appropriate to the region’s open space and rural qualities. In addition to using the Community Growth Boundary to ensure long-range protection for agricultural lands, land use policies and guidelines are in place to protect agricultural lands from encroachment by incompatible uses and to encourage long-term investments in productive agricultural uses on those lands. Economic incentives to support the industry, including tax or other incentives or measures to maintain productive agricultural lands, facilitate conversion from plantation crops to diversified agriculture, and promote long-term leases or sale of lands for farming, have been enhanced and strengthened.

Industrial and commercial activities which support or service agricultural production are creating further economic opportunities. To promote the cost-efficient use of existing infrastructure and prevent urbanization of agricultural lands, major agricultural support facilities have been consolidated in designated areas that are accessible to existing infrastructure. In addition, visitor-based activities that are accessory to agricultural operations are providing additional revenue-generating sources to supplement farm incomes. Qualified uses which meet specific criteria outlined in Section 3.2 are being allowed on a permit basis.

Agricultural support facilities at the former Waialua Mill site have been expanded into the area *makai* of the Mill, and the area is the primary agricultural support area for the region. A secondary agricultural support area in Kawaihoa near the Alluvion Nursery provides localized support for adjacent agricultural activities based in Kawaihoa.

### **2.2.3 Enhance the Region’s Recreational and Educational Potential**

The North Shore is known for its numerous beach parks, world famous surf spots, and abundant *mauka* and *makai* resources. Recreational resources along the shoreline are preserved and enhanced, and access to the shoreline has been expanded. Facility improvements such as bathrooms, showers, and parking have been completed, and beach parks were expanded to meet island-wide demands on these resources. Maintenance and improvements to existing beach parks, additional access to the shoreline, and acquisition of beach right-of-ways continue to be a priority.

Access to the *mauka* areas has been expanded for appropriate forms of recreational opportunities that do not compromise significant environmental resources or important agricultural activities. Above Mokulē‘ia, Hale‘iwa, and Pūpūkea, *mauka* access has been expanded for hiking, camping, hunting, and horseback riding and other resource-compatible forms of recreation within the context of sound resource management.

Low-impact, resource-sensitive environmental, educational, and cultural interpretive programs are being accommodated at Ka‘ena Point and in the *mauka* areas of Mokulē‘ia, Hale‘iwa, Waimea, and Pūpūkea. While promoting expanded access and recreational opportunities to coastal and *mauka* resources, the value of the resources remains protected from overuse. A high technology learning center is operating at Mokulē‘ia, and a resource center for technology training and long-distance learning serves Waialua schools.

More community-based parks for area residents with better maintenance and amenities to support the community’s recreational needs are being provided. As new housing areas were developed in Waialua, Pu‘uiki Park was acquired to serve as a community-based park for area residents. In Hale‘iwa, the Hale‘iwa Beach Park Mauka (commonly known as the Hale‘iwa Regional Park) provides facilities for both active and passive recreational pursuits. In addition, an integrated system of pedestrian paths and bikeways links the parks, schools, and town centers in Waialua and Hale‘iwa.

### **2.2.4 Promote Hale‘iwa and Waialua Towns as “Country Towns”**

Hale‘iwa and Waialua Towns are the main commercial districts on the North Shore, each with different functions and distinct characteristics. The historic Hale‘iwa Town with its “main street” ambience is the region’s main commercial attraction for residents and visitors, while Waialua Town is a plantation town that primarily services the residents of Waialua and Mokulē‘ia.

To maintain their rural “small town” character and to promote compact town development, the cores of both towns are designated as “country towns.” While the built environment within each town’s core reflects the town’s distinct historic character and the region’s rural landscape, both towns are celebrated for the unique mix of commercial, residential, and compatible industrial uses (such as small product or clothing manufacturing and assembly).

**Hale‘iwa.** Hale‘iwa Town features a diverse mix of shops and restaurants, professional and service businesses, enterprises with art and recreational themes, and specialty outlets featuring regional products. Entry features into the town, landscaping, pedestrian walkways, and off-street parking behind buildings have spawned the town’s revitalization, and new developments are concentrated along Kamehameha Highway. The Hale‘iwa Special District



Design Guidelines remain in force to ensure that all new development is compatible with existing built areas and the rural character of the region.

Small-scale visitor accommodations located within the Hale‘iwa Country Town District provide overnight facilities for visitors wishing to vacation on the North Shore. These small-scale visitor accommodations are one alternative to address community concerns about the illegal use of private homes as short-term vacation rentals. Short-term vacation rentals and the additional pressures such use places on surrounding residences have been addressed. Locational and performance criteria addressing the different types of visitor accommodations have been established and are actively enforced.

**Waialua.** Waialua Town is the quiet heart of the North Shore’s residential and farming community, featuring the region’s primary agricultural support area and a vibrant core with basic retail and commercial services and light industrial uses that support the local community. Although agricultural and light industrial businesses are the major employers in Waialua, the town’s proximity to Ka‘ena Point and the recreational opportunities in the area attracted recreational and environmental education activities to the area, including high technology and education industries that partner with area schools. Such partnerships have enhanced the quality of education and, along with the establishment of a private high school in the area, have created professional-level jobs for area residents. In addition, Waialua’s central location and proximity to the schools and parks is ideal for locating civic and community services such as job training programs for the youth and support services for the elderly. To preserve its plantation heritage and rural character, design guidelines appropriate to Waialua Town are established.

The core of Waialua Town is centered around Goodale Avenue and Kealohanui Street. As envisioned in the Waialua Town Master Plan (2005), revitalization of the town’s core has created a landscaped, pedestrian-oriented mall anchored by the Waialua Bandstand and the revitalized Waialua Mill site, an expanded farmers market, and community and commercial uses. Appropriate forms of small-scale, low-intensity tourist activities, such as tours of nearby agricultural farms and processing facilities and recreational resources are helping to further revitalize the town’s commercial center by attracting more people there.

#### **2.2.5 Support Waialua as the North Shore’s Industrial Center**

The Waialua Mill site has been reinforced as the industrial center for the region. In addition to industrial uses that support the agriculture industry, general industrial uses such as boat and car repair, surfboard manufacturing and repair, manufacturing of crafts and island products, and, warehousing are thriving. Development of the former Mill and expansion *makai* of the Mill site has encouraged more commercial activity and enhanced the physical connection between the Mill and Waialua’s town core.

#### **2.2.6 Direct New Housing to Areas Contiguous to Hale‘iwa and Waialua Towns and Use Rural Design Guidelines for Rural Residential Development**

New residential development is located within designated areas adjoining Hale‘iwa and Waialua Towns, with additional “infill” on or contiguous to existing lots in previously developed residential areas. New housing consists of a range of housing types and prices, including affordable housing that is allowing local residents to stay in the area. Attached and multi-family housing forms which were not traditionally associated with the rural setting have been developed, and the higher densities have supported the development of affordable housing. In Waialua, new housing has replaced the former mill camp once located between the Mill and Pu‘uiki Road, and expanded into the area *mauka* of the mill camp between Pu‘uiki Road and Goodale Avenue. In Hale‘iwa, infill residential expansion has occurred north of Pa‘ala‘a Road on lands outside the flood plain.

Rural design guidelines and development standards have been adopted to ensure compatibility with the region's rural character and surrounding open space. Rural models such as the plantation community at Poamoho Camp, which is characterized by clusters of single-story dwellings with landscaping, narrow streets, and common parks and open spaces within the neighborhood, were used as examples to follow.

In addition to guidelines to limit building heights and lot coverage in order to maximize open space and landscaping, low-impact development principles that promote sustainable building design and alternative development options that allow for site design flexibility, creative site utilization, and open space preservation were adopted. Rural streetscape design that minimizes pavement surfaces and allows for grassed swales in place of sidewalks with curbs and gutters, as opposed to more urban and suburban models, is considered appropriate. Where feasible and appropriate, existing plantation homes were rehabilitated in a manner which allows them to be affordable to existing residents.

#### **2.2.7 Provide Adequate and Appropriately-Sized Public Infrastructure, Facilities, and Services**

Public agencies and private developers work together to provide adequate infrastructure and needed public facilities and services. Considering the large number of nonresidents that visit the North Shore and partake in the region's assets, additional resources to upgrade and adequately maintain existing infrastructure systems and public facilities are being provided. Infrastructure does not detract from scenic amenities, recreational opportunities, open space, or other amenities.

Adequate, environmentally sensitive wastewater treatment systems that minimally impact groundwater and ocean resources and are consistent with the North Shore's rural character have replaced outdated and ineffective wastewater systems.

The quality of the North Shore's ground, surface, and nearshore waters is vital for ensuring public health, providing outdoor recreation, sustaining the integrity of ecological systems, and maintaining general environmental quality. In addition to drainage system improvements to mitigate storm runoff and regional flood hazards, adequate infrastructure for drainage systems has been established and is being maintained to ensure continuous runoff and protect the quality of coastal waters. Agricultural uses are implementing Best Management Practices (BMPs), including those recommended in the State Coastal Nonpoint Pollution Control Program, to minimize soil erosion.

An adequate circulation network that allows for efficient and safe travel supports all modes of transportation. Traffic on Kamehameha Highway between the heart of Hale'iwa Town and Waimea Bay flows freely since safety and operational deficiencies along the aged highway system were corrected. Kamehameha Highway remains a two-lane highway; no additional through lanes have been constructed, although improvements to reduce traffic impediments (for example, bicycle/pedestrian facilities to encourage the use of alternatives modes of transportation, dedicated storage/stacking turn lanes to minimize bottlenecks affecting emergency vehicle response time, turnouts and facility improvements to reduce the number of cars parked along the highway) have been completed. The provision of secondary/emergency access into and out of the region is also available. The transportation system encourages reduced automobile dependency, and includes an integrated network of bus routes, and pedestrian paths and bikeways that link the various residential communities, parks, schools, and the town centers of Hale'iwa and Waialua.

Other priority needs that have been addressed include retention of the public library in Waialua, maintenance of existing parks in the region, and adequate staffing and resources to ensure quality public safety services and protection from natural hazards. Use of proven renewable energy and energy conservation measures, including the use of solar energy systems and sustainable building technologies, is encouraged.

### 2.2.8 Preserve and Protect Cultural and Historic Resources

Preserving significant plantation era and other historic features such as at Hale'iwa Town, Waialua Town, the Waialua Mill, and other sites, as well as protecting Native Hawaiian cultural and archaeological sites, has been important in retaining the area's unique identity and country character. Historic site restoration and interpretive programs are integrated into the development of parks and shorelines and mountain access systems, to help enhance appreciation of these resources.

The North Shore has a wealth of historic and cultural resources signifying its rich history of land use that extends back to the precontact Native Hawaiian era. Native Hawaiians were the first known inhabitants of the region, arriving around 1100 A.D. and settling in villages built along valley floors, streams, and shoreline areas. With an abundance of marine life, fertile soils, natural springs, and forest resources, the lands around Waialua and Kaiaka Bay are believed to have supported between 6,000 to 8,000 people prior to Western contact in the late 1700s. The concentration of archaeological and cultural sites remaining in the region indicates that the *moku* of Waialua was viewed as an important area to invoke and sustain *mana* (the spiritual force and energy that was integral to the religious, social, and political well-being of the Native Hawaiian society.)<sup>3</sup>

Following the arrival of Western missionaries and the introduction of Western ideals in the early 1800s, there was a drastic reduction in the population of Native Hawaiians and their traditional land use practices. Like other places on O'ahu, Western entrepreneurs assumed control of large tracts of land for plantation agriculture purposes. With the establishment of the North Shore's first sugar cane plantation in 1865, plantation agriculture dominated the North Shore's economy for more than 100 years until the closure of the Waialua Sugar Mill in 1996. Most of the North Shore's present-day landscape – including the region's physical layout and formation of its towns and neighborhoods, its building forms and landmarks, sense of place, and demographic composition and social fabric of the community – have been influenced by the plantation and its distinctive lifestyle.

### 2.2.9 Adapt the *Ahupua'a* Concept as a Framework for Land Use and Natural Resource Management

Traditional Hawaiian life was based on the *ahupua'a* system of land management. An *ahupua'a*, or land division, was typically wedge-shaped and extended from the top of the mountain into the outer edge of the ocean reef. Defined by the natural geographic formations such as mountain ridges, gulches and streams, *ahupua'a* were complete ecological and economic production systems that provided all the resources to sustain the community living within the *ahupua'a*. Fish and marine resources were harvested from the ocean, *kalo* (taro) and *'uala* (sweet potato) were raised in the lowlands, and upland areas provided trees and other forest products.

The *mokupuni*, or island, of O'ahu is made up of six *moku*, or districts. There are two *moku* in the North Shore Sustainable Communities Plan area – the entire *moku* of Waialua and a portion of Ko'olau Loa. Waialua, the northwestern *moku*, extends from Ka'ena Point in the west to Kapaeloa at Waimea in the east. Ko'olau Loa is the northeastern *moku* that stretches from Waimea Bay to Ka'a'awa. The eighteen *ahupua'a* in the North Shore Sustainable Communities Plan area include: Ka'ena, Keālia, Kawaihāpai, Kikahi, Auku'u, Mokulēi'a, Kamananui, Pa'ala'a, Kawailoa, Lauhulu, Kuikuiloloa, Punanue, Kāpaeloa, Waimea, Pūpūkea, Paumalū, Kaunala and a portion of Waiale'e. While the communities in the various *ahupua'a* may be diverse, they share a common desire to preserve the natural, cultural, and historical heritage of the region.

The *ahupua'a* concept is a holistic approach to land management that recognizes the connections between land-based and marine-based natural resources and the dependent relationships between ecological functions. Resources

<sup>3</sup> Kamehameha Schools Bishop Estate. North Shore Plan. 2008.

were managed for the collective good of all living within the *ahupuaʻa*, based on the principle that activities in one part of the *ahupuaʻa* affected all other parts (for example, inappropriate management of forestry and agricultural uses in the upland areas can negatively affect the quality of streams and coastal waters). Adapted to the context of today's community needs and technology, the *ahupuaʻa* concept provides useful principles for guiding the use and management of the North Shore's resources. The application of these traditional values to current land use activities and environmental regulatory and management practices promotes effective management of the North Shore's natural resources and deters land-based activities which contribute to their degradation. In keeping with this approach, the planning and implementation of land use decisions and land-based actions considers related effects on coastal waters and the nearshore environment. Moreover, all development and infrastructure improvement decisions recognize that the changes to one segment of the community will have consequences that extend beyond that particular action. Utilizing this approach, a relatively minor project involving a small segment of land or a short stretch of roadway could have significant implications on other parts of the community when the various systems that make up the community are considered as a whole. On a broader scale, there is a need to recognize the connection between the North Shore and its neighboring regions (i.e., Central Oʻahu, Koʻolauloa and Waiʻanae), and the many ways that events and activities occurring in one region may affect the others.

### 2.2.10 Integrate Principles of Sustainability into Decision-Making Processes

Change is inevitable. It is a fact of life that cannot be ignored. Change in small, rural communities – whether good or bad, big or small – is especially evident and often times controversial. By nature of its population size and scale of development, rural communities tend to be more sensitive to change, and residents of rural areas tend to be more directly affected by the actions of others. While change can be difficult, it is necessary because an inability to adapt to changing conditions can lead to stagnation and failure.

A community that successfully manages change will flourish and prosper in the future. For the North Shore, this means ensuring that planned growth and development respects and adheres to the principles of sustainability.<sup>4</sup>

The North Shore's principles of sustainability have promoted the long-term health of the land and community resources for both current and future generations of residents:

- Protect the environment, natural resources, existing flora and fauna, and where appropriate, open spaces and view planes.
- Use resources so they are not depleted, permanently damaged or destroyed.
- Avoid pollution and exceeding the limits of existing infrastructure systems.
- Respect the cultural, social, and physical resources that shape residents' sense of community and rural quality of life.
- Honor the process of change. Make no decisions without first understanding the effects such change will have on the land and community resources.
- Strive for balance between economic prosperity, social and community well-being, and environmental stewardship. Adopt a multidisciplinary approach acknowledging the importance of our community capital in land use and infrastructure planning decisions.

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<sup>4</sup> The most widely quoted definition of sustainable development is from the United Nations Brundtland Commission (1987): "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." It recognizes that development can be broken into three equivalent parts (environmental, economic and sociopolitical sustainability) and is based on development that balances economic prosperity with the integrity of natural ecosystems and social equity.

## **Honolulu - Land Use**

### 3. LAND USE POLICIES AND GUIDELINES

The vision for the North Shore described in Chapter 2 will be implemented through the application of the land use policies and guidelines presented in Chapters 3 and 4.

The region's character is typified by pockets of low-rise, small-scale rural centers and residential communities surrounded by large expanses of agricultural lands, open space, and scenic view planes. To ensure that this regional landscape is maintained, proposed land use policies need to reflect an island-wide regional growth policy, resource protection, and community desires to maintain the region's rural setting and unique physical and lifestyle character. These policies focus on the preservation of agricultural lands and open space while directing limited growth toward Hale'iwa and Waialua.

Proposed land use policies are intended to outline future actions and agency decision-making once the Plan is adopted. Policies are broad statements of intent that express the City's overall philosophy toward particular land uses. Guidelines provide more specific guidance to public agencies and private entities in terms of planning, design and implementation of projects and programs in the various land use categories.

It is intended that existing current uses and structures that are legal but are not consistent with the Sustainable Communities Plan policy would be recognized as existing uses and allowed to remain at their locations in their current purpose, character, and level of use. Future proposed land use changes at those locations, however, would have to conform with the policies of the adopted Sustainable Communities Plan.

Chapter 3 is organized under the following headings:

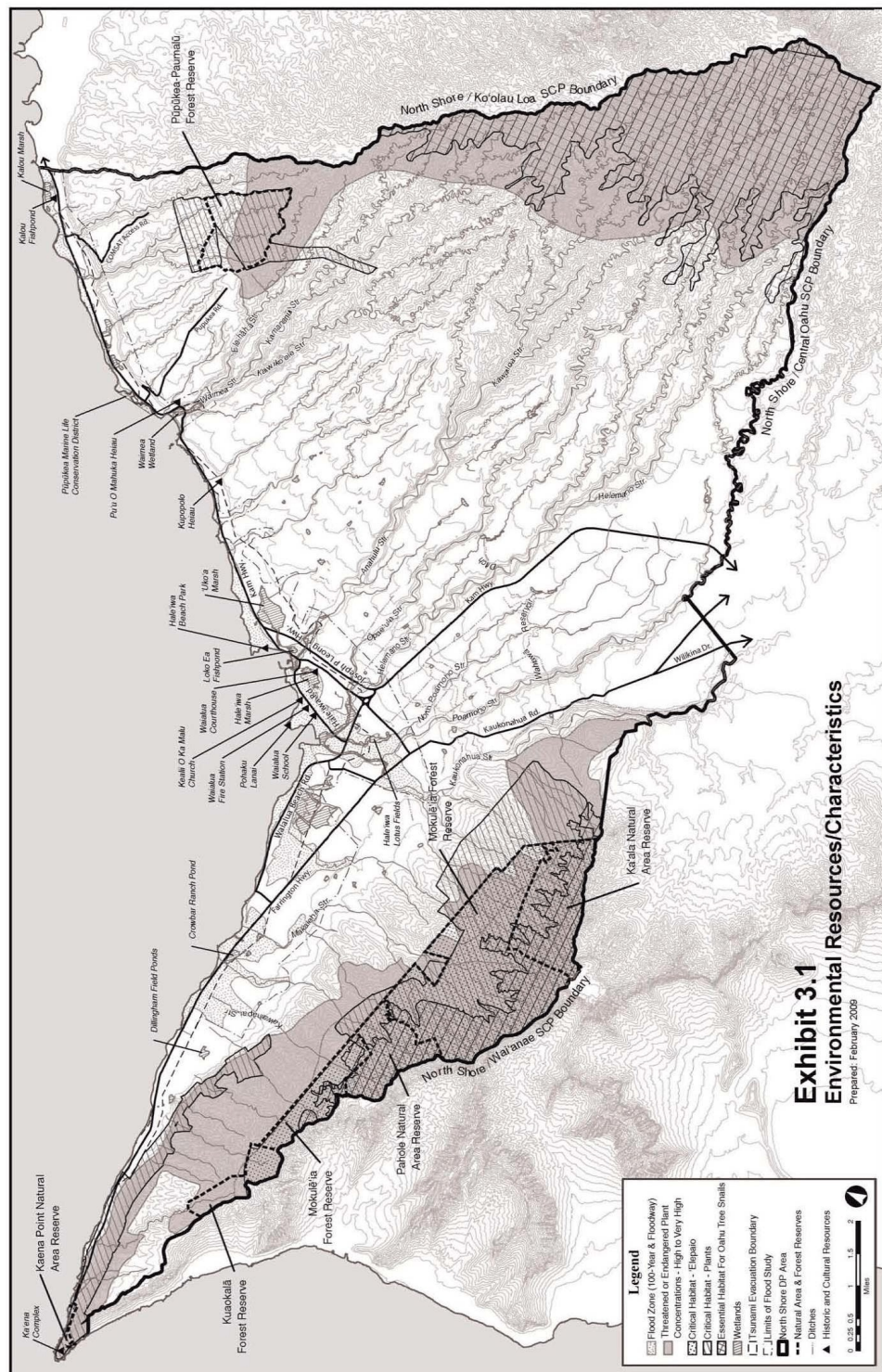
#### SECTION

- 3.1 OPEN SPACE AND NATURAL ENVIRONMENT
- 3.2 AGRICULTURE
- 3.3 PARKS AND RECREATION
- 3.4 HISTORIC AND CULTURAL RESOURCES
- 3.5 RESIDENTIAL COMMUNITIES
- 3.6 COMMERCIAL AREAS
- 3.7 INDUSTRIAL AREAS
- 3.8 VISITOR ACCOMMODATIONS
- 3.9 INSTITUTIONAL USES
- 3.10 MILITARY

#### 3.1 OPEN SPACE AND NATURAL ENVIRONMENT

Open space preservation is a key element of the vision for the North Shore. The natural landscape (the Ko'olau and Wai'anae Mountain Ranges, coastal *pali*, gulches, and shoreline areas) and man-made elements (agricultural fields and parks) are key open space resources that define the North Shore Sustainable Communities Plan area. Preservation of these resources is essential in maintaining the rural character of the North Shore.

The vast majority of the open space elements in the region are designated as Preservation, Agriculture, and Park on the North Shore Sustainable Communities Plan Land Use Map. Of the estimated 77,000 acres of land within the North Shore Sustainable Communities Plan area, approximately 97 percent is in open space uses, including 53 percent designated as Preservation, 41 percent as Agriculture, and 3 percent as Park (see Open Space Map and Land Use Map in Appendix A). Areas designated as Preservation include lands with significant environmental resources,



### Exhibit 3.1: Environmental Resources/Characteristics

including watersheds; sites with scenic, historic, cultural, archaeological or ecological significance; and areas with natural ecosystems of endemic plants, fish and wildlife. They may also include lands that may be impacted by natural hazards such as tsunami-prone or flood hazard areas, or steep slopes (see Exhibit 3.1: Environmental Resources/ Characteristics).

The City and County of Honolulu Land Use Ordinance (LUO) and accompanying zoning maps (Chapter 21, Revised Ordinances of Honolulu) prescribe the allowable uses of land for the City and County of Honolulu. The LUO identifies the various zoning districts, the uses allowed within each zoning district, and the applicable development standards within each district. Table 3-1 presents the acreage within each zoning district. More than 90 percent of the land within the North Shore region is zoned for either preservation or agricultural use, with approximately 55 percent zoned either AG-1 Restricted Agricultural or AG-2 General Agricultural District and about 41 percent zoned either P-1 Restricted Preservation or P-2 General Preservation District.

<b>Table 3-1: City and County of Honolulu Zoning Districts, 1998 and 2007</b>			
<b>District</b>	<b>1998 Acreage</b>	<b>2007 Acreage</b>	<b>Acreage Change</b>
R-10 Residential	10.1	10.1	0
R-7.5 Residential	89.0	89.0	0
R-5 Residential	674.5	656.1	-18.4
A-1 Low Density Apt	15.8	15.8	0
A-2 Medium Density Apt	3.7	3.7	0
B-1 Neighborhood Business	30.4	31.1	+0.7
B-2 Community Business	10.4	10.4	0
I-1 Limited Industrial	1.8	1.8	0
I-2 General Industrial	28.9	28.9	0
I-3 Waterfront Industrial	12.0	12.0	0
AG-1 Restricted AG	29,156.9	29,128.1	-28.8
AG-2 General AG	12,560.9	13,590.6	+1029.7
Country District	1,924.3	1,152.6	-771.7
P-1 Restricted Preservation	29,307.1	29,307.1	0
P-2 General Preservation	2,816.8	2,605.5	-211.3
F-1 Military/Federal Preservation	349.6	349.6	0
SOURCE: Department of Planning and Permitting. "1998 Land Use File" and "Zone Changes Approved Between 1998 to 2007." September 2008.			

The public acquisition of approximately 1,100 acres at Pūpūkea-Paumālū in 2007 exemplifies the community's commitment to open space preservation. Since the late 1980s when the Obayashi Corporation introduced plans for the proposed Lihi Lani subdivision<sup>5</sup>, the North Shore community has consistently opposed the proposed residential development. As a result of residents' determination to protect the land from future development, the community – with the support of the Trust for Public Land Hawai'i and the cooperation of the landowner – was able to

<sup>5</sup> As proposed, the Lihi Lani subdivision involved 1,129 acres of land in Pūpūkea-Paumālū *mauka* of Kamehameha Highway behind Sunset Beach Elementary School. The proposed development called for a golf course, equestrian facility, 300 new homes on one- to three-acre lots, and related infrastructure systems, including a sewage treatment plant.



successfully organize the purchase of the property from the Obayashi Corporation. Today, after almost twenty years of community lobbying, the property is held by the State and City and County of Honolulu for open space and natural area preservation and future park use. To further ensure the long-term preservation of the land for agriculture and open space and prevent any future development, the property was also rezoned to the AG-2 General Agricultural District.

### 3.1.1 Policies

The following are policies for the preservation of open space and the natural environment:

- Promote integrated resource management principles that support the Native Hawaiian concept of *ahupuaʻa*.
- Protect and enhance significant natural features and ecologically sensitive lands, including mountain areas, shoreline areas, wetlands, fishponds, natural gulches, streams, and drainageways. Provide protective buffer zones and setbacks around biologically sensitive areas to minimize habitat disturbance.
- Ensure State and County land use designations are consistent with the desired long-term use of the land. Important watershed areas should be classified to the State Conservation District and zoned P-1 Restricted Preservation District.
- Protect forested areas and promote expansion of these areas through reforestation to ensure the long-term preservation of native species, watershed protection, and aesthetic enhancement. Possible candidate sites that may be eligible for future Natural Area Reserves should be protected, including the Central Koʻolau Mountains, Upper Makaleha adjacent to Pahole Natural Area Reserve, and areas adjacent to Kaʻena Point.
- Ensure the long-range protection and continuation of agricultural uses on agricultural lands.
- Protect recreational areas that contribute to the North Shore's open space quality, including the ocean and its resources, the shoreline and mountain areas, park spaces, and other quasi-public recreational facilities.
- Protect and preserve views of scenic resources, including the Waiʻanae and Koʻolau Mountain Ranges, coastal *pali*, the coastline, and the Pacific Ocean.
- Limit visual impacts from utility installations. Ensure that permitted utility installations are developed and/or managed in ways that maintain or enhance the natural, cultural, and scenic resource qualities of the surrounding landscape.
- Maintain open space around existing communities by locating new developments within or next to existing developments within the Community Growth Boundary. Encourage compact development patterns and balance the development of desired or necessary land uses such as affordable housing and public facilities such as schools with the need to preserve open space.
- Promote cooperative interagency and/or public-private partnerships in the long-term protection and management of natural resources.
- Establish adequate shoreline setbacks that consider shoreline changes resulting from erosion hazards and rising sea levels using data such as the annual average erosion rate from the University of Hawaiʻi shoreline erosion studies.
- Base governmental expenditures for natural resources management and protection, including shoreline maintenance and improvements, on actual site usage (including visitors) rather than on resident population ratios or land values.
- Improve and enhance access to mountain and shoreline recreational areas by obtaining use of Federal and State lands and waters and acquiring available excess lands.
- Establish permanent instream flow standards for perennial streams that weigh the benefits of instream and non-instream uses of water resources, including the economic impact of restrictions of such uses.
- Allow outdoor lighting at the minimum level necessary for public safety, security and community aesthetics consistent with the goals of energy conservation and environmental protection.

### 3.1.2 Guidelines

This section provides a brief description of the regional open space resources on the North Shore (see Exhibit 3.1 Environmental Resources/Characteristics), followed by guidelines to carry out the policies related to each open space element.

#### 3.1.2.1 MOUNTAIN AREAS

Mountain areas within the North Shore include segments of both the Ko‘olau and Wai‘anae Mountain Ranges. Mountain areas are designated as Preservation on the Open Space Map. While most of the mountain areas are in the State Land Use Conservation District, some acreage along the foothills of the Wai‘anae Mountain Range is in the State Land Use Agricultural District and zoned AG-2 General Agricultural District. These lands should be rezoned to P-2 General Preservation District as most of them have slopes of 30 percent or more and some contain endemic plants; but they should remain in the State Land Use Agricultural District, so as to allow for some agricultural uses that are permitted on P-2 lands, such as forestry and livestock grazing, where appropriate, which would help to contain the threats of brushfire on the mountain slopes.

Within the State Land Use Conservation District are several significant environmental resources, including forest reserves and natural area reserves managed by the State department of land and natural resources (DLNR).

Table 3-2: State DLNR Forest Reserves and Natural Area Reserves	
Forest Reserves	Natural Area Reserves
Kuaokalā Forest Reserve	Pahole Natural Area Reserve
Mokulē‘ia Forest Reserve	Mount Ka‘ala Natural Area Reserve
Pūpūkea-Paumalū Forest Reserve	Ka‘ena Natural Area Reserve

The Forest Reserve System<sup>6</sup> is comprised of important *mauka* lands containing watershed areas, where rainfall that is intercepted by trees and other vegetation percolates slowly through the soil to recharge aquifers and streams. Forest reserves also serve as wildlife refuges and recreational areas, with most of the forest reserve areas open to the public for certain recreational uses, such as hiking, camping, gathering, and seasonal hunting. Some forest reserve areas are considered closed watershed areas, which means that the public is prohibited from entering without a permit. These areas are important resources for protecting watersheds, aesthetic beauty, wildlife habitats, undisturbed ecosystems, and rare native species, while providing forestry use and public recreation.

The Natural Area Reserve System<sup>7</sup> was established by the State to protect and preserve representative examples of the Island’s unique native ecosystems and geological formations. They require active management to counteract damage from nonnative feral animals (i.e., pigs, goats, deer and cattle, dogs, cats, and rats), noxious weeds, and human disturbance. Permanent funding and staffing are needed to continue careful management of these areas. Access to the mountain areas is available via public hiking trails managed and maintained by the State DLNR Na Ala Hele Program. The Kuaokalā Trail, the Mokulē‘ia Trail, and the Kealia Trail form a network that passes through the Mokulē‘ia Forest Reserve and the Pahole Natural Area Reserve. In Pūpūkea, the Kaunala Trail passes

<sup>6</sup> The Forest Reserve System was created by the Territorial Government of Hawai‘i through Act 44 on April 25, 1903. Management of the Forest Reserve System is guided by the Hawai‘i State Constitution, Hawai‘i Revised Statutes (Chapter 183) and associated Hawai‘i Administrative Rules (Chapter 104).

<sup>7</sup> The Natural Area Reserve System was established by the Hawai‘i State Legislature in 1970. Management of the Forest Reserve System is guided by the Hawai‘i State Constitution, Hawai‘i Revised Statutes (Chapter 195) and associated Hawai‘i Administrative Rules (Chapter 209).

through the Paumalū Forest Reserve. A number of trails are on private lands and permission is needed for access to these private trails.

Mountainous land forms also include coastal *pali* which occur *mauka* of many of the North Shore's shoreline areas. Their scenic characteristics should be protected and preserved for general public enjoyment.

Guidelines pertaining to mountain areas are as follows:

- Maintain, protect, and restore native forests and ecosystems within the State Conservation District and lands designated Preservation on the North Shore Sustainable Communities Plan Land Use Map. Ensure the protection of State conservation lands, especially those on the Ka'ena coastline and Mokulē'ia foothills.
- Reclassify important watershed areas which are designated but unused State Agricultural or Urban Districts to the State Conservation or City Preservation Districts.
- Identify and protect endangered species habitats, native ecosystems, and other important ecologically sensitive areas, including the natural area reserves and forest reserves, from such threats as fire, alien species, feral animals, and human activity.
- Identify mountain areas within the AG-2 General Agricultural District that are suitable for rezoning to P-2 General Preservation District.
- Avoid the establishment of utility corridors and other uses that would disturb areas with high concentrations of native species.
- Encourage coordination of natural resource protection and management efforts between the State DLNR and private landowners, as well as with the U.S. Military, especially where the Kahuku and Kawaihoa Training Areas overlap with environmentally sensitive areas.
- Acquire and maintain public access easements to trailheads and public campgrounds, including parking and signage at trailheads, where appropriate. Such access should be required, as appropriate, for any new development.
- Support State efforts to seek opportunities for cooperative agreements with private landowners to gain access to trails leading to public lands.
- Implement recommendations in the State's Na Ala Hele Program Plan to maintain and enhance *mauka* trail systems.
- Identify historic trails and old government roads of cultural and recreational value to the public.

### 3.1.2.2 SHORELINE AREAS

The North Shore's shoreline extends for over 27 miles between Ka'ena Point and Waiale'e. This world-renowned shoreline, together with its nearshore resources, provides residents and visitors with significant active and passive recreational opportunities, and is a key element in defining the region's rural character and lifestyle. In addition to their recreational and cultural value, shoreline areas are critical to the health of the coastal marine ecosystem and provide significant scenic value.

The North Shore shoreline varies from the rugged rocky coastline at Ka'ena Point to the popular sandy beach at Sunset Beach. Portions of the shoreline, including notable sections of Mokulē'ia, Kawaihoa, and Sunset Point, have experienced beach narrowing or loss as a result of natural shoreline processes and inappropriate development and armoring along the shoreline. The City department of parks and recreation recently completed the City Beach Parks Erosion Study Island of O'ahu, Hawai'i (April 2010) to identify causes and possible measures to address erosion problems at various City parks, including Hale'iwa Beach Park.

An integrated coastal erosion management system to mitigate beach erosion and preserve coastal resources is needed. The State DLNR has developed a Coastal Lands Program (CLP) to manage and protect beaches and coastal areas. The CLP aims to balance preservation of marine and coastal areas with responsible development of appropriate land uses. The CLP is involved with initiating and developing innovative shoreline management techniques that will help the long-term goal of beach and coastal preservation, and oversees the implementation of technical recommendations and policies embodied in the Coastal Erosion Management Plan (COEMAP). In an effort to develop a comprehensive strategy to manage the conservation and restoration of Hawai‘i’s beaches, the State DLNR is preparing the Hawai‘i Beach Management Plan (HBMP). Once completed, the HBMP will provide a single, comprehensive document with implementation tools that all management agencies will reference for any land use applications pertaining to a specific coastal region.

Guidelines for shoreline areas are listed. Additional guidelines for recreational uses in shoreline areas can be found in Section 3.3.2.3.

- Preserve rare and sensitive coastal resources including coastal strand vegetation, sand dunes, and anchialine pools. Establish buffer zones around these areas where necessary.
- Prohibit off-road vehicle, motorcycle and bicycle use in ecologically sensitive areas, including coastal dunes and shoreline beaches. Identify and maintain recreational areas specifically designated for such use.
- Protect nearshore coral reefs and other marine life from damaging activities such as soil erosion, nonpoint source pollution, dredging of coral reefs, and alterations to nearshore water circulation.
- Establish access where justified by public demand, traditional use patterns, high quality recreational resources, or to circumvent barriers that exist along the shoreline.
- Improve and expand public access to the shoreline at approximately ½-mile intervals with vehicular and bicycle parking and lateral access along the shoreline.
- Implement the recommendations of the State of Hawai‘i’s Coastal Nonpoint Pollution Control Program and utilize best management practices in agricultural land use and operations to avoid or minimize chemical runoff and other “nonpoint” contaminants in shoreline areas.
- Support research to determine causes of coastal erosion and identify appropriate management strategies to avoid future erosion hazards.
- Encourage interagency coordination and public/private cooperation in developing and implementing beach management plans, with an emphasis on nonstructural approaches.
- Discourage development or activities which result in beach loss, and encourage development practices or activities such as increased shoreline setbacks which result in beach preservation or enhancement.
- Require buildings along the shoreline to adhere to the City’s and Federal Emergency Management Agency (FEMA) minimum building elevations and structural guidelines. In addition, adopt development standards that require new structures to incorporate building styles compatible with coastal hazards such as coastal erosion, tsunami and hurricane overwash.
- Discourage visual obstructions such as walls and fences along the coastal highway to maintain and enhance existing panoramic views. Clear shrubs and vegetation on vacant State- and County-owned properties that would maintain views of the ocean from public roadways along the shoreline.
- Implement active protection and management practices that preserve and enhance native and other resident fish and aquatic species populations and habitats, including nearshore coral reefs. Efforts to enhance opportunities for commercial and recreational fishing should use management practices and techniques that sustain fish populations and habitat quality so as to maintain a quality aquatic environment for public enjoyment.
- Place sand from channel, stream, and harbor mouth dredging projects on local beaches in accordance with Hawai‘i Revised Statutes Chapter 205A.

**3.1.2.3 WETLANDS**

Wetlands are generally described as areas which are covered or saturated with water, whose substrate is primarily characterized by undrained moist or saturated soils and which support water-loving plants. Wetlands are important environmental resources that can provide irreplaceable benefits including flood protection, water quality improvements, habitat for fish and wildlife, and opportunities for recreation, education, and research. The U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency as well as State and County agencies have responsibilities for the protection and management of wetlands. Table 3-3 lists the major wetland areas on the North Shore.

<b>Table 3-3: Major Wetland Areas</b>
Hale‘iwa Marsh
‘Uko‘a Marsh
Loko Ea Fishpond
Kalou Marsh
Crowbar Ranch Pond
Dillingham Field Ponds
Waimea Wetland and Estuary
Hale‘iwa Lotus Fields
Waialua Beach Road Lotus Fields

Guidelines pertaining to wetland areas are as follows:

- Preserve and maintain all North Shore wetlands and wildlife habitats. When considering future activities/construction in the vicinity of biologically sensitive areas such as wetlands, the preferred sequence will be to:
  - avoid ecologically sensitive areas entirely;
  - if not possible, minimize potential project impacts; and
  - if negative impacts are unavoidable, require mitigation that will offset the loss of resources.
- Support the restoration and protection of ‘Uko‘a Marsh. Protection can be achieved through fee acquisition, land banking, cooperative agreements with public agencies and private landowners, conservation easements, or other strategies.
- Support efforts to restore Loko Ea Fishpond as an interactive, productive, and functioning aquaculture resource. Promote the development of a cultural learning center providing both visitors and residents opportunities to experience the unique environment around Loko Ea Pond and ‘Uko‘a Marsh. Possible activities may include tours of a working aquaculture farm, as well as cultural and environmental education programs that teach traditional and modern aquaculture techniques and the history of the Pond and its adjacent areas. Walkways extending north to ‘Uko‘a Pond could provide opportunities for interpretive nature walks.

**3.1.2.4 NATURAL GULCHES, STREAMS, AND DRAINAGEWAYS**

The ridges and valleys of the Ko‘olau and Wai‘anae Mountain Ranges form streams and natural drainageways, which are integral elements of the open space on the North Shore. Several intermittent and perennial streams provide essential habitat for Hawai‘i’s flora and fauna, and function as scenic, recreational, and cultural resources.

To protect stream resources, major streams and stream corridors are designated as Preservation on the North Shore Sustainable Communities Plan Land Use Map.

Streams are also the primary means for carrying water from the inland areas to the ocean and are normally capable of handling runoff from normal rainfall amounts. During periods of intense rainfall, however, a number of these drainageways overflow (see Section 4.6).

Sedimentation as well as chemical and biological contaminants affect stream water (surface water) quality. Chemical and biological contaminants, as well as untreated sewage from leaking cesspools, also affect groundwater quality. The polluted surface and groundwater eventually reach the ocean and affect nearshore water quality.

Table 3-4 lists the major gulches and streams on the North Shore that are identified on the North Shore Sustainable Communities Plan Land Use Map.

<b>Table 3-4: Major Gulches and Streams</b>	
Hāli'i Gulch	Anahulu River/Kawailoa Gulch
Makaleha Stream/Gulch	Waimea River
Kaukonahua Stream/Gulch	Kaiwiko'e Stream/Gulch
Ki'iki'i Stream	Kamananui Stream/Gulch
Poamoho Stream/Gulch	'Elehāhā Stream/ Kauwalu Gulch
North Poamoho Stream/Gulch	Kalahopele Gulch
Paukauila Stream	Kalunawaika'ala Stream/Gulch
Helemano Stream/Gulch	Pakulena Stream/Gulch
Ōpae'ula Stream/Gulch	Kaunala Gulch
Kawailoa Gulch	Paumalū Stream/Gulch

Guidelines pertaining to natural gulches and drainageways are as follows:

- Preserve the aesthetic and biological values of the natural gulches, streams, and drainageways as part of the North Shore's open space system. Where feasible, establish wildlife habitat protective buffer zones and/or setbacks along rivers, streams, and shoreline areas. Where possible, provide public access to these open space and recreational resources.
- Minimize soil erosion, runoff of pesticides, fertilizers, and other nonpoint source contaminants into streams, wetlands, and marine habitats. In addition to stream setbacks, utilize erosion control devices, integrated pest management plans, and revegetation of disturbed areas. Incorporate erosion control measures and best management practices, as recommended in the State Coastal Nonpoint Pollution Control Program, to prevent pollution of wetlands, streams, estuaries, and nearshore waters.
- Limit uses in these areas to conservation uses, compatible recreational uses such as hiking, traditional hunting, fishing, gathering, religious and cultural practices, and controlled diversion for agricultural purposes. Avoid development in ecologically sensitive areas; if activities are allowed, minimize impacts and implement mitigative measures that will fully offset any loss of resources.
- Preserve and maintain the natural streams and drainageways within the developed areas by designating them as part of the open space system. To the extent possible, limit any modifications to natural gulches and drainageways, unless they are necessary for flood protection, to preserve water quality and protect aesthetic and biological resources.

- If modifications are necessary, mitigate impacts on biological habitats by using stream-side vegetation, rip-rap boulder lining of stream banks, v-shaped bottom channels to maintain a stream flow during low rainfall periods, and other designs to promote aeration.
- Integrate planned improvements to the North Shore drainage system into the regional open space network by emphasizing the use of retention basins and recreational access in the design approach.

### 3.1.2.5 AGRICULTURAL AREAS

Preservation of agricultural areas is essential to promoting agriculture and maintaining the scenic open space features and rural character of the region. In addition to the Community Growth Boundary, policies and guidelines are established to protect agricultural lands from development. Policies and guidelines pertaining to agricultural areas are listed in Section 3.2 relating to Agriculture.

### 3.1.2.6 PARKS

Parks provide important open space areas to meet the recreational needs of the North Shore residents and island-wide visitors. While beach parks serve island-wide needs, parks within the community meet the recreational needs of North Shore residents. In addition to meeting recreational needs of the residents and visitors, parks play a major role in preserving the open space setting on the North Shore. Policies and guidelines on parks are included in Section 3.3 relating to Parks and Recreation.

### 3.1.2.7 SCENIC RESOURCES AND SCENIC VIEWS

With its vast open spaces, scenic shorelines, and the backdrops of the Wai‘anae and Ko‘olau Mountain Ranges and the coastal *pali*, the North Shore is blessed with an abundance of scenic resources.

Panoramic views throughout the region are identified on the Open Space Map. The significant scenic views that should be protected and enhanced include the following:

- Views of the Wai‘anae and Ko‘olau Mountains, the Pacific Ocean and shoreline, Waialua, and Hale‘iwa Towns from Kamehameha Highway and Kaukonahua Road as one enters into the North Shore.
- *Mauka* views of the Wai‘anae Mountains from Farrington Highway, Kaukonahua Road, Kamehameha Highway, and Weed Junction.
- Stationary views from the shoreline between Ka‘ena Point and Makaleha Beach.
- Views of the Wai‘anae Mountain Range and agricultural fields from Crozier Drive.
- *Makai* views of Ki‘iki‘i Stream to Kaiaka Bay from Farrington Highway near Thompson Corner.
- *Makai* view of open space to Pu‘uiki Beach Park from Pu‘uiki Street and cane haul road crossing.
- *Makai* views along Hale‘iwa Road into Hale‘iwa Ali‘i Park, Hale‘iwa Boat Harbor and Hale‘iwa Beach Park.
- Stationary *mauka* and *makai* views from Kaiaka Bay Beach Park, Hale‘iwa Ali‘i Beach Park, and Hale‘iwa Beach Park.
- Views of Kaiaka Bay from Hale‘iwa Road at Paukauila Stream.
- *Mauka* views along Kamehameha Highway of Anahulu Stream and Loko Ea Pond.
- Intermittent *makai* views from Kamehameha Highway between Kawaihoa and Sunset Beach.
- Stationary views from beach parks and access areas from Kawaihoa to Waiale‘e Beach Park.
- *Mauka* views of the Ko‘olau Mountains and *pali* along Kamehameha Highway from Hale‘iwa to Waiale‘e.

- Views from the road pullover above Waimea Bay, from the shoreline at Waimea Bay and from the coral formation at Pūpūkea Beach Park.
- *Mauka* and *makai* views of Waimea Valley and Bay from the Kamehameha Highway bridge over the Waimea River.
- Lateral views from Pua‘ena Point.
- Lateral views from Pūpūkea Beach Park.
- Panoramic view from the area near the hairpin turn on Kawaihoa Drive.
- Panoramic view of the coast from Pūpūkea Heights.
- View from Pu‘u o Mahuka Heiau State Monument.
- *Mauka* views from nearshore waters.

Guidelines pertaining to scenic resources and scenic views are as follows:

- Conduct planning with attention to preservation of natural open space, protecting coastal and *mauka* views from public roadways, and conserving important viewsheds.
- When view reductions may come from agricultural activities which intrude into viewplanes or otherwise degrade or diminish scenic qualities, the protection of roadway views should be balanced with the operating requirements of agriculture.
- Evaluate the impact of land use proposals on the visual quality of the landscape, including viewplane and open space considerations.
- Site new antennas, telecommunication equipment, and alternative energy systems in appropriate locations to minimize their impact on visual resources. Encourage site clustering and techniques that blend the equipment into the natural landscape.
- Discourage the use and installation of overhead utility lines and poles. Strong consideration should be given to placing replacement and new transmission lines underground. Undergrounding utility lines will enhance viewplanes and increase highway safety. Whenever possible, relocate or place underground overhead utilities that significantly obstruct public views. If unavoidable, locate any future overhead utilities on the *mauka* side of the public coastal highway.
- Minimize the adverse effects of artificial lighting on wildlife and human health by balancing the need of outdoor lighting for night utility, security, and desire for reasonable architectural expression with the need to conserve energy and protect the natural environment.
- Adopt outdoor night lighting standards that encourage efforts to minimize glare and stray light, and reinforce the differences between urban and rural communities.

### 3.1.2.8 UTILITY CORRIDORS AND GREENWAYS

Utility corridors and greenways are required to provide for a distribution system throughout the region. Where located in settlement areas, these corridors may provide for greenways that can serve as pedestrian or bicycle routes, if issues of safety, liability, and maintenance can be adequately addressed.

Guidelines pertaining to utility corridors and greenways are as follows:

- Provide sufficient easement width for the major trunk lines and transmission lines for utility systems, when their alignment is not within a road right-of-way, to permit the growth of trees within the easement.
- When overhead transmission lines are located within or adjacent to a road right-of-way, there should be sufficient width to permit the growth of trees adjacent to the transmission line, consistent with the



applicable operations, maintenance, and safety requirements. The purpose of the landscaping is to divert attention from the overhead lines and, preferably, obscure views of the overhead line from the travelway and adjacent residential areas.

- Permit the use of utility easements for pedestrian and bicycle routes. Encourage coordination between utility companies, landowners, pertinent agencies, and the community to ensure that safety, liability, and maintenance issues are adequately addressed.
- Encourage the use of indigenous vegetation that is slow growing and thus minimizes the need to use herbicides for vegetation control.
- Promote technologies that support alternative energy sources, including solar, wind, and wave power. Allow community and agency review of individual proposals to ensure compatibility and suitability.

### 3.1.3 Relation to Open Space Map and Land Use Map

The following areas shown on the Open Space Map and Land Use Map in Appendix A are components of the regional open space system:

**Mountain and Agricultural Areas.** Mountain areas, including areas within the State Conservation District, are designated as Preservation and are located outside of the Community Growth Boundary. Agricultural lands outside and within the Community Growth Boundary are shown.

**Natural Gulches and Drainageways.** Gulches and streams outside and within the Community Growth Boundary are indicated for preservation to maintain proper drainage functions.

**Shoreline Areas and Parks.** Shoreline parks and district parks are shown. Neighborhood parks within the residential areas are not shown.

**Panoramic views.** Continuous and intermittent panoramic views are identified on the Open Space Map. Other significant scenic views identified in Section 3.1.2.7 are not shown.

## 3.2 AGRICULTURE

Agricultural lands are a key component of the North Shore's rural character. Cultivated fields extending towards the mountains significantly contribute to the form and character of the North Shore's rural landscape and the visual qualities that the region is known for. The protection of agricultural lands and agricultural uses, together with the assurance of a thriving agriculture industry, is essential to retaining the rural character and scenic open space features that are so valued by North Shore residents and visitors.

Nearly 45,000 acres, or about 60 percent, of the 77,000 total acres of land within the North Shore Sustainable Communities Plan region are located within the State Agricultural District. This includes the plateaus that extend north from Helemano Plantation towards Mokulē'ia and Sunset Beach, to the areas bordering Hale'iwa and Waialua Towns. Of the 45,000 acres, around 20,000 acres are considered high-quality agricultural lands suitable for commercial cultivation of crops, with the balance providing agricultural land for smaller-scale, less-intensive forms of agriculture. In general, productive agricultural lands include lands designated "Prime," "Unique," or "Other" by the State ALISH (Agricultural Lands of Importance to the State of Hawai'i) system, rated "A" or "B" by the Land Study Bureau (LSB), and which have irrigation sources or other enabling infrastructure. On the North Shore, the most productive agricultural lands are located near or below the Wahiawā Reservoir Ditch. Most of these lands are favorable for cultivation because they are well-drained and generally free of stones; nearly level or gently sloping with good machine tillability; have deep soils and adequate sunlight; served by an extensive agriculture

infrastructure network already in place (roads, irrigation, and power to drive water pumps); and are located within reasonable trucking distance to serve local markets and for overseas shipping. Less productive lands include lands with steep slopes, lands at higher elevations where moisture/irrigation cannot be controlled, and lands with lower-rated soils. These include some of the Mokulē‘ia, Kemo‘o, and Waimea fields and fields in the foothills of the Ko‘olau Mountain Range.

Following the decline of the corporate sugar and pineapple industries during the 1990s, large acreages of agricultural lands that were historically controlled by the plantations became available for other uses, creating new opportunities for smaller-scale, entrepreneurial diversified agriculture ventures. In contrast to the plantation days, the agriculture industry on the North Shore is currently comprised mainly of small farms, with a few larger, corporate farms (e.g., Pioneer Hi-Bred International). While large portions of the agricultural land remain in the ownership of Dole Food Company and Kamehameha Schools, most of it is now leased to a number of farmers growing a variety of products.

Some of the crops that are being successfully grown on the North Shore include coffee, papaya, banana, lychee, mangoes, truck crops, taro, tropical flowers, cattle feed, and seed corn. Small-scale commercial forestry and ranching, including free range cattle, has been initiated at the upper elevations where intensive cultivation of crops is not feasible. Aquaculture, which contributes to the diversification of the agricultural base and provides additional opportunities for economic development, occurs at specific sites in Mokulē‘ia, Hale‘iwa, and Kawaihoa. Continued cleanup of the former Dillingham Quarry site in Mokulē‘ia and further expansion of existing aquaculture operations in the area would support the future growth of the aquaculture industry. As diversified agriculture continues to develop and adapt to changing market conditions, other suitable agricultural crops and uses may be introduced in the future.

The successful development of a viable agriculture industry on the North Shore provides residents with jobs and economic development opportunities that foster a connection with the land. It can also increase the production of locally grown foods and products, which may encourage greater consumption of local agricultural products, contributing to increased self-sufficiency and a reduction in O‘ahu’s dependency on imported foods. More importantly, it ensures that land designated for agriculture remains in active agricultural production and is not developed for higher value uses (such as housing and commercial development). Like other rural communities, the North Shore has experienced a steady increase in land values due to a growing demand by individuals seeking a rural lifestyle. With rising land values affecting agriculture’s profitability, many landowners have been seeking alternative development schemes that involve higher-intensity uses and greater economic returns, making agricultural lands increasingly vulnerable to nonagricultural development. To minimize the market pressures to subdivide agricultural lands into large-lot, rural-style estates where agriculture is no longer the primary land use, agricultural lands need to be protected and dedicated for agricultural use and the economic barriers that impede the industry’s growth need to be addressed. Appropriate incentives for maintaining the long-term availability of important agricultural lands and industry development should be explored, designed, and implemented as high priority action items by pertinent agencies and parties.

Lake Wilson (located within the Central O‘ahu Sustainable Communities Plan area) serves as the reservoir for the Wahiawā Irrigation System and is the primary and irreplaceable source of irrigation water for the majority of the productive agricultural lands in the North Shore area. The provision of high-quality irrigation water from Lake Wilson greatly enhances agricultural productivity and crop diversity.

**Agricultural Support Facilities.** In addition to the cultivation of products, agricultural land uses also include the related industrial and commercial activities that support crop production and sales. Agricultural support activities are an essential part of the industry, and include crop storage, processing, packing, and manufacturing of products,

distribution facilities, and agriculturally related administrative, management, marketing, and sales facilities. These support activities are directly dependent on crop production and need to be located on Agriculture-designated lands in close proximity to the activity it serves.

While certain agricultural support facilities may require large structures and base-yard operations, the overall nature of agricultural support activities differs from typical forms of industrial and commercial uses and relates harmoniously with adjacent agricultural uses. The consolidation of agricultural support facilities in designated areas will promote the cost-efficient use of existing infrastructure and prevent the urbanization of productive agricultural lands. Potential facilities to be located within the designated support areas may include a regional agricultural wholesale and distribution center with processing and packing plants and warehouse spaces, a vacuum cooling plant and refrigerated storage, a fruit fly disinfestation facility, and maintenance facilities for farm equipment.

**Agriculture-Based Tourism.** Agriculture-based tourism is an alternative revenue-generating activity that combines education about agricultural products with recreation and the experience of interacting with the land and the grower. It involves visiting a working farm or agricultural venture to enjoy, learn about or participate in the operation, and may include activities such as farm tours with retail sales of locally grown produce, hunting, fishing, horseback riding and bicycling tours, farmers' markets, restaurants featuring regional cuisine, and agricultural fairs and festivals. By providing an additional revenue source, such visitor-related activities can supplement farm incomes and contribute to the economic viability and stability of the farm. Overnight visitor accommodations on agricultural lands are not appropriate.

### 3.2.1 Policies

The following policies are applicable to agricultural lands:

- Protect all productive, high-value agricultural lands, regardless of current crop production capabilities, from uses that would undermine or otherwise irreversibly compromise their agricultural potential and crop production capabilities.
- Promote the long-term viability of diversified agriculture on the North Shore and ensure the continued productive use of the land.
- Maintain a healthy and competitive industry that supports a range of different types and scales of agriculture.
- Ensure that agriculture is the primary use of agricultural lands. Prohibit the improper use of agricultural lands, including the development or subdivision of agriculturally designated and zoned lands for residential and other nonagricultural uses, unless accessory to agricultural use. Do not allow token farming (i.e., "fake farms") or ranching as a ruse to exploit agricultural land.
- Maintain the current agricultural land use and zoning designation of agricultural lands within the Community Growth Boundary that are in the State Agricultural District and zoned for agriculture, except for limited "infill" areas contiguous to Hale'iwa and Waialua Towns that are designated for future residential.
- Minimize soil erosion, pesticide, and fertilizer runoff, and other nonpoint source contaminants that flow from agricultural lands to protect streams, wetlands, and marine habitats.
- Maintain and upgrade the existing agricultural infrastructure (irrigation system and roads).
- Encourage the development of regional agricultural support facilities at Waialua and Kailua through the use of economic and tax incentives.
- Develop and enforce a stringent set of criteria that define the minimum requirements for the meaningful and credible use of agricultural land.

- Encourage landowners to provide affordable long-term leases to farmers. Incentives for landowners may include subdivisions with reduced infrastructure requirements, expeditious processing, or other provisions that would reduce the cost of agricultural subdivision and enable tenants to obtain financing.
- Promote the development and provision of quality water resources that support bona fide agricultural operations and activities by providing economic incentives for farmers and landowners.
- Consider alternatives to the current tax rate structure to afford tax relief for farmers.
- Plan for the future of O‘ahu’s agricultural industry and develop an island-wide comprehensive agricultural development plan.

### 3.2.2 Guidelines

The following guidelines carry out the policies for agriculture.

#### 3.2.2.1 AGRICULTURAL LANDS

- Enforce permitted uses on agricultural lands to ensure that the use is contributing to meaningful and credible agricultural production on the same or nearby properties.
- Cluster and locate dwellings near similar uses to preserve open space, maximize the use of productive agricultural lands, and reduce infrastructure costs, when planned as part of an agricultural activity.
- Design and site buildings and other facilities that are accessory to an agricultural operation to minimize the visual impact on nearby areas and views from arterial and major collector roads.
- Adopt development standards and permitting procedures that simplify and streamline the permitting requirements for uses that support the growth of agriculture, including agricultural support facilities and agriculture-based tourism.
- Maintain adequate physical buffers between agricultural land uses and surrounding land uses.
- Base any subdivision of agricultural lands on the most appropriately sized, viable economic unit for agricultural production.
- Identify and implement – as an immediate high priority action item at the State and County levels – appropriate economic incentives designed to promote and facilitate the growth of diversified agriculture.
- Support agricultural research and development activities targeted towards increasing operational efficiencies, economic returns, and the effective utilization of agricultural lands and supporting infrastructure, which enables sustainable usage of agricultural resources.
- Assist residents to develop skills in agriculture and related specialized industries so that residents can seek local employment in the area.
- Support a mentor program for area teens to learn about agricultural practices, economics, and business so that interest and commitment to agriculture may continue on to future generations.
- Support the expansion and diversification of aquaculture in the region, including the continued cleanup of the former Dillingham Quarry site in Mokulē‘ia and expansion of existing aquaculture operations in the area.
- Identify potential sites for aquaculture or mariculture parks.
- Encourage agricultural producers to develop Conservation Plans, in conjunction with the West O‘ahu Soil and Water Conservation District, to manage and protect natural resources.
- Assist governmental agencies and landowners to upgrade and maintain existing infrastructure networks, including roads and irrigation systems.
- Improve the quality of irrigation water from Lake Wilson.
- Work with the State to identify and protect Important Agricultural Lands as defined by Act 183 (Session Laws Hawai‘i, 2005).

**3.2.2.2 AGRICULTURAL SUPPORT FACILITIES**

- Develop agricultural support facilities in Waialua and Kawaihoa.
- Ensure that permitted agricultural support facilities do not adversely affect agricultural production in the area or present health hazards or nuisances to adjacent areas.
- Require all agricultural support facilities in the region to maintain a direct relationship to local agricultural production.
- Site and design facilities to minimize development impacts and maximize the amount of farmland preserved.

**3.2.2.3 AGRICULTURE-BASED TOURISM**

- Allow agricultural, recreational, and educational programs, and limited outdoor recreational or other uses if the activity is complementary to the primary agricultural use of the land and it does not interfere with the agricultural use of the site.
- Monitor tourism-related activities conducted on agricultural lands to ensure that such activities do not adversely impact on-site or adjacent agricultural activities or other resources.
- Provide technical and business development support for visitor-related proposals.
- Identify and develop a convenient, suitable location in or near Hale'iwa and/or Waialua Town to establish a farmers' market where farmers can market products locally.
- Identify and develop a permanent site in the Sunset Beach vicinity to promote the North Shore Country Market.
- Develop an agricultural museum that includes a demonstration area showing various crops in different stages of growth and processing.

**3.2.3 Relation to Open Space Map and Public Facilities Map**

Agricultural lands are located both within and outside the Community Growth Boundary, as indicated on both maps.

The Public Facilities Map identifies two future areas for agricultural support facilities. The site *makai* of the Waialua Mill up to the former cane haul road and Goodale Avenue/Waialua Beach Road is intended to accommodate 20 to 25 acres of agricultural support uses, and is designated as the primary agricultural support area for the region. A secondary area of 10 to 15 acres in Kawaihoa near the Alluvion Nursery (i.e., the area *mauka* of Kamehameha Highway across from Papailoa Road and Laniākea Beach Park) is intended to accommodate similar support facilities for products cultivated in Kawaihoa.

**3.3 PARKS AND RECREATION**

The North Shore area has an abundance of recreational resources and is known by surfers around the world as a surfing capital. The City department of parks and recreation (DPR) and the State DLNR, State Parks Division, maintain control of a number of parks and recreational facilities on the North Shore. In addition, several private and quasi-public organizations provide recreational opportunities in the region. Recreational resources within the North Shore Sustainable Communities Plan area are shown in Exhibit 3.2.



**City and County Parks.** The DPR's Standards and Design Precepts for Future Park Development (December 2004) is the long-range plan for park facilities on the island of O'ahu. Parks are classified according to two basic categories: "island-based parks" and "community-based parks." Island-based parks serve the needs of the island-wide population. The DPR standard for island-wide parks is 25 acres per 1,000 de facto population. They include regional parks, beach/shoreline parks, beach/shoreline right-of-ways, botanical gardens, golf courses, and zoological parks. The size of the park and the facilities to be provided are based on the character of the site, intended use, and availability.

Existing DPR beach/shoreline parks on the North Shore are shown in Table 3-5. Kawaihoa Beach Support Park, Leftovers Beach Park, and Uppers Beach Park, have been added to the City Park system for development for future park use. In addition, the City maintains a number of right-of-ways which provide access to the shoreline.

<b>Table 3-5: City and County of Honolulu Beach Parks</b>	
<b>Park</b>	<b>Acreage</b>
Mokulē'ia Beach Park	38.5
Makaleha Beach Park	27.7
‘Āweoweo Beach Park	1.4
Kaiaka Bay Beach Park	52.8
Hale'iwa Ali'i Beach Park	19.3
Hale'iwa Beach Park	15.7
Laniākea Beach Support Park	3.0
Chun's Reef Beach Support Park	3.0
Kawaihoa Beach Park	0.4
Waimea Bay Beach Park	22.2
Kahawai Beach Community Park	1.5
Pūpūkea Beach Park	36.6
Banzai Rock Beach Support Park	2.3
‘Ehukai Beach Park	1.2
Sunset Beach Park	17.7
Sunset Beach Support Park	2.1
Sunset Point Beach Park	0.9
Waiale'e Beach Park	25.7

Community-based parks are intended to provide for active recreation and consist of neighborhood, community, and district parks. The DPR standard for community-based parks is two acres per 1,000 resident population, although this may vary according to each region's situation. Community-based parks provide courts and playing fields for various sports and serve a wide array of active sports leagues. Existing community-based parks on the North Shore are Kamananui Neighborhood Park, Sunset Beach Neighborhood Park, and Waialua District Park. To expand active recreational opportunities in the region, two island-based beach parks (Hale'iwa and Pūpūkea Beach Parks) are equipped with ball fields.

There is currently a shortage of community-based parks in the North Shore Sustainable Communities Plan area. Based on projected population for the year 2035, DPR anticipates that there will be a need for an additional



community park (average 10 acres) and two additional neighborhood parks (average 4 to 6 acres) for the North Shore. Hale‘iwa Beach Park Mauka and Pu‘uiki Park are identified as potential community-based parks to address the shortage of these parks on the North Shore, although Hale‘iwa Beach Park Mauka is less than 4 acres, and a portion of the property is designated as a wetland. Therefore, development potential is limited.

Following the downzoning of the Pūpūkea-Paumalū lands (the former Lihi Lani property), the City acquired about 25 acres of land adjoining Kamehameha Highway for future park development. The community supports the long-term expansion of the Sunset Beach Neighborhood Park in this area. There are no regional parks on the North Shore.

There are no existing or planned public golf courses on the North Shore.

**State Parks.** The State DLNR manages three parks in the region: Ka‘ena Point State Park, Pu‘u o Mahuka Heiau State Monument, and the Pūpūkea-Paumalū State Park Reserve. The Ka‘ena Point State Park extends from Dillingham Airfield around Ka‘ena Point to Mākua Valley on the west side of the Wai‘anae Range. It is located at the end of Farrington Highway on 779 acres of land, offering opportunities for picnicking, hiking, and shore fishing along a relatively remote wilderness coastline. Pu‘u o Mahuka Heiau State Monument is situated on 5.7 acres overlooking Waimea Bay Beach Park off Pūpūkea Road. A low-walled, platform-type temple with two adjoining structures, Pu‘u o Mahuka is O‘ahu’s largest *heiau*. It is the reputed sacrifice site of Captain George Vancouver’s watering party of 1793. The Pūpūkea-Paumalū State Park Reserve consists of 1,119 acres of *mauka* land at Sunset Beach, surrounded by the residential communities *mauka* of Kamehameha Highway and along Pūpūkea Heights, Sunset Beach Elementary School, and the Pūpūkea Boy Scout Camp, U.S. Army Kahuku Training Area, and the Girl Scout Camp Paumalū. The property was transferred to the State DLNR in 2007 following efforts by the North Shore Community Land Trust, the Trust for Public Land, and other supporters to raise funds and purchase the former Lihi Lani property. Preparation of the *Pūpūkea-Paumalū Long-Range Resources Management Plan* (Public Review Draft, October 2009) is ongoing, with a level of community support for resource protection and preservation, native plant restoration, and recreational opportunities such as nature study, hiking, biking, and scenic viewing.

**Other State Recreational Facilities.** The Hale‘iwa Boat Harbor is the only recreational boat harbor facility in the North Shore region. The facility is owned by the State and managed by the DLNR, Division of Boating and Ocean Recreation. The harbor is located in Waialua Bay at the north end of Hale‘iwa Town near the mouth of the Anahulu River. It encompasses approximately 7.4 acres of protected water, with a 600-foot-long, 120-foot-wide, 12-foot deep entrance channel that provides access to two inner basins. A two-lane boat launching ramp is located on the west side of the harbor. A single lane launch ramp, loading dock, and fish hoist are located on the southeast side of the harbor. A harbor master’s office is also on the premises. The harbor contains 107 in-water berthing spaces, 45 dry storage berths, and 13 temporary mooring spaces. There is a demand for these spaces, with approximately 80 individuals on the waiting list for in-water berthing and more than 50 individuals on the dryland storage waiting list.

As the only boat launching facility on the North Shore, the harbor plays an important role in meeting the demand for protected berthings and moorings to facilitate recreational and commercial fishing pursuits. It also provides facilities for trailered vessels and other marine-related recreational activities such as equipment rentals and land-based fishing. There are no plans to expand the harbor breakwater or increase the harbor footprint. Any additional slips, if accommodated, would be constructed within the harbor’s existing footprint. However, additional land in close proximity to the harbor is needed to expand existing dryland storage facilities.



The U.S. Army Corps of Engineers has a project pending to dredge the Hale‘iwa Boat Harbor. If sand dredged from the harbor is suitable, it may be used to nourish nearby eroding beaches, such as at Hale‘iwa Beach Park.

Securing the harbor and its facilities is also a major concern. Vandalism, trespassing, loitering, camping and illegal drinking/drugs around the harbor and park area are issues of concern for the community. Additional resources to increase the ability to secure the harbor, together with State and City enforcement, should bring a stop to the unwanted, illegal activities.

**Institutional and Private Facilities.** The YMCA Camp Erdman, Camp Mokulē‘ia, and Camp Homelani are private facilities, that provide educational and recreational activities. Other quasi-public recreation facilities include the A. Wallace Scout Reserve, Camp Kawailoa Uka, Camp Paumalū, and Camp Pūpūkea that are used primarily as Scout Camps. The Mokulē‘ia Polo Field and Dillingham Ranch Pony Club are also located in the North Shore area.

Waimea Valley is a 1,800-acre cultural and ecological park under the recent ownership of the State of Hawai‘i Office of Hawaiian Affairs. Occupying the entire *ahupua‘a* of Waimea, the park provides access to one of the last undeveloped *ahupua‘a* on O‘ahu. Waimea Valley is known for its natural beauty and cultural significance, featuring more than 6,000 rare species of plants and numerous Native Hawaiian archaeological sites. Park amenities include a visitor center, shops, restaurant and meeting space, an arboretum, botanical gardens, educational resources, Hawaiian cultural preservation areas, and hiking trails. The park is accessible to the public for a modest fee.

### 3.3.1 Policies

The following policies relate to parks and recreational resources for the North Shore.

- Provide safe, suitable sites, and facilities to meet resident and island-wide recreational needs for a variety of recreational activities on the North Shore.
- Expand recreational opportunities by providing greater access to recreational resources in the mountains, at the shoreline and in the ocean. Acquire and maintain additional lands for beach park development and *mauka* camping and hiking areas, as opportunities occur.
- Maintain and improve existing recreational areas and facilities to provide high quality recreational experiences for residents and visitors.
- Base governmental expenditures for natural resources management and protection, including shoreline maintenance and improvements, on actual site usage (including visitors), rather than on resident population ratios or land values.
- Ensure that parks, recreational resources, and recreational activities are compatible with the preservation and protection of open space, rural character, scenic, historic and cultural resources, and environmental quality. Wilderness and wildlife activities should be explored and promoted if appropriate.
- Provide safe and convenient access to parks and recreational resources.
- Ensure that parks and recreational resources are compatible with surrounding land uses.

### 3.3.2 Guidelines

The following guidelines implement the policies for the recreational resources listed above.

#### 3.3.2.1 COMMUNITY AND NEIGHBORHOOD PARKS AND FACILITIES

- Develop Hale‘iwa Beach Park Mauka as a community-based park to expand active recreational facilities for North Shore residents.

- Acquire Pu‘uiki Park for community use.
- Expand Waialua District Park by acquiring agricultural land across Goodale Avenue.
- If new residential development occurs, it should provide land for open space and recreation purposes at a minimum of 2 acres per 1,000 residents. Community-based parks (and associated service radius) include miniparks (1/2 mile), neighborhood parks (1/2 mile), community parks (1 mile), and district parks (2 miles).
- Locate community and neighborhood parks which emphasize intensive uses such as ball fields, playing courts, and community buildings in or adjacent to the neighborhoods or communities they serve, in order to maximize accessibility.
- Provide more youth activities, programs, and facilities on the North Shore.

### 3.3.2.2 MAUKA AREAS

Additional guidelines for recreational resources in *mauka* areas are described in Section 3.1.2.1 pertaining to Mountain Areas. It should be noted that the State of Hawai‘i is the main owner of these potential recreational lands and would be the most appropriate entity to implement these guidelines.

- Expand public access to the upland or *mauka* areas for appropriate types of recreational activities that are low-impact, resource-sensitive, and do not compromise significant environmental resources and important agricultural activities. These would include nature-based activities such as picnicking, camping, hiking, mountain biking, hunting, and the appreciation of scenic, natural, and cultural resources.
- Acquire and maintain public and/or private campgrounds and hiking trails in the *mauka* areas.
- Develop a system of *mauka* trails and paths to interconnect the major recreational areas of the North Shore for use by nonmotorized transportation modes, e.g., walking, biking, horseback riding.
- Coordinate planned private and public actions pertaining to trails and access. Identify historic trails and old government roads of cultural and recreational value to the public.

### 3.3.2.3 BEACH PARKS AND SHORELINE AREAS

Additional guidelines for recreational uses in shoreline areas can be found in Section 3.1.2.2 pertaining to Shoreline Areas.

- Limit new developments along the shoreline to parks and other compatible open space uses.
- Improve and expand public access to the shoreline at approximately 1/2-mile intervals in rural areas of the North Shore, or at closer intervals of not more than 1/4 mile where justified by public demand, traditional use patterns, the quality of the recreational resources, emergency services response time, or to bypass natural barriers that impede public access to the shoreline.
- Maintain and expand lateral access along the coast, especially in areas with high recreational or scenic value, including the shoreline along Sunset Beach and Kawailoa where access to popular sandy beaches and surf spots is in demand.
- Limit uses within beach parks and nearshore ocean area uses to preserve overall environmental quality, rural character, scenic views, and open space.
- Provide adequate public parking and related support facilities (such as restrooms and showers) at popular beach parks, including lifeguard equipment storage facilities in anticipation of increased lifeguard services needed at those parks. Improvements are planned for North Shore beach parks at Pu‘uiki Beach, Laniākea, Chun’s Reef, Kawailoa, Leftovers, Uppers, Kahawai, Banzai Rock, Kaunala, and Waiale‘e.

- Acquire shoreline properties as opportunities arise or obtain public use easements and maintenance agreements with private landowners, especially lands adjacent to existing public parks.

#### **3.3.2.4 MAINTENANCE AND MANAGEMENT OF PARKS, RECREATION AREAS AND RECREATIONAL RESOURCES**

- Provide sufficient resources – including funding and manpower – to ensure that public facilities are adequately maintained.
- Base expenditures for the maintenance and management of existing parks and recreation areas on actual usage (including visitors), rather than on resident population ratios.
- Identify limitations on recreational resources and implement policies to regulate and mitigate impacts to these resources.
- Establish and enforce rules and regulations to mitigate conflicts among recreational activities.
- Engage public and private organizations in partnership with government agencies to maintain recreational resources.

#### **3.3.2.5 SITE DESIGN OF RECREATIONAL FACILITIES**

- Incorporate natural or cultural features of the site, or both, and use landscape materials that are indigenous to the area, where feasible, into the design of recreation facilities and areas.
- Locate uses which generate high noise levels away from existing and planned residential areas.
- Design and site improvements and landscaping to enhance the rural character and the aesthetic value of open space elements and natural resources.
- Provide pedestrian and bicycle pathways from surrounding streets to parks, to facilitate convenient access to the parks.
- Site parks and recreational attractions intended for regional or island-wide uses along or near regional roadways.
- Minimize environmental impacts (such as siltation, pesticide, and fertilizer runoff) of recreational facilities and activities. Expansive recreational facilities, such as community and regional parks, should comply with State Department of Health guidelines related to ground and nearshore water quality.

#### **3.3.2.6 RECREATIONAL ACTIVITIES THAT SUPPORT THE NORTH SHORE'S ECONOMY**

- Promote recreational and specialty events such as surf meets, fishing tournaments, bike tours, races, and other competitions that contribute to the North Shore's economy. Such events shall meet State and City rules for park and ocean uses to avoid conflict with recreational uses.
- Manage impacts to the recreational resource and surrounding communities (such as noise, parking, traffic, etc.) associated with special events.
- Promote instructional programs, training clinics, and other activities that cater to the health and recreation industry, and which will not impact the North Shore's rural character.
- Explore the potential of equestrian activities, such as trail rides and riding adventures, as an adjunct to the area's attractions.
- Support equine activities through a variety of means, including establishment of well-designed, safe riding trail networks linking destinations in the rural communities and in the *mauka* areas that have long been used by riders. Cooperative agreements for the development and maintenance of such networks should be forged through public-private partnerships.

### 3.3.3 Relation to Open Space Map and Land Use Map

Major park sites are shown on the Open Space Map in Appendix A. While smaller neighborhood or support parks are not mapped, they are included in Exhibit 3.2 and cited where appropriate in the text.

## 3.4 HISTORIC AND CULTURAL RESOURCES

The North Shore contains several different types of historic and cultural sites and resources which are representative of its precontact, early history, and plantation eras. These sites and features are valuable as historic records and cultural resources. Table 3-6 lists historic features that are listed on the National and State Registers of Historic Places (also shown on Exhibit 3.1). In addition to these, the State Historic Preservation Division's maps and inventory of significant historic and cultural features, as well as the inventory maintained by the O'ahu Island Burial Council, list additional sites which may merit protection. These sources should be consulted for further information.

In addition to these resources, the Hale'iwa Special District and Waialua Town are historic and cultural resources. Policies and guidelines for these areas are included in Section 3.6.3 on Commercial Areas.

**Table 3-6: National and State Register of Historic Places**

<b>Tax Map Key</b>	<b>Site Name</b>	<b>Site Number</b>	<b>Hawai'i Register</b>	<b>National Register</b>
5-8-01:15, 55	Kalou Fishpond	80-01-257	1/30/81	
5-9-05:68	Pu'u o Mahuka Heiau	80-01-249	1/29/81	12/29/62 1996 NHL*
6-6-13:12 (Portion)	Waialua School (Hale'iwa Elementary School)	80-04-1348	5/3/80	8/11/80
6-1-05:16	Kupopolo Heiau	80-01-241	9/5/78	6/4/73
6-2-01:02	Hale'iwa Beach Park	80-14-1388	6/9/88	
6-6-07:07	Pōhaku Lanai	80-04-226	11/26/86	
6-6-09:23	Waialua Courthouse	80-04-1334	2/20/79	
6-6-13:03 (Portion)	Waialua Fire Station	80-14-1346	7/19/80	12/2/80
6-9-02:06, 09	Ka'ena Complex	80-03-1183	6/9/88	
8-6-08:17	KeAli'i o Ka Malu Church	80-04-9834	8/26/00	

\* NOTE: Pu'u o Mahuka Heiau was designated as a National Historic Landmark in 1996.

### 3.4.1 Policies

The following are policies for historic and cultural resources.

- Emphasize physical references to North Shore's history and cultural roots to help foster the area's unique sense of place.
- Protect existing visual landmarks and support the creation of new, culturally appropriate landmarks.
- Preserve and protect significant cultural and historic features from earlier periods.
- Retain, whenever possible, significant vistas associated with archaeological features.
- Respect significant historic resources by applying appropriate management policies and practices. Such practices may range from total preservation to integration with contemporary uses.

- Restore or keep intact sites with cultural or religious significance, or both, out of respect for their inherent cultural and religious values.
- Encourage public access and use of historic and cultural resources, where appropriate and feasible.

### 3.4.2 Guidelines

The treatment of a particular historic or cultural site should depend upon its characteristics and potential value. Appropriate treatments range from direct physical access or use of a site to limited visual contact, or both. In some cases, adaptive reuse may be the only feasible way to preserve a site. In other cases, however, it may be highly advisable to restrict access to protect the physical integrity or sacred value of the site. The following guidelines should be used to determine appropriate treatment for cultural and archaeological sites.

- Implement in situ preservation and appropriate protection measures for sites that have high preservation value because of their good condition or unique, historic, cultural, and archaeological features, and for which the State Historic Preservation Division has recommended such treatment.
- Consider the particular qualities of a site and its relationship to its physical surroundings when determining the appropriate treatment for a site. Determine the following on a site-by-site basis in consultation with the State Historic Preservation Division:
  - appropriate preservation methods;
  - appropriate delineation of site boundaries and setbacks; and
  - appropriate restrictions on uses and development of adjacent lands.
- Include input from all pertinent community resources in the development of a site preservation plan.
- Include sight lines and view planes that are significant to the original purpose and value of the site in criteria for adjacent use restrictions.
- Determine the appropriateness of public access on a site-by-site basis in consultation with the State Historic Preservation Division, Hawaiian cultural organizations, and the owner of the land on which the site is located.

## 3.5 RESIDENTIAL COMMUNITIES

Vital, contemporary communities oriented toward meeting the needs of their residents often offer a network of amenities to facilitate and enhance individual, family, and community life. At their best, they may offer parks and landscaped public open spaces, churches, community centers, and other places for social and civic functions, residences or other facilities for persons with special needs, and safe, pleasant bicycle and pedestrian connections that link homes and important destinations. While this plan refrains from prescribing what the specific ingredients of any given community should be, it takes this opportunity to cite the need, in each community, for appropriate elements which aid and enhance the overall quality of life of the community.

Residential areas on the North Shore are concentrated around the former plantation towns of Hale‘iwa and Waialua, with smaller clusters of residential neighborhoods scattered between Mokulē‘ia, Kawaihoa, Sunset Beach, and the uplands above Pūpūkea. The Community Growth Boundary is intended to contain the spread of development away from significant agriculture and preservation areas. The need for additional housing on the North Shore will be met primarily by “infill” development of existing vacant lands within the Community Growth Boundary.

Table 3-7 presents North Shore housing trends from the 1990 and 2000 U.S. Census. Between 1990 and 2000, the North Shore’s housing inventory increased by about 25 percent, with nearly 1,400 new homes constructed during that period. The homeownership rate declined slightly, as indicated by the decrease in the percentage of owner-occupied units and the increase in the percentage of renter-occupied units. In comparison to the housing growth

between 1990 and 2000, the North Shore's resident population increased by 2,651 persons (from 15,729 to 18,380 people), representing a 16.9 percent growth rate. In general, the difference between the housing and population growth rates supports the increased number of vacant units and smaller household size reported in 2000.

<b>Table 3-7: North Shore Housing Trends: 1990 to 2000</b>		
<b>Housing Data Category</b>	<b>1990</b>	<b>2000</b>
Total Housing Units	5,287	6,648
Occupied Units	4,825 (91.3%)	5,893 (88.6%)
Owner-occupied Units	2,279 (43.1%)	2,595 (39.0%)
Renter-occupied Units	2,546 (48.2%)	3,298 (49.6%)
Vacant Units	462 (8.7%)	755 (11.4%)
Homeownership Rate	47.2%	44.0%
Household Size	3.18	3.05

According to the 2000 U.S. Census, the North Shore's housing inventory is comprised of mostly older homes. Slightly more than 1/4 (27 percent or 1,799 units) of the structures are greater than 50 years old, and another 1/3 (35 percent or 2,328 units) are more than 25 years old. Considering that the average age of the typical single-family home is 41 years old, a trend towards an increase in the number of home renovation and/or replacement projects in the near future is expected.

The median price of a single-family home sold on O'ahu in 2000 was \$295,000 and the median condominium price was \$125,000. In 2000, the median family income for the island of O'ahu was \$60,142, which was about \$11,000 over the median family income for the North Shore (\$48,948). Between 2000 and 2005, the median sales price of a single-family home on O'ahu increased nearly 103 percent to \$590,000 and the median condominium price increased nearly 115 percent to \$269,000.<sup>8</sup> Despite fluctuations in the real estate market, home prices on the North Shore have remained high, as the median price of a single-family home sold on the North Shore during the second quarter of 2009<sup>9</sup> was \$754,500 and the median condominium price was \$255,000. In contrast, an "affordable" single-family home for a family of four with an annual income of \$76,100 (80 percent of O'ahu's median income) would be priced at \$365,000, assuming a 10 percent down payment and financing at 5.4 percent.<sup>10</sup> Under the same conditions, a family of four earning an annual income of \$95,125 (100 percent of O'ahu's median income) would be expected to afford a home priced at \$470,017, while a family of four with an annual income of \$114,150 (120 percent of O'ahu's median income) would be expected to afford a home priced at \$574,587.

Inflated real estate values and the lack of affordable housing on the North Shore have made it difficult for many North Shore residents to purchase a home. In many cases, families that are unable to purchase homes are either moving away from the North Shore or resorting to multi-generational living arrangements – adding rooms to existing homes to accommodate extended families – as a way to afford the cost of housing.

Current real estate trends have also affected the availability of affordable long-term rentals. With homeowners choosing to sell their rental properties and/or convert them into illegal short-term vacation rentals that bring in

<sup>8</sup> Honolulu Board of Realtors. "Annual Residential Resales Data for O'ahu 1985 - 2007."

<sup>9</sup> Honolulu Board of Realtors. "2009 2nd Quarter Residential Resales Statistics." Released July 1 2008.

<sup>10</sup> City and County of Honolulu Department of Planning and Permitting. "2009 Affordable Housing Income Limits and Maximum Prices by Income Groups and Household Size." April 15, 2009 Memorandum.

additional income, the supply of available rental units has decreased and rents have increased. Faced with a shortage of rental housing units, many residents who depend on rental housing are no longer able to afford to live on the North Shore and are moving to other parts of O‘ahu. As the North Shore continues to develop as a major visitor destination, the increased demand for visitor accommodations will further exacerbate the current problem of illegal vacation rental units (short-term vacation rentals and bed and breakfast establishments (B&Bs)) supplanting opportunities for long-term rentals. Attached, multi-family housing development concentrated around Hale‘iwa and Waialua Town centers is desired to ensure affordable and appropriately priced housing for existing residents, including low- and moderate-income groups and the “gap group” (e.g., those that make too much to qualify for affordable housing but cannot afford to purchase a home at the current market rate). Although single-family homes are the dominant housing type on the North Shore, multi-family building forms are necessary to provide housing options that allow existing families to stay on the North Shore without altering the integrity and density of existing neighborhoods. There is also strong community sentiment for the elimination of illegal vacation rental units in order to free up some percentage of those units for long-term rentals, thus adding to the available housing inventory without the need for excessive overbuilding.

Housing forecasts prepared by the department of planning and permitting indicate the need for an additional 1,504 housing units by the year 2035 to support the projected population growth<sup>11</sup> (about 2,000 more people between 2005 and 2035). Despite a strong community desire for housing that is affordable to the average North Shore family, the development of an additional 1,504 new homes is not preferred because it would result in a significant growth in housing (nearly 25 percent more than the number of units in 2000). Community concerns include the potential impacts that the increased housing and population may have on the rural character, and open space and scenic resources.

### 3.5.1 Policies

The following policies are intended primarily to maintain and promote rural character in existing and new residential development:

- Maintain sufficient inventory of land within the Community Growth Boundary to accommodate existing and future housing needs.
- Direct future residential development to Hale‘iwa and Waialua within the Community Growth Boundary, including new apartment districts adjacent to Hale‘iwa and Waialua Towns where increased densities that address affordability may be desired, subject to community and agency review.
- Preserve and protect the rural character and natural features and setting of the North Shore by establishing appropriate development and subdivision standards for buildings, roadways, and infrastructure systems, in contrast to existing urban standards. Incorporate rural standards that require development to be sensitive to and have minimal impact on the area’s rural character.
- Provide a mix of housing types and prices to meet the needs of existing residents, including accommodations which are affordable to low- and moderate-income, gap group, and elderly households, and other special needs populations.
- Ensure safe and efficient circulation networks that provide bicycle and pedestrian travel between residential areas and neighborhood destinations such as schools, parks, and neighborhood commercial facilities.

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<sup>11</sup> It is assumed that only a small fraction of the 1,504 potential units will be built out, as development occurs at different rates in response to changing market conditions and housing development on the North Shore is constrained by infrastructure adequacy. In the unlikely event that all potential units are constructed, the North Shore’s population for the year 2035 will be more than 1.8 percent of O‘ahu’s island-wide population, which is above the General Plan’s population distribution policy for the North Shore (1.7 percent of the island-wide population).

- Support the development of sustainable communities through the use of low-impact development principles and technologies.

### 3.5.2 Guidelines

Except for small pockets of existing apartments in Mōkūlē‘ia, almost all the housing on the North Shore consists of single-family residences. This plan recognizes three categories of residential development: Rural, Rural Residential, and Low-Density Apartment. Table 3-8 gives an overview of the density and height guidelines for planned and existing residential developments.

<b>Table 3-8: Density and Height Guidelines by Residential Category</b>		
<b>Residential Category</b>	<b>Density (Housing Units)</b>	<b>Building Height</b>
Rural	1 unit/acre	not over two stories/25 feet
Rural Residential	5-8 units/acre	not over two stories/25 feet
Low-Density Apartment	10-20 units/acre	not over three stories/40 feet

It is important that residential areas exhibit the physical characteristics of a rural context, including:

- Smaller building footprints, less lot coverage, and greater open space than encountered in more urbanized areas;
- Alternative development patterns such as clustering and traditional compact layouts to preserve open space and minimize infrastructure demands;
- Low-rise structures, generally not exceeding 2 stories;
- Plantation style architecture;
- Relatively narrow roadway widths;
- Minimal amount of paved driveway surfaces;
- Landscaping and design alternatives that reduce impervious surfaces, such as grassed swales rather than curbs and gutters; and
- Rural-oriented landscaping and fencing.

The City should utilize appropriate subdivision standards for roads and utilities in rural residential subdivisions. For example, current City subdivision rules and regulations require curb/gutter/sidewalks for most new subdivisions. These standards are essentially urban or suburban standards, but may not be appropriate for most “Country” subdivisions with 1-acre lots or for subdivisions with R-20 or R-10 zoning located in rural areas. Standards for rural residential subdivisions should be studied. These rural type standards could result in less cost for the development of these subdivisions, and thus, more affordable lot prices for local families, as well as be more in keeping with the North Shore’s rural character.

#### 3.5.2.1 RURAL

This category consists of single-family homes on relatively large lots (e.g., lots of one acre or more). Development is low density and generally consists of single-family homes, ancillary structures if necessary, low site coverage, and a large predominance of landscaped open space.

This designation allows agricultural activities and can also serve as a land use transition from the more densely developed rural residential neighborhoods to agricultural uses. Rural areas on the North Shore are within the Community Growth Boundary and consist of existing lands in the Country zoning district and a few infill parcels



in Sunset Hills, Pūpūkea, and parts of Hale‘iwa. Single-family homes surrounded by open landscapes such as fields or tree cover, and largely unobstructed views and rural roadways are the principal visual qualities of these communities. Agricultural subdivision standards currently apply to country-zoned lands. As there is sufficient capacity on existing Country-zoned lands within the North Shore Sustainable Communities Plan area, no new Country lots should be allowed for the North Shore.

- Utilize a traditional density of one unit per acre with lots ranging in size from 1 to 3 acres, although alternative layouts that promote clustering are encouraged. Limit buildings to 2 stories or 25 feet, although the height may vary according to required flood elevation, slope, and roof form.
- Ensure compatibility between country-district uses and adjacent agricultural lands, natural resources, views, or cultural features.

### 3.5.2.2 RURAL RESIDENTIAL

This category is intended to describe the bulk of existing and new residential developments located within the Community Growth Boundary. Rural Residential areas are intended to consist of single-family homes in rural settings, as well as higher densities (e.g., smaller lot sizes, multifamily homes) around Waialua and Hale‘iwa Town cores. Typical residential lot sizes range from just less than 1 acre to about 5,000 square feet. Alternate development forms which result in greater amounts of open space and common facilities or higher densities that support affordable housing may also be used.

A majority of the homes on the North Shore consist of low-density one- and two-story single-family attached or detached dwellings, or both, ranging in size from 5,000-square-foot lots to 20,000-square-foot lots. New residential single-family development may occur through infill development on existing residential-zoned vacant lots and larger residential-zoned parcels that can be subdivided, or in areas designated for new residential development contiguous to Waialua and Hale‘iwa Towns. The Waialua Town Master Plan (2005) calls for 400-500 new homes in former plantation fields surrounding Waialua Town that lie within the Community Growth Boundary, including lands *mauka* of the mill camp between Pu‘uiki Road and Goodale Avenue. In Hale‘iwa, a maximum of 350 new housing units is to be accommodated on lands outside the flood plain north of Pa‘ala‘a Road.

The expanded residential areas in Waialua and Hale‘iwa are intended to respond to existing housing needs of residents and accommodate residential needs generated by anticipated long-term job growth in diversified agriculture and other industries. The intent of directing residential development to these areas is not to promote larger lots, which may make them unaffordable to area residents, or may encourage sprawl, but to allow for more site flexibility, integration of open space and neighborhood parks, and a joint infrastructure system for cost efficiency.

The intent of the Rural Residential designation is to distinguish rural from urban residential development. It is anticipated that Rural Residential will carry development standards for roadways, building envelope, or other features that will convey rural rather than urban character. Although existing residential districts island-wide generally allow for a range of 3,500- to 20,000-square-foot lots (2 to 10 or 12 units per acre), the new rural residential areas in Hale‘iwa and Waialua are intended to support densities ranging from 5 to 10 units per acre, so that they remain affordable and at the same time maintain the rural character, by adhering to the following guidelines:

- Densities range from 5 to 8 units per acre, or up to 10 units per acre for alternative development options which enhance rural character and maximize consolidated, usable open space. Lot sizes range from 5,000

square feet to 10,000 square feet, allowing the application of optional design standards. For smaller lot developments of less than 5,000 square feet, alternative clustering is encouraged.

- Use rural development standards to determine appropriate scale and character, smaller building footprints, greater setbacks, and more landscaping (use of hedges to create walls and grassed front yards, and rural roadways with no sidewalks, curbs, and gutters).
- Avoid monotonous rows of garages and driveways along neighborhood street frontages by employing features such as varied building setbacks and shared driveways.
- Plan and design new or infill housing development, as well as modifications to existing homes, to be generally compatible with the predominant form and character of existing homes on adjacent properties and with the neighborhood as a whole.
- Use plantation architectural features such as pitched roofs in varied forms, exterior colors and finishes, building orientation, floor plans, and architectural details to provide visual interest and individual identity and accentuate the rural setting. In general, buildings are to be less than two stories or 25 feet, although the height may vary in response to required flood elevation, slope, or other physical site constraints.
- Support affordable housing initiatives in areas designated for new housing development.

### **3.5.2.3 LOW-DENSITY APARTMENT**

This category consists of predominately two- to four-story townhouse complexes, stacked flats, or low-rise apartment buildings. The existing apartment-zoned districts in Mokulē‘ia are recognized. No new apartment districts in Mokulē‘ia are recommended, although new apartment districts may be appropriate adjacent to Waiialua and Hale‘iwa town centers, where increased densities that address affordability are desired.

- Maintain the existing apartment district boundaries.
- Densities range from 10 to 20 units per acre. Buildings should not be more than three stories or exceed 40 feet in height.
- Where possible, enhance the compatibility of development within apartment districts with adjacent residential uses.
- Employ building form, orientation, location of entries, and landscape screening that reflects single-family residential character and provides greater privacy and individual identity for housing units.
- Ensure compatibility of building scale, roof form, and the quality of materials with those of adjacent residential areas.

### **3.5.2.4 SPECIAL NEEDS HOUSING**

Special needs housing does not indicate a specific housing or building type. Instead, it refers to facilities designed for certain segments of the population with special living requirements. Categories of special needs groups include low-income sectors, senior citizens, homeless, disabled people, and people with health problems or the need for other forms of special care. Often such housing includes special features and accessory support services, such as congregate dining and social rooms; laundry, housekeeping, and personal assistance services; shuttle bus services for residents; skilled nursing beds or physical therapy clinics. Temporary shelters and transitional housing for homeless and low-income populations, permanent housing for persons requiring assistance to live independently, and emergency safe havens are types of facilities that provide special needs housing. There are a number of special needs housing facilities on the North Shore, including Helemano Plantation at Helemano.

- Locate special needs housing within or near Hale‘iwa or Waiialua Towns within close proximity to public transit, community services, and commercial activities, but not so clustered together to create a significant change to neighborhood character, especially as viewed along collector roads.

- As an exception to standard density situations, special needs housing may have densities of up to 20 units per acre, not including beds in skilled nursing facilities, if they consist primarily of smaller dwelling units with residential scale and character. Proposals for special needs housing should be subject to community and agency review.
- Limit building heights in line with the region's rural character.
- Ensure compatibility of building scale, roof form, and materials with adjacent residential areas.

### 3.5.3 Relation to Land Use Map

Residential areas are shown conceptually on the Land Use Map in Appendix A as follows:

**Rural.** This land use designation covers large lot residential development with lots ranging in size from 1 acre to 3 acres and includes lands generally consistent with the Country District of the City's Land Use Ordinance (LUO).

**Rural Residential.** This land use designation provides for the dominant housing form on the North Shore which consists of single-family detached dwellings on lot sizes under 1 acre.

**Low-Density Apartment.** Concentrated primarily in Mokulē'ia, apartment areas are recognized where they occur as a preexisting zoned use, but they are not designated on the Land Use Map. No new apartment areas are planned in Mokulē'ia. New apartment districts may be allowed adjacent to Waialua and Hale'iwa town centers subject to project-by-project review for compatibility with surrounding uses.

**Special Needs Housing.** This land use is not specifically designated on the Land Use Map, but it is allowed in residential areas subject to project-by-project review for compatibility with surrounding uses.

Nonresidential uses that are not specifically designated on the Land Use Map but are allowed in all residential areas include: elementary schools, parks, churches, community centers, child care centers, and other public facility and utility uses serving the area. It should be noted that some of these uses do require project review or public hearings, or both, and issuance of permits before they can be developed within a residential area.

## 3.6 COMMERCIAL AREAS

A variety of commercial areas are present throughout the North Shore. These vary in size and type from small, individual, freestanding stores, groups of small stores along a main street in Hale'iwa and Waialua, to small commercial centers. For purposes of this Sustainable Communities Plan, the various types of commercial uses are defined and designated in three categories: Country Town, Rural Community Commercial Center, and Country Store.

As the largest of the three commercial types, country towns are the region's primary commercial districts, and include a wide range of commercial establishments and civic activities to serve both area residents and visitors. The rural community commercial center is a smaller cluster of retail and service businesses, and country stores are freestanding neighborhood establishments. Both the rural community commercial center and country stores emphasize convenient and essential services to meet the needs of the surrounding community. Pedestrian and bicycle access is important for all commercial areas, while transit access is important for country towns and rural community commercial centers.

### 3.6.1 Policies

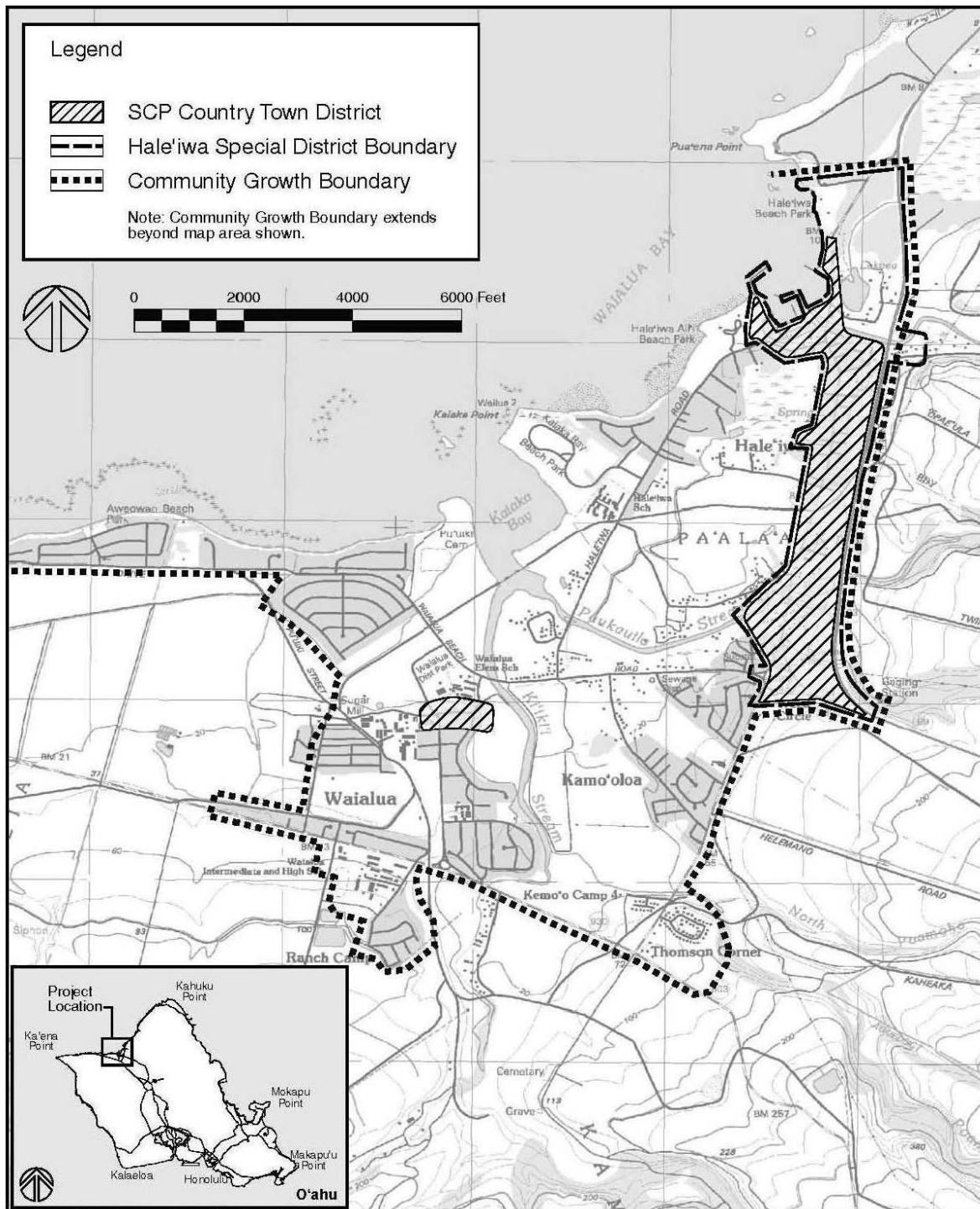
The following policies apply to all commercial areas, including the expansion or renovation of existing commercial areas as well as to the development of new commercial facilities.

- **Scale and Purpose.** Ensure that commercial uses are appropriately scaled to be compatible with the region's rural character and surrounding land uses, with an emphasis on locally-owned small businesses. Maintain Hale'iwa as the region's primary commercial center and visitor attraction, with Waialua Town serving the local community.
- **Physical Linkages and Accessibility.** Promote pedestrian, bicycle, and transit access.
- **Appropriate Building Scale and Architectural Style.** Promote compatibility between the building mass of a commercial area and its rural and natural setting. The architectural character and scale of commercial areas should respect the surrounding rural and natural features, particularly when located adjacent to a residential area or significant natural or historic feature.
- **Environmental Compatibility.** Emphasize environmental compatibility in the development and operation of commercial areas. Direct commercial enterprises to locate within existing commercial districts, and utilize sustainable building design and resource conservation measures as much as possible, including the use of solar panels, passive solar design strategies, landscaping features, and water constrictors, as well as on-site collection/storage areas to encourage individual property owners to recycle.

### 3.6.2 Country Towns

Country towns are generally distinguishable from their larger, often newer, urban counterparts by their compactness, small scale, and mixture of different land uses located in close proximity to each other. Buildings are usually one to two stories in height and built to the front property line. Commercial activity is often along the street frontage or in similar "main street" settings. Rural communities often take their identities from the character of their particular town center.

The country town districts for Hale'iwa and Waialua identify the general area where commercial establishments as well as public services and civic activities are concentrated (see Exhibit 3.3). Hale'iwa serves as the region's primary commercial attraction. Waialua Town's commercial area provides Waialua and Mokuē'ia residents with convenient access to goods and services at a rural community scale and character. Although both are designated similarly as country towns, they have their own distinct attributes and character and are discussed separately below.



### Exhibit 3.3: Hale‘iwa and Waialua Country Town Districts

**Hale‘iwa.** Situated along Kamehameha Highway between Hale‘iwa Beach Park and Weed Junction, the town serves as gateway to the North Shore as well as the region’s major commercial center and attraction for visitors. The Anahulu Stream Bridge and Pacific Ocean are distinct physical elements that enhance the sense of character of Hale‘iwa Town. The distant Ko‘olau and Wai‘anae Mountain Ranges and expansive plateaus of agricultural lands present the image of a quaint rural town surrounded by agriculture and open space. The boundary for the Hale‘iwa Country Town is generally coterminous with the Hale‘iwa Special District, except for agricultural areas adjacent to Hale‘iwa Beach Park, Hale‘iwa Beach Park Mauka, and Loko Ea Pond which will remain outside the Country Town District. Current land uses within the Country Town District include a wide range of retail stores, restaurants, specialty shops, service establishments, and professional offices. The continued success of Hale‘iwa as a town center and visitor attraction will be dependent on its ability to preserve its rural town character while accommodating economic development and growth.

**Waialua.** Waialua is a former plantation town oriented around the Waialua Mill site. The town core is concentrated around the existing shopping center and Dole office buildings and consists of shopping and civic facilities surrounded by residential neighborhoods, many of which are remnants of the old plantation camps. Centered around the intersection of Goodale Avenue and Kealohanui Street, the town core is anchored by the historic Bank of Hawai‘i Building, the Waialua Public Library, and the Waialua Park and new Waialua Bandstand, which helps to form an entrance to the Waialua Mill site. With the closing of the Waialua Sugar Company in 1996, Waialua’s future lies in strengthening its residential communities, retaining and highlighting the rich social, cultural and industrial heritage associated with the plantation industry, establishing agricultural support businesses as part of the overall development of diversified agricultural industry, promoting technology training within its schools and community, and revitalizing its town core through economic development that is compatible with the rural character of this community.

The Waialua Town Master Plan was completed in 2005 to address future development and economic revitalization opportunities. The Plan recommends a series of physical improvements and actions – including revitalization of the existing shopping center, new public buildings, expansion of the farmers market, landscaping and pedestrian-oriented improvements, and infill and new residential development – to ensure the long-term viability of the town center and the larger Waialua community.

### 3.6.2.1 POLICIES

- Maintain Hale‘iwa and Waialua Towns as the main commercial districts on the North Shore. Encourage landowners to invest in the physical and economic revitalization of the towns’ commercial cores.
- Preserve and enhance the historic rural “small town” character and allow for a compatible mix of commercial, service industrial, and residential uses that complement the rural town context. Encourage multi-family housing (low-density apartment districts) and housing for resident senior citizens in close proximity to both Hale‘iwa and Waialua town centers.
- Allow for a diverse range of civic, retail, office, and light industrial uses that meet the needs of residents and visitors.
- Support the continued viability of locally-owned small businesses, while prohibiting large commercial “big box” retailers that are contradictory to the region’s rural character.
- Maintain the low-rise (one to two stories) human-scale and physical organization of buildings arranged along the traditional “main street”.
- Preserve scenic views of agricultural fields and open spaces of surrounding areas seen from Hale‘iwa and Waialua Towns.
- Ensure that architectural and landscaping features are compatible with the rural character.

- Protect and enhance natural resources and ecosystems, such as wetlands and streams, fishponds, mature trees, and open space areas, within the country town areas.
- Protect, preserve and – where feasible – restore historic and cultural features that reflect the North Shore’s heritage and contribute to the town’s identity.
- Allow for the development of small-scale visitor accommodations in Hale‘iwa Town.

### 3.6.2.2 GUIDELINES – HALE‘IWA COUNTRY TOWN

- Limit building heights to two stories, and employ building design elements which reflect the architectural characteristics of the early 1900-period architecture identified in the Hale‘iwa Special District Design Guidelines.
- Incorporate generous, functional, public, and open spaces reflective of the town’s agricultural heritage.
- Encourage commercial and related activities that are conducive to the pedestrian character to locate at the sidewalk level along Kamehameha Highway. Encourage less pedestrian-dependent and conducive activities (such as manufacturing areas for products and compatible light industrial uses, residences, services, etc.) to locate behind or above commercial activities so as not to detract from the commercial retail character of Kamehameha Highway.
- Focus the town’s commercial core around a mix of compatible activities such as recreation, marine-related enterprises, farmers’ markets, historic and cultural attractions, “clean” light industrial, small businesses and offices, civic and governmental services, businesses, and retail activities for both residents and visitors.
- Upgrade drainage, wastewater, and water infrastructure within Hale‘iwa Town, as needed.
- Support home-based businesses and “Mom and Pop” type stores within the town center.
- Concentrate new development near existing built areas emphasizing redevelopment and infill along Kamehameha Highway, *makai* of the Hale‘iwa Bypass Road (Joseph P. Leong Highway). Provide adequate landscaped buffer adjacent to the bypass.
- Ensure that commercial uses adjoining the Kamehameha Highway corridor include support facilities such as parking lots and rest rooms that can adequately accommodate the planned commercial activities.
- Support the expansion and enhancement of Hale‘iwa Harbor. If possible, integrate the harbor’s attractions and facilities with commercial activities in Hale‘iwa Town.
- Expand indoor recreational and educational facilities and programs (museums, movie theater, gym, and cultural performance theaters) and historical, cultural, and arts programs to further enrich Hale‘iwa’s civic core.
- Provide improved, expanded, and continuous pedestrian walkways linking commercial establishments within Hale‘iwa, including connections between farmers’ markets or other kinds of agricultural product and retail outlets, and open space and environmental resources (such as beach parks, Hale‘iwa Harbor, and Loko Ea Pond).
- Enhance the attractiveness and general landscaped open space character of the area by providing roadway improvements, street trees, streetlights, street furniture, and signage compatible with the rural character of Hale‘iwa Town.
- Continue to use and support production of the visitors’ map showing attractions and services in Hale‘iwa.
- Maintain Kamehameha Highway as a two-lane thoroughfare through Hale‘iwa Town.
- Consolidate off-street parking to areas behind buildings, while retaining existing on-street parking wherever possible and appropriate. As needed, parking should be rearranged to accommodate the pedestrian walkway system along Kamehameha Highway.
- Provide signage and other forms of orientation to help direct motorists through the town to major facilities and to off-street parking facilities.

- Improve conditions for transit and bicycling through Hale‘iwa Town by providing better designed and located bus stops, and a designated bike lane through the town.
- Enhance Weed Junction and Kamehameha Highway/Joseph P. Leong Junction, which are entry points to Hale‘iwa, in a manner which conveys their gateway functions through appropriate design, landscaping, signage, and painting.
- Encourage private and community-based initiatives to protect and enhance the streams, wetlands, and other natural resources within Hale‘iwa Town. Retain the agricultural use adjacent to Weed Junction and the Preservation designation at Loko Ea Pond.

### 3.6.2.3 GUIDELINES – WAIALUA COUNTRY TOWN

- Ensure new developments are consistent with the Waialua Town Master Plan recommendations for the town center (Chapter 4.0 of the Waialua Town Master Plan).
- Integrate neighborhood parks and community-oriented recreation areas into new residential development.
- Locate churches and public services in or near the town.
- Retain large, readily accessible open spaces where outdoor recreation facilities and neighborhood gardens create open vistas and green spaces. Retain open space entrances to the town core, including Weed Junction, Thompson Corner, and Waialua Beach Road, with Waialua Park as the entrance to the country town district.
- Incorporate significant historic features from the plantation era and earlier periods into new developments, where feasible and appropriate. Existing buildings of historical, cultural and/or architectural significance, such as the surviving elements of the Waialua Mill, should be preserved and maintained through rehabilitation and adaptive reuse. Where feasible, adapt and highlight these structures as landmarks and icons representative of Waialua’s plantation town history.
- While buildings in the commercial core may be two stories in height, one-story heights should be emphasized, in keeping with the area’s historic scale and to preserve the prominence and views of existing mill structures.
- New commercial buildings should be similar in architectural character, scale, and materials to historic structures such as the former Waialua Sugar Company offices and the Waialua Library.
- Use design guidelines described in the Waialua Town Master Plan to promote and develop a special image for Waialua’s commercial and industrial core that reflects the town’s historic character and reinforce the town’s role as the cultural and business center for Waialua. Encourage renovations and new construction in accordance with the design guidelines.
- Provide pedestrian and bicycle access between surrounding residential neighborhoods and Waialua’s commercial core.
- Encourage infill development and new commercial development around Kealohanui Street to strengthen the town core and provide the critical mass necessary in developing a healthy town center.
- Direct new residential development outside but adjacent to the town core, as generally indicated on the Land Use Map.
- Locate industrial uses around the former sugar mill (see Section 3.7 Industrial Areas for applicable policies and guidelines).
- Promote agricultural support activities at the agricultural support area adjacent to the mill site.
- New housing units should incorporate rural features (such as small building footprints, larger setbacks, and more landscaping) and be sited and organized to give a strong sense of community.
- Work with developers to establish housing programs that place high priority on the needs of existing Waialua residents.
- Provide job or entrepreneurial opportunities for area residents, and make available training programs for new jobs and businesses.



- Promote historical and cultural attractions such as museums or activity centers that illustrate the history of the community or feature current agricultural operations near the mill site to encourage visitors to Waialua Town.
- Encourage computer-oriented, high technology business, health care, and medical services to locate in Waialua.
- Provide for safe and pleasant pedestrian circulation along the storefronts. As it redevelops, emphasize pedestrian circulation along Kealohanui Street. Retain a distinctive pedestrian-oriented commercial area for residents and visitors through the use of signage, street furniture, and street tree plantings to encourage walking and biking.
- Support production of a map showing services in Waialua and attractions in the region, such as Ka'ena Point and nearby beach parks.
- Promote Kealohanui Street as a pedestrian-oriented promenade in Waialua.
- Link proposed pedestrian walkways to the Waialua Town core, including linkages to farmers' markets and other kinds of agricultural products and retail outlets.
- Provide convenient parking that should be landscaped and screened from roadways.
- Enhance Waialua Beach Road and Farrington Highway as gateways to Waialua Town through signage and landscaping.
- Plant street trees to enhance the pedestrian experience and to create a strong streetscape image. A detailed street tree and planting plan should be developed and implemented as part of the right-of-way plan.

### **3.6.3 Rural Community Commercial Center**

The rural community commercial center is a small cluster of commercial and service businesses located on major thoroughfares that provide a range of goods and services to meet the needs of the surrounding residential communities. Located along highways and major thoroughfares, these centers also attract visitors and residents from outside the immediate community. Commercial establishments may include grocery stores, sundries stores, restaurants, and other services and shops catering to residents and visitors to the region. They are generally one- and two-story in height and equivalent in size to neighborhood grocery stores. With fewer business establishments and services than a country town, the rural community commercial center typically covers less land area and has less commercial floor area than a country town. The area between the existing Foodland market and the adjacent commercially zoned properties between Pūpūkea Road and Pāhoehoe Road is designated as a Rural Community Commercial Center.

#### **3.6.3.1 POLICIES**

- Cluster commercial uses within a more concentrated, but small-scale commercial center on existing Commercial-zoned lands, rather than dispersing them along the highway.
- Ensure that commercial buildings reflect the rural character and are compatible with adjacent residential areas.
- Promote safe and convenient transit, pedestrian, and bicycle access between commercial centers and surrounding areas.
- Emphasize commercial and civic establishments that serve the immediate residential community.

#### **3.6.3.2 GUIDELINES**

- Limit rural community commercial centers to existing zoned areas between Pūpūkea Road and Pāhoehoe Road that currently serve the commercial needs of residents and visitors.

- Design rural community commercial centers to provide a compact and efficient organization of various commercial services which primarily serve the immediate community.
- Rural community commercial centers should be designed to provide a compact and efficient organization of various commercial services.
- Architectural scale and character should respect the surrounding natural features, and adjacent residential areas. Buildings should reflect a rural character compatible with surrounding open spaces and adjacent residential uses.
- Limit building heights to no more than two stories.
- Locate parking behind buildings or provide parking that is landscaped. Parking should be visually screened from the street and adjacent residential lots, by planting a landscaped screen of trees and hedges along street frontages and property lines and planting shade trees throughout the parking lot.
- Incorporate pedestrian and bicycle facilities, including bicycle paths and storage racks, and off-site improvements such as crosswalks.
- Site bus stops in close proximity to rural community commercial centers.

### **3.6.4 Country Stores**

This category generally refers to freestanding retail or eating establishments located on commercially zoned lands or which exist as nonconforming uses. Its purpose is to recognize such establishments and to provide guidance for renovation, reconstruction, or minor expansion of these facilities. It is not intended to provide for new country stores. Existing country stores include stand-alone retail or eating establishments on Commercial-zoned lands or nonconforming uses, or both. They include Ted's Bakery, Sunset Beach Store/Restaurant, Sharks Cove Shell Station, Chun's Market, Pa'ala'a Kai Center, Otake Store, and Waialua Service. With storeowners retiring and rising operating costs affecting businesses, several country stores have closed in recent years, including Kammie's Market and Sagara Store in Waialua.

Country stores are typically single, stand-alone establishments. They are usually one-story in height and are generally equivalent in size to a small neighborhood grocery store, such as those mentioned immediately above, that provides convenience goods and services to the surrounding community. Building character is typically residential in scale and generally harmonious with adjacent development and setting in form, material, finishes, and color.

#### **3.6.4.1 POLICIES**

- Prohibit the establishment of new sites for country stores.
- Ensure that proposals for renovations or reconstruction of existing country stores complement the needs of the surrounding community and are compatible with adjacent residential communities.
- Support the long-term viability and existence of country stores.

#### **3.6.4.2 GUIDELINES**

- Design country stores to be small-scale, freestanding, compact commercial facilities. Prohibit country stores from expanding to larger, continuous commercial strip types of developments along arterial roads.
- Limit country stores primarily to retail uses that provide services to the surrounding community.
- Architectural scale and character should respect the surrounding natural features, and adjacent residential areas. Buildings should reflect a rural character compatible with surrounding open spaces and adjacent residential uses.
- Limit building heights to one story.

- Locate parking behind buildings, or provide parking that is landscaped. Parking should be visually screened from the street and adjacent residential lots, by planting a landscaped screen of trees and hedges along street frontages and property lines and planting shade trees throughout the parking lot.
- Promote pedestrian and bicycle access to country stores.
- Assist business owners with maintaining their financial stability to ensure that country stores remain in operation.

### 3.6.5 Relation to Land Use Map

Commercial areas are shown conceptually on the Land Use Map in Appendix A as follows:

**Country Towns.** This land use designation identifies the two primary country town districts on the North Shore: Hale‘iwa and Waialua.

**Rural Community Commercial Center.** The single rural community commercial center identified on the Land Use Map is the area between Pūpūkea Road and Pāhoehoe Road which consists of the Foodland store and adjacent Commercial-zoned property.

**Country Stores.** This land use designation refers to existing country stores that provide commercial services to the surrounding communities. Due to their relatively small scale, their locations are not depicted on the Land Use Map.

## 3.7 INDUSTRIAL AREAS

The North Shore, especially Waialua Town, was built and populated primarily to service the sugar industry, which for many decades was the predominant economic force in the region until recent years. While most of the agricultural lands were used for cultivation, some lands were dedicated to related operations such as harvesting and processing, and were thus designated industrial. Industrial lands provide for activities and services such as manufacturing, food and agricultural processing, boat and car repair, and the storage of materials and products. They provide employment opportunities for area residents as well as goods and services for consumption. Industrial uses can help revitalize the area’s economy and maximize residents’ choice of employment opportunities in the region.

The industrial site at the former Waialua Sugar Mill is no longer used for sugar processing and has been renovated for other industrial uses, including diversified agriculture-related light industrial uses, clothing and souvenir manufacturing, surfboard manufacturing and repair, warehousing, wholesale activities, and other compatible industrial-type uses. The long-term goal is to ensure that the supply of industrial-zoned lands is adequate to accommodate the mix of industrial, light industrial, retail, and service-oriented uses that would benefit from locating within the Sugar Mill site. Appropriate types of light industrial uses that complement commercial-related activities can also be accommodated in Hale‘iwa and Waialua Country Town Districts.

### 3.7.1 Policies

The following policies are applicable for industrial areas:

- Encourage compatible industrial uses that help diversify and revitalize the economic base of the region. Industrial uses should be compatible with the rural character, with minimal impact on the natural environment, cultural resources, open spaces, and scenic views.

- Promote industries that provide employment opportunities, as well as goods and services for area residents.
- Establish the former Waialua Mill site as the North Shore's main industrial center. Direct industrial activities, including boat repair, auto body and fender shops, to the Waialua Mill site.
- Promote forms of economic development and business enterprises that offer training and technical skill development to area residents. Promote agricultural support activities such as food processing and packaging, as well as "quiet" industries, such as cold storage and clothing manufacturing, computer hardware or software development, or other forms of high technology enterprises that provide job or entrepreneurial opportunities for area residents and are compatible with the rural character.

### 3.7.2 Guidelines

The following guidelines are applicable to industrial development.

- Maintain adequate open buffer zones between industrial activities and residential districts.
- Minimize impacts (views, noise, and smells) and reduce the visibility of large building masses, machinery elements, parking, storage areas, industrial equipment, and operation areas through proper site planning and landscape plantings.
- Encourage uses which have few environmental impacts and those which complement the development scale of the surrounding community.
- Allow low-impact, service industrial uses in enclosed buildings within the Hale'iwa and Waialua Country Town Districts, so as not to detract from the pedestrian-oriented commercial/retail character of roadways, such as Kamehameha Highway, Kealohanui Street, and Goodale Avenue. These could include manufacturing of clothing, arts and crafts, and surfboard repair.
- Building height and form should reflect the contexts of their sites. At the Waialua Mill site, they should follow guidelines reflecting the Mill's image. In Hale'iwa Town, they should follow the Hale'iwa Special District Design Guidelines. In Waialua Town, they should be consistent with guidelines of this document and the Waialua Town Master Plan. In general, buildings should be designed to reflect the architectural character of Hale'iwa or Waialua Town. Basic design principles, texture, construction materials, and colors should be compatible with the styles from the era and surrounding buildings.
- Where taller vertical structures are required as part of an industrial operation, site and design such structures to minimize impacts on view planes and reduce visibility from scenic vistas, public roadways, residential areas, commercial areas, parks, and other significant open space areas.
- Limit industrial uses located along the shoreline to water-dependent activities (such as boat repair and maritime-related activities). Consider environmental, visual, and noise impact during the permit application process.
- Maintain and upgrade infrastructure to support industrial facilities.

### 3.7.3 Relation to Land Use Map

One industrial area is shown conceptually at the Waialua Mill site on the Land Use Map in Appendix A. Future expansion of the industrial area should be accommodated *makai* of the mill site. In addition to the industrial-designated lands, compatible types of light industrial uses may also be permitted within the country town districts at Hale'iwa and Waialua if they meet the policies and guidelines described in this section and in Section 3.6 relating to Commercial Areas.

### 3.8 VISITOR ACCOMMODATIONS

The availability of existing legal overnight accommodations for visitors on the North Shore is limited, consisting of a small inn/hostel offering budget accommodations (Backpackers Vacation Inn and Plantation Village), several privately operated camps with campgrounds and cabins, B&B establishments, and vacation rentals (both homes and condominium properties). The only hotel along O‘ahu’s northern shoreline is the Turtle Bay Resort, a four-star luxury property at Kawela Bay, which is located within the Koolauloa Sustainable Communities Plan area.

An increase in the number of visitors seeking affordable vacation opportunities on the North Shore, combined with the limited inventory and absence of moderate-priced, mid-quality overnight accommodations, has resulted in the growth of illegal short-term vacation rentals. Many North Shore residents are concerned that using homes as vacation rentals results in noise, traffic, and parking problems for neighboring homes, and disrupts the stability and character of a community due to the transient nature of the tenants. Due to the incompatible nature of vacation rentals, real estate market pressures (e.g., increased real estate values and rental prices, reduced availability of long-term rental units), and the limited capacity of existing infrastructure systems and public services – including overly crowded roads, wastewater issues, and limited police presence – the community expects, if not insists on, appropriate regulatory and enforcement mechanisms for the vacation rental industry. Furthermore, the community feels strongly that any additional overnight accommodations for visitors in the North Shore Sustainable Communities Plan area should be prohibited until community concerns about illegal vacation rentals are resolved and enforcement mechanisms to eliminate the current illegal operations are in place.

In general, residents support the concept of affordable, short-term accommodations for tourists, local families, and off-island contractors needing lodging in the area (noting that overnight accommodations would keep visitors in the region longer, eliminate the evening commute to hotels/lodging in other parts of the island, and provide choices for the cost-conscious traveler). Any new visitor accommodations should be small in scale and compatible with the rural character of the built environment and adjacent natural features. An appropriate type of visitor accommodation would be located within the boundaries of the Hale‘iwa Country Town District and be similar in scale as the historic Hale‘iwa Hotel. The Hale‘iwa Hotel opened in 1899 on 40 acres of land at the mouth of the Anahulu River (where the Hale‘iwa Joes Restaurant now sits). Commissioned by Benjamin Dillingham, owner of the OR&L Company Railroad, the hotel was a popular weekend “country retreat” for Honolulu’s affluent at the turn of the century. Hotel guests would travel the 3-hour, 56-mile journey from Honolulu to Hale‘iwa on the OR&L Company’s train, and stay overnight at the resort destination. The main Victorian-style two-story building featured 14 guest rooms with deluxe accommodations, and several guest cottages. Following the hotel’s closure in 1928, the property was reopened in 1931 as an exclusive private club (the Hale‘iwa Beach Club). It was used as an officer’s club during World War II, and eventually torn down in 1952.<sup>12</sup>

Considering that Hale‘iwa has been a tourist destination since 1899 when the Hale‘iwa Hotel was first opened, the return of a similar country inn in Hale‘iwa can serve as a valuable link that honors Hale‘iwa’s heritage, adding to the town’s historic character and further promoting efforts to revitalize the town’s core. Although the community opposes large-scale visitor accommodations and resort zoning on the North Shore, small-scale visitor accommodations may be allowed within Hale‘iwa Town and Waialua Town Center provided that any such projects should not be allowed through a conditional use permit or through any other permitting process that does not require approval of the City Council under a process to be created under the Land Use Ordinance which includes opportunity for public input and public hearings and based on specific criteria which are outlined in the policies and guidelines below.

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<sup>12</sup> Hibbard, Don. Designing Paradise: The Allure of the Hawaiian Resort. New York, 2006.

It is the general desire of the North Shore community not to have more than one small country inn in Haleiwa and no more than one small country inn in Waialua.

Resort zoning is not appropriate for the North Shore.

### **3.8.1 Policies**

The following policies are applicable to visitor accommodations:

- Integrate small-scale visitor accommodations in the form of a small country inn (no more than one in Hale‘iwa and one in Waialua) with the social and economic life of the surrounding communities and to be compatible with adjacent uses.
- Avoid degradation or elimination of public access to public lands or resources by visitor accommodations.
- Prohibit amenities and necessary activities typically associated with destination-style full-service resorts, such as nightclubs, convention centers, shopping facilities, and banquet facilities.
- Prohibit the proliferation of visitor accommodation projects that would take over the social and economic character of Hale‘iwa Town and Waialua Town Center.
- Prevent the expansion of the B&B and vacation rental industry on the North Shore.

### **3.8.2 Guidelines**

The following are guidelines pertaining to visitor accommodations. Other forms of overnight visitor accommodations that do not meet these guidelines are generally not complementary to the North Shore’s rural character, and are not desired in the community – and are not to be permitted.

- Allow a small country inn only in Hale‘iwa Town and the Waialua Town Center to help restore and promote the historic character of the towns.
- Design the small country inn in Hale‘iwa to be consistent with the Hale‘iwa Special District Design Guidelines. In general, the small country inn should be small in scale (limited to two stories in height), be compatible with the architectural style and character of Hale‘iwa Town, and observe the same building envelopes and design standards of adjacent buildings.
- Any proposed small country inn must follow all ordinances pertaining to zoning, density, and other applicable rules. As there is no ordinance currently governing small country inns in either Hale‘iwa or Waialua Towns, such an ordinance must be in place and approved by the City Council prior to any approvals for either small country inn to be built.
- Establish locational, spacing, or density limits to control the overall proliferation of visitor accommodations.
- Provide convenient and safe access for pedestrians and vehicles.
- Incorporate mixed use that caters to pedestrian activity located on the ground floor and visitor accommodations provided on the upper floor.
- Provide adequate off-street parking which is landscaped and screened from public roadways.
- Address the streetscape and provide a setting that is conducive to pedestrian activity, when located along pedestrian-oriented streets.
- Ensure that existing and/or proposed infrastructure can adequately accommodate the proposed development and associated visitor population.
- Minimize impacts (noise, traffic, parking, visual) on surrounding activities/properties and from public roadways.

- Prohibit the granting of new permits, including nonconforming use certificates, for B&B and vacation rental operations on the North Shore.

### **3.8.3 Relation to Land Use Map**

The visitor accommodations described above are not shown on the Land Use Map in Appendix A. As specified, they should be allowed only within the Hale'iwa Country Town District and in the Waialua Town Center, subject to policies and guidelines outlined in the preceding section and in accordance with applicable criteria and standards.

## **3.9 INSTITUTIONAL USES**

The purpose of designating lands for institutional uses is to provide areas for public and quasi-public institutions, such as schools, airports, harbors, major health care facilities; major utility plants and substations; landfill sites, corporation yards, and maintenance yards of public agencies; religious, social, and social service institutions; and other public services.

### **3.9.1 Policies**

Public facilities and institutions should provide convenient public services or functionally support other governmental activities. These facilities should be planned and developed in a manner consistent with the rural character of the region and sensitive to the surrounding community land uses.

### **3.9.2 Guidelines**

The following guidelines implement the policies for institutional facilities listed above.

- Colocate neighborhood or community parks with elementary or intermediate schools and coordinate design of facilities when efficiencies in development and use of athletic, meeting, and parking facilities can be achieved.
- Colocate social, social service institutions, and other public service agencies to provide convenient one-stop services to the region.

### **3.9.3 Relation to Land Use and Public Facilities Maps**

Institutional areas and major public facilities (both existing facilities and future improvements) are identified by appropriate symbols on the Public Facilities Map located in Appendix A. Religious, social, social service institutions, and other public service uses are not conceptually shown on the Land Use Map but are permitted within the commercial areas and residential communities if the uses comply with the City's Land Use Ordinance.

## **3.10 MILITARY**

Military areas include all lands used for military and military support purposes including residential, commercial, industrial and park uses. The Helemano Military Reservation, with its existing and planned military housing, related community facilities and industrial uses, and the Kawaihoa Training Area and Dillingham Military Reservation are lands owned and leased by the military on the North Shore.

**3.10.1 Policies**

Applicable policies for residential, industrial, commercial, and other related uses should be applied to military lands.

**3.10.2 Guidelines**

- Encourage all government agencies (City, State, and Federal) to coordinate efforts with the U.S. military, especially where the Kahuku and Kawaihoa Training Areas overlap with environmentally sensitive areas.
- Encourage the military to provide appropriate infrastructure services to support military uses on their lands and minimize any potential impacts to the region.
- Work with the military to allow use of Drum Road as an emergency access bypass route during natural disasters or other emergency incidents.
- Encourage low-rise military facilities that support educational and recreational programs and are compatible with the region on Military Reservation lands such as Dillingham Airfield.

**3.10.3 Relation to Land Use Map**

Helemano Military Reservation and Dillingham Airfield are shown conceptually on the Land Use Map in Appendix A. Other military uses within the region not specified on the Land Use Map should be compatible with the policies and guidelines of the specific land use designation shown on the Land Use Map. Military-owned lands that are leased or licensed to others on a full-time basis for nonmilitary uses are excluded from this designation.



## **Honolulu - Land Use**

#### 4. PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES

The vision for the North Shore described in Chapter 2 will be implemented in part through application of the policies and guidelines for public facilities and infrastructure, which are presented in the following sections.

The provision of adequate infrastructure and public facilities and services is essential to maintaining the quality lifestyle that residents desire. For the North Shore, this means that infrastructure systems, public facilities, and services are properly maintained and operated, that they are sufficient to meet current requirements, and that they have the capacity to accommodate future system demands without negatively impacting any of the region's resources. A key concern for area residents is that the design of infrastructure systems – including roadways and wastewater treatment systems – reflect the rural qualities of the region, with particular emphasis on how such systems are sized. As a corollary concern, the impacts of development that occur beyond the North Shore Sustainable Communities Plan's boundaries are important considerations when analyzing entitlement requests that affect North Shore infrastructure. Thus, the North Shore community expressed its concerns about any further expansion of resort accommodations in the Turtle Bay complex because of the potential adverse impacts such development may have on the North Shore's infrastructure, particularly on Kamehameha Highway, and on its quality of life.

A survey conducted by the State of Hawai'i Department of Business Economic Development and Tourism for two separate time periods – Winter 2003 and Summer 2005 – indicates that more than half (51 percent) of all visitors to O'ahu in 2003 and 2005 visited the North Shore.<sup>13</sup> This translates into an estimated 2.4 million tourists per year visiting the North Shore, or almost 7,000 visitors per day on average,<sup>14</sup> which is about 40 percent of the total number of residents living on the North Shore in 2005 (about 18,400 residents).<sup>15</sup> Although the effect is economically positive, the dramatic influx of tourists to the North Shore has significantly stressed the community's infrastructure with increasing traffic congestion, overcrowded beaches and park facilities, and insufficient rest room facilities in Hale'iwa Town.

Chapter 4 is organized under the following headings:

##### SECTION

- 4.1 TRANSPORTATION SYSTEMS
- 4.2 WATER SYSTEMS
- 4.3 WASTEWATER TREATMENT
- 4.4 ELECTRICAL SYSTEMS
- 4.5 SOLID WASTE HANDLING AND DISPOSAL
- 4.6 DRAINAGE SYSTEMS
- 4.7 SCHOOL FACILITIES
- 4.8 PUBLIC SAFETY FACILITIES
- 4.9 OTHER COMMUNITY FACILITIES

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<sup>13</sup> State of Hawai'i Department of Business, Economic Development and Tourism. "Visitor Behavior and Satisfaction O'ahu's North Shore: A "Tack On" Survey to the 3rd Quarter 2005 and 4th Quarter 2003 Visitor Satisfaction Survey."

<sup>14</sup> The 2005 Annual Visitor Research Report prepared by the State of Hawai'i Department of Business, Economic Development and Tourism indicates 4,731,843 visitors to O'ahu in 2005 (Table 37).

<sup>15</sup> City and County of Honolulu Department of Planning and Permitting. "2000-2030 Socioeconomic Projections in 5 Year Intervals by Development Plan Area." November 2007.

#### 4.1 TRANSPORTATION SYSTEMS

This section describes the existing road, transit, and bikeway network on the North Shore, as well as plans and proposals for future improvements, followed by policies and guidelines to guide future transportation system development in the North Shore. These elements are shown in the Public Facilities Map in Appendix A.

Act 54 (Session Laws Hawai‘i, 2009) requires State and County transportation departments to adopt and implement a complete streets policy and establishes a task force to determine necessary standards and guidelines. The intent of a complete streets policy is to create and configure a connected street system that provides for all users including but not limited to pedestrians, bicyclist, and transit passengers of all ages and abilities.

##### 4.1.1 Roadway Network

The only major arterial on the North Shore is Kamehameha Highway, a two-lane thoroughfare which links North Shore communities with Central O‘ahu and Koolauloa. It is a scenic highway which traverses the coastline from Hale‘iwa through the communities of Kawaiiloa, Waimea, Pūpūkea, and Sunset Beach.

Minor arterials on the North Shore include Kaukonahua Road and Farrington Highway. Kaukonahua Road is a narrow two-lane roadway which goes from Wahiawā north to Thompson Corner and continues as Farrington Highway past Waialua and Mokulē‘ia to Ka‘ena Point. Numerous local streets, including Hale‘iwa Road, Goodale Avenue, Waialua Beach Road, and Pūpūkea Road, serve the rural residential communities. Kamehameha Highway, except for the segment from Weed Junction to Hale‘iwa Beach Park, Farrington Highway, and Kaukonahua Road from Thompson Corner to Weed Junction, are under State jurisdiction. Except for former cane haul roads, most of the remaining streets in the North Shore Sustainable Communities Plan area are under City and County of Honolulu jurisdiction.

Planning and development of major roadways is the shared responsibility of the State department of transportation (DOT) and the City Department of Transportation Services (DTS). The planning and use of federal transportation funds is coordinated through the O‘ahu Metropolitan Planning Organization (OMPO), a joint City-State agency.

The O‘ahu Regional Transportation Plan 2030 (April 2006)<sup>16</sup> indicated that the morning peak-hour traffic volume in the North Shore corridor is at an acceptable level and will continue to be at an acceptable level in the year 2030. However, North Shore residents regularly experience “bottleneck” traffic congestion at Waimea, and near Laniākea on weekend days and during periods of high surf. While congestion along Kamehameha Highway has been historically limited to the winter months when spectators travel slowly through the area to observe the high surf, traffic delays in the vicinity of Hale‘iwa Town and Laniākea Beach have become frequent throughout the year. In addition, segments of Kamehameha Highway along the North Shore are sometimes closed during periods of high surf and flooding when roads are hazardous to travelers, or as a result of rock slides.

With traffic delays increasing in frequency, the community is concerned that traffic conditions along Kamehameha Highway are reaching a critical stage, especially when considering that the highway has not been greatly improved since it was first built in the late 1920s.<sup>17</sup> Community concerns include limitations that the existing two-lane highway is unable to accommodate any additional cars, and that the bottlenecks negatively affect emergency vehicle response time. Roadway improvements that correct safety deficiencies, promote alternative modes of transportation, and minimize the number of vehicles on the road are desired. Increasing highway capacity to accommodate more

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<sup>16</sup> OMPO’s Regional Transportation Plan (ORTP) is currently being updated to the year 2035. OMPO expects completion of the plan in 2011.

<sup>17</sup> C.W. Windstedt was given a contract in 1929 to build Kamehameha Highway from Waimea Bay to Kahuku.

cars is not supported, unless considered necessary for safety reasons. Providing secondary/emergency access bypass routes into and out of the region to facilitate access when Kamehameha Highway is closed is also of significant concern.

Several improvement projects are identified in the FY 2008-2013 State Transportation Improvement Program (STIP) for Kamehameha Highway: (1) Bridge Rehabilitation, Kawaihoa Stream Bridge (Project No. OS51); (2) Rockfall Protection, Waimea Bay (Project No. OS73); (3) Shoreline Protection, Vicinity of Kawaihoa Beach (Project No. OS77); (4) Traffic Improvements, Kahalu'u to Waimea Bay (Project No. OS78); and (5) Wetland Enhancement, Vicinity of 'Uko'a Pond (Project No. OS79)<sup>18</sup>. The STIP is presently being updated. The O'ahu Regional Transportation Plan 2030 identifies one proposed State improvement project for future consideration: Kamehameha Highway Safety Improvements from Hale'iwa to Kahalu'u, including improvements such as turn lanes, guardrails, signage, crosswalks, etc. No future highway capacity improvement projects are identified for the North Shore.

Other proposed projects for roadway improvements identified by the City DTS include improvements to Kamehameha Highway, Hale'iwa Road, Waialua Beach Road, Pūpūkea Road, Alapi'o Road, Kaukonahua Road, and Wilikina Drive.

Resolution of the traffic congestion at Laniākea is a high priority for the community, especially when City and State improvements currently being planned for the area are taken into consideration. (i.e., The City is planning beach support facilities on the *mauka* side of the highway, which would encourage more pedestrian crossings and further aggravate the safety concerns and traffic slowdowns under the current roadway configuration. The State DOT has a project to rehabilitate the Kawaihoa Stream Bridge.) Possible alternatives include either highway realignment (re-routing the segment of Kamehameha Highway that passes Laniākea Beach inland) or construction of a new bypass road between Laniākea Beach and Ashley Road. While a new bypass road would improve traffic flow along the highway, realignment would allow future beach support facilities to be built on the beach, thereby providing the additional benefits of a healthier and wider shoreline/beach area and protection for pedestrians. As a result of strong community support, the State DOT is conducting a planning study for the Laniākea Realignment/ Bypass Route.

#### **4.1.2 Transit (Bus Service) System**

Fixed route bus service is provided through the City DTS, which currently contracts with O'ahu Transit Services (OTS) for operation of TheBus. OTS also operates the Handi-Van system, which provides transportation service for individuals who are unable to independently use TheBus due to a disability under the Americans with Disabilities Act.

According to the O'ahu Regional Transportation Plan 2030 (April 2006), TheBus system provides 100 numbered bus routes island-wide with a fleet of 531 buses, including five bus routes to service the North Shore.

In addition to the DTS service, there is a state-operated school bus system that provides both fixed route and curb service transportation for students of Hale'iwa Elementary, Waialua Elementary, Sunset Beach Elementary, and Waialua Intermediate and High Schools.

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<sup>18</sup> It should be noted that although projects are identified, individually, they may not necessarily be pursued because the actual phase or time frame of a project is not strictly defined and may change for various reasons.

There are no plans to extend or expand the number of bus routes on the North Shore. DTS continues to monitor community needs and ridership, and makes noncost adjustments to existing services for the North Shore. The introduction of new service will be contingent on available funding.

#### 4.1.3 Bikeway System

Bike Plan Hawai‘i (2003), a State DOT master plan for bikeways, identifies 145.7 miles of existing bikeways on O‘ahu, and 258.9 miles of proposed bikeways island-wide to bring O‘ahu’s total bikeway network to 394.6 miles. The timetable for development will depend upon construction feasibility (including right-of-way acquisition) and funding. Bike Plan Hawai‘i defines the various types of bikeways, as follows.

- **Signed Shared Roadway.** Any street or highway specifically designated by signs for the shared use of bicycles and motor vehicles and/or pedestrians. Such facilities are of two types: a widened curb lane in an urban-type area or a paved right shoulder in a rural-type area. The Signed Shared Roadway, according to the Bike Plan Hawai‘i, is “...the preferred route for bicycle use,” when mainly due to land width or other mitigating factors.
- **Bicycle Lane.** A portion of a roadway designated by striping, signing, and/or pavement markings for the preferential or exclusive use of bicycles. The right-of-ways assigned to bicyclists and motorists are delineated to provide for more predictable movements of each. Only crossflows by motor vehicles or pedestrians to gain access to driveways or parking facilities or bus stops are allowed.
- **Shared Use Path.** A bikeway that is physically separated from motorized vehicular traffic by an open space or barrier, and is either within the highway right-of-way or has an independent right-of-way. Often shared with pedestrians, skaters, joggers, and other nonmotorized users.

The State’s bikeway master plan indicates a North Shore bikeway system that includes the existing Ke Ala Pūpūkea Bike Path; a coastline route with links to Central O‘ahu, the Koolauloa District, and around Ka‘ena Point to Wai‘anae; a route through Hale‘iwa Town; an existing leg along the Joseph P. Leong Highway (Hale‘iwa Bypass Road); and along Hale‘iwa Road and Waialua Beach Road. Additional potential bikeways, including one along Pa‘ala‘a Road in Hale‘iwa, and three in Waialua (Pu‘uiki Street, Cane Haul Road (Extension), and Kealohanui Street, respectively) are also included in this Sustainable Communities Plan. Existing and proposed bikeways are shown on Exhibits 4.1 and 4.2.

The City DTS is in the process of updating the 1999 Honolulu Bicycle Master Plan. While the scope of the current plan is limited to Honolulu’s urban core between Kahala and Pearl City, the updated plan will cover the entire island of O‘ahu.

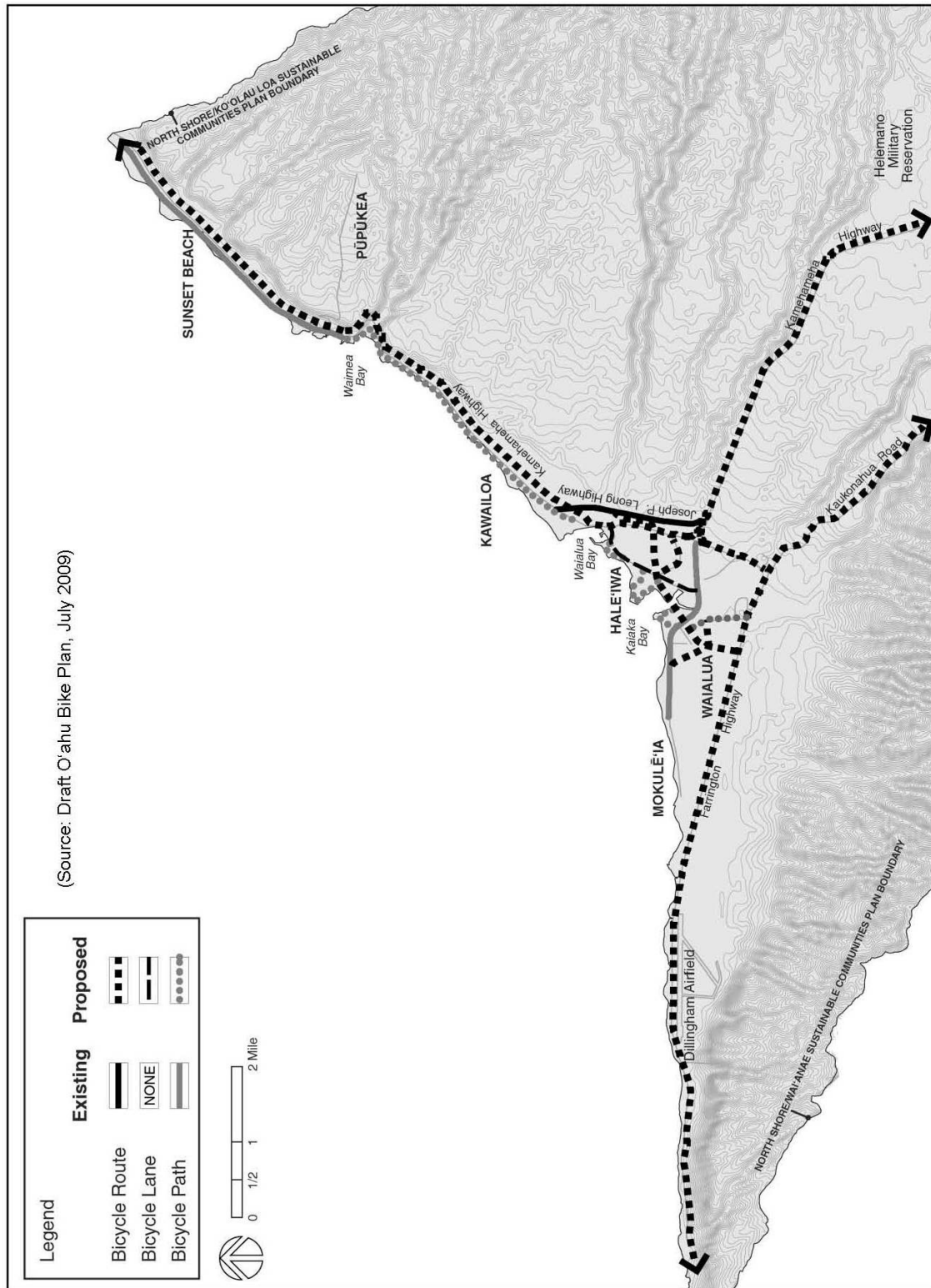


Exhibit 4.1: North Shore Bikeway System

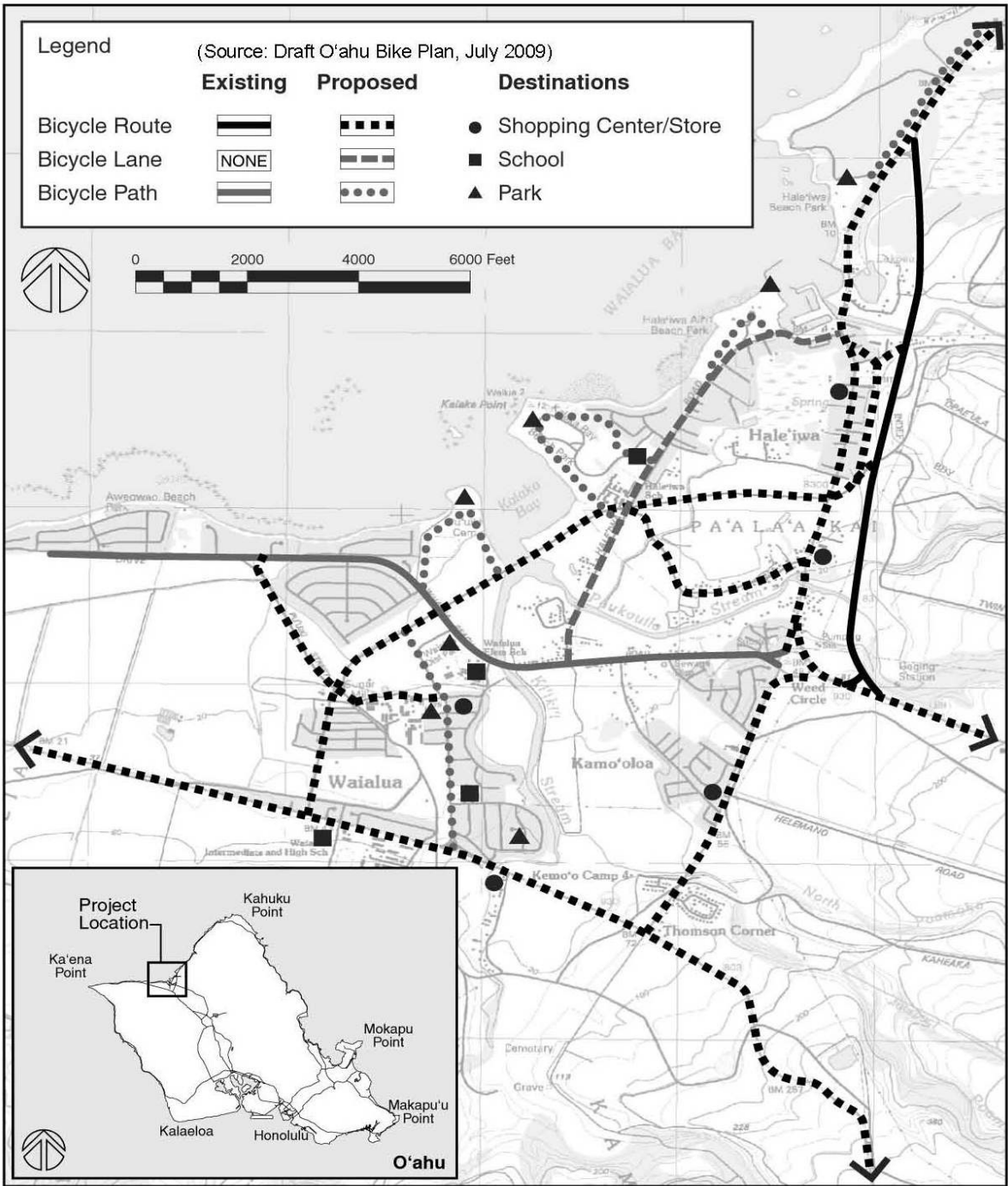


Exhibit 4.2: Waialua - Hale'iwa Pedestrian/Bikeway System

#### 4.1.4 Other Transportation Facilities

**Airports.** Dillingham Airfield in Mokolē‘ia is the only public airport facility located on the North Shore. The U.S. Army owns the field, but it is used jointly by the U.S. Army and the State of Hawai‘i. The airfield consists of one 5,000-foot-long runway, hangars and tie-downs for smaller aircraft, facilities for air-taxi services, and storage.

The airport services general aviation demands for small aircraft including civilian-powered flights, sailplane/glider flights, and parachute activities, as well as military flights. Air traffic is limited to daytime operations, as a condition of the lease DOT has with the Army, and the existing airfield can satisfy only a portion of general aviation demands for O‘ahu. The State DOT has indicated that no major expansion is planned for Dillingham Airfield, except for improvements to existing facilities and construction of additional hangars. General aviation demands will instead be met by existing airport facilities at Kalaeloa Airport (formerly the Barbers Point Naval Air Station).

**Harbors.** The Hale‘iwa Boat Harbor is the only recreational boat harbor facility in the North Shore region. The facility is managed by the DLNR, Division of Boating and Ocean Recreation. Policies and guidelines pertaining to Hale‘iwa Boat Harbor are included in Section 3.3.

#### 4.1.5 Policies

The following are policies for transportation systems on the North Shore.

- Retain both Kamehameha Highway and Farrington Highway as two-lane thoroughfares, to maintain the North Shore’s rural character. Provide roadway improvements to promote pedestrian and vehicular safety and traffic efficiency.
- Improve mobility and connectivity between residences, jobs, shopping, and recreation areas on the North Shore.
- Ensure safe and efficient access to adjacent areas, especially to Central O‘ahu.
- Support a multi-modal transportation system to reduce automobile dependency. Provide more opportunities and support facilities for convenient and safe alternative modes of transportation, including bus, pedestrian and bicycle travel, and other modes of personal transportation.
- Ensure that existing regional roadways are adequate to accommodate proposed development proposals, prior to the construction of such developments.

#### 4.1.6 Guidelines

The following guidelines relate to transportation systems for the North Shore.

- Establish rural streetscape design and development standards within residential areas consistent with the rural character of the region. Allow for rural elements that reduce the amount of impervious surfaces, such as minimum pavement widths to support traffic demands and emergency vehicle access, shared driveways, reduced parking requirements, more landscaping, and grassed swales as an alternative to sidewalks with curbs and gutters.
- Emphasize accessibility from residential streets to bus routes, parks, schools, and commercial centers. Design roadways to facilitate the use of alternative transportation forms, including bicycle and pedestrian travel, and personal motorized devices.



- Provide scenic lookout points to minimize hazards created by slower sightseeing traffic and to enhance the appreciation of the region's scenic resources.
- Provide appropriately sited and designed off-street parking areas at popular beach parks wherever feasible, including parking in support parks *mauka* of the highway.
- Study the safety and feasibility of developing passing zones on Kamehameha Highway and Kaukonahua Road from Hale'iwa/Waialua to Wahiawā to reduce traffic delays due to slower moving vehicles, and to improve safety conditions.
- Provide safety improvements along Kaukonahua Road and Kamehameha Highway from the Joseph P. Leong Highway (Hale'iwa Bypass Road) to Wahiawā and beyond.
- Promote the development of emergency runaway vehicle ramps on Kamehameha Highway and Kaukonahua Road, from Wahiawā to Hale'iwa/Waialua.
- Approve new residential and commercial development only if the State DOT and the City DTS confirm that adequate transportation access can be provided.
- Continue to include the daily visitor population that visits the North Shore in determining allocations of resources and facilities for the North Shore.
- Promote the use of transportation demand management strategies, including measures such as ride-sharing (car/van pooling), improved bus service and routes, the use of nonvehicular travel modes, modified work hours and teleworking to reduce commutes.
- Protect the natural resources of Ka'ena Point from potentially damaging vehicular traffic. Prohibit construction of a roadway around Ka'ena Point.
- Provide pedestrian-friendly walkways, off-street parking, bus pull-outs, tour bus maneuvering areas, and drainage improvements in Hale'iwa Town.
- Improve the main roadways within Hale'iwa and Waialua Country Town Districts with shade trees, landscaping, sidewalks, street furniture, and signage to promote pedestrian orientation within these country towns.
- Create a regional pedestrian/bikeway system linking the parks, schools, and town centers in Hale'iwa and Waialua with outlying communities, as shown in Exhibits 4.1 and 4.2.
- Coordinate bikeway development with responsible State and City agencies and private landowners to ensure that safety, liability, and a mixture of use issues are adequately addressed.
- Locate bus stops to be convenient and accessible to residential areas and hubs of community activity.
- Design bus shelters to provide weather protection for bus passengers and complement the natural setting.
- Explore the possibility of a Historic Hale'iwa Trolley as an alternative for visitors to experience the North Shore.
- Encourage the State to upgrade, maintain, and expand the boating facilities at Hale'iwa Harbor to meet the needs of recreational and commercial fishing and leisure boating activities.
- Maintain small aircraft, general aviation, and other recreational, commercial, or other military uses at Dillingham Airfield in cooperation with the U.S. Army. As necessary, upgrade and maintain facilities to support airfield use.
- Limit uses in the vicinity of Dillingham Airfield to those that are compatible with aircraft noise levels and overflights from the airfield.
- Identify and maintain former cane haul roads and other *mauka* roads to provide for the safe and quick evacuation of residents and the movement of emergency response personnel (e.g., fire, police, ambulance) in the event that the primary highways become impassable due to natural disasters or other emergency incidents. Investigate the use of the following for safety and emergency access: the cane haul road system *mauka* of Farrington Highway in Mokuē'ia; the roads connecting with Drum Road including cane haul

road (Twin Bridge Road) in Hale‘iwa, Kawailoa Road, Ashley Road, Pūpūkea Road, and Motocross/Kaunala Road. COMSAT/Girl Scout Camp (Paumalū) Road does not connect with Drum Road and would be for evacuation use only.

## 4.2 WATER SYSTEMS

Groundwater, which is water found beneath the earth’s surface, is one of Hawai‘i’s most important natural resources. Used for agricultural, industrial, and domestic purposes, groundwater is the principal source of O‘ahu’s municipal water supply. Statewide, groundwater provides about 99 percent of Hawai‘i’s domestic water and about 50 percent of all the freshwater used in the State.<sup>19</sup> Consequently, protecting the quality and quantity of groundwater resources is essential to Hawai‘i’s future well-being.

In 1987, the State enacted the Water Code (HRS Chapter 174-C) in order to protect, control, and regulate the use of the State’s water resources for the benefit of its people. Under the Code, the City is responsible for preparing the water use and development plan for the City and County of Honolulu.

This plan, called the Oahu Water Management Plan (OWMP), is prepared by the department of planning and permitting with the assistance of the State Commission on Water Resource Management (CWRM) and the Board of Water Supply, and approved by the City Council following extensive public review and comment. The OWMP was adopted by the CWRM and the City Council in 1990. The most recent revision of the Technical Reference Document for the OWMP (December 1998) includes updated supporting data, analyses, and conclusions, which reflect the closing of Oahu Sugar Company and Waialua Sugar Company and the most recent data and analytical review. Future revisions to the OWMP shall be submitted to the City Council for its review and approval.

The OWMP is currently being updated using the watershed approach to water resource management to account for watershed protection and water use and development. To improve the integration of land use and water resources, the OWMP has been divided into eight watershed management plans (WMP), which coincide with the eight Development Plan and Sustainable Communities Plan areas. The goal of the WMP for each planning area is to formulate an environmentally holistic, community-based, and economically viable WMP balancing: (1) the preservation and management of O‘ahu’s watersheds; and (2) sustainable ground and surface water use and development to serve present users and future generations. Each WMP shall be submitted to the City Council for adoption by ordinance.

The Board of Water Supply OWMP overview section of the WMP, 2009, evaluated available water supplies and the water development needs of the existing and new residential and commercial development (including retail, office, resort, recreational, and industrial) likely by 2030 as a result of implementation of the City’s Development Plans and Sustainable Communities Plans. There is available water supply to accommodate projected water needs through the 2030 planning horizon. The North Shore Watershed Management Plan will provide guidance for the sustainable management and use of all water resources in the watershed (both surface and ground water resources).

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<sup>19</sup> U.S. Geological Survey. “Groundwater in Hawai‘i: Fact Sheet 126-00.” Prepared by Gingerich, S.B. and Oki, D.S.

CWRM has adopted sustainable yields to protect groundwater resources and regulate water use by water use permits. The following table summarizes the available water in aquifers underlying the North Shore area.

<b>Table 4-1: 2005 Groundwater Use by Aquifer (mgd)</b>							
<b>Aquifer Sector</b>	<b>Aquifer System</b>	<b>Previous Sustainable Yield (SY)</b>	<b>Revised 2008 Sustainable Yield (SY)</b>	<b>2005 Water Permits Issued</b>	<b>Unallocated Sustainable Yield</b>	<b>Existing Water Use July 2005</b>	<b>SY Minus Pumpage</b>
North	Mokuleia	12	8	8.301	-0.301	0.303	7.697
	Waialua	40	25	30.311	-5.311	3.020	21.980
	Kawailoa	39	29	1.549	27.451	0.682	28.318
Total North		91	62	40.161	21.839	4.005	57.995
Reference: Oahu Water Management Plan: Overview Section 2009							

Groundwater resources within the region are comprised of the three distinct aquifer systems that comprise O‘ahu’s North Aquifer Sector: the Mokulē‘ia, Waialua, and Kawailoa Aquifer Systems. This aquifer sector is designated by CWRM as a water management area, and approval of water use permits from CWRM are required to withdraw water from these systems. The Hawai‘i Water Plan Water Resources Protection Plan (2008) indicates the sustainable yield of the three aquifer systems in 2005 about 62 million gallons per day (mgd). In 2005, water use permit allocations for the three aquifer systems accounted for about 40 mgd, while water withdrawals were estimated at about 4 mgd. A significant amount of water is allocated to agricultural water use permits that remain unused due to the closure of plantation agriculture.

Based on CWRM’s 2005 basal permitted uses of groundwater on O‘ahu (estimated at about 295 million mgd, there is approximately 112 mgd of unallocated sustainable yield remaining in the island-wide groundwater supply that could be developed.

The BWS supplies municipal water service to most of the North Shore, with the exception of Mokulē‘ia which is served by a private water company. Municipal water demand for the North Shore in 2000 was approximately 2.8 mgd, of which 2.5 mgd were withdrawn from sources within the region and 0.3 mgd were imported from Koolauloa. BWS projections forecast that water demand for the area will increase to about 3.4 mgd by the year 2030.<sup>20</sup> The BWS considers the water supply from existing wells on the North Shore more than adequate to meet current and future demand in the region. Agricultural irrigation demand for nonpotable water for the 20,000 acres of prime agricultural land on the North Shore is estimated at 35.8 mgd.

The following tables indicate potential potable and nonpotable sources of water to meet future demands in the North Shore area. BWS is proposing the increase of permitted use for the existing Waialua Wells potable water source in the Waialua aquifer of the North Shore area. This increased withdrawal from an existing source will be pursued as part of the BWS’s development and operation of an integrated island-wide water system.

<sup>20</sup> City and County of Honolulu Board of Water Supply. O‘ahu Water Management Plan Overview.

**Table 4-2: Potential Groundwater Sources of Potable Water for the North Shore**

<b>Ground Water Source</b>	<b>Current Permitted Use (mgd)</b>	<b>Additional Permitted Use Requested (mgd)</b>	<b>Total Permitted Use Requested (mgd)</b>	<b>CWRM Aquifer System Area</b>
Waialua Wells	1.73	0.27	2.00*	Waialua
*Pending CWRM approval of BWS Water Use Permit Increase Application January 26, 2010				

**Table 4-3: Potential Alternative Nonpotable Water for the North Shore**

<b>Resource</b>	<b>Minimum Estimate (mgd)</b>	<b>Maximum Estimate (mgd)</b>	<b>SCP Area Served</b>
Wahiawa Reservoir	8.5	22.0	North Shore Central O'ahu
Recycled Water: Army, City, Wahiawa WWTP	2	4	North Shore Central O'ahu
Kawailoa Irrigation System (Data coming from Kamehameha Schools)	—	—	North Shore
Kaukonahua Stream minimum average month = 8.5 mgd; 2002 annual average = 22 mgd. Wahiawa Reservoir storage capacity = 9,200 acre-feet or 3.066 mg			

The CWRM has authority in all matters regarding administration of the State Water Code. By Charter, the BWS has the authority to manage, control, and operate the water systems of the City, and therefore should coordinate the development and allocation of potable and nonpotable water sources and systems intended for municipal use on O'ahu as guided by the City's land use plans and the OWMP.

The BWS Six-year Capital Improvement Program (CIP) for FY2010-FY2015 contains several projects for the North Shore, including a proposed 16-inch main along Kamehameha Highway from Pūpūkea to Waiale'e, and three other projects to replace aging waterlines. The existing private water transmission system serving Mokulē'ia was built in the 1930s, and is in need of replacement/upgrades to address water contamination issues and meet current fire protection standards. BWS has indicated that the private owner would need to upgrade the system to meet current standards before the BWS could consider acquiring the system. Consideration has also been given for BWS to provide a water service connection with the system remaining private.

#### **4.2.1 Policies**

The following policies seek to maintain an adequate supply of good quality water, retain sufficient acreage in watersheds to insure infiltration into groundwater aquifers, and strengthen the protection of water sources and watersheds.

- Protect and preserve the region's water resources, including groundwater, streams, wetland areas, natural drainage systems, watershed areas, and the shoreline and coastal areas. Ensure that the high quality of the region's nearshore and coastal waters is maintained to benefit recreation, the economy, the region's natural biological systems, and future generations.
- Protect and manage the water resources that support wetland farming (taro and lotus root) and diversified agriculture to ensure sufficient quantity and quality.

- Integrate management of all potable and nonpotable water sources, including groundwater, surface water, stormwater, and reclaimed water following City development of plans and adoption of appropriate management processes in accordance with City and State mandates.
- The BWS will either indicate that adequate potable and nonpotable water is available, deny, or will require/recommend conditions that should be included as part of any application for zone changes, master plans, subdivisions, and building permit approvals for a new residential or commercial development on the North Shore, in order to assure water service adequacy, dependability and efficiency.
- All developments are required to conserve water supplies by implementing water efficiency and conservation measures, such as monitoring water use and water loss, fixing leaks, installing low flow plumbing fixtures, drought tolerant landscaping, sub-metering, and soil moisture sensors in irrigation systems.
- Rain catchments connected to roof gutters should be promoted in the North Shore for landscape irrigation to supplement municipal water supplies. Rain catchments also reduce stormwater runoff into streams and nearshore waters.
- An adequate supply of nonpotable water should be developed and required for irrigation of large landscaped areas and other suitable uses on the North Shore, if available, in order to conserve the natural water supplies of potable water for future generations.
- A sufficient amount of water should be allocated to meet the diversified agricultural needs for the North Shore for the long-term support of a viable agricultural industry. The agricultural industry's water needs are uncertain and substantial, yet important, to support O'ahu's growing population by providing locally and organically grown produce, Asian-based specialty crops, niche and off-season fruits and vegetables for export, and bio-fuels for renewable energy systems. Future water demand depends on the types of crops cultivated, the climate, and the number of acres in cultivation.
- Source water protection best management practices should be required of all agricultural activities to minimize the transport of pesticides, herbicides, and fertilizers into the underlying potable aquifers and into streams and nearshore waters.

#### **4.2.2 Guidelines**

- Confirm that adequate potable and nonpotable water is available before approving new residential or commercial development.
- Ensure that State and private well development projects are integrated into and consistent with City water source development plans.
- Support infrastructure improvements that provide for the efficient and secure transmission and delivery of quality water.
- Conserve the use of potable water by implementing the following measures, as feasible and appropriate:
  - Low-flush toilets, flow constrictors, rainwater catchment, and other water conserving devices in commercial and residential developments
  - Indigenous, drought-tolerant plant material and drip irrigation systems in landscaped areas
  - Use of reclaimed water for the irrigation of agricultural lands, parks, golf courses and other landscaped areas where this would not adversely affect potable groundwater supply or pose possible health and safety risks.

### **4.3 WASTEWATER TREATMENT**

The majority of the homes in the North Shore area are served by individual cesspools and septic tanks/leachfield systems. The Pa'ala'a Kai Wastewater Treatment Plant (WWTP), a municipal facility in Waialua, was constructed in 1980 to serve 314 homes in the Pa'ala'a Kai subdivision. Effluent from the facility is discharged into injection

wells. There are also 31 private treatment plants serving various apartment complexes with effluent disposal into injection wells. Of the 31 private WWTPs operating in 2008, 19 are located in Waialua, six are in Hale‘iwa, and six are in the Sunset Beach/Pūpūkea area. Privately operated injection wells are a convenient, long-term disposal alternative to the lack of a municipal sewage collection and disposal system. However, the nature of injection wells and the common lack of land space for replacement injection wells make them a costly and often unreliable method of discharge.

Research has indicated that approximately 40 percent of the cesspools in the Waialua-Hale‘iwa area have failed and require pumping on a frequent basis. Even when working properly, cesspools remove only a small percentage of the pollutants contained in domestic sewage, with groundwater carrying the remainder into the ocean. As a result, cesspools are considered a potential health problem for recreational users of shoreline waters in this area.

An older wastewater plan for the North Shore<sup>21</sup> recommended that a centralized subregional wastewater treatment system (collection and conveyance system, treatment plant, and effluent disposal by means of irrigation and rapid infiltration) be constructed to serve Waialua, Hale‘iwa, and a portion of Kawaiiloa. While there are currently no funds or community consensus in support of a centralized system, the City is committed to working with the community to develop, implement, or facilitate appropriate, effective, and environmentally sound wastewater treatment systems that will not impact groundwater and ocean resources. An ocean outfall in the North Shore area has been rejected by the community as an option due to environmental and economic considerations. The City is currently in the process of preparing the North Shore Regional Wastewater Alternatives Plan to evaluate various alternatives for providing small regional wastewater treatment and disposal solutions for the North Shore region.

The Pūpūkea-Sunset Beach area is not currently part of the City’s Waialua-Hale‘iwa Wastewater Service Basin, but should be included in future wastewater treatment plans in order to protect the critical ocean environment in the area. Over the last few years, the State Department of Health (DOH) has been slowly requiring upgrades for individual cesspools to individual wastewater treatment systems in an effort to eventually eliminate all cesspools. All wastewater plans must conform to applicable provisions of the DOH’s Administrative Rules, Chapter 11-62, “Wastewater Systems”.

#### **4.3.1 Policies**

The following policies apply to wastewater treatment systems on the North Shore.

- Provide adequate public and private wastewater treatment facilities and improve the existing wastewater management services on the North Shore to protect the North Shore’s water resources and the health of the community is the highest priority.
- Support alternative wastewater technologies that reflect the community’s values and rural character.

#### **4.3.2 Guidelines**

- Use reclaimed water for irrigation and other uses, where feasible, in accordance with the Guidelines for the Treatment and Use of Recycled Water (May 15, 2002) by the State department of health and the No Pass Zone established by the Board of Water Supply. A “wetlands” treatment system could serve as wild bird refuges that could also be used as a picnicking area and/or children’s fishing park.

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<sup>21</sup> City and County of Honolulu. Final Environmental Impact Statement for Supplemental Waialua-Hale‘iwa Wastewater Facility Plan. 1996.

- Replace outdated individual cesspools with septic tanks and individual wastewater systems. Consider public programs or policies to support private conversion efforts.
- Discourage new residential, commercial, or school uses in close proximity to wastewater treatment facilities where odors may be objectionable.
- Identify appropriate areas and technologies for future wastewater facilities that maintain the rural character and are proportionate to future population projections.
- Do not permit an ocean outfall for treated wastewater effluent in the North Shore area.

#### 4.4 ELECTRICAL SYSTEMS

Power to the North Shore is provided by Hawaiian Electric Company, and distributed throughout the community through a system of subtransmission and distribution lines, as well as distribution substations.

Hawaiian Electric is committed to increasing its renewable energy portfolio, and is engaged in a broad spectrum of renewable energy-related initiatives and activities occurring on the North Shore, including:

**Solar Water Heating.** Hawaiian Electric's solar water heating program encourages households statewide to install rooftop solar water heating systems.

**Biofuels.** Hawaiian Electric provides research funding for biofuels crop research, such as the evaluation of promising oil crops.

**Photovoltaics.** The number of photovoltaic systems installed under net energy metering increased significantly in 2007, and is expected to increase into the future. Through the Sun Power for Schools program, Hawaiian Electric partners with the State Department of Education to install photovoltaic systems at Hawai'i public schools. Waiialua High School has been a past participant in the Sun Power program.

In addition, private developers are in the process of implementing projects that use the region's wind resources to generate electricity.

Communications for Hawaiian Electric have become an increasingly important and integral part of the island's energy delivery system. Fiber optics, mobile radio, microwave radio, packet radio, and multiple address system UHF radio links improve operations, control, and service of the utility's electrical system. As the energy system grows and as future applications materialize in the areas of metering and customer communication, supervisory control and data acquisition, and mobile communications, the need to control, service, and monitor the facilities to ensure system reliability and emergency communications capability becomes greater. Hawaiian Electric has proposed plans to improve the mobile radio coverage with the addition of new telecommunication sites and upgrades at existing sites throughout O'ahu including communications sites in the North Shore area. The utility's long-range plan is to further improve mobile radio communications, with the adaption of mobile data, and completion of a microwave radio communications loop system around the island.

Additional policies and guidelines pertaining to electrical systems are included in Section 3.1.3.7 Scenic Resources and Scenic Views and Section 3.1.3.8 Utility Corridors and Greenways.

##### 4.4.1 Policies

- Provide adequate and reliable electrical service.

- Locate and design system elements such as electrical power facilities, substations, communication sites, and transmission lines to avoid or mitigate any potential adverse impacts on scenic and natural resources.
- Locate powerlines underground.
- Promote the use of renewable energy sources and energy conservation measures.

#### 4.5 SOLID WASTE HANDLING AND DISPOSAL

Solid waste collection and disposal systems on the North Shore consist of a City and County-operated solid waste transfer facility at Kawaihoa. Household refuse collection services are provided by the City and County and private haulers. Municipal wastes are primarily processed at the H-POWER facility or recycled. The Kawaihoa Refuse Transfer Station is located on Kawaihoa Drive, and is an intermediate disposal site which accepts trash from City collection vehicles, some private haulers, and small businesses. It also serves as a convenience center for residents to dispose of their household solid waste.

Refuse generated by nonhousehold sources is collected by private haulers and delivered to the H-POWER facility. There is only one active landfill for O‘ahu (Waimānalo Gulch) in the ‘Ewa area, that accepts primarily noncombustible wastes. The Waimānalo Gulch landfill is operating on a temporary permit extension, and the City is moving ahead with plans to expand the existing site. The City has instituted recycling and other waste diversion programs in an effort to expand the useful life of this landfill.

The City’s Solid Waste Integrated Management Plan (November 2019) outlines a comprehensive, unified approach to such vital issues as landfill and disposal facility siting, expansion of existing services and facilities, specialized waste disposal (e.g., batteries, tires, sewage sludge, medical and hazardous wastes), waste reduction, and recycling strategies. There are no plans to create an additional convenience center, transfer station, or landfill operations on the North Shore.

As waste management and technological innovations occur, the North Shore can and should play a part in the City’s long-term efforts to establish more efficient waste diversion and collection systems. However, since the region is not expected to contribute significantly to future increases in O‘ahu’s solid waste management demands and does not contain sites suitable for the processing or disposal of solid waste on an island-wide scale, it would be inappropriate to consider any future landfills on the North Shore.

Littering and illegal dumping on agricultural lands and vacant lots is a chronic problem in parts of the North Shore region. In addition, there is a shortage of regular maintenance crews to pick up all the trash left on public beaches, parks, and highways.

##### 4.5.1 Policies

The following policies apply to solid waste handling and disposal in the North Shore:

- Provide adequate resources for trash removal, cleanup of illegal dumps, and enforcement of antidumping laws.
- Promote recycling and other source reduction programs dedicated to minimizing the amount of solid waste generated.



#### 4.5.2 Guidelines

- Expand recycling collection facilities and services, and public outreach and education programs that promote responsible waste management and source reduction.
- Encourage recycling of regional green waste by establishing green waste facilities in an appropriate location, possibly integrated with or adjacent to the Kawaihoa Refuse Transfer Station.
- Expand the use of automated refuse collection in residential areas.
- Monitor and regulate illegal dumping and littering activities.

#### 4.6 DRAINAGE SYSTEMS

Flooding is a recurring natural hazard for the North Shore's coastal areas due to the region's natural topography and the inadequate capacity of existing drainageways. All coastal areas in the North Shore region are prone to flooding because of heavy *mauka* stream flows, high waves, and tsunami activity. However, the low-lying areas surrounding Kaiaka Bay and Waialua Bay are the most vulnerable to flooding, due to the watershed's large size and the number of streams and gulches that converge at the shoreline in this area (including Ki'iki'i Stream, Paukauila Stream and the Anahulu River). Modifications to natural drainage patterns and activities that increase storm runoff from the *mauka* areas – including stream channelization, increased erosion and sedimentation, debris buildup/blockage to restrict stream flow – further compound flood hazards in this area.

Recently completed or ongoing drainage system studies to address the community's concerns about flooding in the Waialua-Hale'iwa area include: (1) Hale'iwa Road Drainage Improvements Engineering Study; (2) Kaukonahua Stream Dredging Study (from Otake Camp to Kaiaka Bay); and (3) Kaiaka Bay Watershed Demonstration Project. In addition, the community supports a comprehensive study of the Waialua-Kaiaka Bay watershed to address regional drainage and flooding issues and coastal water quality.

Open and undeveloped lands generally benefit surface and stormwater management systems by providing large areas of highly infiltrative surfaces, which support the natural absorption of water. In general, existing stormwater systems do not meet current City drainage standards.

##### 4.6.1 Policies

- Improve drainage systems in the region to provide adequate protection from flooding and protect the quality of nearshore waters.
- Encourage coordination between public agencies and private landowners to identify needed drainage improvements and develop a phased plan for improvements.
- To the extent possible, integrate planned improvements to the drainage system into the regional open space network.
- Maintain the waters of Waialua Bay, which is designated by the State department of health as Class AA waters, in as natural and pristine state as possible.
- Administer and enforce zoning controls to restrict future development within identified floodway, flood fringe, coastal high hazard, tsunami inundation areas, and general flood plain districts.
- Require property owners to elevate existing structures above the regulatory flood elevation or relocate to sites beyond floodprone areas.

#### 4.6.2 Guidelines

- Require all structural and land improvements to provide adequate drainage and flood mitigation measures to reduce storm runoff and flood hazard.
- Employ retention and detention methods that allow for the gradual release of stormwater. Where feasible, use open spaces, including parking lots, landscaped areas, and parks, to detain or allow ground infiltration of stormwater flows to reduce their volume, runoff rates, and the amounts of sediment and pollutants transported.
- Use detention/retention basins as passive recreational areas and to provide recreational access for pedestrians and bicyclists.
- Retain natural gulches as flood plains and open space resources. Restrict development within gulches, and prohibit grading or other disturbance of gulch walls.
- Emphasize control and minimization of nonpoint source pollution in drainage system design. Where hardening of stream channels is unavoidable, improvements should protect habitat, maintain rural character and aesthetic quality, and avoid degradation of coastline and of stream and nearshore water quality, consistent with guidelines stated in Section 3.1.2.4.
- Design drainageways to control 100-year floods. Any future work performed within the 100-year floodplain shall adhere to the requirements of the Federal Emergency Management Agency (FEMA) and meet all flood-proofing requirements.
- Regularly maintain and clean drainageways and flood mitigation structures of debris to ensure that they achieve the purpose for which they were designed.
- Employ best management practices to minimize runoff from existing conservation and agricultural land uses, and other areas that may generate sediment and debris.
- Repair and maintain related agricultural irrigations systems and infrastructure.
- Develop a drainage master plan for the Waialua watershed to address erosion and flood protection concerns.
- Conduct public outreach and education programs that explain the potential for flooding and efforts to minimize the effects of flooding.

#### 4.7 SCHOOL FACILITIES

Primary (K-6) and secondary (7-12) educational opportunities on the North Shore are provided by the Department of Education (DOE) and individual private schools. At present, there are four public schools in the North Shore Sustainable Communities Plan area: three primary (K-6) schools and one combined intermediate (7-8) and high (9-12) school. Private schools in the region include St. Michael's School (Preschool-8), Sunset Beach Christian School (K-8), and the Aloha Ke Akua High School. The 2007-2008 enrollment and capacity, and 2013-2014 projected enrollment for the DOE schools are shown in Table 4-4.

<b>Table 4-4: Public School Enrollment and Capacity, North Shore</b>			
<b>School</b>	<b>2007-2008 Enrollment</b>	<b>2007-2008 Capacity</b>	<b>2013-2014 Projected Enrollment</b>
<b>Elementary</b>			
Hale‘iwa Elementary	167	566	140
Sunset Beach Elementary	387	466	381
Waialua Elementary	521	580	529
<b>Intermediate and High School</b>			
Waialua High and Intermediate	649	1040	569
SOURCE: DOE Facilities Development Branch, August 2007.			

DOE enrollment projections are utilized for facilities and program planning. The projections for individual schools reflect current migration patterns within the school service area. Adjustments are made in the school service area for new housing developments, birth statistics, changes in service boundaries, changes in school organization, and attendance of students from outside the school service area by district exception. Recent enrollment figures show that all the DOE schools are operating near or below capacity. Waialua Elementary is operating near capacity, while other schools may have more space to accommodate additional students from outside the school’s service boundary. Future residential developments in the area will have an impact on the area schools, although there are currently no major projects planned or under construction.

The DOE currently does not project any new schools for the North Shore. Temporary classrooms may be used to handle future enrollment increases at the various schools. In many communities where meeting spaces, recreation facilities and social halls are limited (the North Shore included), public schools often supplement their primary role for classroom education, and assume important secondary functions as cultural and recreational centers during nonschool hours. School cafeterias are used as meeting facilities for community groups and organizations, youth groups and health and fitness classes. School playing fields and playgrounds are used for youth sports programs and are often gathering places for families with young children. Some schools also serve as the community’s primary emergency shelter during emergency events or disaster situations. Recognizing the multipurpose role of public schools as community gathering places, the City prefers that school facilities be designed and operated as community centers with shared recreation, athletic, and meeting facilities.

Although existing DOE policies allow school principals to permit outside use of school facilities during nonschool hours and weekends, financial limitations have affected the DOE’s ability to design facilities as community centers. In addition, DOE has experienced operational problems where schools and parks are colocated. School programs require separate spaces to assure student safety and adequate space for physical education and athletic activities, making it impractical to allow community use of the facilities during school hours. DOE programs are given priority, and the sharing of facilities is only accommodated when the outside programs do not adversely affect student education. Nevertheless, a long-term goal should be to have school facilities appropriately designed to take advantage of opportunities to serve different functions.

#### 4.7.1 Policies

Policies for school facilities are as follows:

- Provide and maintain quality school facilities that serve the needs of the community.

- Integrate school facilities with other community uses.

#### 4.7.2 Guidelines

The following guidelines should be followed in planning and operating public schools in the North Shore:

- Confirm the adequacy of school facilities before approving new residential development. Approve new residential developments only after the State Department of Education confirms that adequate school facilities, either at existing schools or at new school sites, will be available at the time new residential units are occupied.
- Design DOE schools as community centers to facilitate community use after school hours.
- Colocate elementary and intermediate schools with parks, and coordinate facility design with the State DOE and the City DPR whenever possible to avoid duplication of parking and athletic, recreation, and meeting facilities.
- Coordinate the development and shared use of athletic facilities such as swimming pools, gymnasiums, and playfields and courts with the DOE where the joint use of such facilities would maximize use and reduce duplication of function without compromising the schools' athletic programs.
- Promote facility design and construction that allows for school buildings to be used as public hurricane shelters.
- Support the DOE's request for school impact fees from developers of residential projects to ensure that adequate school facilities are in place when new residential units are occupied.

### 4.8 PUBLIC SAFETY FACILITIES

**Police Protection.** The North Shore Sustainable Communities Plan area is considered part of the Honolulu police department's (HPD) District 2. District 2, which includes Wahiawā, is divided into 13 patrol beats. Beats are defined areas patrolled by one or more officers during the course of a work shift with definitions based on geographic area, type of population, and calls for police service. Approximately 5 or 6 officers are needed to staff one beat on a 24-hour basis. Currently, there are four police beats covering the North Shore. The HPD has estimated that an additional two beats will be needed to serve the North Shore over the next 20 years.

Police service for the Helemano Military Reservation is provided by Federal authority, and has little effect on HPD operations.

**Fire Protection.** The Honolulu fire department operates fire stations at Sunset Beach and Waialua-Hale'iwa. The fire department's long-range goals and objectives for the North Shore include: (1) relocation of the Waialua Fire Station out of an established flood and tsunami inundation zone; (2) facility expansion to operate as a regional fire station providing emergency fire and medical services and logistical supply support in times of emergency situations where supply lines are cut off; (3) installation and activation of a new water tanker to assist in areas where water sources are limited or nonexistent; and (4) improvements to the Anahulu Bridge to accommodate the increasing weights of HFD equipment. The fire department continues to monitor development trends and service needs to determine the requirement for new fire stations. HFD is currently considering the long-term potential for new stations at Kawaihoa and Kawela. Land acquisition for any future stations will be dependent upon development timetables.

**Ocean Safety.** The emergency services department, Ocean Safety and Lifeguard Services Division provides lifeguard services for the following ocean safety towers on the North Shore: Sunset Beach, 'Ehukai, Ke Waena,

Waimea Bay, and Hale‘iwa Ali‘i Beach. There is an increasing demand to establish permanent lifeguard services at Laniākea, Chun’s Reef, and Velzyland.

There are approximately 30 water safety officers assigned to the North Shore. In addition to personnel at lifeguard towers, they conduct daily patrols from rescue crafts and also patrol from Waimea Bay to Sunset Beach on all-terrain vehicles. The number of water safety officers within the district will fluctuate seasonally, with more officers assigned to the area during the high surf season in the winter and less during the summer months. It is noted by Ocean Safety officials that rescue craft patrols will play a larger role in extending lifeguard services in response to new or expanded beach parks in the region.

**Emergency Management.** The emergency management system for the City and County of Honolulu is the responsibility of the Department of Emergency Management (DEM). The DEM is responsible for monitoring, warning, evacuating and securing (if necessary) the vulnerable areas of the entire North Shore.

The North Shore is susceptible to natural hazards such as tsunamis, tropical storms, high surf, and hurricanes. In the event of these hazardous conditions, residents need to evacuate to shelter facilities. There are two public hurricane shelter facilities for the North Shore Sustainable Communities Plan area – Waialua High and Intermediate School and Sunset Beach Elementary School. In addition, Waialua Recreation Center is used for high surf, flood, and other required evacuations. The Outdoor Warning Siren system for the North Shore area was completely upgraded in 2007.

Flooding is the most common and recurring hazard. Under heavy, continuous rain and flooding conditions, DEM plans are in place to evacuate large portions of Hale‘iwa and Waialua, if required, and include additional evacuation options in the event Wilson Dam were to fail.

According to DEM, planning for the area must include preparedness education and the provision of adequate warning devices, designation of adequate transportation routes for evacuee movement, and suitable shelters where evacuees can seek refuge. The DEM recommends that any new public buildings such as schools and recreation centers be required to consider emergency shelter capabilities as a secondary use of the building.

#### **4.8.1 Policies**

Policies for all public safety facilities are as follows:

- Promote an integrated approach to public safety on the North Shore, which will enable police, fire, ocean safety, emergency management, and emergency medical efforts to share resources and information, as appropriate.
- Encourage the development of safe, crime-deterrent public and private environments.
- Provide adequate staffing and facilities to ensure effective and efficient delivery of basic government service and protection of public safety.

#### **4.8.2 Guidelines**

- Include visitor demands and needs when allocating public safety resources.
- Sponsor public education programs to increase awareness about public safety issues.
- Identify, improve and service transportation networks (via signage, traffic control personnel, and equipment) to ensure efficient evacuee movement.

- Support highway improvements that would reduce emergency vehicle response times and facilitate emergency personnel movement through traffic.
- Expand lifeguard services at beaches with high visitor demands, such as Laniākea, Chun's Reef, and Velzyland.
- Confirm the availability of adequate police and fire protection before approving new development.
- Increase police presence, including car and bicycle patrols and community policing efforts, especially in high-theft areas such as beach parks. Support the availability of adequate staffing and funding to enable this.
- Establish facilities which police officers could use as a local base of operations.
- Support the physical improvements and infrastructure upgrades needed to ensure adequate fire protection.
- Use crime-preventive principles in the planning and design of communities, open spaces, circulation networks, and buildings.
- Design new public buildings, such as schools and recreation centers, to serve a secondary function as an emergency shelter.

#### **4.9 OTHER COMMUNITY FACILITIES**

Antennae have been around as long as we have had radio and television services. Antennae associated with communication purposes have grown tremendously since the introduction of mobile communication devices in the early 1980s. While the telecommunication industry has provided more convenient communication capabilities for individuals, it has also increased public agencies' ability to provide faster and more efficient response to those in need, particularly during times of emergency.

While the benefits of the telecommunications industry cannot be disputed, communities have opposed new antennae due to aesthetic impacts, especially related to public views and neighborhood character. Their visibility has increased, particularly where antennae are mounted on freestanding towers.

The public has also raised concerns about the environmental effects of electromagnetic field exposure associated with radio transmission, as evidenced by the presence of antennae. However, the Federal Communications Commission (FCC) is responsible for evaluating the human environmental effects of radio frequency emissions, assuming that the provider is in compliance with the Commission's radio frequency rules.

##### **4.9.1 Policies**

The following are policies governing the utilization of antennae

- Encourage colocation of antennae; towers should host the facilities of more than one service provider to minimize their proliferation and reduce visual impacts.
- Mount antennae onto existing buildings or structures so that public scenic views and open spaces will not be negatively affected. However, except for the occupant's personal use, antennae on single-family dwelling roofs in residential districts are not appropriate.
- Use "stealth" technology (e.g., towers disguised as trees) especially on freestanding antenna towers in order to blend in with the surrounding environment and minimize visual impacts.

## **Honolulu - Land Use**

## 5. IMPLEMENTATION

Implementation of the City's Development and Sustainable Communities Plans is a major challenge for the City's planners, engineers, and other technical and policy-level personnel, as well as elected officials who determine the allocation of City resources. The plans seek to implement a vision for the future by providing wider guidance for decisions and actions related to land use, public facilities, and infrastructure, as well as for zoning matters. As a result, many of their provisions reflect the consultations which occurred throughout the planning process with pertinent implementing agencies and community representatives. It should be noted that implementation will depend on each department's priorities and availability of resources.

Many municipal jurisdictions throughout the United States have instituted comprehensive planning programs that emphasize a proactive community-based planning and implementation process. These local governments seek to establish a strong link between planning policies and guidelines, and specific organization, funding, and actions needed to implement a variety of public and private projects and programs. The following sections of this chapter are intended to strengthen the linkage to implementation to realize the vision of the future presented in this plan.

Implementation of the North Shore Sustainable Communities Plan will be accomplished by:

- Initiating zoning map and development code amendments to achieve consistency with the policies and guidelines of the Sustainable Communities Plan;
- Guiding public investment in infrastructure through Functional Plans and Special Area Plans which support the vision of the Sustainable Communities Plan;
- Reviewing zoning and other development applications based on how well they support the vision for the North Shore;
- Incorporating Sustainable Communities Plan priorities through the Public Infrastructure Map and the City's annual budget process; and
- Conducting a review of the vision, policies and guidelines, and Capital Improvement Program (CIP) priority investments of the North Shore Sustainable Communities Plan every five years and recommending revisions as necessary.

Chapter 5 is organized under the following headings:

### SECTION

- 5.1 PUBLIC FACILITY INVESTMENT PRIORITIES
- 5.2 DEVELOPMENT PRIORITIES
- 5.3 SPECIAL AREA PLANS
- 5.4 FUNCTIONAL PLANNING
- 5.5 REVIEW OF ZONING AND OTHER DEVELOPMENT APPLICATIONS
- 5.6 FIVE-YEAR SUSTAINABLE COMMUNITIES PLAN REVIEW
- 5.7 IMPLEMENTATION MATRIX

### 5.1 PUBLIC FACILITY INVESTMENT PRIORITIES

The vision for the North Shore requires the cooperation of both public and private agencies in planning, financing, and constructing infrastructure. The City must take an active role in planning infrastructure improvements, including improvements for wastewater treatment, drainage, parks and public access, and roadways.



## 5.2 DEVELOPMENT PRIORITIES

Projects to receive priority in the approval process are those which:

- Involve land acquisition and improvements for public projects that are consistent with the Sustainable Communities Plan's vision, policies, and guidelines;
- Involve applications for zoning and other regulatory approvals which are consistent with the Sustainable Communities Plan's vision, policies, and guidelines; and
- Are located on vacant usable parcels within the Community Growth Boundary as shown on the Land Use Map in Appendix A.

## 5.3 SPECIAL AREA PLANS

For areas requiring particular attention, Special Area Plans provide more detailed policies and guidelines than the Development and Sustainable Communities Plans. The form and content of Special Area Plans depend on what characteristics and issues need to be addressed in greater detail in planning and guiding development or use of the Special Area.

Special Area Plans can be used to guide land use development and infrastructure investment in Special Districts, Redevelopment Districts, or Resource Areas. Plans for Special Districts would provide guidance for development and infrastructure investment in areas with distinct historic or design character or significant public views. Plans for Redevelopment Districts would provide strategies for the revitalization or redevelopment of an area. Plans for Resource Areas would provide resource management strategies for areas with particular natural or cultural resource values. There are no Special Area Plans proposed in the North Shore Sustainable Communities Plan area.

## 5.4 FUNCTIONAL PLANNING

Functional planning is the process through which various City agencies determine needs, assign priorities, establish timing and phasing, and propose financing for projects within their areas of responsibility that will further the implementation of the vision articulated in the Development and Sustainable Communities Plans. This process may take a variety of forms, depending upon the missions of the various agencies involved, as well as upon requirements imposed from outside the City structure, such as federal requirements for wastewater management planning. Typically, functional planning occurs as a continuous or iterative activity within each agency.

The functional planning process involves annual review of existing functional planning documents and programs by the City agencies responsible for developing and maintaining infrastructure and public facilities or for provision of City services. As a result of these reviews, the agencies then update, if required, existing plans or prepare new long-range functional planning documents that address facilities and service system needs. Updates of functional planning documents are also conducted to assure that agency plans will serve to further implement the Development and Sustainable Communities Plans as well as to provide adequate opportunity for coordination of plans and programs among the various agencies.

The number and types of functional planning documents will vary from agency to agency, as will the emphasis and contents of those documents. A typical agency may develop a set of core documents such as:

- A resource-constrained long-range capital improvement program. A “resource-constrained” program is one which identifies the fiscal resources that can be reasonably expected to be available to finance the improvements.

- A long-range financing plan, with identification of necessary new revenue measures or opportunities.
- A development schedule with top priorities for areas designated for earliest development.
- Service and facility design standards, including level of service guidelines for determining adequacy.

Other documents may also be developed as part of an agency's functional planning activities, such as master plans for provision of services to a specific region of the island. In some cases, functional planning activities will be undertaken in cooperation with agencies outside the City structure, such as the transportation planning activities that are conducted in association with the O'ahu Metropolitan Planning Organization.

Functional planning is intended to be a proactive public involvement process which provides public access to information about infrastructure and public facility needs assessments, alternatives evaluations, and financing. Outreach activities should involve Neighborhood Boards, community organizations, landowners, and others who may be significantly affected by the public facilities and infrastructure projects or programs to be developed to further implement the policies of the Development and Sustainable Communities Plans.

The functional planning process should be characterized by opportunities for early and continuing involvement, timely public notice, public access to information used in the evaluation of priorities, and the opportunity to suggest alternatives and to express preferences. The functional planning process provides the technical background for the Capital Improvement Program and public policy proposals which are subject to review and approval by the City Council.

## **5.5 REVIEW OF ZONING AND OTHER DEVELOPMENT APPLICATIONS**

A primary way in which the vision of the North Shore Sustainable Communities Plan will guide land use is through the review of applications for zone changes and other development approvals. Approval for all development projects should be based on the extent to which the project supports the vision, policies, and guidelines of the Sustainable Communities Plan.

Projects which do not involve "significant" zone changes will be reviewed by the department of planning and permitting for consistency with the vision, policies, and guidelines of the North Shore Sustainable Communities Plan during the zone change application process. Projects which meet the criteria for a "significant" zone change are required to prepare an environmental assessment or environmental impact statement following the provisions of Hawai'i Revised Statutes, Chapter 343. The criteria to establish a zone change as "significant" in need of HRS, Chapter 343 environmental review is defined in the North Shore Sustainable Communities Plan adopting ordinance.

### **5.5.1 Adequate Facilities Requirement**

All projects requesting zone changes shall be reviewed to determine if adequate public facilities and infrastructure will be available to meet the needs created as a result of the development. Level of service guidelines to define adequate public facilities and infrastructure requirements will be established during the CIP process.

In order to guide development and growth in an orderly manner as required by the City's General Plan, zoning and other development applications for new developments should be approved only if the responsible City and State agencies confirm that adequate public facilities and utilities will be available at the time of occupancy, or if conditions the functional agency indicates are necessary to assure adequacy are otherwise sufficiently addressed.

The department of planning and permitting will review the project for consistency with the North Shore Sustainable Communities Plan's vision, and summarize any individual agency's findings regarding public facilities and utilities

adequacy which are raised as part of the EA/EIS process. The Department will address these findings and any additional agency comments submitted as part of the agency review of the zone change application and recommend conditions that should be included in the unilateral agreement or development agreement to insure adequacy of facilities.

## **5.6 FIVE-YEAR SUSTAINABLE COMMUNITIES PLAN REVIEW**

The department of planning and permitting shall conduct a comprehensive review of the North Shore Sustainable Communities Plan and report its findings and recommended revisions to the Planning Commission and the City Council five years after adoption and every five years thereafter. It is intended that the Community Growth Boundary will remain fixed through the 2035 planning horizon.

### **5.6.1 Adoption of the Sustainable Communities Plan and Existing Land Use Approvals**

This Sustainable Communities Plan will go into effect upon adoption by ordinance. Land use approvals granted under existing zoning, unilateral agreements, and approved urban design plans will remain in force and guide entitlement decisions until any zoning action to further implement the vision and policies of the North Shore Sustainable Communities Plan is initiated. If an EA or EIS is accepted in the course of a Sustainable Communities Plan land use approval for a project, it should be acceptable to meet the requirement for an initial project EA/EIS when zone change applications are submitted for subsequent phases of the project, unless the project scope and land uses are being significantly changed from that described in the initial EA/EIS.

## **5.7 IMPLEMENTATION MATRIX**

This section provides a summary of the specific physical improvements and actions identified in Chapters 3 and 4 of this Plan to help organize and facilitate plan implementation.

Table 5-1 presents the implementing actions, the related plans, regulatory code or action, and the public or private entities responsible for implementing the action. The table is organized by land use category, with the categories listed according to the order of Chapters 3 and 4. A key to the abbreviations used in the table follows at the end of the table.

- The first column of the table – Policies and Guidelines – is comprised of the guideline statements for each land use category. Policy statements are used if the land use category does not include guidelines (e.g., Electrical Systems).
- The second column – Program – relates each statement to a specific regulatory code, functional plan, or other action. The term “project review” indicates the review of discretionary land use approvals, such as State land use, zoning and special management area use permits. In some instances, To Be Determined (TBD) was used to indicate that the related code/plan/action was not clear. TBD actions are intended to be identified and developed by the agencies responsible for implementation.
- The third column – Agency – identifies the public and/or private entities responsible for implementing the policy or guideline. Although many of the implementing actions fall under DPP’s jurisdiction, some actions are the responsibility of other Federal, State or City departments or public agencies, while a few have been assigned to private entities or individual landowners.
- The fourth column identifies the role of the agencies involved in implementation. The three categories identified include implementation, regulation, or advocacy.

**Table 5-1  
Implementation Matrix**

Policies/Guidelines		Program	Agency	Role
<b>Open Space and Natural Environment – Mountain Areas</b>				
1.	Maintain, protect, and restore native forests and ecosystems within the State Conservation District and lands designated Preservation on the <u>North Shore Sustainable Communities Plan</u> Land Use Map. Ensure the protection of State conservation lands, especially those on the Ka‘ena coastline and Mokulē‘ia foothills.	Conservation District Management Plan, Watershed Management Plan	DLNR BWS	Implementer Advocate
2.	Reclassify important watershed areas which are designated but unused State Agricultural or Urban Districts to the State Conservation or City Preservation Districts.	Land Use Ordinance	DLNR DPP	Implementer Implementer
3.	Identify and protect endangered species habitats, native ecosystems, and other important ecologically sensitive areas, including the natural area reserves and forest reserves, from such threats as fire, alien species, feral animals, and human activity.	TBD	DLNR	Implementer
4.	Identify mountain areas within the AG-2 General Agricultural District that are suitable for rezoning to P-2 General Preservation District.	Land Use Ordinance	DPP	Implementer
5.	Avoid the establishment of utility corridors and other uses that would disturb areas with high concentrations of native species.	TBD	DLNR	Regulator
6.	Encourage coordination of natural resource protection and management efforts between the State DLNR and private landowners, as well as with the U.S. Military, especially where the Kahuku and Kawaihoa Training Areas overlap with environmentally sensitive areas.	Conservation District Management Plan	DLNR U.S. Army private entities	Implementer Advocate Advocate
7.	Acquire and maintain public access easements to trail heads and public campgrounds, including parking and signage at trailheads, where appropriate. Such access should be required, as appropriate, for any new development.	TBD	DLNR Na Ala Hele Program	Implementer Implementer
8.	Support State efforts to seek opportunities for cooperative agreements with private landowners to gain access to trails leading to public lands.	TBD	DLNR	Implementer
9.	Implement recommendations in the State’s Na Ala Hele Program Plan to maintain and enhance <i>mauka</i> trail systems.	TBD	DLNR	Implementer
10.	Identify historic trails and old government roads of cultural and recreational value to the public.	TBD	DLNR	Implementer
<b>Open Space and Natural Environment – Shoreline Areas</b>				
11.	Preserve rare and sensitive coastal resources including coastal strand vegetation, sand dunes, and anchialine pools. Establish buffer zones around these areas where necessary.	TBD	DLNR DPP	Regulator Regulator
12.	Prohibit off-road vehicle, motorcycle, and bicycle use in ecologically sensitive areas, including coastal dunes and shoreline beaches. Identify and maintain recreational areas specifically designated for such use.	TBD	DLNR DPP DPR	Implementer Regulator Implementer

	<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
13.	Protect nearshore coral reefs and other marine life from damaging activities such as soil erosion, nonpoint source pollution, dredging of coral reefs, and alterations to nearshore water circulation.	Hawaii Coastal Nonpoint Pollution Control Program Management Plan, Storm Drainage Standards	DLNR CZM Program DPP DDC	Regulator Regulator Regulator Advocate
14.	Establish access where justified by public demand, traditional use patterns, high quality recreational resources, or to circumvent barriers that exist along the shoreline	TBD	DPR DDC DPP	Implementer Implementer Regulator
15.	Improve and expand public access to the shoreline at approximately 1/2-mile intervals with vehicular and bicycle parking and lateral access along the shoreline.	TBD	DPR DDC DPP	Implementer Implementer Regulator
16.	Implement the recommendations of the State of Hawai'i's Coastal Nonpoint Pollution Control Program and utilize best management practices in agricultural land use and operations to avoid or minimize chemical runoff and other "nonpoint" contaminants in shoreline areas.	Hawaii Coastal Nonpoint Pollution Control Program Management Plan	CZM Program DOH TMDL Program	Implementer Regulator
17.	Support research to determine causes of coastal erosion and identify appropriate management strategies to avoid future erosion hazards.	Coastal Erosion Management Plan	DLNR DPP	Implementer Advocate
18.	Encourage interagency coordination and public/private cooperation in developing and implementing beach management plans, with an emphasis on nonstructural approaches.	Coastal Erosion Management Plan	DLNR DDC	Implementer Implementer
19.	Discourage development or activities which result in beach loss, and encourage development practices or activities such as increased shoreline setbacks which result in beach preservation or enhancement.	CZM Program, Land Use Ordinance, Project Review	Office of Planning DLNR DPP	Implementer Implementer Regulator
20.	Require buildings along the shoreline to adhere to the City's and Federal Emergency Management Agency (FEMA) minimum building elevations and structural guidelines. In addition, adopt development standards that require new structures to incorporate building styles compatible with coastal hazards such as coastal erosion, tsunami, and hurricane overwash.	Land Use Ordinance, Building Code, Project Review	DPP	Regulator
21.	Discourage visual obstructions such as walls and fences along the coastal highway to maintain and enhance existing panoramic views identified on the Open Space Map. Clear shrubs and vegetation on vacant State- and County-owned properties that would maintain views of the ocean from public roadways along the shoreline.	Land Use Ordinance, Project Review	DLNR DOT DPP DFM	Regulator Implementer Regulator Implementer
22.	Implement active protection and management practices that preserve and enhance native and other resident fish and aquatic species populations and habitats, including nearshore coral reefs. Efforts to enhance opportunities for commercial and recreational fishing should use management practices and techniques that sustain fish populations and habitat quality so as to maintain a quality aquatic environment for public enjoyment.	TBD	DLNR	Implementer
23.	Place sand from channel, stream, and harbor mouth dredging projects on local beaches in accordance with Hawai'i Revised Statutes Chapter 205A.	TBD	USACE DLNR	Implementer Implementer

Policies/Guidelines		Program	Agency	Role
<b>Open Space and Natural Environment – Wetlands</b>				
24.	Preserve and maintain all North Shore wetlands and wildlife habitats. When considering future activities/construction in the vicinity of biologically sensitive areas such as wetlands, the preferred sequence will be to: avoid ecologically sensitive areas entirely; minimize potential project impacts; and require mitigation that will offset the loss of resources.	Project Review	DLNR DPP	Regulator/ Advocate Regulator/ Advocate
25.	Support the restoration and protection of ‘Uko‘a Marsh. Protection can be achieved through fee acquisition, land banking, cooperative agreements with public agencies and private landowners, conservation easements, or other strategies.	TBD	DLNR Kamehameha Schools	Advocate Implementer
26.	Support efforts to restore Loko Ea Fishpond as an interactive, productive and functioning aquaculture resource. Promote the development of a cultural learning center providing both visitors and residents opportunities to experience the unique environment around Loko Ea Pond and ‘Uko‘a Marsh. Possible activities may include tours of a working aquaculture farm, as well as cultural and environmental education programs that teach traditional and modern aquaculture techniques and the history of the Pond and its adjacent areas. Walkways extending north to ‘Uko‘a Pond could provide opportunities for interpretive nature walks.	TBD	DLNR Kamehameha Schools	Advocate Implementer
<b>Open Space and Natural Environment – Natural Gulches, Streams, and Drainageways</b>				
27.	Preserve the aesthetic and biological values of the natural gulches, streams, and drainageways as part of the North Shore’s open space system. Where feasible, establish wildlife habitat protective buffer zones and/or setbacks along rivers, streams, and shoreline areas. Where possible, provide public access to these open space and recreational resources.	Watershed Management Plan, Land Use Ordinance, Project Review	DLNR BWS DPP DPR	Regulator/ Implementer Advocate Regulator Implementer
28.	Minimize soil erosion, runoff of pesticides, fertilizers, and other nonpoint source contaminants into streams, wetlands, and marine habitats. In addition to stream setback, utilize erosion control devices, integrated pest management plans, and revegetation of disturbed areas. Incorporate erosion control measures and best management practices, as recommended in the State Coastal Nonpoint Pollution Control Program, to prevent pollution of wetlands, streams, estuaries, and nearshore waters.	TBD	DLNR DOA DPP DPR	Regulator/ Implementer Implementer Regulator Implementer
29.	Limit uses in these areas to conservation uses, compatible recreational uses such as hiking, traditional hunting, fishing, gathering, religious and cultural practices, and controlled diversion for agricultural purposes. Avoid development in ecologically sensitive areas; if activities are allowed, minimize impacts and implement mitigative measures that will fully offset any loss of resources.	Land Use Ordinance, Project Review	DLNR LUC DPP	Regulator Regulator Regulator
30.	Preserve and maintain the natural streams and drainageways within the developed areas by designating them as part of the open space system. To the extent possible, limit any modifications to natural gulches and drainageways, unless they are necessary for flood protection, to preserve water quality and protect aesthetic and biological resources.	Watershed Management Plan, Land Use Ordinance, Project Review	DLNR BWS DPP DPR	Regulator Advocate Regulator Advocate

Policies/Guidelines		Program	Agency	Role
31.	If modifications are necessary, mitigate impacts on biological habitats by using stream-side vegetation, rip-rap boulder lining of stream banks, v-shaped bottom channels to maintain a stream flow during low rainfall periods, and other designs to promote aeration.	Land Use Ordinance, Storm Drainage Standards	DPP ENV DDC	Regulator Implementer Implementer
32.	Integrate planned improvements to the North Shore drainage system into the regional open space network by emphasizing the use of retention basins and recreational access in the design approach.	Storm Drainage Standards	DLNR DPP ENV DDC	Advocate Regulator Implementer Implementer
<b>Open Space and Natural Environment – Scenic Resources and Scenic Views</b>				
33.	Conduct planning with attention to preservation of natural open space, protecting coastal and <i>mauka</i> views from public roadways, and conserving important viewsheds.	Project Review	DLNR DPP	Regulator Regulator
34.	When view reductions may come from agricultural activities which intrude into viewplanes or otherwise degrade or diminish scenic qualities, the protection of roadway views should be balanced with the operating requirements of agriculture.	Project Review	DLNR DPP	Regulator Regulator/ Advocate
35.	Evaluate the impact of land use proposals on the visual quality of the landscape, including viewplane and open space considerations.	Project Review	DLNR DPP	Regulator Regulator/ Advocate
36.	Site new antennas, telecommunication equipment, and alternative energy systems in appropriate locations to minimize their impact on visual resources. Encourage site clustering and techniques that blend the equipment into the natural landscape.	Land Use Ordinance, Project Review	DLNR DPP	Regulator Regulator/ Advocate
37.	Discourage the use and installation of overhead utility lines and poles. Strong consideration should be given to placing replacement and new transmission lines underground. Underground utility lines will enhance viewplanes and increase highway safety. Whenever possible, relocate or place underground overhead utilities that significantly obstruct public views. If unavoidable, locate any future overhead utilities on the <i>mauka</i> side of the public coastal highway.	Utilities Undergrounding Plan, Project Review	PUC HECO Telecommunica- tions providers DDC DPP	Regulator Implementer Implementer  Implementer Advocate
38.	Minimize the adverse effects of artificial lighting on wildlife and human health by balancing the need of outdoor lighting for night utility, security, and desire for reasonable architectural expression with the need to conserve energy and protect the natural environment.	Land Use Ordinance, Project Review	DPP	Regulator
39.	Adopt outdoor night lighting standards that encourage efforts to minimize glare and stray light, and reinforce the differences between urban and rural communities.	Land Use Ordinance	DPP	Implementer
<b>Open Space and Natural Environment – Utility Corridors and Greenways</b>				
40.	Provide sufficient easement width for the major trunk lines and transmission lines for utility systems, when their alignment is not within a road right-of-way, to permit the growth of trees within the easement.	TBD	HECO Telecommunica- tions providers DPP DDC	Implementer Implementer  Advocate Advocate

Policies/Guidelines	Program	Agency	Role
41. When overhead transmission lines are located within or adjacent to a road right-of-way, there should be sufficient width to permit the growth of trees adjacent to the transmission line, consistent with the applicable operations, maintenance, and safety requirements. The purpose of the landscaping is to divert attention from the overhead lines and, preferably, obscure views of the overhead line from the travelway and adjacent residential areas.	TBD	HECO Telecommunica- tions providers DOT DPP DDC DTS	Implementer Implementer  Advocate Implementer Advocate Regulator
42. Permit the use of utility easements for pedestrian and bicycle routes. Encourage coordination between utility companies, landowners, pertinent agencies, and the community to ensure that safety, liability, and maintenance issues are adequately addressed.	TBD	HECO Telecommunica- tions providers DOT DPP DDC DTS	Implementer Implementer  Implementer Advocate Implementer Implementer
43. Encourage the use of indigenous vegetation that is slow growing and thus minimizes the need to use herbicides for vegetation control.	TBD	HECO Telecommunica- tions providers DDC	Implementer Implementer  Implementer
<b>Agriculture – Agricultural Lands</b>			
44. Promote technologies that support alternative energy sources, including solar, wind, and wave power. Allow community and agency review of individual proposals to ensure compatibility and suitability.	TBD	PUC  HECO  DPP	Regulator/ Advocate Implementer/ Advocate Regulator/ Advocate
45. Enforce permitted uses on agricultural lands to ensure that the use is contributing to meaningful and credible agricultural production on the same or nearby properties.	Code Enforcement	LUC  DPP  BFS	Regulator/ Advocate Regulator/ Advocate Advocate
46. Cluster and locate dwellings near similar uses to preserve open space, maximize the use of productive agricultural lands, and reduce infrastructure costs, when planned as part of an agricultural activity.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
47. Design and site buildings and other facilities that are accessory to an agricultural operation to minimize the visual impact on nearby areas and views from arterial and major collector roads.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
48. Adopt development standards and permitting procedures that simplify and streamline the permitting requirements for uses that support the growth of agriculture, including agricultural support facilities and agriculture-based tourism.	Land Use Ordinance, Project Review	DPP	Implementer
49. Maintain adequate physical buffers between agricultural land uses and surrounding land uses.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
50. Base any subdivision of agricultural lands on the most appropriately sized, viable economic unit for agricultural production.	Subdivision Rules, Project Review	DPP	Regulator
51. Identify and implement – as an immediate high priority action item at the State and County levels – appropriate economic incentives designed to promote and facilitate the growth of diversified agriculture.	TBD	DBEDT DOA City OED	Implementer Implementer Implementer



Policies/Guidelines		Program	Agency	Role
52.	Support agricultural research and development activities targeted towards increasing operational efficiencies, economic returns, and the effective utilization of agricultural lands and supporting infrastructure, which enables sustainable usage of agricultural resources.	TBD	DOA private entities	Implementer Implementer
53.	Assist residents to develop skills in agriculture and related specialized industries so that residents can seek local employment in the area.	TBD	DOA DCS UH	Implementer Advocate Implementer
54.	Support a mentor program for area teens to learn about agricultural practices, economics, and business so that interest and commitment to agriculture may continue on to future generations.	TBD	DOE DCS DPR UH	Implementer Implementer Advocate Advocate
55.	Support the expansion and diversification of aquaculture in the region, including the continued cleanup of the former Dillingham Quarry site in Mokulē'ia and expansion of existing aquaculture operations in the area.	TBD	DOA UH private entities	Implementer Advocate Implementer
56.	Identify potential sites for aquaculture or mariculture parks.	TBD	DOA private entities	Implementer Implementer
57.	Encourage agricultural producers to develop Conservation Plans in conjunction with the West O'ahu Soil and Water Conservation District to manage and protect natural resources.	TBD	DOA WO SWCD private entities	Advocate Implementer Implementer
58.	Assist governmental agencies and landowners to upgrade and maintain existing infrastructure networks, including roads and irrigation systems.	TBD	DFM DDC	Advocate Advocate
59.	Improve the quality of irrigation water from Lake Wilson.	Wastewater Facility Plan	DOH ENV	Advocate Implementer
60.	Work with the State to identify and protect Important Agricultural Lands (IAL) as defined by Act 183 (2005).	IAL, Act 183 (2005)	DOA Dept. of Taxation DPP private entities	Advocate Advocate Implementer Implementer
<b>Agriculture – Agricultural Support Facilities</b>				
61.	Develop agricultural support facilities in Waialua and Kawaihoa.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
62.	Ensure that permitted agricultural support facilities do not adversely affect agricultural production in the area or present health hazards or nuisances to adjacent areas.	Land Use Ordinance, Project Review, Code Enforcement	DPP	Regulator/ Advocate
63.	Require all agricultural support facilities in the region to maintain a direct relationship to local agricultural production.	Land Use Ordinance, Project Review, Code Enforcement	DPP	Regulator/ Advocate
64.	Site and design facilities to minimize development impacts and maximize the amount of farmland preserved.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
<b>Agriculture – Agriculture-Based Tourism</b>				
65.	Allow agricultural, recreational, and educational programs, and limited outdoor recreational or other uses if the activity is complementary to the primary agricultural use of the land and it does not interfere with the agricultural use of the site.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
66.	Monitor tourism-related activities conducted on agricultural lands to ensure that such activities do not adversely impact on-site or adjacent agricultural activities or other resources.	Code Enforcement	DPP	Implementer

	<b>Policies/Guidelines</b>	<b>Program</b>	<b>Agency</b>	<b>Role</b>
67.	Provide technical and business development support for visitor-related proposals.	TBD	DBEDT DOA City OED	Implementer Implementer Implementer
68.	Identify and develop a convenient, suitable location in or near Hale‘iwa and/or Waialua Town to establish a farmers’ market where farmers can market products locally.	TBD	private entities	Implementer
69.	Identify and develop a permanent site in the Sunset Beach vicinity to promote the North Shore Country Market.	TBD	private entities	Implementer
70.	Develop an agricultural museum that includes a demonstration area showing various crops in different stages of growth and processing.	TBD	private entities	Implementer
71.	Develop Hale‘iwa Beach Park Mauka as a community-based park to expand active recreational facilities for North Shore residents.	Park Master Plan	DPR DDC	CIP CIP
72.	Acquire Pu‘uiki Park for community use.	Park Master Plan	DPR DDC	CIP CIP
73.	Expand Waialua District Park by acquiring agricultural land across Goodale Avenue.	Park Master Plan	DPR DDC	CIP CIP
74.	If new residential development occurs, it should provide land for open space and recreation purposes at a minimum of two acres per 1,000 residents. Community-based parks (and associated service radius) include miniparks (1/2 mile), neighborhood parks (1/2 mile), community parks (one mile), and district parks (two miles).	Project Review	DPP  DPR	Regulator/ Advocate Implementer
75.	Locate community and neighborhood parks which emphasize intensive uses such as ball fields, playing courts, and community buildings in or adjacent to the neighborhoods or communities they serve, in order to maximize accessibility.	Park Facilities Functional Plan	DPR DDC	Implementer Implementer
76.	Provide more youth activities, programs, and facilities on the North Shore.	Park Facilities Functional Plan	DPR	Implementer
<b>Parks and Recreation – <i>Mauka</i> Areas</b>				
77.	Expand public access to the upland or <i>mauka</i> areas for appropriate types of recreational activities that are low-impact, resource-sensitive and do not compromise significant environmental resources and important agricultural activities. These would include nature-based activities such as picnicking, camping, hiking, mountain biking, hunting and the appreciation of scenic, natural, and cultural resources.	TBD	DLNR DPR DDC	Implementer Implementer Implementer
78.	Acquire and maintain public and/or private campgrounds and hiking trails in the <i>mauka</i> areas.	TBD	DLNR DPR DDC	Implementer Implementer Implementer
79.	Develop a system of <i>mauka</i> trails and paths to interconnect the major recreational areas of the North Shore for use by nonmotorized transportation modes, e.g., walking, biking, horseback riding.	TBD	DLNR DPR DDC	Implementer Implementer Implementer
80.	Coordinate planned private and public actions pertaining to trails and access. Identify historic trails and old government roads of cultural and recreational value to the public.	TBD	DLNR DPR	Implementer Implementer
81.	Limit new developments along the shoreline to parks and other compatible open space uses.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate

Policies/Guidelines		Program	Agency	Role
<b>Parks and Recreation – Beach Parks and Shoreline Areas</b>				
82.	Improve and expand public access to the shoreline at approximately one-half mile intervals in rural areas of the North Shore, or at closer intervals where justified by public demand, traditional use patterns, the quality of the recreational resources, emergency services response time, or to bypass natural barriers that impede public access to the shoreline.	Park Facilities Functional Plan, Project Review	DPR DPP	Implementer Regulator/ Advocate
83.	Maintain and expand lateral access along the coast, especially in areas with high recreational or scenic value, including the shoreline along Sunset Beach and Kawaihoa where access to popular sandy beaches and surf spots are in demand.	Park Facilities Functional Plan	DPR DFM	Implementer Implementer
84.	Limit uses within beach parks and nearshore ocean area uses to preserve overall environmental quality, rural character, scenic views, and open space.	Land Use Ordinance, Project Review	DPP	Regulator
85.	Provide adequate public parking and related support facilities (such as rest rooms and showers) at popular beach parks, including lifeguard equipment storage facilities in anticipation of increased lifeguard services needed at those parks. Improvements are planned for North Shore beach parks at Pu'uiki Beach, Laniākea, Chun's Reef, Kawaihoa, Leftovers, Uppers, Kahawai, Banzai Rock, Kaunala, and Waiale'e.	Park Facilities Functional Plan, Park Master Plans	DPR DDC	Implementer Implementer
86.	Acquire shoreline properties as opportunities arise or obtain public use easements and maintenance agreements with private landowners, especially lands adjacent to existing public parks.	Park Facilities Functional Plan	DPR DFM	Implementer Implementer
<b>Parks and Recreation – Maintenance and Management of Parks, Recreation Areas and Recreational Resources</b>				
87.	Provide sufficient resources – including funding and manpower – to ensure that public facilities are adequately maintained.	Operations Budget	DLNR DPR DFM BFS	Advocate Implementer Implementer Implementer
88.	Identify limitations on recreational resources and implement policies to regulate and mitigate impacts to these resources.	TBD	DLNR DPR DPP	Implementer Implementer Regulator/ Advocate
89.	Establish and enforce rules and regulations to mitigate conflicts among recreational activities.	Code Enforcement	DLNR DPP	Implementer Implementer
90.	Engage public and private organizations in partnership with government agencies to maintain recreational resources.	Facility Management Plans	DLNR DPR	Implementer Implementer
<b>Parks and Recreation – Site Design of Recreational Facilities</b>				
91.	Incorporate natural and/or cultural features of the site and use landscape materials that are indigenous to the area, where feasible, into the design of recreation facilities and areas.	Project Review	DPP DDC	Implementer/ Advocate Implementer
92.	Locate uses that generate high noise levels away from existing and planned residential areas.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
93.	Design and site improvements and landscaping to enhance the rural character and the aesthetic value of open space elements and natural resources.	Project Review	DPP DDC	Regulator/ Advocate Implementer

Policies/Guidelines		Program	Agency	Role
94.	Provide pedestrian and bicycle pathways from surrounding streets to parks, to facilitate convenient access to the parks.	Project Review, Bicycle Master Plan	DOT DTS DPP DDC	Implementer Implementer Regulator/ Advocate Implementer
95.	Site parks and recreational attractions intended for regional or island-wide uses along or near regional roadways.	Land Use Ordinance, Project Review, Park Facilities Functional Plan, Park Master Plans	DLNR DPP DPR	Implementer Regulator/ Advocate Implementer
96.	Minimize environmental impacts (such as siltation, pesticide, and fertilizer runoff) of recreational facilities and activities. Expansive recreational facilities, such as community and regional parks, should comply with State department of health guidelines related to ground and nearshore water quality.	Project Review, Facility Maintenance Plans	DPP DPR private entities	Regulator/ Advocate Implementer Implementer
<b>Parks and Recreation – Recreational Activities that Support the North Shore’s Economy</b>				
97.	Promote recreational and specialty events such as surf meets, fishing tournaments, bike tours, races, and other competitions which contribute to the North Shore’s economy. Such events shall meet State and City rules and regulations for park and ocean uses to avoid conflict with recreational uses.	TBD	City OED private entities	Advocate Implementer
98.	Manage impacts to the recreational resource and surrounding communities (such as noise, parking, traffic, etc.) associated with special events.	Project Review	DOT DPR DTS	Regulator Regulator Regulator
99.	Promote instructional programs, training clinics, and other activities that cater to the health and recreation industry and which will not impact the North Shore’s rural character.	TBD	private entities	Implementer
100.	Explore the potential of equestrian activities, such as trail rides and riding adventures, as an adjunct to the area’s attractions.	TBD	private entities	Implementer
101.	Support equine activities through a variety of means, including establishment of well-designed, safe riding trail networks linking destinations in the rural communities and in the <i>mauka</i> areas that have long been used by riders. Cooperative agreements for the development and maintenance of such networks should be forged through public-private partnerships.	TBD	DLNR private entities	Advocate Implementer
<b>Historic and Cultural Resources</b>				
102.	Implement in situ preservation and appropriate protection measures for sites that have high preservation value because of their good condition or unique, historic, cultural, and archaeological features, and for which the State Historic Preservation Division has recommended such treatment.	Chapter 6E, HRS TBD	DLNR	Regulator/ Advocate
103.	Consider the particular qualities of a site and its relationship to its physical surroundings when determining the appropriate treatment for a site. Determine appropriate preservation measures, site boundaries and setbacks, and development restrictions on a site-by-site basis in consultation with the State Historic Preservation Division.	Chapter 6E, HRS	DLNR DPP	Regulator/ Advocate Regulator/ Advocate
104.	Include input from all pertinent community resources in the development of a site preservation plan.	TBD	DLNR DPP	Implementer Advocate

Policies/Guidelines		Program	Agency	Role
105.	Include sight lines and view planes that are significant to the original purpose and value of the site in criteria for adjacent use restrictions.	TBD	DLNR	Regulator
106.	Determine the appropriateness of public access on a site-by-site basis in consultation with the State Historic Preservation Division, Hawaiian cultural organizations, and the owner of the land on which the site is located.	TBD	DLNR DPP	Regulator/ Advocate Regulator/ Advocate
<b>Residential Communities – Rural</b>				
107.	Utilize a traditional density of one unit per acre with lots ranging in size from one to three acres, although alternative layouts that promote clustering are encouraged. Limit buildings to two stories or 25 feet, although the height may vary according to required flood elevation, slope, and roof form.	Land Use Ordinance, Project Review	DPP	Regulator
108.	Ensure compatibility between country-district uses and adjacent agricultural lands, natural resources, views, or cultural features.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
<b>Residential Communities – Rural Residential</b>				
109.	Densities range from five to eight units per acre, or up to 10 units per acre for alternative development options which enhance rural character and maximize consolidated, usable open space. Lot sizes range from 5,000 square feet to 10,000 square feet, allowing the application of optional design standards. For smaller lot developments of less than 5,000 square feet, alternative clustering is encouraged.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
110.	Use rural development standards to determine appropriate scale and character, smaller building footprints, greater setbacks, and more landscaping (use of hedges to create walls and grassed front yards, and rural roadways with no sidewalk, curbs, and gutters).	Land Use Ordinance, Subdivision Rules, Project Review	DPP	Regulator/ Advocate
111.	Avoid monotonous rows of garages and driveways along neighborhood street frontages by employing features such as varied building setbacks and shared driveways.	Land Use Ordinance, Subdivision Rules, Project Review	DPP	Regulator/ Advocate
112.	Plan and design new or infill housing development, as well as modifications to existing homes, to be generally compatible with the predominant form and character of existing homes on adjacent properties and with the neighborhood as a whole.	Land Use Ordinance, Subdivision Rules, Project Review	DPP	Regulator/ Advocate
113.	Use plantation architectural features such as pitched roofs in varied forms, exterior colors and finishes, building orientation, floor plans, and architectural details to provide visual interest and individual identity and accentuate the rural setting. In general, buildings are to be less than two stories or 25 feet, although the height may vary in response to required flood elevation, slope, or other physical site constraints.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
114.	Support affordable housing initiatives in areas designated for new housing development.	Land Use Ordinance, Zone Change Unilateral Agreement, Housing Development Programs	HPHA DPP DCS	Implementer/ Advocate Regulator Implementer/ Advocate
<b>Residential Communities – Low-Density Apartment</b>				
115.	Maintain the existing apartment district boundaries.	Land Use Ordinance, Project Review	DPP	Regulator
116.	Densities range from 10 to 20 units per acre. Buildings should not be more than three stories or exceed 40 feet in height.	Land Use Ordinance, Project Review	DPP	Regulator

Policies/Guidelines	Program	Agency	Role
117. When possible, enhance the compatibility of development within apartment district uses with adjacent residential uses.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
118. Employ building form, orientation, location of entries, and landscape screening that reflects single-family residential character and provides greater privacy and individual identity for housing units.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
119. Ensure compatibility of building scale, roof form, and the quality of materials with those of adjacent residential areas.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
<b>Residential Communities – Special Needs Housing</b>			
120. Locate special needs housing within or near Hale‘iwa or Waialua Towns within close proximity to public transit, community services, and commercial activities, but not so clustered together to create a significant change to neighborhood character, especially as viewed along collector roads.	Land Use Ordinance, Project Review, Housing Development Programs	HPHA DPP	Implementer/ Advocate Regulator
121. As an exception to standard density situations, special needs housing may have densities of up to 20 units per acre, not including beds in skilled nursing facilities, if they consist primarily of smaller dwelling units with residential scale and character. Proposals for special needs housing should be subject to community and agency review.	Land Use Ordinance, Project Review	DPP	Regulator
122. Limit building heights in line with the region’s rural character.	Land Use Ordinance, Project Review	DPP	Regulator
123. Ensure compatibility of building scale, roof form, and materials with adjacent residential areas.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
<b>Commercial Areas – Hale‘iwa Country Town</b>			
124. Limit building heights to two stories, and employ building design elements which reflect the architectural characteristics of the early 1900-period architecture identified in the Hale‘iwa Special District Design Guidelines.	Land Use Ordinance, Project Review	DPP	Regulator
125. Incorporate generous, functional, public, and open spaces reflective of the town’s agricultural heritage.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
126. Encourage commercial and related activities that are conducive to the pedestrian character to locate at the sidewalk level along Kamehameha Highway. Encourage less pedestrian-dependent and conducive activities (such as manufacturing areas for products and compatible light industrial uses, residences, services, etc.) to locate behind or above commercial activities so as not to detract from the commercial retail character of Kamehameha Highway.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
127. Focus the town’s commercial core around a mix of compatible activities such as recreation, marine-related enterprises, farmers’ markets, historic and cultural attractions, “clean” light industrial, small businesses, and offices, civic and governmental services, businesses, and retail activities for both residents and visitors.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
128. Upgrade drainage, wastewater, and water infrastructure within Hale‘iwa Town, as needed.	Infrastructure Facility Plans	ENV DDC BWS	Implementer Implementer Implementer
129. Support home-based businesses and “Mom and Pop” type stores within the town center.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate

Policies/Guidelines	Program	Agency	Role
130. Concentrate new development near existing built areas emphasizing redevelopment and infill along Kamehameha Highway, <i>makai</i> of the Hale'iwa Joseph P. Leong Highway (Hale'iwa Bypass Road). Provide adequate landscaped buffer adjacent to the bypass.	Landscape Plan, Land Use Ordinance, Project Review	DOT DPP	Implementer Regulator/ Advocate
131. Ensure that commercial uses adjoining the Kamehameha Highway corridor include support facilities such as parking lots and rest rooms that can adequately accommodate the planned commercial activities.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
132. Support the expansion and enhancement of Hale'iwa Harbor. If possible, integrate the harbor's attractions and facilities with commercial activities in Hale'iwa Town.	TBD	DLNR	Implementer
133. Expand indoor recreational and educational facilities and programs (museums, movie theater, gym, and cultural performance theaters) and historical, cultural, and arts programs to further enrich Hale'iwa's civic core.	TBD	DPR DDC private entities	Implementer Implementer Implementer
134. Provide improved, expanded, and continuous pedestrian walkways linking commercial establishments within Hale'iwa, including connections between farmers' markets or other kinds of agricultural product and retail outlets, and open space and environmental resources (such as beach parks, Hale'iwa Harbor, and Loko Ea Pond).	Capital Improvement Program, Project Review	DOT DTS DPP	Implementer Advocate Regulator/ Advocate
135. Enhance the attractiveness and general landscaped open space character of the area by providing roadway improvements, street trees, streetlights, street furniture, and signage compatible with the rural character of Hale'iwa Town.	Capital Improvement Program, Project Review	DOT DTS DPP	Implementer Advocate Regulator/ Advocate
136. Continue to use and support production of a visitors' map showing attractions and services in Hale'iwa.	TBD	private entities	Implementer
137. Maintain Kamehameha Highway as a two-lane thoroughfare through Hale'iwa Town.	O'ahu Regional Transportation Plan	OMPO DOT DTS	Advocate Implementer Advocate
138. Consolidate off-street parking to areas behind buildings, while retaining existing on-street parking wherever possible and appropriate. As needed, parking should be rearranged to accommodate the pedestrian walkway system along Kamehameha Highway.	Capital Improvement Program, Project Review	DTS DPP private entities	Advocate Regulator/ Advocate Implementer
139. Provide signage and other forms of orientation to help direct motorists through the town to major facilities and to off-street parking facilities.	Capital Improvement Program,	DOT DTS DPP	Implementer Implementer Regulator/ Advocate
140. Improve conditions for transit and bicycling through Hale'iwa Town by providing better designed and located bus stops, and a designated bike lane through the town.	Capital Improvement Program, Bicycle Master Plan	DOT DTS	Implementer Implementer
141. Enhance Weed Junction and Kamehameha Highway/Joseph P. Leong Junction, which are entry points to Hale'iwa, in a manner which conveys their gateway functions through appropriate design, landscaping, signage, and painting.	Capital Improvement Program	DOT private entities	Implementer Implementer
142. Encourage private and community-based initiatives to protect and enhance the streams, wetlands, and other natural resources within Hale'iwa Town. Retain the agricultural use adjacent to Weed Junction and the Preservation designation at Loko Ea Pond.	TBD, Land Use Ordinance	DLNR ENV DPP	Implementer Advocate Regulator/ Advocate

Policies/Guidelines		Program	Agency	Role
<b>Commercial Areas – Waialua Country Town</b>				
143.	Ensure new developments are consistent with the <u>Waialua Town Master Plan</u> recommendations for the town center.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
144.	Integrate neighborhood parks and community-oriented recreation areas into new residential development.	Land Use Ordinance, Project Review, Parks Master Plan	DPP DPR DDC	Regulator/ Advocate Implementer Implementer
145.	Locate churches and public facilities in or near the town.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
146.	Retain large, readily accessible open spaces where outdoor recreation facilities and neighborhood gardens create open vistas and green spaces. Retain open space entrances to the town core, including Weed Junction, Thompson Corner, and Waialua Beach Road, with Waialua Park as the entrance to the country town district.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
147.	Incorporate significant historic features from the plantation era and earlier periods into new developments, where feasible and appropriate. Existing buildings of historical, cultural and/or architectural significance, such as the surviving elements of the Waialua Mill, should be preserved and maintained through rehabilitation and adaptive reuse. Where feasible, adapt and highlight these structures as landmarks and icons representative of Waialua's plantation town history.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
148.	While buildings in the commercial core may be two stories in height, one-story heights should be emphasized, in keeping with the area's historic scale and to preserve the prominence and views of existing mill structures.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
149.	New commercial buildings should be similar in architectural character, scale and materials to historic structures such as the former Waialua Sugar Company offices and the Waialua Library.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
150.	Use design guidelines described in the <u>Waialua Town Master Plan</u> to promote and develop a special image for Waialua's commercial and industrial core that reflects the town's historic character and reinforces the town's role as the cultural and business center for Waialua. Encourage renovations and new construction in accordance with the design guidelines.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
151.	Provide pedestrian and bicycle access between surrounding residential neighborhoods and Waialua's commercial core.	Local Circulation Plan, Bicycle Master Plan, Project Review	DOT DTS DDC DPP	Implementer Implementer Implementer Regulator/ Advocate
152.	Encourage infill development and new commercial development around Kealohanui Street to strengthen the town core and provide the critical mass necessary in developing a healthy town center.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
153.	Direct new residential development outside but adjacent to the town core, as generally indicated on the Land Use Map.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
154.	Locate industrial uses around the former sugar mill (see Section 3.7 Industrial Areas for applicable policies and guidelines).	Land Use Ordinance, Project Review	DPP private entities	Regulator/ Advocate Implementer



Policies/Guidelines		Program	Agency	Role
155.	Promote agricultural support activities at the agricultural support area adjacent to the mill site.	Land Use Ordinance, Project Review	DPP private entities	Implementer Implementer
156.	New housing units should incorporate rural features (such as small building footprints, larger setbacks, and more landscaping) and be sited and organized to give a strong sense of community.	Land Use Ordinance, Project Review, Housing Development Programs	HPHA DPP DCS	Implementer Regulator Implementer
157.	Work with developers to establish housing programs that place high priority on the needs of existing Waialua residents.	TBD	HPHA DCS	Implementer Implementer
158.	Provide job or entrepreneurial opportunities for area residents, and make available training programs for new jobs and businesses.	TBD	DCS private entities	Implementer Implementer
159.	Promote historical and cultural attractions such as museums or activity centers that illustrate the history of the community or feature current agricultural operations near the mill site to encourage visitors to Waialua Town.	TBD	private entities	Implementer
160.	Encourage computer-oriented, high technology business, health care, and medical services to locate in Waialua.	TBD	private entities	Implementer
161.	Provide for safe and pleasant pedestrian circulation along the storefronts. As it redevelops, emphasize pedestrian circulation along Kealohanui Street. Retain a distinctive pedestrian-oriented commercial area for residents and visitors through the use of signage, street furniture, and street tree plantings to encourage walking and biking.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
162.	Support production of a map showing services in Waialua and attractions in the region, such as Ka'ena Point and nearby beach parks.	TBD	private entities	Implementer
163.	Promote Kealohanui Street as a pedestrian-oriented promenade in Waialua.	Project Review	DPP	Regulator/ Advocate
164.	Link proposed pedestrian walkways to the Waialua Town core, including linkages to proposed farmers' markets and other kinds of agricultural product and retail outlets.	Project Review, Capital Improvement Program	DPP DTS DDC	Regulator/ Advocate Implementer Implementer
165.	Provide convenient parking that should be landscaped and screened from roadways.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
166.	Enhance Waialua Beach Road and Farrington Highway as gateways to Waialua Town through signage and landscaping.	Capital Improvement Program	DOT DTS DDC	Implementer Implementer Implementer
167.	Plant street trees to enhance the pedestrian experience and to create a strong streetscape image. A detailed street tree and planting plan should be developed and implemented as part of the right-of-way plan.	Land Use Ordinance, Project Review, Capital Improvement Program	DPP DTS DDC	Regulator/ Advocate Implementer Implementer
<b>Commercial Areas – Rural Community Commercial Center</b>				
168.	Limit rural community commercial centers to existing zoned areas between Pūpūkea Road and Pāhoehoe Road that currently serve the commercial needs of residents and visitors.	Land Use Ordinance, Project Review	DPP	Regulator
169.	Design rural community commercial centers to provide a compact and efficient organization of various commercial services which primarily serve the immediate community.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate

Policies/Guidelines		Program	Agency	Role
170.	Architectural scale and character should respect the surrounding natural features, and adjacent residential areas. Buildings should reflect a rural character compatible with surrounding open spaces and adjacent residential use.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
171.	Limit building heights to no more than two stories.	Land Use Ordinance, Project Review	DPP	Regulator
172.	Locate parking behind buildings or provide parking that is landscaped. Parking should be visually screened from the street and adjacent residential lots, by planting a landscaped screen of trees and hedges along street frontages and property lines and planting shade trees throughout the parking lot.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
173.	Incorporate pedestrian and bicycle facilities, including bicycle paths and storage racks, and off-site improvements such as crosswalks.	Project Review	DPP	Regulator/ Advocate
174.	Site bus stops in close proximity to rural community commercial centers.	Bus Facilities and Systems Plans, Project Review	DTS	Implementer
<b>Commercial Areas – Country Stores</b>				
175.	Design country stores to be small-scale, freestanding, compact commercial facilities. Prohibit country stores from expanding to larger, continuous commercial strip types of developments along arterial roads.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
176.	Limit country stores primarily to retail uses that provide services to the surrounding community.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
177.	Architectural scale and character should respect the surrounding natural features, and adjacent residential areas. Buildings should reflect a rural character compatible with surrounding open spaces and adjacent residential uses.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
178.	Limit building heights to one story.	Land Use Ordinance, Project Review	DPP	Regulator
179.	Locate parking behind buildings, or provide parking that is landscaped. Parking should be visually screened from the street and adjacent residential lots, by planting a landscaped screen of trees and hedges along street frontages and property lines and planting shade trees throughout the parking lot.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
180.	Promote pedestrian and bicycle access to country stores.	Project Review	DPP	Regulator/ Advocate
181.	Assist business owners with maintaining their financial stability to ensure that country stores remain in operation.	TBD	City OED DBEDT	Advocate Advocate
<b>Industrial Areas</b>				
182.	Maintain adequate open buffer zones between industrial activities and residential districts.	Land Use Ordinance, Project Review	DPP	Regulator
183.	Minimize impacts (views, noise, and smells) and reduce the visibility of large building masses, machinery elements, parking, storage areas, industrial equipment, and operation areas through proper site planning and landscape plantings.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate

Policies/Guidelines		Program	Agency	Role
184.	Encourage uses which have few environmental impacts and those which complement the development scale of the surrounding community.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
185.	Allow low-impact, service industrial uses in enclosed buildings within the Hale'iwa and Waialua Country Town Districts, so as not to detract from the pedestrian-oriented commercial/retail character of roadways, such as Kamehameha Highway, Kealohanui Street, and Goodale Avenue. These could include manufacturing of clothing, arts and crafts, and surfboard repair.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
186.	Building height and form should reflect the contexts of their sites. At the Waialua Mill site, they should follow guidelines reflecting the Mill's image. In Hale'iwa Town, they should follow the Hale'iwa Special District Design Guidelines. In Waialua Town, they should be consistent with guidelines of this document and the Waialua Town Master Plan. In general, buildings should be designed to reflect the architectural character of Hale'iwa or Waialua Town. Basic design principles, texture, construction materials, and colors should be compatible with the styles from the era and surrounding buildings.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
187.	Where taller vertical structures are required as part of an industrial operation, site and design such structures to minimize impacts on view planes and reduce visibility from scenic vistas, public roadways, residential areas, commercial areas, parks, and other significant open space areas.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
188.	Limit industrial uses located along the shoreline to water-dependent activities (such as boat repair and maritime-related activities). Consider environmental, visual, and noise impact during the permit application process.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
189.	Maintain and upgrade infrastructure to support industrial facilities.	Infrastructure Facility Plans	ENV DDC BWS	Implementer Implementer Implementer
<b>Visitor Accommodations</b>				
190.	Allow visitor accommodations in Hale'iwa Town to help restore and promote the historic character of the town.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
191.	Design visitor accommodations to be consistent with the Hale'iwa Special District Design Guidelines. In general, visitor accommodations should be small in scale (limited to two stories in height), be compatible with the architectural style and character of Hale'iwa Town, and observe the same building envelopes and design standards of adjacent buildings.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
192.	Provide convenient and safe access for pedestrians and vehicles.	Capital Improvement Program, Land Use Ordinance, Project Review	DOT DTS DPP	Implementer Implementer Regulator
193.	Incorporate mixed use that caters to pedestrian activity located on the ground floor and visitor accommodations provided on the upper floor.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
194.	Provide adequate off-street parking which is landscaped and screened from public roadways.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
195.	Address the streetscape and provide a setting that is conducive to pedestrian activity, when located along pedestrian-oriented streets.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate

Policies/Guidelines		Program	Agency	Role
196.	Ensure that existing and/or proposed infrastructure can adequately accommodate the proposed development and associated visitor population.	Project Review	DPP	Regulator/ Advocate
197.	Minimize impacts (noise, traffic, parking, visual) on surrounding activities/properties and from public roadways.	Land Use Ordinance, Project Review	DPP	Regulator/ Advocate
197A.	Prohibit the granting of new permits, including nonconforming use certificates for B&B and vacation rental operations on the North Shore.	Land Use Ordinance, Project Review, TBD	DPP	Regulator/ Implementer
<b>Institutional Uses</b>				
198.	Colocate neighborhood or community parks with elementary or intermediate schools and coordinate design of facilities when efficiencies in development and use of athletic, meeting, and parking facilities can be achieved.	Park Facilities Functional Plan, Park Master Plans	DPR DDC DOE	Implementer Implementer Advocate
199.	Colocate social, social service institutions, and other public service agencies to provide convenient one-stop services to the region.	Facility Master Plans	DDC	Implementer
<b>Military</b>				
200.	Encourage all government agencies (City, State, and Federal) to coordinate efforts with the U.S. military, especially where the Kahuku and Kawaihoa Training Areas overlap with environmentally sensitive areas.	Conservation District Management Plan	DLNR	Advocate
201.	Encourage the military to provide appropriate infrastructure services to support military uses on their lands and minimize any potential impacts to the region.	Base Master Plan	U.S. Army	Implementer
202.	Work with the military to allow use of Drum Road as an emergency access bypass route during natural disasters or other emergency incidents.	TBD	U.S. Army DOT	Implementer Implementer
203.	Encourage low-rise military facilities that support educational and recreational programs and are compatible with the region on military reservation lands such as Dillingham Airfield.	Base Master Plan	U.S. Army	Implementer
<b>Transportation Systems</b>				
204.	Establish rural streetscape design and development standards within residential areas consistent with the rural character of the region. Allow for rural elements that reduce the amount of impervious surfaces, such as minimum pavement widths to support traffic demands and emergency vehicle access, shared driveways, reduced parking requirements, more landscaping, and grassed swales as an alternative to sidewalks with curbs and gutters.	Land Use Ordinance, Subdivision Rules	DPP	Implementer/ Regulator
205.	Emphasize accessibility from residential streets to bus routes, parks, schools and commercial centers. Design roadways to facilitate the use of alternative transportation forms, including bicycle and pedestrian travel, and personal motorized devices.	Land Use Ordinance, Subdivision Rules	DPP	Regulator
206.	Provide scenic lookout points to minimize hazards created by slower sight-seeing traffic and to enhance the appreciation of the region's scenic resources.	TBD	DOT	Implementer
207.	Provide appropriately sited and designed off-street parking areas at popular beach parks wherever feasible, including parking in support parks <i>mauka</i> of the highway.	Park Master Plans	DPR DDC	Implementer Implementer

Policies/Guidelines	Program	Agency	Role
208. Study the safety and feasibility of developing passing zones on Kamehameha Highway and Kaukonahua Road from Hale'iwa/Waialua to Wahiawā to reduce traffic delays due to slower moving vehicles, and to improve safety conditions.	TBD	DOT	Implementer
209. Provide safety improvements along Kaukonahua Road and Kamehameha Highway from the Joseph P. Leong Highway (Hale'iwa Bypass Road) to Wahiawā and beyond. Promote the development of emergency runaway vehicle ramps on Kamehameha Highway and Kaukonahua Road, from Wahiawā to Hale'iwa/Waialua.	TBD	DOT	Implementer
210. Approve new residential and commercial development only if the State DOT and the City DTS certify that adequate transportation access and services can be provided.	Project Review	DPP	Implementer
211. Continue to include the daily visitor population that visits the North Shore in determining allocations of resources and facilities for the North Shore.	Capital Improvement Program	DLNR DPR DFM BFS BWS	Implementer Implementer Implementer Implementer Implementer
212. Promote the use of transportation demand management strategies, including measures such as ride-sharing (car/van pooling), improved bus service and routes, the use of nonvehicular travel modes, modified work hours, and teleworking to reduce commutes.	TBD	DOT DTS	Implementer Implementer
213. Protect the natural resources of Ka'ena Point from potentially damaging vehicular traffic. Prohibit construction of a roadway around Ka'ena Point.	Ka'ena Point Natural Area Reserve Management Plan, Land Use Ordinance	DLNR	Implementer/ Advocate
214. Provide pedestrian-friendly walkways, off-street parking, bus pull-outs, tour bus maneuvering areas, and drainage improvements in Hale'iwa Town.	Capital Improvement Program, Land Use Ordinance, Project Review, Facility Improvement Plans	DOT DTS DPP DDC	Implementer Implementer Regulator/ Advocate Implementer
215. Improve the main roadways within Hale'iwa and Waialua Country Town Districts with shade trees, landscaping, sidewalks, street furniture, and signage to promote pedestrian orientation within these country towns.	Capital Improvement Program, Project Review	DOT DTS DPP	Implementer Implementer Regulator/ Advocate
216. Create a regional pedestrian/bikeway system linking the parks, schools, and town centers in Hale'iwa and Waialua with outlying communities.	Bicycle Master Plan	DOT DTS	Implementer Implementer
217. Coordinate bikeway development with responsible State and City agencies and private landowners to ensure that safety, liability, and a mixture of use issues are adequately addressed.	Bicycle Master Plan	DOT DTS	Implementer Implementer
218. Locate bus stops to be convenient and accessible to residential areas and hubs of community activity.	Bus Facilities and Systems Plans, Project Review	DTS	Implementer
219. Design bus shelters to provide weather protection for bus passengers and complement the natural setting.	Bus Facilities and Systems Plans, Project Review	DTS	Implementer
220. Explore the possibility of a Historic Hale'iwa Trolley as an alternative for visitors to experience the North Shore.	TBD	DTS private entities	Advocate Implementer

Policies/Guidelines		Program	Agency	Role
221.	Encourage the State to upgrade, maintain, and expand the boating facilities at Hale‘iwa Harbor to meet the needs of recreational and commercial fishing and leisure boating activities.	Facility Master Plan	DLNR	Implementer
222.	Maintain small aircraft, general aviation, and other recreational, commercial, or other military uses at Dillingham Airfield in cooperation with the U.S. Army. As necessary, upgrade and maintain facilities to support airfield use.	Facility Master Plan	DOT	Implementer
223.	Limit uses in the vicinity of Dillingham Airfield to those that are compatible with aircraft noise levels and overflights from the airfield.	Land Use Ordinance, Project Review	DPP	Regulator
224.	Identify and maintain former cane haul roads and other <i>mauka</i> roads to provide for the safe and quick evacuation of residents and the movement of emergency response personnel (e.g., fire, police, ambulance) in the event that the primary highways become impassable due to natural disasters or other emergency incidents. Investigate the use of the following for safety and emergency access: the cane haul road system <i>mauka</i> of Farrington Highway in Mokulē‘ia; the roads connecting with Drum Road including cane haul road (Twin Bridge Road) in Hale‘iwa, Kawailoa Road, Ashley Road, Pūpūkea Road, and Motocross/Kaunala Road. COMSAT/Girl Scout Camp (Paumālū) Road does not connect with Drum Road and would be for evacuation use only.	Capital Improvement Program	DTS DEM	Implementer Implementer
<b>Water Systems</b>				
225.	Confirm that adequate potable and nonpotable water is available before approving new residential or commercial development.	Project Review	LUC BWS	Regulator Implementer
226.	Ensure that State and private well development projects are integrated into and consistent with City water source development plans.	Watershed Management Plan	BWS	Implementer
227.	Support infrastructure improvements that provide for the efficient and secure transmission and delivery of quality water.	Water System Infrastructure Plans	BWS	Implementer
228.	Conserve the use of potable water by implementing the following measures, as feasible and appropriate: low-flush toilets, flow constrictors, rainwater catchment, and other water conserving devices in commercial and residential developments; indigenous, drought-tolerant plant material and drip irrigation systems in landscaped areas; and reclaimed water for the irrigation of agricultural lands, parks, golf courses, and other landscaped areas where this would not adversely affect potable groundwater supply or pose possible health and safety risks.	Building Code, Project Review, Water Supply System and Management Plan	DPP BWS ENV	Regulator/ Advocate Advocate Implementer
229.	Use reclaimed water for irrigation and other uses, where feasible, in accordance with the <u>Guidelines for the Treatment and Use of Recycled Water</u> (May 15, 2002) by the State Department of Health and the No Pass Zone established by the Board of Water Supply. A “wetlands” treatment system could serve as wild bird refuges that could also be used as a picnicking area and/or children’s fishing park.	Water Supply System and Management Plan, Wastewater Management Plan	BWS ENV	Advocate Implementer
230.	Replace outdated individual cesspools with septic tanks and individual wastewater systems. Consider public programs or policies to support private conversion efforts.	Water Quality Management Plan	DOH ENV	Advocate Advocate
231.	Discourage new residential, commercial, or school uses in close proximity to wastewater treatment facilities where odors may be objectionable.	Zoning/Project Review	DPP	Regulator/ Advocate

Policies/Guidelines		Program	Agency	Role
<b>Wastewater Treatment</b>				
232.	Identify appropriate areas and technologies for future wastewater facilities that maintain the rural character and are proportionate to future population projections.	Wastewater Management Plan	DOH ENV	Advocate Implementer
233.	Do not permit an ocean outfall for treated wastewater effluent in the North Shore area.	Wastewater Management Plan	DOH ENV	Advocate Implementer
<b>Electrical Systems</b>				
234.	Provide adequate and reliable electrical service.	Utilities Plan	HECO	Implementer
235.	Locate and design system elements such as electrical power facilities, substations, communication sites, and transmission lines to avoid or mitigate any potential adverse impacts on scenic and natural resources.	Utilities Plan, Project Review	HECO Telecommunica- tions providers DPP	Implementer Implementer  Regulator/ Advocate
236.	Locate powerlines underground or away from Kamehameha Highway.	Utilities Undergrounding Plan	HECO Telecommunica- tions providers DDC	Implementer Implementer  Implementer
237.	Promote the use of renewable energy sources and energy conservation measures.	Building Code	HECO DPP	Implementer Regulator/ Advocate
<b>Solid Waste Handling and Disposal</b>				
238.	Expand recycling collection facilities and services, and public outreach and education programs that promote responsible waste management and source reduction.	Solid Waste Management Plan	ENV	Implementer
239.	Encourage recycling of regional green waste by establishing green waste facilities in an appropriate location, possibly integrated with or adjacent to the Kailua Refuse Transfer Station.	Solid Waste Management Plan	ENV	Implementer
240.	Expand the use of automated refuse collection in residential areas.	Solid Waste Management Plan	ENV	Implementer
241.	Monitor and regulate illegal dumping and littering activities.	Solid Waste Management Plan	ENV	Implementer
242.	Require all structural and land improvements to provide adequate drainage and flood mitigation measures to reduce storm runoff and flood hazard.	Storm Drainage Standards, Project Review	DPP	Regulator
243.	Employ retention and detention methods that allow for the gradual release of stormwater. Where feasible, use open spaces, including parking lots, landscaped areas, and parks, to detain or allow ground infiltration of stormwater flows to reduce their volume, runoff rates, and the amounts of sediment and pollutants transported.	Storm Drainage Standards, Project Review	DPP	Regulator
244.	Use detention/retention basins as passive recreational areas and to provide recreational access for pedestrians and bicyclists.	Storm Drainage Standards	DLNR DPP DFM private entities	Advocate Regulator Implementer Implementer
245.	Retain natural gulches as flood plains and open space resources. Restrict development within gulches, and prohibit grading or other disturbance of gulch walls.	State Land Use Law, Land Use Ordinance	DLNR LUC DPP	Implementer Regulator Regulator

Policies/Guidelines	Program	Agency	Role
<b>Drainage Systems</b>			
246. Emphasize control and minimization of nonpoint source pollution in drainage system design. Where hardening of stream channels is unavoidable, improvements should protect habitat, maintain rural character and aesthetic quality, and avoid degradation of coastline and of stream and nearshore water quality, consistent with guidelines stated in Section 3.1.2.4.	Storm Drainage Standards	DLNR DPP DDC DFM	Advocate Regulator Implementer Implementer
247. Design drainageways to control 100-year floods. Any future work performed within the 100-year floodplain shall adhere to the requirements of the Federal Emergency Management Agency (FEMA) and meet all flood-proofing requirements.	Grading Ordinance, Subdivision Rules	DPP	Regulator
248. Regularly maintain and clean drainageways and flood mitigation structures of debris to ensure that they achieve the purpose for which they were designed.	Facility Maintenance Plan	DFM	Implementer
249. Employ best management practices to minimize runoff from existing conservation and agricultural land uses, and other areas that may generate sediment and debris.	Storm Drainage Standards	DLNR  DOA ENV	Regulator/ Advocate Advocate Regulator
250. Repair and maintain related agricultural irrigation systems and infrastructure.	Facility Maintenance Plan	DOA private entities	Implementer Implementer
251. Develop a drainage master plan for the Waialua watershed to address erosion and flood protection concerns.	TBD	DLNR ENV	Advocate Implementer
252. Conduct public outreach and education programs that explain the potential for flooding and efforts to minimize the effects of flooding.	Hazard Mitigation Plan	DOH DEM	Implementer Implementer
<b>School Facilities</b>			
253. Confirm the adequacy of school facilities before approving new residential development. Approve new residential developments only after the State Department of Education confirms that adequate school facilities, either at existing schools or at new school sites, will be available when new residential units are occupied.	Project Review	LUC DOE DPP	Regulator Advocate Regulator
254. Design DOE schools as community centers to facilitate community use after school hours.	School Master Plan	DOE DPR	Implementer Advocate
255. Colocate elementary and intermediate schools with parks, and coordinate facility design with the State DOE and the City DPR whenever possible to avoid duplication of parking and athletic, recreation, and meeting facilities.	School Master Plan, Project Review	DOE DPP  DPR	Implementer Regulator/ Advocate Implementer
256. Coordinate the development and shared use of athletic facilities such as swimming pools, gymnasiums, and playfields and courts with the DOE where the joint use of such facilities would maximize use and reduce duplication of function without compromising the schools' athletic programs.	Park Master Plan, School Master Plan	DOE DPR DDC	Implementer Implementer Advocate
257. Promote facility design and construction that allows for school buildings to be used as public hurricane shelters.	School Master Plan, Project Review	DOE DPP DPR DEM	Implementer Advocate Implementer Advocate
258. Support the State DOE's request for school impact fees from developers of residential projects to ensure that adequate school facilities are in place at the time new residential units are occupied.	Project Review	LUC  DPP	Regulator/ Advocate Regulator/ Advocate



Policies/Guidelines		Program	Agency	Role
<b>Public Safety Facilities</b>				
259.	Include visitor demands and needs when allocating public safety resources.	Capital Improvement Program	DES DEM HFD HPD	Implementer Implementer Implementer Implementer
260.	Sponsor public education programs to increase awareness about public safety issues.	TBD	DES DEM HFD HPD	Implementer Implementer Implementer Implementer
261.	Identify, improve, and service transportation networks (via signage, traffic control personnel, and equipment) to ensure efficient evacuee movement.	Capital Improvement Program	DOT DTS DEM	Implementer Implementer Advocate
262.	Support highway improvements that would reduce emergency vehicle response times and facilitate emergency personnel movement through traffic.	Capital Improvement Program	DOT DTS	Implementer Advocate
263.	Expand lifeguard services at beaches with high visitor demands, such as Laniākea, Chun's Reef, and Velzyland.	TBD	DES	Implementer
264.	Confirm the availability of adequate police and fire protection before approving new development.	Project Review	DPP	Regulator
265.	Increase police presence, including car and bicycle patrols and community policing efforts, especially in high-theft areas such as beach parks. Support the availability of adequate staffing and funding to enable this.	TBD	HPD	Implementer
266.	Establish facilities which police officers could use as a local base of operations.	TBD	HPD	Implementer
267.	Support the physical improvements and infrastructure upgrades needed to ensure adequate fire protection.	Facility Master Plans	HFD	Implementer
268.	Use crime-preventive principles in the planning and design of communities, open spaces, circulation networks, and buildings.	Building Code, Project Review	DPP	Regulator
269.	Design new public buildings such as schools and recreation centers to serve a secondary function as an emergency shelter.	Project Review	DDC	Implementer
270.	Encourage colocation of antennae; towers should host the facilities of more than one service provider to minimize their proliferation and reduce visual impacts.	Land Use Ordinance, Project Review	DPP LUC	Regulator Regulator
271.	Mount antennae onto existing buildings or structures so that public scenic views and open spaces will not be negatively affected. However, except for the occupant's personal use, antennae on single-family dwelling roofs in residential districts are not appropriate.	Land Use Ordinance, Project Review	DPP LUC	Regulator Regulator
272.	Use "stealth" technology (e.g., towers disguised as trees) especially on free-standing antenna towers in order to blend in with the surrounding environment and minimize visual impacts.	Land Use Ordinance, Project Review	DPP LUC	Regulator Regulator

**APPENDIX A: OPEN SPACE, LAND USE, AND PUBLIC FACILITIES MAPS**

The North Shore Sustainable Communities Plan includes three colored maps:

- Open Space Map
- Land Use Map
- Public Facilities Map

These maps illustrate the North Shore's long-range vision for the future and the major land use, open space, and public facility policies that are articulated in the plan. In examining them, the reader should keep in mind that:

- These maps are general and conceptual.
- They are illustrative of the plan's policy statements, presented in the text of this report.

These policy statements, which appear in the preceding chapters, are considered to be the most important elements of the plan. The maps are considered illustrations of the policies. However, it is recognized that the maps may be more accessible and more interesting than the written policies. This section of the plan, therefore, presents a brief explanation of the contents of each of these maps.

Elements common to each of the three maps include the Community Growth Boundary and four land use designations: "Preservation," "Agriculture," "Parks," and "Military." Descriptions of each are presented below. Common information particular to each map is presented under each map topic.

These maps are not parcel specific, but illustrate generalized categories or groups of land uses within the region. Because they are not parcel specific, the lines depicted by these boundaries do not indicate precise or abrupt demarcations. Rather, the geographic extent or actual magnitude of permissible or appropriate uses depicted within these boundaries should be evaluated and determined in concert with relevant sections of the plan's text and specific site characteristics. This is particularly true of land use designations within a community boundary.

The extent or magnitude of land uses depicted within a boundary may be limited by actual on-site or adjacent conditions such as slope or other topographic constraints, soil type, existing drainageways, flood or rockfall hazard, or the presence of natural or cultural resources. Conversely, the actual appropriate extent of uses prescribed by a specific boundary may extend beyond the indicated boundary by virtue of appropriate physical characteristics, compatibility with adjacent land uses, and physical accessibility, including access to the site from existing roads. In such cases, the physical extent of those uses would be defined by actual site constraints similar to those which would constrain uses within those boundaries.

**COMMUNITY GROWTH BOUNDARY**

The Community Growth Boundary defines, protects, and contains the intended extent of the "built-up" or "settled" areas of rural communities. Its purposes are to provide adequate lands to support established communities, to protect such communities from more intense form of development, and to preserve lands outside the boundary for agriculture or other resource or open space values. Areas within this boundary characteristically consist of relatively small, dispersed residential communities and towns. In the North Shore Sustainable Communities Plan area, the Community Growth Boundary includes the built areas of Mokolē'ia, Waialua, Hale'iwa, Kawaihoa, and Sunset Beach/Pūpūkea.

At the Mokulē'ia, Waialua, and Hale'iwa communities, the Community Growth Boundary, from west to east, generally follows Crozier Drive and a portion of Waialua Beach Road encompassing the residential uses of Mokulē'ia and Waialua. Thereafter, it follows Farrington Highway to Thompson Corner, encompassing the adjoining AG-2 General Agricultural District and the Hukilau Loop residential subdivision. Thereafter, the boundary follows Kaukonahua Road to Weed Junction, to Kamehameha Highway, the Joseph P. Leong Highway, and then follows the Hale'iwa Special District boundary at Hale'iwa Beach Park.

In the area of Kawailoa, from west to east, the Community Growth Boundary generally encompasses the residential uses at Papailoa Road, then follows Kamehameha Highway to and encompassing the residential uses at Punalau Place and Ikuwai Place, and then along the toe of the slope and including the residential zoning district *mauka* of Kamehameha Highway. Thereafter, it follows Kamehameha Highway and encompasses the residential zoning district at 'Ili'ohu Place.

At the Sunset Beach and Pūpūkea communities, from west to east, the Community Growth Boundary includes the residential uses north of Waimea Bay, then *mauka*, encompassing the Pūpūkea highlands community, then *makai* to and following the toe of slope. Thereafter, the Community Growth Boundary encompasses the rural and residential zoning districts from Sunset Beach to Kaunala Beach.

## PRESERVATION

Preservation lands include those lands not valued primarily for agriculture, but which form an important part of a region's open space fabric. They possess natural, cultural, or scenic resource values, and include important wildlife habitat, cultural sites, significant landforms, views, or hazard areas. They include the following types of land:

- Land necessary for protecting watersheds, water resources, and water supplies.
- Lands necessary for the conservation, preservation, and enhancement of sites with scenic, historic, archaeological, or ecologic significance.
- Lands necessary for providing and preserving parklands, wilderness, and beach reserves, and for conserving natural ecosystems of endemic plants, fish, and wildlife, for forestry, and other related activities to these uses.
- Lands having an elevation below the maximum inland line of the zone of wave action, and marine waters, fishponds, and tide pools of O'ahu, unless otherwise designated on the development plan land use map.
- All offshore and outlying islands of O'ahu unless otherwise classified.
- Lands with topography, soils, climate, or other related environmental factors that may not be normally adaptable or presently needed for urban, rural, or agricultural use.
- Lands with general slopes of 20 percent or more which provide for open space amenities or scenic values, or both.
- Lands susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention by the State or Federal Government, and lands necessary to the protection of the health, safety, and welfare of the public by reason of soil instability or the lands' susceptibility to landslides and/or inundation by tsunami and flooding.
- Lands used for national, State or City parks.
- Lands suitable for growing of commercial timber, grazing, hunting, and recreation uses, including facilities accessory to such uses when said facilities are compatible with the natural physical environment.

## **AGRICULTURE**

Lands with agricultural value by virtue of current agricultural use or high value for future agricultural use, including those areas identified as “Prime,” “Unique,” or “Other” Important lands on the Agricultural Lands Important to the State of Hawai‘i (ALISH) maps. “Agriculture” includes lands suitable for crop growing, grazing and livestock raising, flower cultivation, nurseries, orchards, aquaculture, or similar activities.

Under the State Constitution, the State is to identify important agricultural lands (IAL). Once identified, these lands cannot be rezoned except, under a “super majority” vote. To date, IAL lands have not been identified. In 2005, Act 183 was adopted to address this mandate. It established a two-step process: first, incentives to assure the long-term use and protection of IAL. Second, with adequate state funding, the counties would prepare maps identifying IAL lands to be adopted by the State Land Use Commission. Act 233, enacted in 2008, adopted the incentive programs. To date, no state funding has been appropriated to the counties for the mapping. Lands identified for agricultural purposes by this SCP can serve as the basis for the county mapping process.

## **PARK**

Public and private parks and recreational facilities, including beach parks, playgrounds, playfields, and district parks.

## **MILITARY**

Lands for military and military support purposes, excluding military-owned lands that are leased or licensed to others on a full-time basis for nonmilitary uses.

### **A.1 OPEN SPACE MAP**

The Open Space Map is intended to illustrate the region’s major open space patterns and resources as outlined in Chapter 3. It highlights major open space elements and resources, including agricultural and preservation lands, major parks, important “panoramic” views, natural stream corridors and drainageways, and rural communities within the Community Growth Boundary.

### **A.2 LAND USE MAP**

This map illustrates the desired long-range land use pattern for the North Shore Sustainable Communities Plan area. It supports the plan’s vision and policies. The map includes the following terms:

#### **A.2.1 Rural**

Single-family homes on large lots. On-site development is characteristically low-intensity, typically consisting of single-family detached home, ancillary structures, if necessary, low site coverage, nonurban development standards, and a large predominance of landscaped open space.

#### **A.2.2 Rural Residential**

Single-family homes in country settings on medium-sized to large lots, on which rural development standards are employed and provisions for pedestrian circulation, landscaping, and open space are emphasized. “Rural Residential” also includes minor pockets of existing apartment areas in Mokulē‘ia, and future apartment districts

adjacent to Waialua and Hale‘iwa town centers. These apartment lands are not mapped, but are cited and elaborated in the text.

#### **A.2.3 Rural Community Commercial Center**

A small cluster of small-scale, low-rise commercial, and service businesses, which serve primarily the immediate community. Its primary visual appearance is rural. Buildings are generally compatible in scale and form with adjacent residential areas.

#### **A.2.4 Country Town**

A small-scale, low-rise, mixed-use center of commerce and community activity in rural character and setting in which principal establishments are oriented to the street. Land use mixtures may include retail, office, and dining establishments, compatible service businesses and light industry, and residential uses. Commercial activity is concentrated along street frontages in typically “Mainstreet” settings.

#### **A.2.5 Industrial**

Facilities for processing, construction, manufacturing, transportation, wholesaling, storage, or similar economic activities, and accessory or supporting facilities which directly enhance their viability.

### **A.3 PUBLIC FACILITIES MAP**

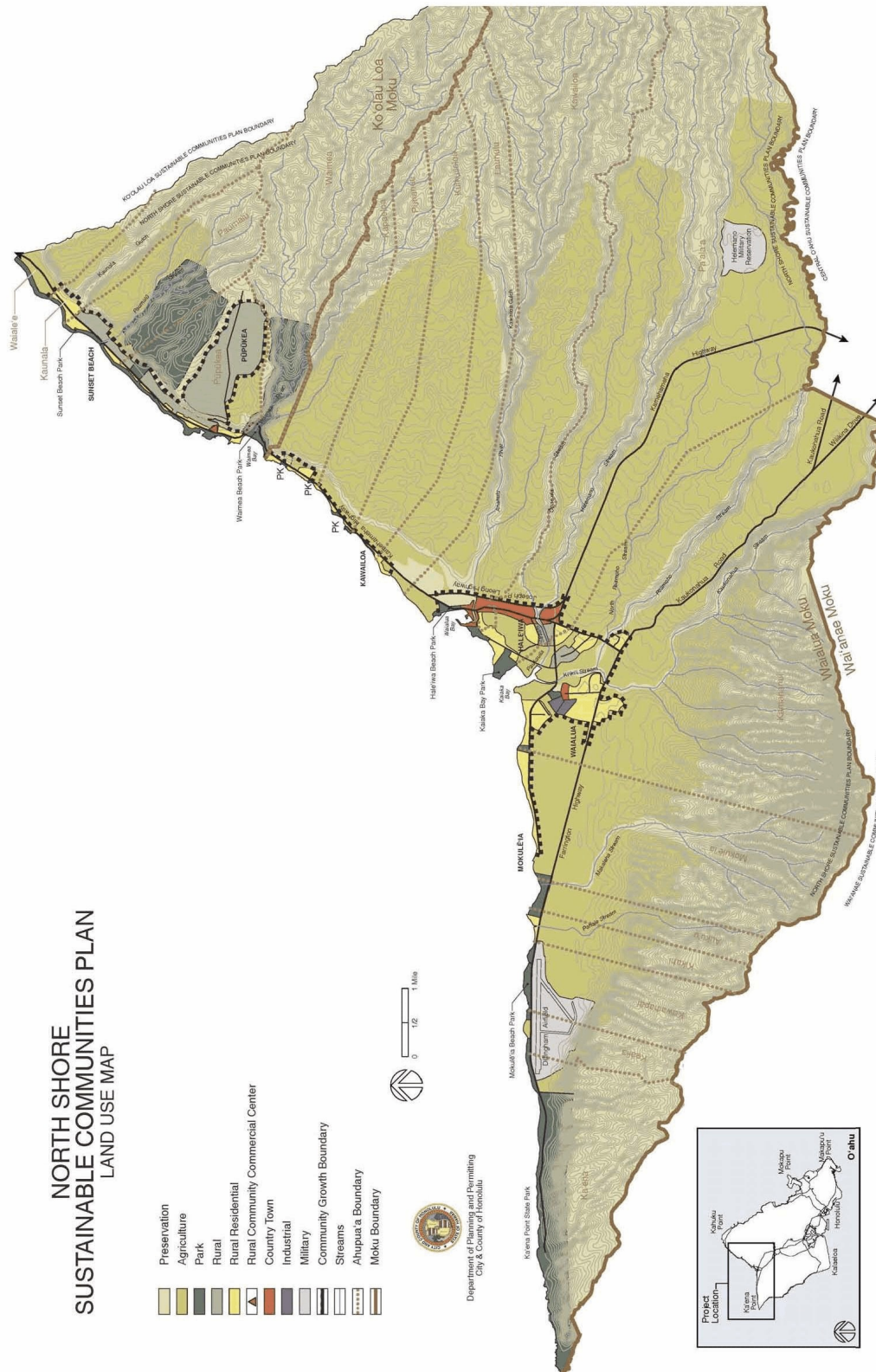
The Public Facilities Map illustrates the major infrastructure needed to implement the vision for the North Shore. It shows the location of existing facilities and conceptual location for some of the future required infrastructure facilities.

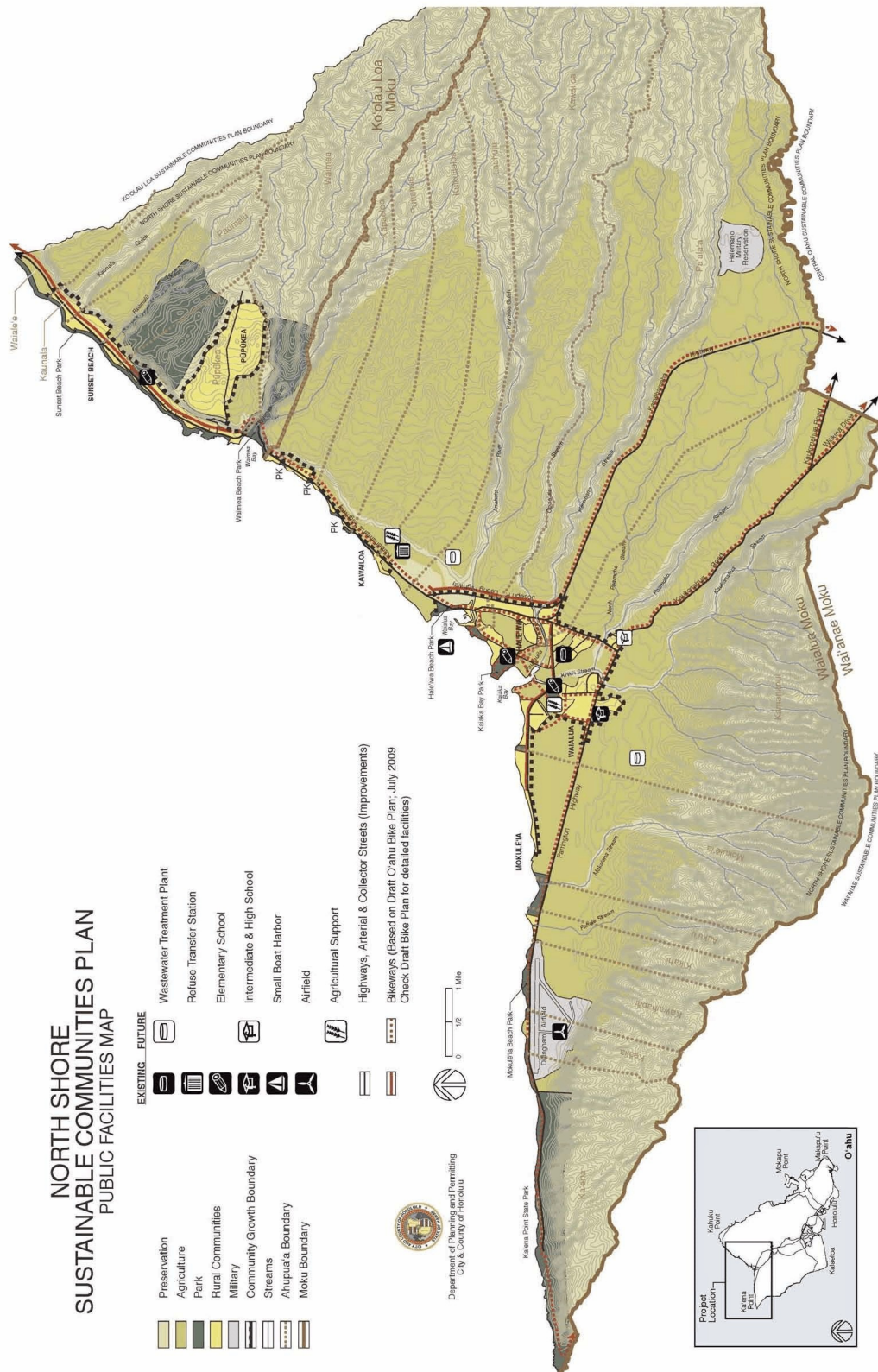
It is not meant to be amended between revisions of the Plan and should not be confused with the Public Infrastructure Map (PIM) used in the Capital Improvement Program budget process. Major public facilities which are to be funded through the City Capital Improvement Program budget appropriation must be shown on the PIM. The PIM is not part of the North Shore Sustainable Communities Plan, and is adopted and amended by resolution.

Projects which are not listed in the North Shore Sustainable Communities Plan or not shown on the North Shore Sustainable Communities Plan maps can still be added to the PIM by Council resolution if the Council finds them to be consistent with the vision and policies of the North Shore Sustainable Communities Plan.











## **Honolulu - Land Use**

## ARTICLE 9: WAIANAE

### Sections

- 24-9.1 Definitions
- 24-9.2 Applicability and intent
- 24-9.3 Adoption of the Waianae sustainable communities plan
- 24-9.4 Existing zoning and subdivision ordinances, approvals, and applications
- 24-9.5 Consistency
- 24-9.6 Review of development and other applications
- 24-9.7 Zone change applications
- 24-9.8 Annual capital improvement program review
- 24-9.9 Five-year review
- 24-9.10 Authority
- 24-9.11 Severability
- 24-9.12 Conflicting provisions

### § 24-9.1 Definitions.

For the purposes of this article, the following definitions apply unless the context clearly indicates or requires a different meaning.

**Charter.** The Revised Charter of the City and County of Honolulu 1973, as amended.

**City.** The City and County of Honolulu.

**Council.** The city council of the City and County of Honolulu.

**County.** The City and County of Honolulu.

**Department or Department of Planning and Permitting.** The department of planning and permitting of the City and County of Honolulu.

**Development.** Any public improvement project, or any public or private project requiring a zoning map amendment.

**Development Plan or Sustainable Communities Plan.** A plan document for a given geographic area which consists of conceptual schemes for implementing and accomplishing the development objectives and policies of the general plan for the several parts of the City and County of Honolulu.

**Director.** The director of planning and permitting.

**Environmental Assessment** or **EA.** A written evaluation prepared in compliance with the environmental council’s procedural rules implementing HRS Chapter 343 to determine whether an action may have a significant environmental effect.

**Environmental Impact Statement** or **EIS.** An informational document prepared in compliance with the environmental council’s procedural rules implementing HRS Chapter 343; and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic and social welfare of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

**Finding of No Significant Impact** or **FONSI.** A determination based on an environmental assessment that the subject action will not have a significant effect and, therefore, will not require the preparation of an environmental impact statement.

**Functional Plan.** The public facility and infrastructure plans prepared by public agencies to further implement the vision, policies and guidelines set forth in the Waianae SCP.

**General Plan.** The general plan of the City and County of Honolulu as defined by Charter § 6-1508.

**Hawaii Revised Statutes** or **HRS.** The Hawaii Revised Statutes, as amended.

**Planning Commission.** The planning commission of the City and County of Honolulu.

**Project Master Plan.** A conceptual plan that covers all phases of a development project. The “project master plan” describes how the project conforms to the vision for Waianae, and the relevant policies and guidelines for the site, the surrounding lands, and the region.

**Revised Ordinances of Honolulu** or **ROH.** The Revised Ordinances of Honolulu, as amended.

**Significant Zone Change.** A zone change which involves at least one of the following:

- (1) Changes in zoning of 10 or more acres of land to any zoning district or combination of zoning districts, excluding preservation or agricultural zoning districts;
- (2) Any change in zoning of more than five acres to an apartment, resort, commercial, industrial, or mixed use zoning district; or
- (3) Any development which would have a major social, environmental, or policy impact, or major cumulative impacts due to a series of applications in the same area.

**Special Area.** A designated area within the Waianae Sustainable Communities Plan area that requires more detailed planning efforts beyond what is contained in the Waianae SCP.

**Special Area Plan.** A plan for a special area.

**Unilateral Agreement.** A conditional zoning agreement made pursuant to § 21-2.80 or any predecessor provision that imposes conditions on a landowner or developer's use of the property at the time of the enactment of an ordinance for a zoning change.

**Vision.** The future outlook for the Waianae region extending out to the year 2035 and beyond that entails the planning and development of town centers and community gathering places, improvements of the transportation systems, restricting coastal urban, suburban, and resort development makai of Farrington Highway, preservation and restoration of streams, and protection of cultural sites and landscapes.

**Waianae SCP.** The Waianae Sustainable Communities Plan attached hereto as Exhibit A and made a part hereof.

(1990 Code, Ch. 24, Art. 9, § 24-9.1) (Ord. 12-3)

### § 24-9.2 Applicability and intent.

- (a) The Waianae SCP area encompasses the leeward coast of Oahu from Nanakuli to Kaena Point and is enclosed by the Leeward slopes of the Waianae mountain range.
- (b) It is the intent of the Waianae SCP to provide a guide for orderly and coordinated public and private sector development in a manner that is consistent with applicable General Plan provisions, including the designation of Waianae as a rural area and the agricultural land along the Waianae coast for farming, livestock production, and other types of diversified agriculture.
- (c) This article and the Waianae SCP are not regulatory. Rather, they are established with the explicit intent of providing a coherent vision to guide all new public and private sector development within Waianae. This article shall guide development for Waianae, public investment in infrastructure, zoning and other regulatory procedures, and the preparation of the city's annual capital improvement program budget.

(1990 Code, Ch. 24, Art. 9, § 24-9.2) (Ord. 12-3)

### § 24-9.3 Adoption of the Wai'anae sustainable communities plan.

- (a) This article is adopted pursuant to Charter § 6-1509 and provides a self-contained development plan document for Waianae. Upon enactment of this article, all proposed developments will be evaluated against how well they fulfill the vision for Waianae enunciated in the Waianae SCP and how closely they meet the policies and guidelines selected to implement that vision.
- (b) The plan entitled, "Waianae Sustainable Communities Plan," attached as Exhibit A is adopted by reference and made a part of Chapter 24, Article 9, Revised Ordinances of Honolulu.
- (c) Chapter 24, Article 1, entitled "Development Plan Common Provisions," in its entirety is no longer applicable to the Waianae SCP area. This article and the Waianae SCP, as adopted by reference by this ordinance, supersede any and all common provisions previously applicable to the Waianae area.

(1990 Code, Ch. 24, Art. 9, § 24-9.3) (Ord. 12-3)

**§ 24-9.4 Existing zoning and subdivision ordinances, approvals, and applications.**

- (a) All existing subdivisions and zoning approved before March 2, 2012\* for projects, including but not limited to those subject to unilateral agreements, shall continue to remain in effect following the enactment of this ordinance.
  - (b) Subdivision and zoning ordinances applicable to the Waianae SCP area enacted before March 2, 2012\* shall continue to regulate the use of land within demarcated zones of the Waianae SCP area until such time as the subdivision and zoning ordinances may be amended to be consistent with the revised Waianae SCP.
  - (c) Notwithstanding adoption of the revised Waianae SCP, applications for subdivision actions and land use permits accepted by the department for processing before March 2, 2012\* shall continue to be subject only to applicable ordinances and rules in effect when the application is accepted for processing.
- (1990 Code, Ch. 24, Art. 9, § 24-9.4) (Ord. 12-3)

**Editor's note:**

\* "March 2, 2012" is substituted for "the effective date of this ordinance."

**§ 24-9.5 Consistency.**

- (a) The performance of prescribed powers, duties, and functions by all city agencies shall conform to and implement the policies and provisions of this ordinance. Pursuant to Charter § 6-1511.3, public improvement projects and subdivision and zoning ordinances shall be consistent with the Waianae SCP, as adopted.
  - (b) Any questions of interpretation regarding the consistency of a proposed development with the Waianae SCP and the objectives and policies of the general plan shall ultimately be resolved by the Council.
  - (c) In determining whether a proposed development is consistent with the Waianae SCP, the responsible agency shall primarily take into consideration the extent to which the development is consistent with the vision, policies, and guidelines set forth in the Waianae SCP.
  - (d) Whenever there is a question regarding consistency between existing subdivision or zoning ordinances, including any unilateral agreement, and the Waianae SCP, the existing subdivision or zoning ordinances shall prevail until such time as they may be amended to be consistent with the Waianae SCP.
- (1990 Code, Ch. 24, Art. 9, § 24-9.5) (Ord. 12-3)

**§ 24-9.6 Review of development and other applications.**

The review of applications for zone changes and other development approvals will be guided by the vision of the Waianae SCP. Decisions on all proposed developments shall be based on the extent to which the project enabled by the development approval supports the policies and guidelines of the Waianae SCP.

The director may review other applications for improvements to land to help the responsible agency determine whether a proposed improvement supports the policies and guidelines of the Waianae SCP.

(1990 Code, Ch. 24, Art. 9, § 24-9.6) (Ord. 12-3)

**§ 24-9.7 Zone change applications.**

- (a) All zone change applications relating to land in the Waianae SCP area will be reviewed by the department of planning and permitting for consistency with the general plan, the Waianae SCP, and any applicable special area plan provisions.
  - (1) The director will recommend either approval, approval with changes, or denial. The director's written review of the application shall become part of the zone change report which will be sent to the planning commission and the city council.
  - (2) A project master plan shall be part of an EA or EIS for any project involving 10 acres or more of land. The director shall review the project master plan for its consistency with the Waianae SCP.
  - (3) Any development or phase of development already covered by a project master plan which has been fully reviewed under this article shall not require a new project master plan, provided the director determines that the proposed zone change is generally consistent with the existing project master plan for the affected area.
  - (4) If a final EIS has already been accepted for a development, including one accepted before March 2, 2012,\* then a subsequent project master plan shall not be required.
- (b) Projects which involve a significant zone change shall be required to submit an environmental assessment to the department of planning and permitting before an application for a zone change being accepted. Any development or phase of a development which has already been assessed under the National Environmental Policy Act (NEPA), HRS Chapter 343 (Hawaii Environmental Policy Act, HEPA), ROH Chapter 25, or this article, and for which a FONSI has been filed or a required EIS has been accepted, shall not be subject to further EA or EIS requirements under this chapter unless otherwise required by NEPA or HEPA.
- (c) The environmental assessment shall be reviewed by the department of planning and permitting. Based on review of the environmental assessment, the director will determine whether an environmental impact statement will be required or whether a FONSI may be issued.
- (d) If an environmental impact statement is required, the environmental impact statement must be accepted by the director before a zone change application may be initiated.
- (e) Zone changes must be processed in accordance with this section, Section 5.5 of the Waianae SCP and Chapter 21.

(1990 Code, Ch. 24, Art. 9, § 24-9.7) (Ord. 12-3)

***Editor's note:***

\* "March 2, 2012" is substituted for "the effective date of this ordinance."

**§ 24-9.8 Annual capital improvement program review.**

Annually, the director shall work jointly with the director of budget and fiscal services and the city agencies to review all projects in the city's capital improvement program and budget for compliance and consistency with the general plan, the Waianae SCP and other development plans, any applicable special area plan provisions, and

the appropriate functional plans. The director of planning and permitting will prepare a written report of findings to be submitted to the council in accordance with Charter § 6-1503.  
(1990 Code, Ch. 24, Art. 9, § 24-9.8) (Ord. 12-3)

**§ 24-9.9 Five-year review.**

- (a) The department of planning and permitting shall conduct a comprehensive review of the Waianae SCP, adopted by reference in § 24-9.3(b), every five years after the plan's adoption and shall report its findings and recommended revisions to the council.
  - (b) The Waianae SCP will be evaluated to assess the appropriateness of the plan's regional vision, policies, guidelines, and implementing actions, as well as its consistency with the general plan.
  - (c) Nothing herein contained shall be construed as prohibiting the processing of a revision to the Waianae SCP in the event either the biennial report of the director or council recommends consideration of such a revision, pursuant to the Charter.
- (1990 Code, Ch. 24, Art. 9, § 24-9.9) (Ord. 12-3)

**§ 24-9.10 Authority.**

Nothing in this article shall be construed as an abridgement or delegation of the responsibility of the director, or of the inherent legislative power of the council, to review or revise the Waianae SCP pursuant to the Charter and the above procedures.  
(1990 Code, Ch. 24, Art. 9, § 24-9.10) (Ord. 12-3)

**§ 24-9.11 Severability.**

If this article or the application thereof to any person or property or circumstances is held invalid, such invalidity shall not affect other provisions or applications of this article which can be given effect without the invalid provision or application, and to this end the provisions of this article are declared to be severable.  
(1990 Code, Ch. 24, Art. 9, § 24-9.11) (Ord. 12-3)

**§ 24-9.12 Conflicting provisions.**

This article shall prevail should there be any conflict with the common provisions or any other provisions under Chapter 24.  
(1990 Code, Ch. 24, Art. 9, § 24-9.12) (Ord. 12-3)

# **WAI'ANAE SUSTAINABLE COMMUNITIES PLAN**



Department of Planning and Permitting  
City & County of Honolulu



**FEBRUARY 2012**

EXHIBIT A, BILL 50 (2011), CD2



## **Honolulu - Land Use**

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## **Honolulu - Land Use**

## PREFACE

The Wai‘anae Sustainable Communities Plan has been prepared in accordance with the Charter-prescribed requirements for Development Plans and is to be accorded force and effect as such for all Charter- and ordinance-prescribed purposes. It is one of a set of eight community-oriented plans intended to help guide public policy, investment, and decision-making over the next 25 years. Each of the plans addresses one of eight planning regions of O‘ahu, responding to specific conditions and community values of each region. The map in Chapter 1 illustrates these planning regions.

Of the eight documents, the plans for ‘Ewa and the Primary Urban Center, to which growth and supporting facilities will be directed over the next 25 years, have been entitled “Development Plans” (DPs). They will be the policy guide to development decisions and actions needed to support that growth.

Plans for the remaining six areas, which are envisioned as relatively stable regions in which public programs will focus on supporting existing populations, have been entitled “Sustainable Communities Plans” (SCPs) in order to appropriately indicate their intent.

The Plan for the Wai‘anae District is a Sustainable Communities Plan. This Plan’s vision statement and supporting provisions are oriented to maintaining and enhancing the region’s ability to sustain its unique character, current population, growing families, rural lifestyle, and economic livelihood, all of which contribute to the region’s vitality and future potential.

There has been a recent surge in widespread community discussions, actions, and laws adopted to address sustainability. In 2005, the State Legislature convened a statewide group to draft a Hawai‘i 2050 Plan, whose primary purpose is to provide policy recommendations for creating a sustainable Hawai‘i. In 2007, greenhouse gas emissions goals for 2020 were enacted. Public service announcements dealing with conserving water and electricity abound. The concept of buildings that are designed, built, and occupied with environmental considerations at the forefront largely did not exist when the current Development Plans and Sustainable Communities Plans were adopted. This setting raises the question of the role of the Development Plans and Sustainable Communities Plans. Are they the City’s version of a sustainability plan?

The answer is that they are the land development portion of a larger blueprint for sustainability. As discussed below, the General Plan sets long term goals for the City and County of Honolulu, across 11 major elements. Perhaps its most substantive chapter is the one that deals with population, and hence land development distribution. It sets the growth management strategy for O‘ahu. The Development Plans and Sustainable Communities Plans provide more detail on this land management strategy, assuring that how we use the land now, and in the future, responds to the three major elements of a Sustainable Place: economic health, social equity, and environmental protection.

The issues addressed either directly or indirectly by these regional plans certainly overlap with other planning responsibilities of other departments, such as water delivery and consumption, crime reduction, increasing public health, and developing responsive transportation systems. Collectively, these efforts comprise the strategy of developing a Sustainable Future for O‘ahu.

## INTEGRATING PRINCIPLES OF SUSTAINABILITY INTO DECISION-MAKING PROCESSES

A community that can successfully manage change will flourish and prosper in the future. For this plan, this means ensuring that planned growth and development respects and adheres to the principles of sustainability.

These principles of sustainability are intended to promote the long-term health of the land and its people, and its community resources for current and future generations:

- Protect agricultural lands, physical and biological resources, and where appropriate, open spaces and view planes.
- Use resources so they are not depleted, permanently damaged, or destroyed.
- Encourage planning, development, and construction technologies that minimize negative environmental impacts.
- Respect the cultural, social, and physical resources that shape and reinforce residents' sense of community and quality of life.
- Guide the process of change. Strive to make decisions based on an understanding of the effects such decision will have on the land and community resources.
- Strive for balance between economic prosperity, social and community well-being, and environmental stewardship.
- As an integral part of the planning process, consider the long-term impact of proposed actions and prepare plans that can accommodate the needs of future generations accordingly.

## **P.1 THE SUSTAINABLE COMMUNITIES PLAN PROCESS**

This document is the culmination of a planning program led by the City and County of Honolulu's department of planning and permitting. This planning process encouraged and enabled significant involvement from the region's neighborhood boards, community associations, business leaders, religious and cultural organizations, private landowners, institutions, and numerous individuals.

## **P.2 THE HONOLULU LAND USE PLANNING AND MANAGEMENT SYSTEM**

The City and County of Honolulu guides and directs land use and growth through a three-tier system of goals, objectives, policies, guidelines, and regulations. The General Plan forms the first tier of this system. First adopted by City Council resolution in 1977, the General Plan is a relatively brief document, consisting primarily of one-sentence statements of goals, objectives, and policies. It has been amended several times, but the basic objectives and policies set forth in the 1977 plan remain intact.

The second tier of the system is formed by the Development Plans, which are adopted and revised by ordinance. These plans address eight geographic regions of the island, including the Primary Urban Center, East Honolulu, Central O'ahu, 'Ewa, Wai'anae, North Shore, Ko'olauloa, and Ko'olau Poko. Under the current revision program, the Primary Urban Center and 'Ewa plans retain the title "Development Plan." The plans for the other regions are now referred to as "Sustainable Communities Plans" to reflect their policy intent.

The third tier of the system is composed of the implementing ordinances, including the Land Use Ordinance (Honolulu's zoning code) and the City's Capital Improvement Program. Mandated by the City Charter, these ordinances constitute the principle means for implementing the City's plans. These ordinances are required to be consistent with the General Plan, the Development Plans, and each other.

In addition to these three Charter-mandated tiers, the Development Plans are supplemented by two planning mechanisms that are not required by the Charter: the functional planning process and special area planning. Functional planning activities, some of which are mandated by state or federal regulations, provide long-range guidance for the development of public facilities such as the water system, wastewater disposal, and transportation. Special area plans are intended to give specific guidance for neighborhoods, communities, or specialized resources.

### **P.3 AUTHORITY OF THE DEVELOPMENT PLANS AND SUSTAINABLE COMMUNITIES PLANS**

The authority for the Development Plans and Sustainable Communities Plans (hereinafter referred to as “Development Plans” for simplicity) is derived from the City Charter, which mandates preparation of a General Plan and Development Plans to guide “the development and improvement of the city.” Together with the General Plan, the Development Plans provide policy guidance for the land use and budgetary actions of the City.

The Charter provides that “public improvement projects and subdivision and zoning ordinances shall be consistent with the development plan for that area.” Although the Development Plans are not themselves regulatory and require implementing ordinances (the “third tier” discussed in Section P.2 above), they guide the regulators and decision-makers who are the implementers. They are policy tools and are to be used, in conjunction with the programs and budgets of the City, to accomplish the objectives of the City and as guides for decisions made by the private sector. Consistent with the Charter’s description of the Development Plans as “conceptual schemes” and “a policy guide,” the language, maps, and illustrations of the Development Plans should not be regulatory.

### **P.4 WHY THE DEVELOPMENT PLANS HAVE BEEN REVISED**

As amended in 2000, this Plan is to be reviewed every five years to:

1. Measure progress toward achieving the Vision, Policies, and Guidelines, and determine if they are still appropriate;
2. Identify land use development trends and potential new development proposals that have implications for this Plan and the General Plan;
3. Identify relevant, significant issues that the previous Plan did not adequately address;
4. Propose modified or new Policies and Guidelines for those on which satisfactory progress has not been achieved, and for emerging or new needs that require attention.

## EXECUTIVE SUMMARY

The District of Wai‘anae is characterized by rugged mountains and beautiful welcoming beaches. Its people have historically been as rugged as its mountains and as welcoming as its beaches. In times of old and into the present-day, the people of Wai‘anae have been independent, but have also allowed their home to be a place of refuge. This Plan seeks to share the people of Wai‘anae’s desire to maintain their home’s rural character, built upon a Hawaiian cultural foundation, added to by various immigrant cultures, while allowing minimal increases of housing, resort, and light industrial development. Future development in Wai‘anae should encourage agriculture, renewable energy generation, green technology, ecosystem and cultural site restoration, and economic development, all for the benefit of future generations. If development does not meet these criteria, then it should not be approved.

This Plan is organized in five chapters and an appendix, as follows:

**Chapter 1: Wai‘anae’s Role in O‘ahu’s Development Pattern** defines the region’s role and identity within the overall framework of islandwide planning and land management.

**Chapter 2: The Vision for the Future of the Wai‘anae District** summarizes the community’s vision for the future of the region, and describes important elements of that vision.

**Chapter 3: Land Use Policies and Guidelines** is the Plan’s policy core. It provides policy guidance for the region’s various land use elements.

**Chapter 4: Public Facilities and Infrastructure Policies and Guidelines** provides Policies and Guidelines needed to support the planned land uses.

**Chapter 5: Implementation** addresses needs for carrying out provisions outlined by the Plan.

**Appendix:** The Conceptual Maps illustrate the long-range Vision for the Wai‘anae District and the major land use, open space, and public facility Policies that are articulated in the Plan.

Summarized below are the key recommendations contained in each of these chapters.

## CHAPTER 1: WAI‘ANAE’S ROLE IN O‘AHU’S DEVELOPMENT PATTERN

Consistent with the directed growth policies of the City’s General Plan, the Wai‘anae District is targeted for very little growth over the 25-year timeline of this Plan. The focus of the Plan is thus preservation of the rural landscape and of the rural lifestyle of the Wai‘anae District’s people.

It is also noted in this chapter that land development and population trends in the Wai‘anae District over the past 40 years are such that “keeping Wai‘anae country” will be a difficult policy to implement. Since 1950, this District’s population has increased from only 7,000 people to almost 50,000 people by 2010. Together with this population growth, there has been a tremendous growth in all forms of urban and suburban development, including residential, commercial, industrial, and public infrastructure and facilities.

Wai‘anae is the most “developed” of O‘ahu’s rural districts. Without strong City policies and actions, this District may soon lose its remaining rural qualities.

## CHAPTER 2: THE VISION FOR THE FUTURE OF THE WAI‘ANAE DISTRICT

This chapter presents the overarching concepts and goals of the Wai‘anae Sustainable Communities Plan. It includes the **VISION STATEMENT** for the long-range future of the Wai‘anae District, a brief summary of the **COMMUNITY PARTICIPATION PROCESS** by which the Wai‘anae Sustainable Communities Plan was updated from 2007 to 2010, and a description of the 10 **VISION ELEMENTS**.

The **VISION STATEMENT**:

***THE VISION FOR THE FUTURE OF THE WAI‘ANAE DISTRICT IS THAT ALL MEMBERS OF OUR COMMUNITY – FROM THE KŪPUNA (GRANDPARENTS/ELDERS) TO THE MO‘OMO‘O (CHILDREN, INCLUDING THOSE YET UNBORN) HAVE THEIR ESSENTIAL NEEDS MET.***

*We envision our physical environment as rural and pristine, protected from degradation so that we can enjoy her elements: the kai (salt waters), wai (fresh waters), ea (air, sky and heavens), ‘āina (land, soil), and all of the animate and inanimate aspects of nature which make up our home. We have access to our mountains, valleys, and sea. We have a variety of economic opportunities. Lastly and most importantly, our children are surrounded and guided by their strong, kind, and loving ‘ohana (family).*

The **Vision Elements** include the following:

1. Recognize the traditional *ahupua‘a* of the Wai‘anae District and adapt the *ahupua‘a* concept as a framework for land use and open space planning
2. Delineate the four major land use types: Preservation Lands, Agricultural Lands, Rural Community Areas, and Coastal Lands
3. Restrict coastal urban, suburban, or resort development *makai* of Farrington Highway
4. Preserve all lands north of Kepuhi Point as open space lands
5. Preserve and restore streams and stream corridors
6. Preserve and protect cultural sites and cultural landscapes
7. Improve transportation systems within the District
8. Designate, plan, and develop Town Centers and Community Gathering Places for Wai‘anae, Nānākuli, Lualualei, and Mākaha
9. Develop and support community-based businesses
10. Government agencies should partner with community-based organizations in order to better manage Wai‘anae’s natural and cultural resources

## CHAPTER 3: LAND USE POLICIES AND GUIDELINES

This chapter of the Wai‘anae Sustainable Communities Plan presents **Policies** and **Guidelines** for the principal types of land use that should be provided for in the District. The Vision for the future of the Wai‘anae District described in Chapter 2 will be implemented through the application of these Policies and Guidelines.

The first section provides an overview of the existing conditions in the Wai‘anae District – the land use, population, economics, and environment. The other 11 sections deal with each of the major types of land use within the District.

The principal land use Policies are summarized as follows:

**3.2 Open Space and Important Views**

- Do Not Allow Significant Negative Impacts on Large Open Spaces
- Address Project Impacts on Open Space
- Do Not Allow Significant Negative Impacts on Important Public Views
- Address Project Impacts on Important Public Views
- Limit Urban Development
- Government Agencies Should Partner with Community-Based Organizations in order to Better Manage Wai‘anae’s Open Spaces
- Minimize Outdoor Lighting

**3.3 Coastal Lands**

- Do Not Allow New Coastal Development
- Incrementally Acquire Coastal Properties
- Discourage Shore Armoring
- Government Agencies Should Partner with Community-Based Organizations in order to Better Manage Wai‘anae’s Coastal Lands
- Prohibit Projects that Negatively Impact Coastal Lands
- Prevent the Introduction of Alien Species
- Maintain Beaches/Sand

**3.4 Mountain Forest Lands**

- Protect Mountain Forest Lands
- Develop Forest Restoration Program
- Do Not Grant Permits that Negatively Impact Mountain Forest Lands
- Government Agencies Should Partner with Community-Based Organizations in order to Better Manage Wai‘anae’s Mountain Forest Lands
- Protect Rare and Endangered Species
- Prevent the Introduction of Alien Species
- Allow Public Access to Hiking Trails
- Develop Wildfire Management Plan

**3.5 Streams and Floodplains**

- Establish Stream Conservation Corridors
- Restrict Uses Within the Stream Conservation Corridors
- Establish Minimum In-Stream Flow Standards
- Government Agencies Should Partner with Community-Based Organizations in order to Better Manage Wai‘anae’s Streams and Stream Corridors

**3.6 Historic and Cultural Resources**

- Preserve Major Concentration of Cultural Sites and Allow Access for Cultural Practices
- Do Not Allow Development that Negatively Impacts Important Cultural Sites or Access to such Sites
- Government Agencies Should Partner with Community-Based Organizations in order to Better Manage Wai‘anae’s Cultural Sites
- Create Signage for Cultural Sites
- Protect and Allow Access for Cultural Practices at Sites on City-Owned Lands
- Protect and Allow Access for Cultural Practices at Sites on Federal, State, or Private Lands
- Conduct a Thorough Cultural Survey of the Wai‘anae District

### 3.7 Agricultural Lands

- Maintain the Boundary for Agricultural Lands
- Support Agriculture through Zoning Regulations and Tax Assessments
- Limit the use of “Agriculture” Land to Agriculture and other Compatible Land Uses
- Prohibit Incompatible Land Uses of “Agriculture” Land
- Coordinate Farmer’s Markets and Other Low-Cost Marketing Outlets

### 3.8 Residential Land Use

- Do Not Increase Lands Designated “Residential”
- Coordinate with the Department of Hawaiian Home Lands (DHHL)
- Preserve Agricultural Lands
- Support Home-Based Businesses
- Although Allowed to be Exempt by State Law, 201 H Projects Should Meet Wai‘anae Sustainable Communities Plan Guidelines

### 3.9 Commercial and Industrial Uses

- Encourage the Continuation of Existing Commercial Establishments
- Encourage Establishment of Commercial Businesses that Serve the Community
- Support the Continued Viability of the Mākaha Resort
- Prohibit “Big Box” Stores
- Encourage Light Industrial Businesses
- Do Not Allow Heavy Industry

### 3.10 Country Towns, Rural Community Centers and Gathering Places

- Establish a Phased Development Program

### 3.11 Parks and Recreational Areas

- Develop Adequate Public Parks
- Prohibit More Golf Courses That Compete with Agriculture or Open Space Resources
- Plan for a System of Hawaiian Cultural and Educational Parks

### 3.12 Military Land Use

- Preserve and Transition Military Lands to Civilian Use
- Organize and Implement Cooperative Programs

## CHAPTER 4: PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES

This chapter of the Wai‘anae Sustainable Communities Plan presents **Policies** and **Guidelines** for the principal infrastructure systems that the Wai‘anae Community would like to see provided for the District.

The following Policies are overarching to many of the infrastructure systems included in this chapter:

- The latest technology that allows the Wai‘anae Community to be as sustainable, or “green” as possible, should be implemented whenever possible (while remaining consistent with other community objectives).
- Rural Infrastructure Standards should be considered and, where possible, developed by the City. The goal of this recommendation is to allow the area to maintain its country feel, with features such as narrower roads, and still ensure that they would be safe and the City would maintain them.

The principal infrastructure Policies are as follows:



**4.1 Transportation Systems**

- Implement Farrington Highway Safety Improvements for Pedestrians and Motorists
- Beautify Farrington Highway
- Establish an Emergency Bypass Road
- Enhance Public Transportation
- Encourage Other Modes of Transportation

**4.2 Potable and Nonpotable Water Systems**

- Implement Watershed Protection Strategies to Improve Forest Health & Perennial Stream Flows
- Encourage Water Conservation
- Diversify Water Supply, Matching Quality with Use
- Support the Goals and Objectives of the Adopted Wai‘anae Watershed Management Plan

**4.3 Wastewater Collection and Treatment Systems**

- Continue Phased Program for Replacement of Old Sewer Lines
- Improve the Wai‘anae Wastewater Treatment Plant
- Coordinate with DHHL regarding Sewer Connections

**4.4 Electrical Power and Communications**

- Reduce the Visual Impact and Improve Safety of Utility Lines and Poles and Reliability of Service
- Encourage the Development of Alternative Energy Sources

**4.5 Drainage Systems**

- Develop Wai‘anae District Local Drainage Improvements Plan and Program
- Establish a Sediment Control Program

**4.6 Solid Waste Handling and Disposal**

- Enforce Anti-Dumping Laws
- Encourage Green Waste Composting

**4.7 Civic, Public Safety and Education Facilities**

- Improve Quality of Facilities and Adequacy of Staffing
- Selection of Sites for New Schools should comply with the WSCP Criteria
- Consider Multi-Purpose Function of Schools
- Encourage Charter Schools
- Increase Ambulance Service
- Provide Adequate Emergency Shelters

**4.8 Health Care Facilities**

- Support Quality, Community Health Care Facilities
- Assess the Need for New Health Care Facilities and Services

**CHAPTER 5: IMPLEMENTATION**

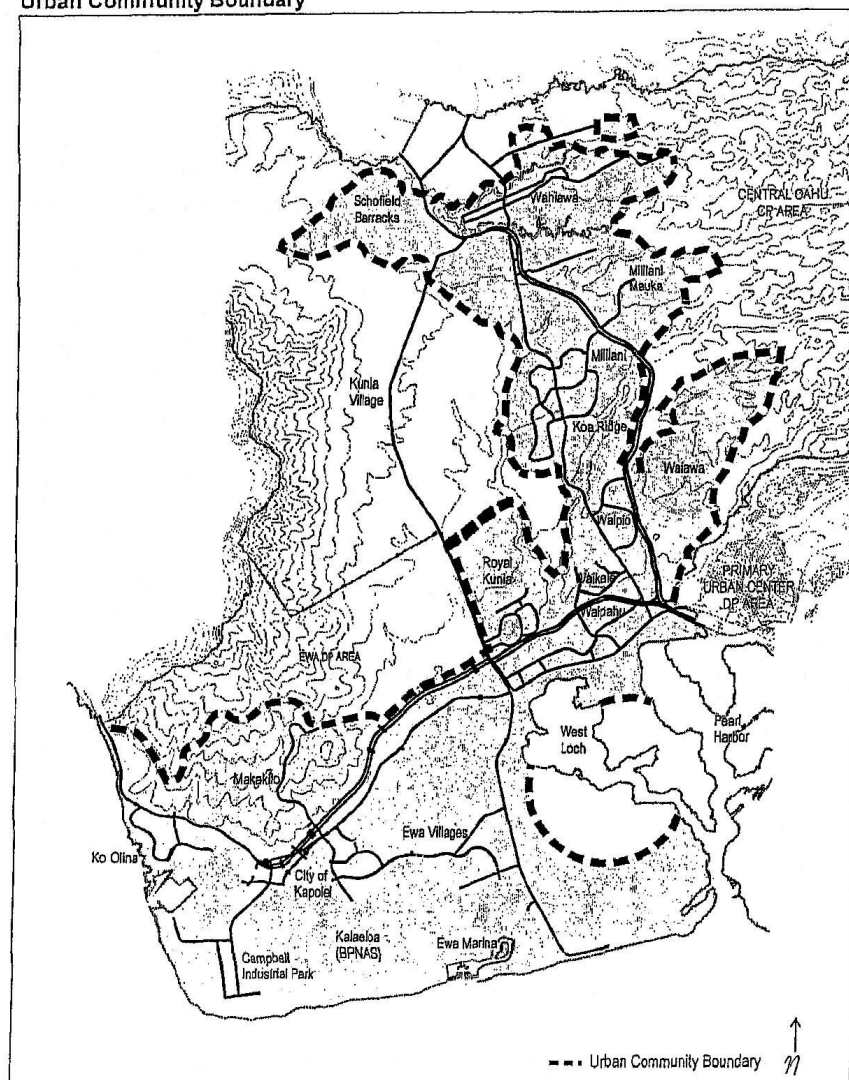
This chapter discusses the various measures that support implementation of this Plan, including the regulatory mechanisms, physical improvements, and other actions that are needed to realize the Plan’s vision. Section 5.2 presents an Implementation Matrix to help organize and facilitate plan implementation. The Implementation Matrix,

which is based on the policies and guidelines presented in Chapters 3 and 4, identifies the specific actions, corresponding plans and/or codes, and public and private entities responsible for implementation.

## APPENDIX: THE CONCEPTUAL MAPS

This appendix contains three colored maps that illustrate some of the Plan's Policies and Guidelines. These maps are intended to be illustrations of the text, and therefore should there be any conflicts between the maps and the text, the text shall govern.

Exhibit 2.1  
Urban Community Boundary



## **Honolulu - Land Use**

## 1. WAI‘ANAE’S ROLE IN O‘AHU’S DEVELOPMENT PATTERN

The General Plan for the City and County of Honolulu sets forth broad policies for the future harmonious growth and development of the island of O‘ahu. Revised in 2002, the General Plan’s section on “Population” establishes several key growth management policies for the rural districts of O‘ahu, including the Wai‘anae District:

***“Objective C***

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

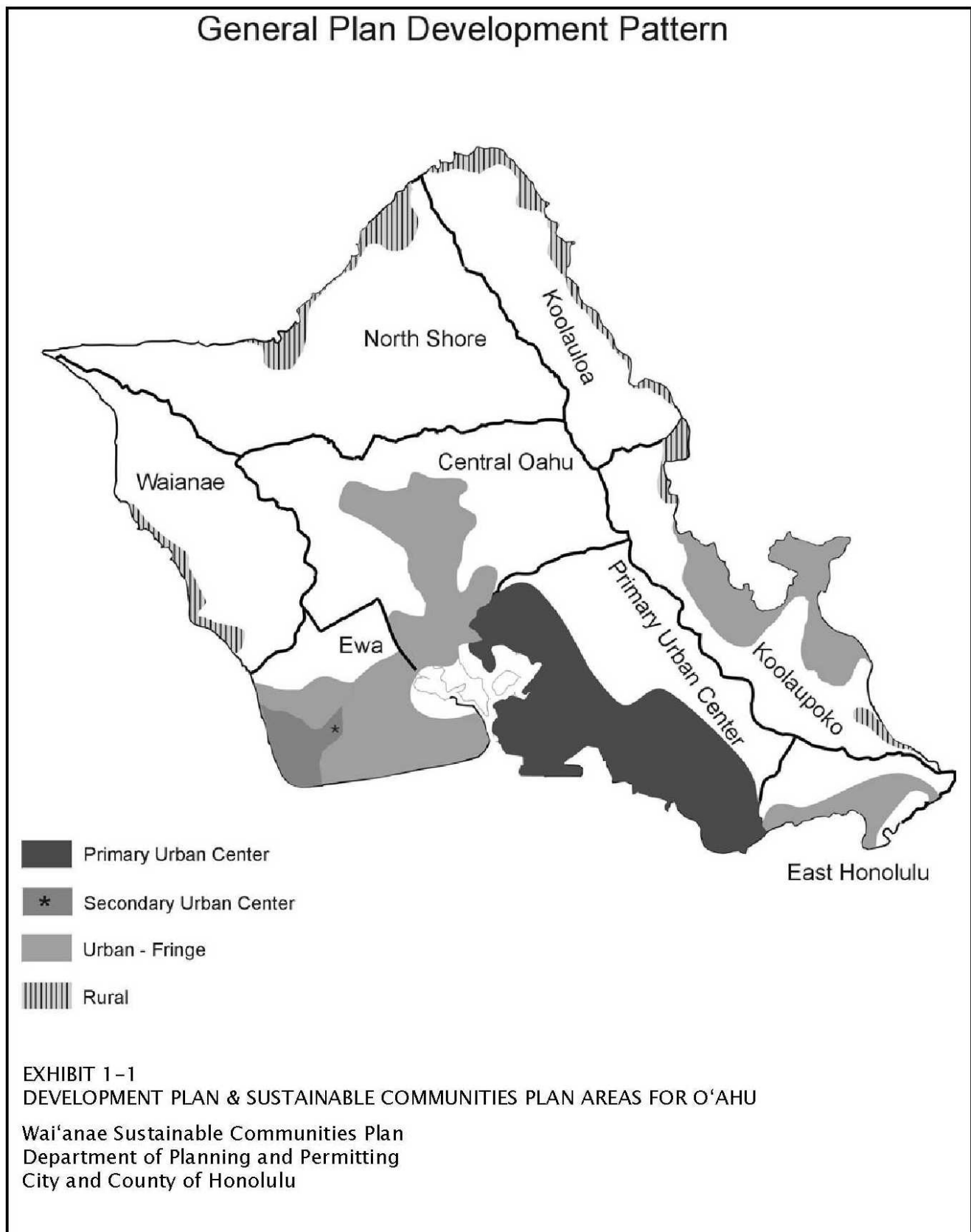
*Policy 1: Facilitate the full development of the primary urban center.*

*Policy 2: Encourage the development within the secondary urban center at Kapolei and the Ewa and Central Oahu urban-fringe areas to relieve development pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.*

*Policy 3: Manage physical growth and development in the urban-fringe and rural areas so that:*

- a. An undesirable spreading of development is prevented; and*
- b. Their population densities are consistent with the character of development and environmental qualities desired for such areas.”*

The map on the following page demonstrates the General Plan’s intended development pattern, as well as the boundaries of the eight Development Plan Areas for O‘ahu.



The 1989 Amendments to the General Plan included some important language on rural areas that applies to Wai'anae (Physical Development and Urban Design, Object D, Policy 4):

*“Maintain rural areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses.”*

Or, more simply stated, “keep the country, country.”

Thus, the General Plan sets forth policies that emphasize the preservation of agriculture and rural land uses in Wai'anae, as well as in the other rural districts of the North Shore, Ko'olaupoko, and parts of Ko'olau Poko. The General Plan directs that Wai'anae's proportional share of O'ahu's 2010 population should be 4.0 percent in 2025. However, according to the 2000 U.S. Census, Wai'anae's population was 42,259, which represented 4.8 percent of O'ahu's total population of 876,156. The City and County of Honolulu's department of planning and permitting now estimates that Wai'anae's proportion of O'ahu's population will be 4.9 percent in 2010, and will remain at 4.7 percent in 2035.

The community has expressed numerous concerns regarding population counts and projections for Wai'anae. To begin with, some believe that the most recent U.S. Census (2000) count for the District was low. This is primarily due to many homeless people not being counted. During the past five years, there has been a significant increase in the homeless population in Wai'anae, many of whom are from other areas of O'ahu. There is also a growing number of “hidden homeless” people – those who are living “doubled up” or “tripled up” with friends or family. This issue is discussed more in-depth in Chapter 3 (Section 3.1.2).

In addition, some residents have expressed concern with the General Plan's use of a distributive percentage for Wai'anae's population for two reasons. First, such population “quotas” have not been achieved and cannot be enforced. Second, if O'ahu's total population eventually reaches 1.5 million, then Wai'anae's “share” at 4 percent would be 60,000. The District's infrastructure cannot currently handle 60,000 people, and the rural character of the area would be lost. Thus, some community members believe that a maximum carrying capacity may need to be determined for the District. It would still be difficult to enforce a maximum capacity, but it could drastically limit new housing developments within the District.

Land development and population trends in the Wai'anae District over the past 40 years suggest that “keeping Wai'anae country” will be a difficult policy to implement. The Farrington Highway corridor in the District, from Nānākuli to Mākaha, is already heavily developed. This developed coastal zone is about 8 miles long, and varies in width from about 1/4 mile to over 1 mile. Land uses on the *mauka* side of Farrington Highway are typically suburban types of use rather than rural uses: single-family residential small lot development, multi-family residential development, shopping centers, a scattering of small commercial and industrial establishments, and various institutional and public uses including schools, health centers, fire and police stations, and a regional wastewater treatment plant. The *makai* side of the highway is dominated by beaches and beach parks, with some small subdivisions and a few larger apartment buildings. Recently developed residential subdivisions are expanding this coastal development strip into the rural farm valleys of the District.

Overall, important parts of the District's infrastructure are being stressed and overloaded, especially Farrington Highway, the sewer system, the public school system, and police and fire protection services.

The Wai‘anae Sustainable Communities Plan addresses these core issues of preservation, growth, development, population, housing, infrastructure, and public facilities.

## 2. THE VISION FOR THE FUTURE OF THE WAI‘ANAE DISTRICT

The purpose of Chapter 2 is to present the overarching concepts and goals of the Wai‘anae Sustainable Communities Plan. Chapters 3 and 4 then provide the specific **Policies** and **Guidelines** that are intended to implement these ideas. This Chapter includes the following:

- 2.1 VISION STATEMENT for the long-range future of the Wai‘anae District,
- 2.2 Summary of the COMMUNITY PARTICIPATION PROCESS by which the Wai‘anae Sustainable Communities Plan was updated, and
- 2.3 Description of the 10 VISION ELEMENTS.

### 2.1 VISION STATEMENT

***THE VISION FOR THE FUTURE OF THE WAI‘ANAE DISTRICT IS THAT ALL MEMBERS OF OUR COMMUNITY – FROM THE KŪPUNA (GRANDPARENTS/ELDERS) TO THE MO‘OMO‘O (CHILDREN, INCLUDING THOSE YET UNBORN) HAVE THEIR ESSENTIAL NEEDS MET. Our physical environment is rural and pristine, protected from degradation so that we can enjoy her elements: the kai (salt waters), wai (fresh waters), ea (air, sky and heavens), ‘āina (land, soil), and all of the animate and inanimate aspects of nature which make up our home. We have access to our mountains, valleys, and sea. We have a variety of economic opportunities. Lastly and most importantly, our children are surrounded and guided by their strong, kind, and loving ‘ohana (family).***

#### 2.1.1 Inside Our Vision

This Vision Statement comes from the longer passage below, which was developed by a group of Wai‘anae’s long-time community leaders who have been intimately involved in many of the community’s planning efforts. It explains the deeper meaning of the Vision Statement and how it relates to the physical planning Guidelines and Policies found in this Plan:

***“THE VISION FOR THE FUTURE OF THE WAI‘ANAE DISTRICT IS THAT OUR MO‘OMO‘O (CHILDREN INCLUDING THOSE YET UNBORN) WILL BE ABLE TO HAVE THEIR ESSENTIAL NEEDS MET.***

“To fulfill this vision, we are called upon to keep in the forefront of our planning, the children of our future. All decisions made which impact the Wai‘anae society, must be made with the children in the forefront of our minds, including:

“A child must have a safe and healthy physical environment in which to be raised; we must maintain our environment in as pristine condition as possible. It therefore behooves us to protect the physical environment from degradation which would deprive our children of the use and enjoyment of her elements: the *kai* (salt waters), *wai* (fresh waters), *ea* (air, sky and heavens), *‘āina* (land, soil), and all of the animate and inanimate aspects of nature which make up this physical environment. Our children must have access to our mountains, valleys, and sea. Activities that threaten our environmental conditions or interfere with such access must be treated with the greatest caution, and if approved due to special circumstances, must have deadlines for which the activities will be discontinued and reversed in order to return the environmental conditions and accessibility to its earlier state.



“Interlaced within a child’s physical environment is a social environment containing cultures, religions, history, family life, educational experiences, health, and healthy living conditions. Our children must be raised within a culture of caring which expresses respect for all peoples, encourages opportunities for love, compassion, kindness, and inclusiveness. Our children must be raised in environments of peace and righteousness – in *pono*. These environments include the child’s needs for healthy relationships within family, neighborhoods, and wider *ahupua‘a*.

“Opportunities for our children to have religious or spiritual guidance and the ability to identify their own chosen religious or spiritual followings (if any) without undue pressure from peers, institutions, or family members should be available to every child.

“Our children should be raised with a clear understanding of their history, and the legacy of the Native Hawaiian people and of the Hawaiian Nation. They must be given the opportunity to compare people’s histories, to explore their own visions of their futures, to challenge authority, and to question ‘conventional wisdom.’

“Our children must be raised in an environment of strong, kind, and loving families, and larger circles of support in an extended lei of guiding children by an extended ‘*ohana*.

“Our children must be given educational opportunities compatible with their ways or styles of learning. Their educational experiences should include literacy and oracy. It must include science and art, poetry and politics, physical and mental development, character building, and responsibility. Every child’s educational challenge should be met with vigor and determination. Education must support a full lifetime of learning. Education should be a community practice and not merely another bureaucratic function of a society.

“Our children should have immediate access to health and food resources: medicine and food from our environment to meet their physical as well as spiritual, emotional, and psychological needs. They should have knowledge of their own conditions, and have experience and opportunity in using a variety of medical and sustenance methods to meet their needs.

“All changes to the physical environment planned by the society must be done within this framework of the community vision.”

### 2.1.2 Native Hawaiian Connection to the Land

The above Vision Statement also demonstrates many Wai‘anae community members’ desire to incorporate Native Hawaiian values into the Wai‘anae Sustainable Communities Plan. The community contains a large percentage of people who identify themselves as at least partly Native Hawaiian or other Pacific Islander (62%), and many others who have lived in the area for a significant amount of time and have adapted to the local culture. The majority of community members involved in this Sustainable Communities Plan (SCP) review process strongly supported the idea of incorporating Native Hawaiian values into the Plan as much as possible. One long-time resident, who is of Native Hawaiian ancestry, wrote the following passage to describe the Native Hawaiian connection to the land and its suggested relation to this SCP:

“In the Native Hawaiian tradition, as shared by many indigenous peoples throughout the world, the earth is the foundation of life. It is the seat of spirituality, the source from which indigenous cultures and languages flourish. In ancient Hawai‘i, the natural resources of the land and the sea provided food,

medicine, shelter, and clothing, and formed the foundation of social and cultural life. For example, the various landforms found throughout Wai‘anae have specific place names and *mo‘olelo* (stories/legends) associated with them that give meaning to their existence and to those who live here. Thus, in many ways, natural and cultural resources are one and the same to Native Hawaiians.

“Given the special significance that the land and sea have for the Native Hawaiian people, and the strong commitment of the Wai‘anae community to pay special regard to this significance in the planning for a sustainable Wai‘anae community, the Policies and Guidelines presented in this Plan are intended to not only protect these resources, but where possible, enhance them.”

## 2.2 COMMUNITY PARTICIPATION PROCESS

Both the original Wai‘anae Sustainable Communities Plan (2000) and the updated Wai‘anae Sustainable Communities Plan (2010) emerged through extensive and intensive **Community Participation Processes** led by the planning team. Development of the original Plan involved numerous meetings with various community groups and individuals. The SCP revision program continued this community involvement process.

The goal of both processes was to produce a Plan that is based on the community’s Vision and is implementable, in that it presents realistic Policies and Guidelines that the various City agencies and private organizations can use to help make the Vision a reality.

The details of the Original Planning Process (1997 – 2000) and the Planning Process for the 5 Year Review (2007 – 2010) are included in the Technical Report (2010).

## 2.3 VISION ELEMENTS

1. Recognize the traditional *ahupua‘a* of the Wai‘anae District and adapt the *ahupua‘a* concept as a framework for land use and open space planning
2. Delineate the four major land use types: Preservation Lands, Agricultural Lands, Rural Community Areas, and Coastal Lands
3. Restrict coastal urban, suburban, or resort development *makai* of Farrington Highway
4. Preserve all lands north of Kepuhi Point as open space lands
5. Preserve and restore streams and stream corridors
6. Preserve and protect cultural sites and cultural landscapes
7. Improve transportation systems within the District
8. Designate, plan, and develop Town Centers and Community Gathering Places for Wai‘anae, Nānākuli, Lualualei/Mā‘ili, and Mākaha
9. Develop and support community-based businesses

10. Government agencies should partner with community-based organizations in order to better manage Wai‘anae’s natural and cultural resources

These 10 **Vision Elements** emphasize some of the key goals of this Wai‘anae SCP. Each of these Vision Elements is explained in the following pages:

### **2.3.1 Recognize the traditional *ahupua‘a* of the Wai‘anae District and adapt the *ahupua‘a* concept as a framework for land use and open space planning**

In traditional Hawaiian culture, the *ahupua‘a* – a division of land that usually stretched from the fishing and gathering waters of the sea to the top of the mountains – provided the principal physical and social structure for the society. Each *ahupua‘a* had its own name and carefully defined boundary lines. The *ahupua‘a* boundaries were important and were respected.

To many Wai‘anae residents, the *ahupua‘a* land division system is primarily about values, about man living in nature and taking care of the land and the natural resources within their *ahupua‘a*, also known as *mālama ‘Āina*. Native Hawaiian communities fed and housed themselves with that which they harvested from the ocean, agricultural fields, and forests within their *ahupua‘a*. Thus, the *ahupua‘a* is the ideal model of sustainability and self-sufficiency. Wai‘anae residents want to make sure that the values and lessons of this ancient system and their ancestors are not lost, but are instead remembered and applied to their modern-day planning.

Contemporary regional planning concepts and methods that could incorporate these lessons include: Watershed Planning, Ecosystem Planning, and Town Center Planning. As such, *ahupua‘a* planning could be a powerful tool for physical planning for areas such as Wai‘anae, where the *ahupua‘a* are strongly defined and still recognized by many of the residents. There are nine *ahupua‘a* in the Wai‘anae District, which are shown on the map on page 24-68.26:

- Nānākuli
- Lualualei
- Wai‘anae
- Mākaha
- Kea‘au
- ‘Ohikilolo
- Mākua
- Kahanahāiki
- Keawa‘ula

The *ahupua‘a* of the Wai‘anae Coast range in size from the great valley of Lualualei, which covers some 10,000 acres, to the relatively small *ahupua‘a* of ‘Ohikilolo, which is about 250 acres. It should also be noted that the Wai‘anae “*moku*” extended across the Wahiawa plain and up to the ridgeline of the Ko‘olau Mountains. During the 19th century ranching era and the early 20th century sugar plantation era in Wai‘anae, the principal *ahupua‘a* in terms of economic activity and population were Lualualei, Wai‘anae, Mākaha, and Mākua. Archaeological research and oral histories indicate that all of the nine *ahupua‘a* were settled by the early Hawaiians. Today, the four major populated *ahupua‘a* include Nānākuli, Lualualei, Wai‘anae, and Mākaha. It is interesting to consider the following:

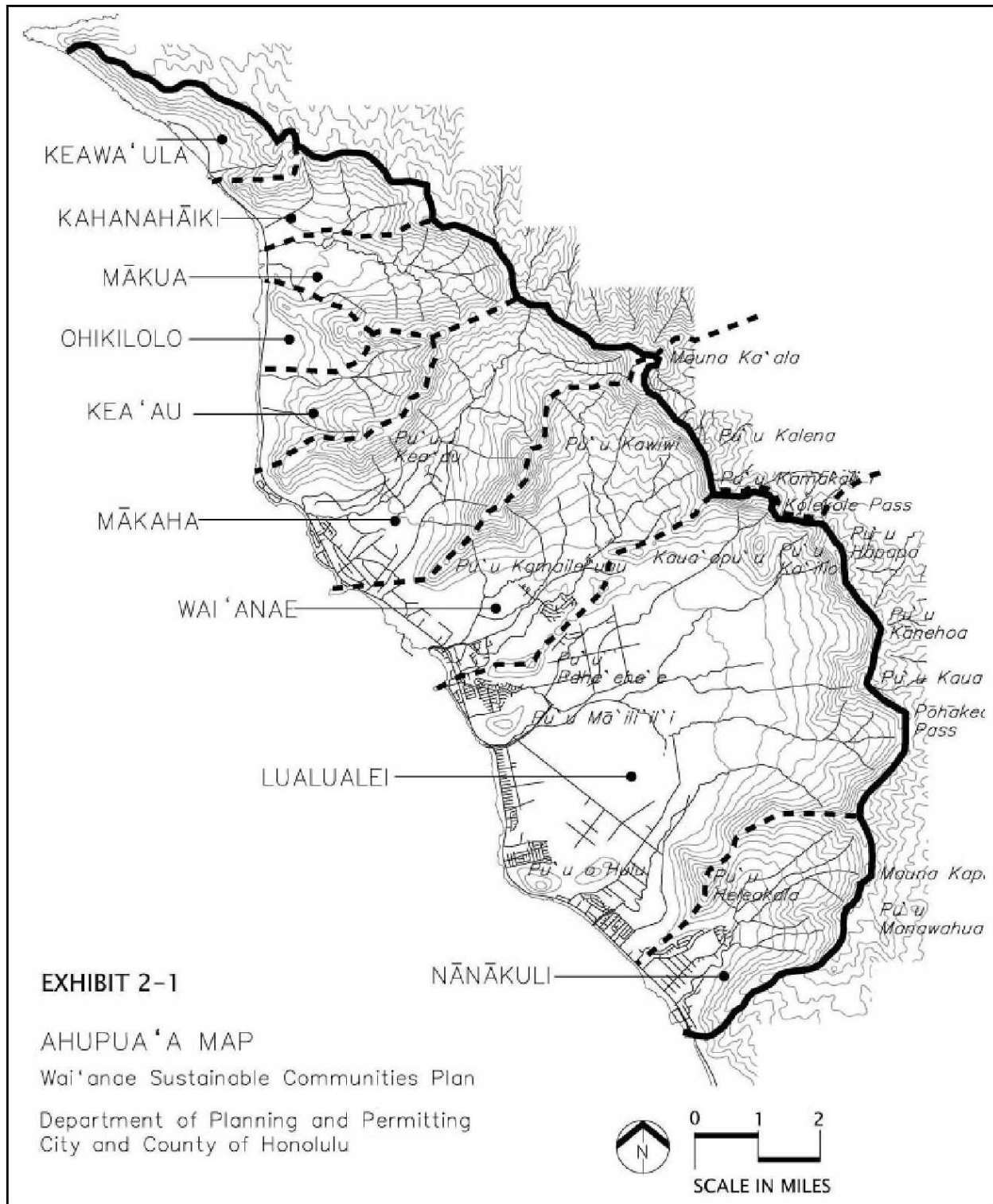
- The major *ahupua‘a* in the Wai‘anae District are all physically distinct valleys with associated ridges and mountain areas, and are at the same time distinct and separate stream watersheds.

- Each of the major *ahupua'a* has a similar range of topographic/climatic zones that support similar ecosystems: a coastal/beach zone, a lower valley zone, an upper valley zone, dry valley walls, moister mountain slopes at the backs of the valleys.
- The major *ahupua'a* are to some degree identified with a particular subcommunity. This seems to be especially true of Nānākuli and is somewhat the case for Wai'anāe, with its identifiable town center. The Lualualei *ahupua'a* has a diversity of development, including the village of Mā'ili, the farmlot communities along Hakimo Road and Lualualei Valley Road, and the two large U.S. Navy installations. Mākaha includes residential subdivisions near Farrington Highway, farmlots in the lower part of the valley, and the Mākaha Resort, Mākaha Towers, and Mākaha Estates developments in the central part of the valley.

The four major *ahupua'a* have different concerns and needs, and thus, the Wai'anāe Sustainable Communities Plan must be flexible enough to take this into account. For example, the current land use and economic opportunities in Mākaha Valley are very different from the circumstances in the Lualualei and Nānākuli *ahupua'a*. As such, the land use policies and guidelines must allow for variance among the different *ahupua'a*.

The awareness and respect for boundaries continues to be an important part of the Wai'anāe Coast culture even today. Many of the local people feel a strong identity with their *ahupua'a*, and its distinct community fabric. In 1994, the Wai'anāe Coast Coalition, with the support of Queen Liliuokalani Children's Center Nānākuli Unit, began to organize "*Ahupua'a* Councils" for the four major populated valleys: Nānākuli, Lualualei, Wai'anāe, and Mākaha. Throughout the initial years of formation, these Councils developed a way of working together through the "Wai'anāe Coast Coalition," a community-based organization that consisted of representatives from many of the principal community groups and social service agencies in the District. However, since that time they have waned in membership and activities. It is recommended that these Councils be re-established and continue their important community connecting work.

Clearly then, the concept of the *ahupua'a* has great significance and importance in the Wai'anāe District – in terms of natural landscape, historical patterns of land use, traditional social and cultural practices, contemporary customs, and recent community organization. It is thus important to adapt the *ahupua'a* concept into the land use planning process for the Wai'anāe Coast. The primary way in which this concept could be implemented is through organizing residents of each *ahupua'a* by re-establishing the *Ahupua'a* Councils, and using their *mana'o* (knowledge, advice) for deciding the future of their community. Additionally, all land use, town center, and environmental planning should use the values of the *Ahupua'a* Concept as a guide or framework for planning.



### 2.3.2 Delineate the four major land use types: Preservation Lands, Agricultural Lands, Rural Communities Areas, and Coastal Lands

The Wai‘anae Sustainable Communities Plan establishes the following four principal land use types:

- The **PRESERVATION LANDS** consist generally of the steeper lands, mountainous lands, coastal ridges, and pu‘u, including such prominent coastal features as Pu‘u Heleakalā, Pu‘u o Hulu, Pu‘u Mā‘ili‘ili‘i, Pu‘u Pāhe‘ehe‘e, Pu‘u Kamaile‘unu, and Mauna Lahilahi. Land uses within these areas should be limited to those uses that are compatible with the preservation and conservation of natural ecosystems and traditional and cultural sites and resources. Access to preservation lands should be ensured for cultural practices.
- The **AGRICULTURAL LANDS** should encompass the farmlands and undeveloped valley lands in the ten *ahupua‘a* of the Wai‘anae Coast. Agricultural land uses within these areas, including commercial farms, family farms, and family gardens, should be preserved and encouraged. Land uses within these areas should be limited to agriculture and other uses that are compatible with a rural landscape and country lifestyle. These compatible uses include farm dwellings, small country stores, agricultural support facilities including storage and small-scale processing of farm products, and cultural places and preserves. Residential subdivisions, including large acreage “gentlemen estates,” public or private schools, and golf courses are not compatible uses.
- **RURAL COMMUNITY AREAS** are defined by a line that generally follows the limits of the Community Growth Boundary, which consists of existing urban and suburban development along the Farrington Highway corridor. Within the Rural Community areas, there is some acreage for infill residential and commercial development. With the exception of a small number of isolated farm lots that are already surrounded by housing development, no other agricultural lands should be included within these development areas. Continued small-scale agricultural uses on these farm lots should be encouraged.
- **COASTAL LANDS** include the surf zone, the beaches, and lands just inland of the beaches, generally all lands *makai* of Farrington Highway. Coastal lands should be preserved and protected for open space, beach parks, and public access. New residential, commercial, or resort development should generally not be permitted *makai* of Farrington Highway. Over time, inappropriate coastal development, including mid-rise condominium buildings, should be phased out and these sites should be restored to public use. Access to coastal lands should be ensured for cultural practices.

In addition to establishing and recognizing these four land and resource types, the Wai‘anae community has been adamant in their desire to keep Wai‘anae as RURAL as possible overall. Although their population has increased significantly in recent times (from approximately 7,000 in 1950, to almost 50,000 in 2010), they still believe their community has retained their **RURAL VALUES**, which are expressed and exemplified by:

- The small farms, many of them family-owned and operated that grow various crops. These farms are found primarily in Lualualei and Wai‘anae Valleys;
- The extensive open spaces and special visual and cultural qualities of the principal valleys of the District: Nānākuli, Lualualei, Wai‘anae, Mākaha, and Mākua;
- The rugged beauty of the Wai‘anae Mountains that shape and define the District;
- The miles of shoreline, sandy beaches, and beach parks;

- The “small town values” of many of Wai‘anae’s people, who are open, friendly, family- oriented, and strongly attached to the land and the sea.

Population growth and land development in the Wai‘anae District over the past 50+ years have been more typical of a suburbanizing urban fringe community than that of a stable rural community. These growth and development trends are likely to continue unless the City implements a strong “growth control” plan for the District. Continued urban and suburban development will consume open agricultural lands and add more demand on Wai‘anae’s roads, schools, parks, and other facilities, which are already overcrowded. The country values and lifestyle that are of such great importance to the Wai‘anae community will be further eroded and undermined.

### **2.3.3 Restrict coastal urban, suburban, and resort development *makai* of Farrington Highway**

Lands *makai* of Farrington Highway are at present mostly beach parks and undeveloped shore lands. There are also a number of small lot subdivisions, a few apartment buildings in Wai‘anae and Mākaha, the former Nānāikapono Elementary School site in Nānākuli, some small commercial buildings in Wai‘anae Town, Wai‘anae High School, and the Wai‘anae Small Boat Harbor.

Further development encroachment on these coastal lands should not be permitted, with the exception of some very limited redevelopment of small commercial properties in Wai‘anae town. The long-range goal should be to return developed coastal lands to public use. Toward that end, the City should act on opportunities to purchase coastal properties when such uses become nonviable due to economic conditions, storm damage, or other causes.

One other possible use of coastal lands is for a walking/jogging/biking path and Community Gathering Places. In Section 3.11 of this Wai‘anae Sustainable Communities Plan, there is a program for such a path that would run along the coast, connecting the various *ahupua‘a*. The program also calls for four Community Gathering Places to be located just off of the path in four of the District’s beach parks, one in each of the major *ahupua‘a*. The Wai‘anae Sustainable Communities Plan supports this limited development *makai* of Farrington Highway since it would serve the community’s daily needs.

### **2.3.4 Preserve all lands north of Kepuhi Point as open space lands**

The Land Use Map demonstrates a general policy that there should be NO urban, suburban, resort, or golf course development, or any other type of commercial land development, or landfills, permitted or approved north of Kepuhi Point and north of Mākaha Valley. There is strong community consensus that no highway be built around Ka‘ena Point due to its environmental sensitivity and cultural status. There is general consensus among State and City agencies that these lands should be preserved and protected for open space, environmental preservation, and cultural and religious practices.

The present use of Mākua Valley by the U.S. Army for live fire combat training is not in keeping with this general resource preservation policy. The Army’s use of Mākua in recent years has been minimal, due to environmental and cultural concerns. Many in Wai‘anae believe that the Army has demonstrated its ability to train at alternate locations, thus negating the need for Mākua Valley as a training area. The community is particularly concerned with the restrictions placed on access for cultural and religious practices at sites on these lands that the Army controls. Military land uses within the Wai‘anae District are addressed in detail in Section 3.12.

### 2.3.5 Preserve and restore streams and stream corridors

The major streams and stream corridors of Wai‘ānae’s valleys are very important elements of the landscape and the natural ecology of the region, as well as of the Native Hawaiian heritage. Some of these streams are perennial streams near their origins high in the Wai‘ānae Mountains, but all are intermittent, or “interrupted,” streams as they flow down through the valleys. Hundreds of years ago, when the Hawaiian people first began to settle in the *ahupua‘a* of the Wai‘ānae Coast, they located themselves near the streams with year-round flows and tapped these streams for water for extensive terraced *lo‘i kalo* (taro patches), located in the upper sections of the larger valleys: Nānākuli, Lualualei, Wai‘ānae, Mākaha, and Mākuā. The streams were also essential as a source of drinking water, and for their natural plants and freshwater fish.

“Modern” development practices have severely impacted many of these streams. Impacts include alteration of stream channels through grading operations for roads and houses, siltation from eroding farm fields and residential subdivisions, trash and debris dumped into stream channels, and “improvement” of major stream channels near the coast by means of concrete-lined, engineered channels.

A coordinated City/State/Federal and Private landowners program is needed for the protection and restoration of Wai‘ānae’s natural streams and stream corridors. The Wai‘ānae Sustainable Communities Plan designates all important perennial and intermittent streams and stream channels as special **STREAM CONSERVATION CORRIDORS**. The purpose of such a designation is to prompt appropriate State and City agencies to initiate a program that will enhance stream flow and protect the natural ecology of Wai‘ānae’s streams, stream floodplains, and associated plants and animals. This program should include a “no dumping” rule within the Stream Conservation Corridor, requirements for siltation basins or other means of controlling urban and agricultural stormwater runoff, and a program for the restoration of natural vegetation within stream floodplain areas. A community-based “adopt-a-stream” program could be an important part of this overall stream conservation program. More details are included in Chapter 3, Section 3.5.

### 2.3.6 Preserve and protect cultural sites and cultural landscapes

The entire Wai‘ānae Coast is considered by many residents to be a “cultural landscape.” It is widely acknowledged that the District is filled with important cultural sites, such as house sites, *heiau* (temples/shrines), *ko‘a* (fishing shrines), and agricultural terraces. To Native Hawaiians, natural resources are considered cultural resources as well, including the *pu‘u* (hills), *pōhaku* (stones), *kai* (ocean), streams, coastline, and more. Considered all together, these cultural and natural features were the components of the community’s original infrastructure. Today, they form one of the most intact cultural landscapes on the island of O‘ahu.

Almost every valley in the District contains extensive cultural sites associated with the region’s history. Many of these sites are important to local people as cultural sites and are frequently visited, where possible. The upper valleys, beyond the limits of today’s housing developments and small farms, have numerous cultural sites. The coastal dunes contain sites and burials that are hidden beneath the surface of the ground. Some sites even survive under existing buildings. *Heiau* and *ko‘a* are also scattered throughout the area.

The first step to protecting this cultural landscape is to do a complete archaeological survey of the area. The only fairly complete surveys that have been done were for upper Nānākuli, upper Lualualei, mid-to-upper Mākaha, and on the coastal flats of Kea‘au. Many areas have had little or no surveying.

In addition, the community would like to see community-based groups eventually take over responsibility and management of important cultural sites. The end goal is to both preserve the sites and to allow appropriate levels



of access. This is a difficult balance to achieve, since unlimited access can lead to more visitors going to a site, and can sometimes result in vandalism. More discussion on the responsibilities of such groups is included in Section 3.6.2.

### **2.3.7 Improve transportation systems within the District**

One way in which the lives of Wai‘anae residents could be greatly improved is through the enhancement and improvement of the District’s transportation systems. Currently, Farrington Highway is the only public road that leads into and out of the Wai‘anae District, as well as the main route for travel within the District. There have been several times over the years that the highway has been closed due to downed utility lines and poles, automobile accidents, and other situations. In each incident, residents have been unable to travel – meaning some could not get home to their children, others could not get to work, and other critical needs could not be met. To prevent this problem from re-occurring, the community would like to have a road that provides an alternative way in and out. Many would like to see a full-fledged second access highway. However, the cost of building such a road is estimated to be too high to be feasible for the foreseeable future. Thus, most residents agree that their first priority is to open an emergency bypass road, possibly through the Kolekole Pass, and to continue to plan for a second access highway.

In addition to improving access and traffic flow within the District for private vehicles, Wai‘anae residents would also like to see the enhancement of alternative transportation modes, such as public transportation, including boats/ferries and rail, as well as paths for walking, jogging, and biking.

Lastly, residents support HECO’s plans to under-ground the utility lines that run along Farrington Highway. The communication and power lines pose a significant threat to drivers, since they have the potential to blow over and block the highway, as has happened in the past (including in December 2007).

### **2.3.8 Designate, plan, and develop Town Centers and Community Gathering Places for Wai‘anae, Nānākuli, Lualualei, and Mākaha**

Related to Vision Element #1, *ahupua‘a* planning, this Element recognizes the need for each of the principal *ahupua‘a* to have fully functioning Town Centers – to allow people to carry out their daily tasks largely within their *ahupua‘a*, and Community Gathering Places – to encourage community members to spend time together participating in cultural activities with their *‘ohana*.

Within the Rural Community areas of each of the principal developed *ahupua‘a* – Nānākuli, Lualualei, Wai‘anae, and Mākaha – there is the need for the development of more strongly defined commercial and service centers.

This concept includes the proposed designation of Wai‘anae town center as a “Country Town” commercial and service center. Historically, at least from the mid-19th century, Wai‘anae Town was the most important settlement in the District. Today, with Wai‘anae Mall and the mix of small older buildings and newer buildings in the vicinity of Pōka‘i Bay, Wai‘anae Town Center is the area of the District that is recognized as the largest concentration of commercial and services facilities. Smaller “Village Centers” are schematically shown on the Land Use Map for the communities of Nānākuli, Lualualei, and Mākaha. These smaller commercial centers would provide shops, stores, restaurants, and social service offices for the residents, as well as a stronger physical identity and an enhanced sense of community. Such developments would also reduce traffic in the District.

The Nānākuli Hawaiian Homestead Community Association (NHHCA) has taken the initiative to develop such a Center – the “Nānākuli Village Center”, which is currently under construction. When it is completed in 2012, it

will include a multi-purpose cultural center, an affordable housing rental complex, commercial rental spaces, and the International Surfing Hall of Fame.

For both the Wai‘anae Country Town and the Village Centers of Māili and Mākaha, a phased action program for capital improvements and investment needs to be developed. More details on the Nānākuli Village Center and the needs of these other areas are included in Section 3.10.

Similarly, Community Gathering Places, of several acres each, are needed within each of the major *ahupua‘a* (Nānākuli, Lualualei, Wai‘anae, and Mākaha). These Gathering Places would be quite different from the Country Town and Village Centers. As envisioned by the community, the Gathering Places are open areas with perhaps a few small buildings where people can gather informally to visit and talk story; have celebrations; stage festivals and special events; teach and learn traditional crafts, music, and dance; buy, sell, and barter homegrown produce and homemade items; and generally renew contact with friends and neighbors.

One plan for these Gathering Places is to locate them in the beach parks of the four major *ahupua‘a*, and connect them by a walking/jogging/biking path that extends along the entire Wai‘anae Coast. The path would be wide enough for Police Cushman to utilize for patrolling. It could also provide photovoltaic-powered lights, safety phones, and water fountains. The major benefits of this plan include: allowing people to utilize the beaches and feel safe doing so, providing a venue for exercise and possible sporting events, allowing people to get around the District by bike safely, among others. More details are included in Section 3.11.

### **2.3.9 Develop and support community-based businesses**

In order to create a community that is more self-sufficient, members of the community have expressed a strong interest in developing more employment opportunities within their District, including fewer restrictions on working from home. Such a situation would also allow people to work closer to where they live, which would reduce commute time and increase their time at home with their families.

The sector with the most community support for expansion is agriculture, for several reasons. First, Wai‘anae has a history rooted in agriculture, from ancient Hawaiians growing *kalo* (taro) and *‘uala* (sweet potato), to more recent times, when the District was a leader in the state in production of many vegetable and animal food products, such as pork, chicken, eggs, milk, and various truck crops. In addition to historical reasons, the expansion of agriculture would allow the community to protect significant amounts of land from development.

There is also substantial interest in increasing cultural, educational, and healthcare facilities and job opportunities. Some possibilities include expanding the hands-on educational programs, such as those offered by Ka‘ala Farm and MA‘O Organic Farm (Mala Ai ‘Opio Organic Farm). There is currently one charter school in the District, and more could be created. In addition, various community members brought up the idea of creating a place to train teachers, for which there is a huge demand. Also, the Wai‘anae Coast Comprehensive Health Center is currently expanding its facilities in order to increase its training capabilities.

Other economic opportunities discussed include expansion of retail and commercial centers in the four major *ahupua‘a* and the creation of a light industrial park in Lualualei. Similar to the other sectors, it is recommended that locally-owned businesses be given priority, and that they hire residents as much as possible.

Another employment possibility along these lines is the formation and development of the recommended community-based groups to help manage the District’s natural and cultural resources (see Vision Element #10).

**2.3.10 Government agencies should partner with community-based organizations in order to better manage Wai‘anae’s natural and cultural resources**

There are a number of community-based organizations in Wai‘anae that are actively engaged in caring for important cultural and natural resources, both *mauka* and *makai*. The number of these community organizations, and their range of interests and activities, is likely to continue to expand in the future. By partnering with these community entities, city, state, and federal agencies that have natural and cultural resources management responsibilities can benefit from local knowledge and community energies, and thus develop stronger and deeper resource management programs.

### 3. LAND USE POLICIES AND GUIDELINES

This chapter of the Wai‘anae Sustainable Communities Plan presents **Policies** and **Guidelines** for the principal types of land use that should be provided for in the District. The Vision for the future of the Wai‘anae District described in Chapter 2 will be implemented through the application of these Policies and Guidelines.

The first section provides an overview of the existing conditions in the Wai‘anae District – the land use, population, economics, and environment. The other 11 sections deal with each of the major types of land use within the District. The Chapter includes the following sections:

- 3.1 Overview of Land Use, Population, Economics, and Environmental Conditions
- 3.2 Open Space and Important Views
- 3.3 Coastal Lands
- 3.4 Mountain Forest Land
- 3.5 Streams and Floodplains
- 3.6 Historical and Cultural Resources
- 3.7 Agricultural Lands
- 3.8 Residential Land Use
- 3.9 Commercial and Industrial Uses
- 3.10 Country Towns, Rural Community Commercial Centers and Gathering Places
- 3.11 Parks and Recreational Areas
- 3.12 Military Land Use

Each section contains **Policies**, which are statements that express the Wai‘anae community’s overall philosophy and the City’s long-range planning intent with regard to particular land uses. The **Guidelines** are more specific statements that are meant to provide guidance to City agencies and other public and private entities in relation to how the planning, design, and implementation of various types of programs and projects should be achieved. Guidelines have been provided for those land uses with more detailed physical planning concepts (Sections 3.8 through 3.11).

For each major land use type, the presentation of Policies and Guidelines is preceded by an “Overview” section that provides a summary of important facts and trends relating to that land use type.

#### 3.1 OVERVIEW OF LAND USE, POPULATION, ECONOMICS, AND ENVIRONMENTAL CONDITIONS

Before proceeding with detailed policies and guidelines for the Wai‘anae District, this section summarizes the key facts pertaining to existing land use, including State and City land use designations, population growth trends, and economic and environmental conditions.

##### 3.1.1 General Physical Setting

Wai‘anae is an area of great physical beauty. The overall form of the landscape consists of white sand beaches along the coast, a narrow coastal plain, large valleys that extend from 3 to 5 miles inland, and the dramatically eroded, steep walls of the Wai‘anae Mountains. The major valleys – Nānākuli, Lualualei, Wai‘anae, Mākaha, and Mākua – are defined and separated from each other by steep-sided basalt ridges, the remnants of the flanks of the great volcano that emerged from the ocean some 3 million years ago. The waters of the Pacific Ocean here are a deep blue, and the offshore currents are strong and often treacherous.

The area included in the Wai‘anae Sustainable Communities Plan consists of 38,089 acres, which is about 59.5 square miles, slightly less than 10 percent of O‘ahu’s 602 square miles. Of the eight Development Plan/Sustainable Communities Plan Districts, Wai‘anae ranks 5th in size – between Ko‘olau Poko (41,279 acres) and Ko‘olauloa (37,060 acres).

The climate of Wai‘anae is generally hot and dry along the coastal areas and in the lower sections of the valleys. Cooler and wetter conditions prevail in the upper sections of the valleys and up into the Wai‘anae Mountains. Average annual rainfall ranges from less than 20 inches along the coast to more than 75 inches near the summit of Mount Ka‘ala.

Mount Ka‘ala, the highest peak on O‘ahu at 4,025 feet (USGS), is visible (clouds permitting) from much of the coastal area of Wai‘anae.

This landscape is one of unique grandeur and beauty. Many of Wai‘anae’s residents, especially the Native Hawaiian population, also have a much deeper appreciation of and connection to the land based on their culture.

### 3.1.2 Population

The table below shows the recent and projected trends in Wai‘anae’s population.

<b>Table 3-1: Population Trends for Wai‘anae</b>		
<b>Year</b>	<b>Population</b>	<b>Percentage of O‘ahu Total</b>
1950	7,024	1.99%
1960	16,452	3.29%
1970	24,077	3.82%
1980	31,487	4.13%
1990	37,411	4.47%
2000	42,259	4.82%
2010	44,490	4.88%
2020	46,776	4.83%
2030	48,667	4.78%
2035	49,217	4.74%
<b>Source: US Census, 2000 and DPP, 2009</b>		
(Note: Numbers for years 2010 through 2035 are projections from DPP, 2009)		

The community has expressed concern regarding population counts and projections for Wai‘anae. To begin with, some believe that the most recent U.S. Census (2000) count for the District was low. This is due primarily to the recent increase in homelessness, since government population surveys usually do not count individuals without addresses. It is estimated that in 2008 there were over 6,000 homeless individuals in Wai‘anae. This figure includes the following estimates:

- **2,675** people living on the Leeward Coast beaches (Wai‘anae Community Outreach, 2008)
- **3,230** “hidden homeless” – individuals who are currently living “doubled up” with friends or family members (SMS, 2006)
- **594** living in transitional shelters located within the District (information gathered from various shelters)  
(Note: some of those counted as living on beaches could have transitioned into family homes or shelters. To account for this, the total of 6,500 was rounded down to 6,000)

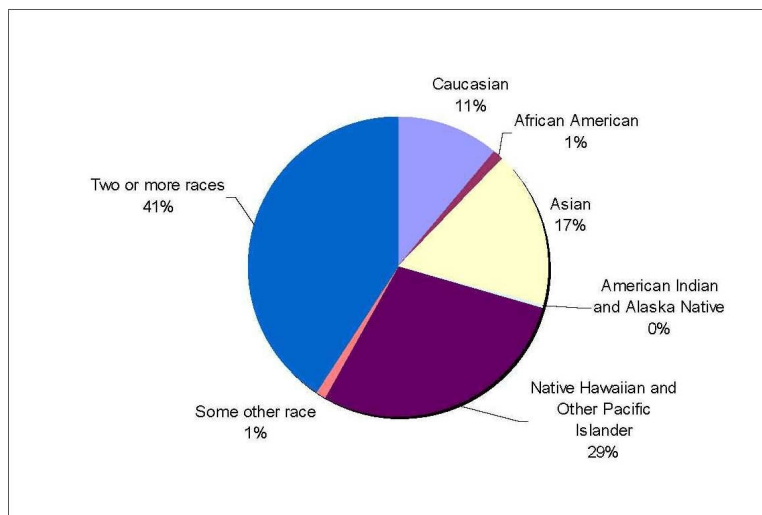
This total (6,000) added to the 2007 population estimate of 43,655 (DBEDT, 2007), brings the current population estimate for Wai‘anae up to well over 49,000 people.

Thus, the projections for the future population of Wai‘anae may be low as well. DPP currently projects that the Wai‘anae District will have 46,776 people living there by 2020, but the figures noted above indicate that the population may already have been over 49,000 in 2010.

Overall, these findings have serious implications for the Wai‘anae District, especially when combined with the economic data in Section 3.1.3. Namely, the District’s poverty and homelessness may continue to worsen. These social and economic trends indicate that there is a need for more social services, from both private/non-profit and public service providers.

The chart below shows the racial distribution within the Wai‘anae District as of the 2000 Census. One key statistic to note is that the largest racial group was “Native Hawaiian and other Pacific Islanders” (28.7 percent). When residents were asked to indicate their race alone or in combination with other races, over 62 percent identified themselves as at least partly Native Hawaiian or other Pacific Islander, compared to 21.6 percent for all of O‘ahu (US Census, 2000).

**Exhibit 3-1: Wai‘anae’s Racial Distribution**



**Source: US Census, 2000**

### 3.1.3 Economics

Overall, the Wai‘anae community has ‘lagged’ behind the rest of O‘ahu in terms of economic development and employment opportunities for its residents.

The following information is contained in the Draft Leeward Coast Initiative Inventory Report (August 31, 2007):

- In 2000, the per capita income of Wai‘anae community residents was about 61 percent of the State average.
- In 2000, more Wai‘anae community households were in low-income categories than the State average.
- In 2000, the percentage of Wai‘anae community individuals below the poverty level was much higher than the State average.
- The average wage gap has been widening. In 2004, the Wai‘anae community wages were 20 percent less than the State average wage.
- According to the U.S. Census Bureau, it was found that in 2000 most of the workers in the Leeward Coast work elsewhere and that Wai‘anae community workers spend 16 more minutes traveling to work than the State average.
- The unemployment rate in the Wai‘anae community has been much higher than the State average and the gap has widened over the past twenty years.

Also, economic data and reports from other sources, including the following, urge the need for immediate action to stimulate economic growth and to create new jobs directly within the Wai‘anae community:

- The Wai‘anae community has poverty levels near 20 percent, with some census tracts exceeding a 50 percent poverty level. Over 90 percent of households in the district earn less than \$50,000 per year. The median household income is \$25,638. Historically, all of the communities along the Wai‘anae community have been economically depressed. Unemployment is estimated to be twice the national average (Mr. Michael Pecsok, Vice Chancellor for Academic Services, Leeward Community College, May 4, 2005).
- The Wai‘anae community is ranked first in unemployment and poverty, with an average per capita income of \$13,348, compared to Honolulu County’s per capita income of \$21,998. The Wai‘anae community’s unemployment rate is 8.6 percent, which is more than double that of Honolulu County’s average of 3.8 percent. The poverty rate is 21.9 percent, compared to Honolulu County’s average of 9.9 percent. (University of Hawai‘i – West O‘ahu, December 13, 2005).

In addition, the economic data and reports indicate that the economic gap between the Wai‘anae community residents and the rest of O‘ahu has been widening since 1980 (DBEDT, 2007).

Finally, the 2007 Annual Report on the Status of Land Use on O‘ahu, prepared by the department of planning and permitting, reveals that the Wai‘anae community is projected to be the only area on O‘ahu that will be experiencing a decrease in the total number of jobs from 2000 to 2030. This decline in jobs projected for this 30-year period is especially alarming when considered together with the existing economic conditions as reported in the studies cited above.

### 3.1.4 Existing Land Use

Most of the existing urban and suburban development in the Wai‘anae District is clustered along the Farrington Highway corridor, in a developed strip that varies from about 1/4 mile to 1 mile in width. The valleys are largely

agricultural or military lands, and the steeper ridges and mountains are generally undeveloped grasslands and forest lands.

Recent City data indicate the following land uses, as permitted by the current City and County Zoning:

<b>Table 3-2: Land Use Permitted by Current City &amp; County Zoning</b>	
<b>Land Use</b>	<b>Acreage</b>
Agriculture	8,578
Residential	2,260
Apartment	78
Industrial	79
Resort	97
Preservation	19,561
Military	7,148
*Other	288
<b>TOTAL:</b>	<b>38,089</b>
<b>Source: DPP, 2008</b>	
(*Other acreage is primarily in Business and Country zoning)	

### 3.1.5 Potential Developments

In 2008, approximately 20 transitional shelters and affordable housing projects were proposed for the Wai‘anae District. Several of these project plans have since been terminated. However, the District has a significant amount of land currently permitted for such developments. Residents have expressed concern that allowing such developments could increase the District population. Details of developments that are still planned for the District are included in Section 3.8.

### 3.1.6 Environmental Conditions and Implications for Planning

The overview of Wai‘anae’s environmental resources presented in the Wai‘anae Sustainable Communities Plan Background Report (1999) provided some strong guidelines for land use and development planning for the District. These environmental conditions are still generally applicable today and may be summarized as follows:

- **Wai‘anae’s climate is very favorable for many types of agriculture.** The District also has large acreages of good soils, especially in Lualualei Valley, the largest valley of the *moku*. Much of the soil found in Lualualei is from the vertisol series, which is regarded as fertile soil that makes excellent agricultural land when it occurs in large, level tracts, such as in Lualualei (CTAHR, 2008). However, only a limited area of Lualualei is available for agricultural uses, since most of the valley is occupied by the U.S. military.
- **Expansive Soils are a constraint.** Some of the soils in the valleys, and most of the soils on the lower slopes of the ridges and mountains are highly expansive clay soils that are not good for construction of foundations for homes and other structures. These expansive soils can be built on – with special



foundation construction techniques – on relatively level sites. However, steeper sites are subject to slumping and sliding, and should not be developed.

- **The District’s aquifers have a very small sustainable yield.** The sustainable yield of the Wai‘anae and Mākaha Aquifer System Areas, where active Board of Water Supply (BWS) wells are located, is only about 6 million gallons per day (mgd) combined. In the year 2000, the City pumped about 4.9 mgd from these wells. This volume of water was less than the CY2000 District demand of approximately 11.1 mgd. The balance of about 6.2 mgd was imported into the District from the much larger Pearl Harbor Aquifer Sector Area.

The Wai‘anae District’s limited groundwater resources suggest that major water users like golf courses should not be developed here. Further, since all new development will increase the amount of potable water that will have to be imported, and since the long-range prospect for potable water on O‘ahu is for a continued future increase in both demand and cost, significant growth of housing and commercial uses in Wai‘anae should not be encouraged. Nonpotable water sources, including reclaimed water, will need to be further developed so that the limited local supply of potable water can be put to best use.

- **There are large natural and cultural resource areas in the Wai‘anae District that should be protected and managed so that the resources are preserved or enhanced.** These important areas include the higher elevations of the Wai‘anae Range, where there are important plant and animal ecosystems, and the undeveloped upper valley areas of Nānākuli, Lualualei, Wai‘anae, Mākaha, and Mākua, where there are extensive cultural sites.

Consideration is given to identifying areas that need special resource protection or resource management zones in this Wai‘anae Sustainable Communities Plan’s graphic plans and policy statements.

- **Special attention should be given to the protection and preservation of Wai‘anae’s coastal resources, including the District’s beaches, coral reefs, and estuaries.** There should be no further commercial or residential development on the *makai* side of Farrington Highway. The construction of “shore armoring” structures should be discouraged. There should be no coastal development at all beyond Mākaha. A long- range program for the control of nonpoint source pollution of nearshore waters needs to be developed.
- **A comprehensive plan needs to be developed for specific drainage and roadway improvements to alleviate local flooding problems.** An emergency roadway route needs to be created so that people have an alternate means of moving into and out of the district when Farrington Highway is blocked by storm flooding or other problems.

### 3.1.7 Wai‘anae Watershed Management Plan (BWS, 2010)

The Wai‘anae Watershed Management Plan (WWMP) provides a long-range plan for the preservation, restoration, and balanced management of ground water, surface water, and related watershed resources in the Wai‘anae District. The City and County of Honolulu Board of Water Supply (BWS) began developing the WWMP in collaboration with the City and County of Honolulu department of planning and permitting, the State’s Commission on Water Resource Management, and the Wai‘anae community, in 2004. The Public Review Draft was submitted in June 2006, and the Plan was adopted by City Council in 2010.

Clearly, management of land and water is interrelated, since the majority of “developed” land uses, such as residential, commercial, industrial, and even agricultural, result in an increased demand for water. Thus, BWS has made extensive efforts to ensure that the WWMP is in alignment with the Policies and Guidelines of the original Wai‘anae Sustainable Communities Plan (2000). Likewise, the process of updating this SCP has included reviewing the WWMP and ensuring that the SCP is in alignment with the Watershed Plan’s Goals and Objectives. Please refer to the WWMP (BWS, 2010) for details.

## 3.2 OPEN SPACE AND IMPORTANT VIEWS

### 3.2.1 Overview of Open Spaces and Important Views

Wai‘anae is considered by many people, including both residents and visitors, to be one of the most scenic regions of the island of O‘ahu.

The Wai‘anae landscape is a large-scale, bold landscape. The major elements of this landscape are the deep blue of the ocean; the long ribbons of white sand beach; the green valleys; the rugged pu‘u and ridges along the coast, including Pu‘u Heleakalā, Pu‘u O Hulu, Pu‘u Mā‘ili‘ili‘i, and Pāhe‘ehe‘e Ridge; the steep, harsh side walls of the valleys, and the greener, softer walls at the backs of the valleys; the high peaks of the Wai‘anae Range, including Pu‘u Kaua at 3,127 feet, Pu‘u Kalena at 3,504 feet, and Mount Ka‘ala at 4,025 feet.

The large-scale open spaces of the region are not immediately apparent from Farrington Highway, the main coastal roadway. Along most of the highway, residential and commercial development blocks the driver’s view of the great valleys of the region. Once people leave the highway and turn up into the valleys, they are greeted with dramatic views of open valley lands and the steep-walled ridges and mountains beyond.

The Coastal View Study commissioned by the City department of land utilization and published in 1987 identifies a number of “Significant Stationary Views”: from Mākaha Beach Park, Mauna Lahilahi Beach Park, Pōka‘i Bay Beach Park, and Mā‘ili Beach Park. The Study also lists “Significant Road Views.” In addition, there are many dramatic *mauka* views, and special views from higher elevations looking toward the coast, including spectacular views from the scenic overlook near Kolekole Pass. The views from the Coastal View Study are documented with recent photographs in the Technical Report (2010).

Open space and views across open spaces are cultural resources, and should be protected as such. Various *mo‘olelo* talk about specific place names, as well as the relation between, and views of, the places. **Thus, the views referenced above are significant to Wai‘anae residents and should be protected. This means that no development should be allowed that negatively impacts these views.**

Lands north of Kepuhi Point, which marks the northern coastal limits of Mākaha Valley, are largely undeveloped lands. Land uses include beach parks, ranch lands, the Army’s training area at Mākua Valley, and extensive areas of State-owned forest lands. The undeveloped, rugged beauty of this part of the Wai‘anae coast still provides a sense of what most of the leeward coast once looked like. The *ahupua‘a* of Kea‘au, ‘Ōhikilolo, Koiahi, Mākua, Kahanahaiki, and Keawaula are of great cultural importance to the Native Hawaiian community, as is open space in general.

In contrast to the dramatic natural beauty of the area, much of the residential and commercial development along Farrington Highway is run down and dilapidated. These man-made elements detract from the scenic qualities of this coastal highway.

Certain types of potential future development would also have an adverse impact on the visual quality of the district, including any further commercial or multifamily housing development on the *makai* side of Farrington Highway, residential subdivisions replacing valley farmlands, or large lot subdivisions being developed on the lower slopes of the Wai‘anae Range.

Types of land uses and activities that are supported in these large open spaces include farming, ranching, gathering, and other cultural activities. In addition, Wai‘anae residents have expressed their desire to have a cemetery in their District. This is another possible use of open space.

The open space character and the dramatic views of Wai‘anae’s shorelands, valleys, and mountains must be preserved and protected for the enjoyment of many generations to come.

### **3.2.2 Polices Pertaining to Open Spaces and Important Views**

#### **3.2.2.1 Do Not Allow Significant Negative Impacts on Large Open Spaces**

The preservation of open space and scenic beauty should be a high priority consideration for all public and private programs and projects that may affect the coastal lands, valleys, and mountains of the Wai‘anae District. Any proposed project that would have a significant negative impact on a large open space within the District should not be allowed.

#### **3.2.2.2 Address Project Impacts on Open Space**

The environmental impact analysis for any large proposed project, whether public or private, that may be planned for coastal, valley, or mountain sites within the Wai‘anae District shall include a detailed analysis of the project’s potential impact on open space and scenic beauty.

#### **3.2.2.3 Do Not Allow Significant Negative Impacts on Important Public Views**

The preservation of all important public views shall be a high priority consideration for all public and private programs and projects. Any proposed project that may affect any significant view, including but not limited to the views noted in the “Coastal View Study,” should not be allowed.

#### **3.2.2.4 Address Project Impacts on Important Public Views**

The environmental impact analysis for any large proposed project, whether public or private, that may be planned for coastal, valley, or mountain sites within the Wai‘anae District shall include a detailed analysis of the project’s potential impact on important public views, as described above.

#### **3.2.2.5 Limit Urban Development**

Future urban and suburban development in the Wai‘anae District shall be limited to the Rural Residential areas, and shall not be allowed to intrude into the Agricultural area or the Preservation area (see Land Use Map in Appendix A), nor *makai* of Farrington Highway. The undeveloped open spaces north of Kepuhi Point shall be protected and preserved as open space lands in perpetuity. Uses of lands north of Kepuhi Point shall be limited to cultural and religious uses, conservation uses, beach parks, limited ranching and low-impact public recreational uses.

### **3.2.2.6 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Open Spaces**

Government agencies should partner with community-based organizations to better manage open spaces and their natural and cultural resources, as described in Section 2.3.10. Specific to the management of open spaces, the groups should oversee the appropriate gathering of various natural resources – only certain resources should be allowed to be gathered at certain times. One of the greatest potential challenges for these groups will be dealing with property rights and working with land-owners.

### **3.2.2.7 Minimize Outdoor Lighting**

Outdoor lighting should be the minimum necessary for public safety, home security, and community aesthetics, while maintaining consistency with the goals of energy conservation and environmental protection. Specifically, artificial lighting should not negatively impact wildlife, nor should it disrupt the large, unlit open spaces in the back of the District’s valleys.

## **3.2.3 Guidelines Pertaining to Open Spaces and Important Views**

### **3.2.3.1 Minimize Adverse Effects of Artificial Lighting**

Minimize the adverse effects of artificial lighting on wildlife and human health by balancing the need of outdoor lighting for night utility, security, and desire for reasonable architectural expression with the need to conserve energy and protect the natural environment.

### **3.2.3.2 Adopt Outdoor Night Lighting Standards**

Adopt outdoor night lighting standards that encourage efforts to minimize glare and stray light, as well as reinforce the differences between the urban and the rural areas.

## **3.2.4 Relation to Open Space Map**

Areas shown as “Agricultural” and as “Preservation” on the Open Space Map generally include the District’s large-scale open space resources.

## **3.3 COASTAL LANDS**

### **3.3.1 Overview of Coastal Lands**

The Wai‘anae District has about 20 miles of coastline, measured from the beginning of the District about 1/2 mile south of Piliokahi Avenue in Nānākuli to the northern end of the District near Ka‘ena Point.

About 18 miles of the District’s 20-mile coastline are beaches, and most of the beaches are City beach parks with some facilities for beach users. The remaining 2 miles of coastline are rocky ledges and residential coastal development. From south to north, the beach parks and coastal access areas are:

- Nānākuli Beach Park
- Ulehawa Beach Park
- Mā‘ili Beach Park

- Lualualei Beach Park
- Pōka‘i Bay Beach Park
- Wai‘anae Kai Military Reservation Beach (U.S. Army)
- Wai‘anae Boat Harbor
- Mauna Lahilahi Beach Park
- Mākaha Beach Park
- Kea‘au Beach Park
- Mākua Beach Park (state-owned)
- Ka‘ena Natural Area Reserve

There are at least four sections of the Wai‘anae shore zone that are experiencing significant chronic erosion: Mā‘ili Beach, Mauna Lahilahi Beach Park, Mākaha Beach, and Keawa‘ula Bay. The erosion of shores and beaches is a natural process that affects certain coastal areas. Generally, “shore armoring” devices such as seawalls and rock groins are not appropriate solutions to these erosion problems. Shore armoring often results in still more severe shore erosion in areas near the “armored” site.

In addition, these coastal areas may eventually be affected by sea level rise. In response, all planning for these areas should consider both the known and potential effects of sea level rise.

Overall, the coastal lands of the Wai‘anae District are important cultural, scenic, and recreational resources, and must be preserved and protected for the benefit of present and future generations.

### **3.3.2 Policies Pertaining to Coastal Lands**

#### **3.3.2.1 Do Not Allow New Coastal Development**

There should be no new residential, commercial, industrial, resort, or other urban or suburban type of development *makai* of Farrington Highway, with the exception of new development or redevelopment of low-rise commercial and public buildings associated with the development of Wai‘anae Country Town and future improvements to the Wai‘anae Boat Harbor.

#### **3.3.2.2 Incrementally Acquire Coastal Properties**

The long-range goal for the coastal lands of the Wai‘anae District should be the establishment of a coastal zone that is free of urban or suburban development and that is open to public access and public recreation. In working toward this goal, opportunities to acquire parcels or rights-of-way in coastal areas for public use should be pursued, especially for lands adjacent to public parks. Any such acquired parcels should be restored to open space and made available to public access and/or public recreational use.

The acquisition of land for the expansion and improvement of Pōka‘i Bay Beach Park should be a top priority. The U.S. Army Rest Camp should be programmed for eventual return to the general public.

#### **3.3.2.3 Discourage Shore Armoring**

Shore armoring along any beaches of the Wai‘anae District, including seawalls, groins, and breakwaters, should generally be discouraged.

### **3.3.2.4 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Coastal Lands**

Government agencies should partner with community-based organizations to better manage coastal lands and their natural and cultural resources, as described in Section 2.3.10. Specific to the management of coastal lands, these groups should educate and monitor the community on using best fishing and gathering practices along the coast, such as the prohibition of laying net and leaving it unattended.

### **3.3.2.5 Prohibit Projects that Negatively Impact Coastal Lands**

Approvals should not be granted for uses or projects that may negatively impact the natural ecology, scenic beauty, or cultural practices on coastal lands, or that may increase user conflicts on the beach or in nearshore waters.

### **3.3.2.6 Prevent the Introduction of Alien Species**

Every effort should be made to prevent the introduction of marine alien species.

### **3.3.2.7 Maintain Beaches/Sand**

All sand that is found along the Wai‘anae Coast, whether it is part of a formally recognized beach or not, should be maintained as much as possible. Any proposed projects along the coast should not significantly impact the sand found there naturally.

### **3.3.3 Relation to Land Use and Open Space Maps**

Coastal Preservation lands are shown on the Land Use and Open Space Maps in Appendix A.

## **3.4 MOUNTAIN FOREST LANDS**

### **3.4.1 Overview of Mountain Forest Lands**

The important forest lands of the Wai‘anae District include the steep ridges and *pu‘u* near the coast and the slopes and peaks of the Wai‘anae Mountains that form the backbone and scenic backdrop of the region.

Botanical historians believe that Wai‘anae once supported a dryland forest in the lower coastal plain area, grading gradually to wetter forest types in the upper parts of the valleys and the slopes of the mountains, and finally culminating in the wetland forest of the high elevations, with abundant ohia lehua, sandalwood, and associated native plant species.

The natural landscape began to change with the first settlements of Native Hawaiian people here some 800 to 1,000 years ago (Cordy, 1998). Today, little of these natural forest communities remain, except in the highest elevations of the Wai‘anae Mountains. The higher elevations of the mountains are still important habitat for rare and endangered plants, as well as for endangered animal species like the Elepaio, a rare forest bird, and the Achatinella tree snail.

Preservation and restoration of these upper mountain forest lands, the lowland forests, the forest resources, and their cultural uses are of great importance to the Native Hawaiian people, to the Wai‘anae community, and to the people of O‘ahu.

These forests and the resources found there are of great cultural, historical, and medicinal importance to Native Hawaiians. The forests are tied to religious beliefs and are referenced in various *mo'olelo* as places where the *mo'o* (lizard) and other *aumakua* (deified ancestors) live. Numerous herbs and plants have long been gathered from the forests for a variety of uses, including medicinal, as well as for special items used in *hula* (traditional Hawaiian dance) and *lua* (Hawaiian martial art). Those plants used for these purposes should be protected, and in some cases, re-planted. The existence of these forest resources is inextricably connected to the health and wellness of Wai'anāe residents, especially the Native Hawaiian population. An issue related to the protection of mountain forest resources is access to these resources. Access should be ensured for such gathering purposes.

Another use of these lands is hiking. There are numerous hiking trails that lead into the mountains, and some along the dramatic ridgelines. This Plan advocates for public access to existing hiking trails, including those that require passage through residential areas, as well as through military and agricultural lands.

Lastly, it should be noted that these forest areas can become extremely dry, especially during the summer months, and hence, are prone to wildfires. Accordingly, a wildfire prevention plan should be developed to prevent future fires.

### **3.4.2 Policies Pertaining to Mountain Forest Lands**

#### **3.4.2.1 Protect Mountain Forest Lands**

Preserve and protect the Mountain Forest Lands of the Wai'anāe District in their natural state – both the upper and lowland forests.

#### **3.4.2.2 Develop Forest Restoration Program**

Coordinate plans and programs towards the restoration of endemic and indigenous forest plants and animals in the Forest Lands of the Wai'anāe District. Examples of appropriate native trees to plant include: Kamani, Ulu, Ohi'a'ai, Lama, Kawila, Iliahi, Koae'a, and the Hala bush. Additionally, the herbs and plants used for Native Hawaiian medicinal and cultural practices should be identified, protected, and re-planted where needed.

#### **3.4.2.3 Do Not Grant Permits that Negatively Impact Mountain Forest Lands**

Land use permits should not be granted to any uses of the District's forest lands that may degrade the natural ecology, scenic beauty, or restrict access to Native Hawaiian cultural practices carried out on these lands.

#### **3.4.2.4 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anāe's Mountain Forest Lands**

Government agencies should partner with community-based organizations to better manage Wai'anāe's mountain forest lands and their natural and cultural resources, as described in Section 2.3.10. Specific to the management of forest lands, these groups should develop a list of appropriate native trees, plants, and herbs that should be protected and re-planted, and where. They should also educate the community about the amount and seasonal times that the various resources can be gathered, and monitor the gathering activities. One of the greatest potential challenges for these groups could be dealing with property rights and working with land-owners.

#### **3.4.2.5 Protect Rare and Endangered Species**

Avoid or minimize development and human impacts in areas known to provide important habitat for rare species, especially those that are listed as threatened or endangered species. The Wai‘anae SCP Background Report (1999) contains information from the U.S. Fish and Wildlife Service (USFWS) on such species.

#### **3.4.2.6 Prevent the Introduction of Alien Species**

Prevent the introduction of alien plant, mammal, bird, and insect species that could compete with, prey upon, or hybridize with native species. Additionally, alien or invasive species should be eradicated, or at least controlled. The current control measures for goats and pigs, including fencing and hunting, should be enhanced.

#### **3.4.2.7 Allow Public Access to Hiking Trails**

The public should be allowed to access existing hiking trails, including those that require passage through residential, military, and agricultural lands.

#### **3.4.2.8 Develop Wildfire Management Plan**

A wildfire management plan should be developed for the Wai‘anae District.

#### **3.4.3 Relation to Land Use and Open Space Maps**

Mountain Forest Lands to be preserved are designated as “Preservation” on the Land Use and Open Space Maps.

### **3.5 STREAMS AND FLOODPLAINS**

#### **3.5.1 Overview of Streams, Stream Systems, and Floodplains**

The streams of the major valleys of the Wai‘anae Coast have always been considered a sacred part of the natural landscape. The streams traditionally provided precious fresh water for drinking, agriculture, production of special marine life, cultural practices, as well as for other daily uses, including bathing and washing.

The major valleys – Nānākuli, Lualualei, Wai‘anae, Mākaha, and Mākua – have well-articulated systems of intermittent streams: Nānākuli Stream, Ulehawa Stream and Mā‘ili‘ili Stream in Lualualei Valley, Kaupuni Stream and Kawiwi Stream in Wai‘anae Valley, Mākaha Stream, and Mākua Stream. In recent years, the *makai* sections of the streams in Lualualei and Wai‘anae Valleys have been replaced with concrete drainage channels.

Descriptions of these streams in the source material label them as “perennial” (flowing all year round) in the upper reaches of Wai‘anae Valley and Mākaha Valley, and “intermittent” (flowing only after significant rainfalls) in the lower parts of these two valleys and in the other valleys of the region. Groundwater stored in the high elevation dike-structure of volcanic rocks discharges as seeps and springs that form the “base flow” – the fair weather flow – of the higher level perennial streams. The relative absence of perennial streams here is a reflection of the generally arid climate and the alluvial soils of the valleys, through which the streams become nonvisible “underflow.”

The point at which a particular Wai‘anae stream changes from perennial flow to intermittent flow depends on a number of natural factors, including:



- The season: with flows stronger during the wetter winter months;
- The year: with flows stronger during wetter years.

During the past 1 million+ years, the region's streams have accomplished the immense job of sculpting the slopes of the Wai'anāe volcano and forming the deep valleys that we see today. Thus we can see that these streams are powerful shapers of the landscape. However, these streams are relatively small water features, and are vulnerable to the negative impacts of human development.

Negative impacts include runoff from agricultural lands, with sometimes high concentrations of silt, herbicides, pesticides, and farm animal wastes; runoff from urban lands, with herbicides, oils, grease, paint products, and other harmful and toxic substances; dumping of trash, broken appliances, old cars, etc.; and various acts of grading and filling that result in faster runoff into area streams, with attendant erosion of natural stream banks. Unfortunately, development which results in damage to natural streambeds often eventually requires the construction of concrete channels to "manage" the urban runoff. The net result: the natural stream channel and flood plain are completely obliterated.

Wai'anāe's streams are important elements of the landscape. They are the natural "arteries" of the valleys, bringing water down into the valleys from the mountains. They are a special environment for fresh water plants and animals, and also provide ribbons of fertile floodplain soils through the predominantly plastic and sticky soils of the alluvial valleys. Healthy streams are an indicator of a healthy landscape; sick streams indicate poor land use practices and uncontrolled agricultural and urban runoff.

### **3.5.2 Polices Pertaining to Streams and Floodplains**

#### **3.5.2.1 Establish Stream Conservation Corridors**

Stream Conservation Corridors should be established where feasible as an element of the Wai'anāe Sustainable Communities Plan. These Stream Conservation Corridors are illustrated on the "Open Space Map" in Appendix A.

Appropriate City, State, and Federal agencies should work with the community to establish a strong, pro-active program for the detailed delineation of Stream Conservation Corridors and the establishment of appropriate and enforceable rules, regulations, fines, penalties, and community monitoring and oversight programs for the protection of streams and stream floodplains.

Streams where Stream Conservation Corridors should be established include the following:

- Nānākuli Stream
- Ulehawa Stream
- Mā'ili'ili'i Stream
- Kaupuni Stream
- Kawiwi Stream
- Mākaha Stream
- Mākua Stream

Existing residential and other development may limit the delineation of Stream Conservation Corridors in some areas. However, these corridors should be established to the fullest extent possible.

### **3.5.2.2 Restrict Uses Within the Stream Conservation Corridors**

Uses and activities within these Stream Conservation Corridors should be restricted to natural resources conservation uses and programs, compatible recreational uses such as walking and gathering of native plants and stream animals, and controlled diversion of stream waters for agricultural purposes. Other compatible uses should be permitted as may be defined by the agency with jurisdiction. There should be no dumping, littering, disposal of toxic or hazardous materials, disposal of animal or human wastes, or other activities that may be deleterious to stream quality and stream ecosystems. There should also be no filling, grading, or other significant changes to the natural contours within a Stream Conservation Corridor unless there is an overriding need for such action that relates to public health, safety, or welfare.

### **3.5.2.3 Establish Minimum In-Stream Flow Standards**

There is a need to develop a cooperative government-community program toward the establishment of minimum in-stream flow standards for the perennial streams of the upper valleys of Wai‘anae, Mākaha, Mākua, Lualualei, and Nānākuli. The overall objective of such a program would be to adequately protect fishery, wildlife, recreational, aesthetic, scenic, and other beneficial in-stream uses. The setting of instream flow standards would weigh the benefits of instream and noninstream uses of water resources, including the economic impact of restrictions of such uses. The establishment of flow standards is a scientifically and culturally complex process that will require a significant amount of time.

### **3.5.2.4 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Streams and Stream Corridors**

Government agencies should partner with community-based organizations to better manage Wai‘anae’s Streams and stream corridors, as described in Section 2.3.10. One of the greatest potential challenges for these groups will be dealing with property rights and working with land-owners.

### **3.5.3 Relation to Open Space Map**

Stream Conservation Corridors are schematically shown on the Open Space Map.

## **3.6 HISTORIC AND CULTURAL RESOURCES**

### **3.6.1 Overview of Historic and Cultural Resources**

The Wai‘anae Coast, from Honouliuli to Ka‘ena, is a geographical area that is known for its religious and spiritual significance. Kuilioloa, Puehu, Keaupuni, Kahoali‘i, Haua, Haena, Malaihakoa, Kamaile, Punanaula, Kaneaki, and Laukinui are just some of the *na heiau* (ancient temples) that were used and designated for war, agriculture, astronomy, navigation, and religious purposes. Numerous places on land and in the ocean have historic and religious significances that are still being handed down from generation to generation, including land areas, rocks (such as Leina A Ka‘uhane – from where spirits leaped into the nether world at Ka‘ena), cliffs, and reefs.

The Wai‘anae area was first settled by Hawaiians about 800 to 1,000 years ago. Current models of Hawaiian history have permanent settlement on O‘ahu being focused on the wet, windward sides of the island from perhaps A.D. 0 to A.D. 900. During those years, residents of that side of the island often visited the leeward sides to use various resources – fishing areas, bird colonies, the shellfish of Pearl Harbor, etc. to sustain themselves. Small campsites

associated with those visits may be found throughout the leeward area. In the Wai‘anae District, such a site appears to have been present in Wai‘anae Valley along Pōkai Bay in the Wai‘anae Army Recreation Center.

Beginning about A.D. 1000, it appears that the population spread over into the leeward areas of O‘ahu, and people settled the lower valleys of leeward O‘ahu from the 1000s-1300s. Dates from Pearl Harbor, Kalihi, and Mākaha and Wai‘anae Valleys all show people were residing in coastal areas and farming the lower valleys.

In the 1300s, oral histories indicate larger *moku* formed on O‘ahu – apparently Kona district (Honolulu), Ko‘olau Poko/Ko‘olau Loa, and ‘Ewa (with Wai‘anae and Waialua) were the three *moku* which formed. This marked the start of more complex and more stratified societies. By the 1400s, the entire island was unified. Large *heiau* in the islands started to be built in the 1400s, based on archaeological information, and large fishponds also began to be built by this time – all evidence of more stratification and countries with larger populations. From the 1400s - 1700s, population grew on the island. People spread up into the upper valleys, where scattered houses and fields were established. In the 1700s, oral histories show that O‘ahu expanded to control all of Molokai and parts of Kauai. However, the O‘ahu kingdom fell to Maui in 1783, and Maui fell to the Hawai‘i Kingdom in 1795.

Throughout these years, the Wai‘anae District was distant from the ruling centers of the O‘ahu and later kingdoms – which were primarily in Waikiki, the ‘Ewa area, and in Kailua. Within the Wai‘anae District, Wai‘anae Valley was the political and religious center of the area. The high chief controlling much of the area had a residence in Wai‘anae Valley (where the ruler resided when passing through) and large sacrificial temples (*luakini*) were present in Wai‘anae, with one also in Mākaha. All of the Wai‘anae lands filled in during these years, with farms covering the land up into the uppermost valleys, and with houses scattered among these farms.

Almost every valley in Wai‘anae District today still contains archaeological sites associated with O‘ahu’s and Wai‘anae’s history. Many of these sites are important to local people as traditional and cultural sites. The upper valleys, beyond the limits of contemporary development, are nearly all covered with archaeological sites. The coastal dunes contain sites (including burials), which are hidden under the ground surface. Sometimes these sites survive under existing buildings, and scattered *heiau* also still survive.

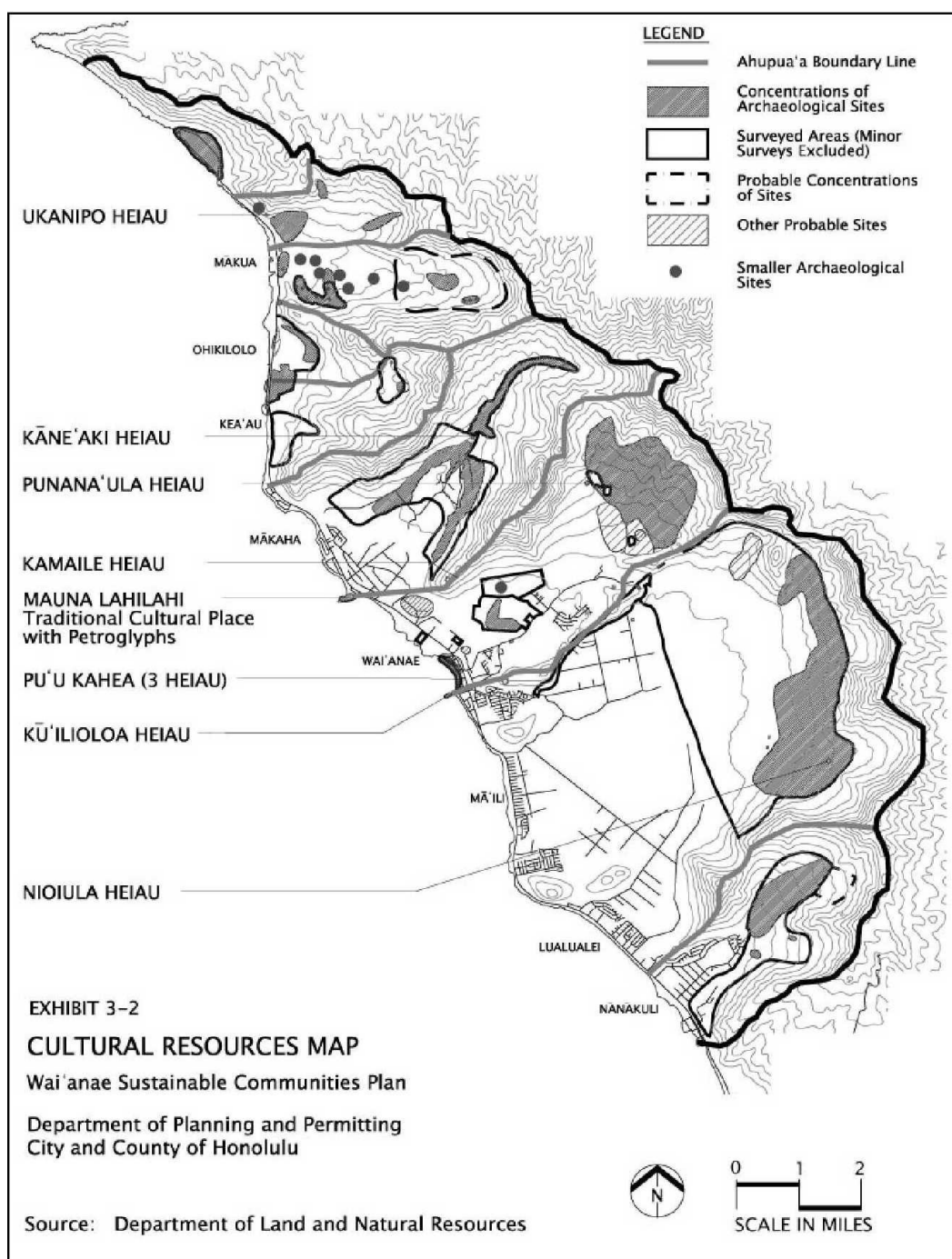
Based on archaeological studies completed to date, the Historic Preservation Division of the State Department of Land and Natural Resources provided a summary of the important cultural sites and resources of the Wai‘anae district, as follows:

“Information on archaeological properties in the Wai‘anae District varies with survey coverage. Since 1987, most developments have been preceded by an archaeological survey (if needed) as part of the historic preservation laws’ review process. Also, the Army and Navy have conducted surveys of their lands. Lands that were developed for housing, schools, businesses, etc., prior to 1987 often were not surveyed, and information on archaeological sites in those areas comes from older 1930 or earlier archaeological studies which usually simply identified *heiau*. Copies of these reports are on file in the library at the State Historic Preservation Division (Department of Land and Natural Resources, State of Hawai‘i).”

The only fairly complete large archaeological surveys that have been done are in upper Nānākuli (done by the State Historic Preservation Division), in upper Lualualei (done by the Bishop Museum), in mid to upper Mākaha (done by the Bishop Museum), and on the coastal flats of Kea‘au (done by International Archaeological Research Institute, Inc.). Other areas of the district have much smaller areas that have received complete coverage, or areas where only initial reconnaissance information is available. Many areas of the district have yet to undergo archaeological survey.

Many of these historical and cultural sites and concentrations of sites are of great importance to the community, including those that have not yet been officially documented. The community would like to see funds dedicated to archaeological surveys of areas not yet surveyed, and to the creation of a cultural resource map that more thoroughly shows the extensive number of cultural sites located in the area.

The following map shows only a small percentage of the numerous sites located within the District.



**3.6.2 Policies Pertaining to Historic and Cultural Sites****3.6.2.1 Preserve Major Concentrations of Cultural Sites and Allow Access for Cultural Practices**

The large concentrations of historical and cultural sites found in the upper reaches of the valleys of the Wai‘anae District are included in the Preservation areas. These important cultural landscapes should be preserved and protected for the benefit of the community and of future generations. Careful restoration of important sites should be undertaken by qualified professionals.

**3.6.2.2 Do Not Allow Development that Negatively Impacts Important Cultural Sites or Access to such Sites**

Other important historical and cultural sites not located within the Preservation areas should also be recognized and protected wherever possible. Urban or agricultural development projects should not be permitted to degrade or destroy important historical or cultural sites. “Important historical and cultural sites” should be determined by the State Historic Preservation Division in collaboration with the community.

**3.6.2.3 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Cultural Sites**

Government agencies should partner with community-based organizations to better manage Wai‘anae’s cultural sites, as described in Section 2.3.10. Such management will include preservation, restoration, and monitoring of cultural sites. One of the greatest potential challenges for these groups will be dealing with property rights and working with land-owners.

**3.6.2.4 Create Signage for Cultural Sites**

Many of the cultural sites within the District are in need of signage that displays the proper Hawaiian place name, as well as the *mo‘olelo* associated with it. Such an undertaking should be overseen by the community-based group discussed above. Funding should come from a variety of sources, including City, State, and Federal sources, especially when they are the land-owners of the site.

**3.6.2.5 Protect and Allow Access for Cultural Practices at Sites on City-Owned Lands**

Plans and programs are needed for the protection of important historical and cultural sites found on City-owned land within the District – which is primarily in Mākaha Valley. These programs should include provisions for community access to important sites for the observance of cultural practices, and involvement of members of the community in the protection and preservation program.

**3.6.2.6 Protect and Allow Access for Cultural Practices at Sites on Federal, State, or Private Lands**

For lands owned by Federal or State agencies, or owned by private parties, the appropriate public agencies should develop pro-active and cooperative efforts to preserve and protect these important sites and provide for community access. The State department of land and natural resources is developing a community-based management program to better protect resources of the Wai‘anae Kai Forest Reserve. Similar community access and forest management programs involving the U.S. Navy for sites in Lualualei Valley, the State department of land and natural resources for sites in Ohikilolo Valley and other state-owned areas, and the Department of Hawaiian Home Lands in Nānākuli need to be developed.

### 3.6.2.7 Conduct a Thorough Cultural Survey of the Wai‘anae District

Residents recommend that the District be more thoroughly surveyed, and that associated cultural maps be created. It is accepted that these maps will not include every cultural site, due to funding limits, knowledge limits, as well as the fact that often times, cultural practitioners do not want every site to be public knowledge. Thus, the outcome should be maps that show numerous cultural sites and a boundary around areas that should be considered cultural landscapes – or areas with numerous sites that are both important in themselves and in their relation to each other.

It is also possible to create a map that shows cultural uses that should be protected from destruction. Examples of what such a map could demonstrate include:

- a) areas of traditional use by Native Hawaiians, such as for fishing, conducting cultural practices [*uniki* (graduation from cultural practices), *kapu kai* (ceremonial seabath), etc.], recreating, and temporarily residing;
- b) places for observation of historic/cultural significance, such as the resurrection or re-enactment of Makahiki activities; and
- c) accesses to resources for cultural, sustenance, and traditional economic purposes, along with the appropriate protection of the areas where these resources are found, for the use by future generations.

### 3.6.3 Relation to Open Space Map

Major concentrations of archaeological sites are shown with a “dot screen” texture on the Open Space Map.

## 3.7 AGRICULTURAL LANDS

### 3.7.1 Overview of Agricultural Lands in the Wai‘anae District

Although the Wai‘anae District’s climate is very favorable for many types of agriculture, and the district has large acreages of good soils, the amount of agricultural activity is on the decline. A few decades ago, Wai‘anae hosted 12 dairy farms, the last of which (Pacific Dairy) closed in January 2008. In 2004, the Kakazu and Shigeta families closed O‘ahu’s last broiler chicken farms, which were located in Nānākuli.

In 2007, the National Agricultural Statistics Service listed 172 farms in the Wai‘anae zip code, with only 9 farms over 50 acres in size. The farms included a handful of livestock operations (pig, egg layer, and goat), orchid growers, and vegetable growers. Many of these listed farms are small-scale family farms, and not working commercial farms. Increasing costs for land, transportation, feed and fertilizers from the mainland are factors in the feasibility of farm operations. According to local farmers, Wai‘anae lacks large, contiguous open spaces that would allow larger-scale farms. Wai‘anae farmers may need to find ways to combine adjacent parcels. Although there is land available for small farm operations, such farms have a difficult time competing, due to economies of scale. Also, many of the older farms that have gone out of business used to raise livestock, which means the soil may not be good for growing crops.

Lualualei Valley, the largest valley of the *moku*, is particularly well-suited for agriculture, since it is flat, there are a number of wells for irrigation purposes, and the soil type is the unique vertisol series soil. CTAHR’s Soils of Hawai‘i states that,

“Vertisols are fertile soils. Their dark color is often mistakenly attributed to organic matter, but our Vertisols have lower organic matter contents than most other soils in the state. When they occur in large, level tracts of land as in Lualualei Valley on O‘ahu, they make excellent agricultural land.”

If agriculture is to grow and expand here, most local market studies point to sustainable agriculture, indigenous crops, and a diversity of premium quality products that can take advantage of the favorable climate. Organic fruit and vegetable production fits well with both the climate and soil, especially as it relies heavily on feeding the soil to increase organic matter content (through such methods as use of compost and animal manure, cover cropping, and green manures), and because there is high demand for organic products, it could bring in revenue and create jobs in the community.

The preservation of agricultural lands – both lands currently in agricultural use as well as fallow land that has agricultural use potential – is of critical importance to the Wai‘anae community.

Agricultural uses of the land are important in Wai‘anae for both commercial agriculture and part-time family farming. The continued protection and availability of agricultural lands for commercial farms, family farms, part-time farmers, and rural homesteads with backyard gardens are essential if the Wai‘anae community is to preserve its rural lifestyle. The perpetuation of agriculture is also important for providing jobs within the District, as well as for increasing the level of self-sufficiency.

Various issues that present challenges to the long-term protection of agricultural lands and the development of diversified agriculture, along with proposed solutions, are included in the *Technical Report* (2010).

### **3.7.2 Policies Pertaining to the Agricultural Lands**

#### **3.7.2.1 Maintain the Boundary for Agricultural Lands**

The Wai‘anae Sustainable Communities Plan Land Use Map includes “Agriculture” lands. The agricultural lands generally lie between the coastal “Rural Residential” areas and the steep lands of the “Preservation” areas. The intent is to preserve active farms as well as agricultural lands that contribute to the open space and rural character of Wai‘anae and provide areas for the potential expansion of agricultural activity. The Community Growth Boundary should serve to limit urban development and prevent the encroachment of residential and commercial development into agricultural areas.

#### **3.7.2.2 Support Agriculture through Zoning Regulations and Tax Assessments**

The City should use its powers of zoning and real property tax assessments in a manner that will support the preservation of agricultural lands and agricultural uses in the Wai‘anae District.

#### **3.7.2.3 Limit the use of “Agriculture” Land to Agriculture and other Compatible Land Uses**

Land uses within the Agriculture area shall be limited to agriculture and other uses that are compatible with a rural landscape and country lifestyle. Compatible uses include uses such as farm dwellings, existing small country stores, small-scale facilities for the storage or processing of farm products, and cultural places and preserves. The more detailed Land Use Ordinance (LUO) should govern the detailed determination of compatible and incompatible uses

in Agriculture areas. Other potentially appropriate uses include recreational or educational programs or other uses consistent with the character of a rural agricultural area, which provide supplemental income necessary to sustain the primary agricultural activity. There should be a direct connection between those activities and the maintenance of agricultural uses on the same or nearby properties.

#### **3.7.2.4 Prohibit Incompatible Land Uses of “Agriculture” Land**

New residential subdivisions with lot sizes less than two acres, new commercial uses, public and private schools, congregate housing or elderly care homes, golf courses, resorts, theme parks, and other forms of large-scale commercial or industrial development should generally not be permitted in the agricultural area. Large lot subdivisions intended for luxury homes with no bona fide agricultural activities are also not a compatible land use.

#### **3.7.2.5 Coordinate Farmer’s Markets and Other Low-Cost Marketing Outlets**

Various public and private entities should coordinate their efforts and resources with community groups to create more opportunities for local family farmers to get their farm products to market at the lowest possible cost. The larger commercial farmers that are active in the Wai‘anae District have well established marketing channels for their products. The small farmers and family farmers, however, have fewer opportunities to market their products. Local “Farmers’ Markets,” if well organized and held regularly, could provide low-cost marketing opportunities for small farmers. Other low-cost marketing concepts, including co-operatives, should also be explored.

#### **3.7.3 Relation to Land Use and Open Space Maps**

Agricultural land that should be protected and preserved is shown as “Agriculture” on the Land Use and Open Space Maps. Included in this land use category are most of Lualualei, Wai‘anae, and ‘Ohikilolo Valleys, and portions of Nānākuli and Mākua Valleys.

### **3.8 RESIDENTIAL LAND USE**

#### **3.8.1 Overview of Existing and Planned Residential Uses**

Existing residential land uses in the Wai‘anae District consist of about 2,144 acres of land zoned for residential use. These developed lands support a total of an estimated 12,356 dwelling units, mostly clustered along the Farrington Highway coastal corridor. “Medium Density” residential development is found on two sites in Mākaha Valley: Mākaha Valley Towers condominiums and Mākaha Valley Plantation townhouses. The residential acreage of 2,144 acres, computed against the 12,356 dwelling units, yields an average density of 5.76 units per residential acre, which is relatively high for a “rural” district like Wai‘anae. As a comparison, the overall gross density of the Villages of Kapolei planned community in the ‘Ewa District, with about 3,500 single-family homes and 1,500 multifamily units, is about 10 units per residential acre.

Year 2000 Census data for housing units in the Wai‘anae District showed that the Median Year Built for the District’s homes was 1974, the median value was \$158,700, as compared to the O‘ahu median value of \$309,000 and the median gross rent was \$680 a month, as compared to O‘ahu at \$802/month. About half of the units were owned and half were rented. Since 2000, home prices have continued to increase dramatically. The “2008 Second Quarter Residential Resales Statistics” showed the median sales price for a single family home on the Leeward Coast was \$399,000 (compared to \$636,000 for O‘ahu), and \$170,000 for a condominium (compared to \$330,000 for O‘ahu) (Hawai‘i Real Estate Central, 2008).



<b>Table 3-3: Housing Trends in the Wai‘anae District: 1980 to 2000</b>			
<b>Housing Data Category</b>	<b>Wai‘anae 1980</b>	<b>Wai‘anae 1990</b>	<b>Wai‘anae 2000</b>
Occupied Units	9,528	10,680	10,562
Owner Units	4,090	4,879	6,098
Renter Units	3,874	4,538	4,464
Median Year Built	1974	1971	1974
Median House Value	\$77,000	\$136,200	\$158,700
Median Gross Monthly Rent	\$264	\$602	\$680
Median Rent as % of Income	20.0	30.1	33.5
<b>Source: U.S. Census</b>			

An analysis of housing data from the 1980, 1990, and 2000 Census’ shows some alarming trends. Wai‘anae’s population during this period increased by 4,848 people. However, the number of occupied housing units actually declined during this time, by 118. This disparity between population growth and the decline in the number of occupied units suggests a trend towards larger households – and more overcrowding – and/or more homeless people.

In 2000, Wai‘anae had a slightly higher percentage of homeowner units and a slightly lower percentage of renter units when compared with O‘ahu overall. Housing units in Wai‘anae were slightly “newer” than the O‘ahu average, and median rents were slightly lower. However, median rent as a percent of income was somewhat higher for Wai‘anae than for O‘ahu. The median house value in Wai‘anae was much lower than the O‘ahu median.

<b>Table 3-4: Housing Data for 2000: O‘ahu vs. Wai‘anae</b>		
<b>Housing Data Category</b>	<b>O‘ahu 2000</b>	<b>Wai‘anae 2000</b>
Occupied Units	286,450	10,562
Owner Units	156,233	6,098
Renter Units	130,217	4,464
Median Year Built	1972	1974
Median House Value	\$274,600	\$158,700
Median Gross Monthly Rent	\$802	\$680
Median Rent as % of Income	27.5%	33.5%
<b>Source: U.S. Census</b>		

The Annual Report on the Status of Land Use on O‘ahu (DPP, FY 2007) showed the following planned developments for the Wai‘anae District:

**Table 3-5: Planned Developments for the Wai‘anae District**

<b>Project Name</b>	<b>Year Built Out</b>	<b>% Built</b>	<b>Total Units</b>	<b>Units Completed (as of 6/30/07)</b>	<b>Units to be Built</b>
Hale Wai Vista	2010	0%	215	0	215
Kahikulo Ohana Hale O Wai‘anae	2008	u.c.	88	0	88
Keola O Pokai Bay	2009	u.c.	125	0	125
Maili Kai, Phase II	2014	51%	838	430	408
Maili III Self-Help	2009	0%	77	0	77
Nanaikeola Senior Apts	2009	u.c.	70	0	70
Nanaikeola Village	2011	0%	142	0	142
Seawinds Apts	2008	0%	50	0	50
<b>TOTAL UNITS PLANNED:</b>					1,175
<b>Source: DPP, 2007</b>					
("u.c." = under construction)					

Given past owner/renter trends in Wai‘anae, it appears that about one-half of any new units should be for owner occupants and about one-half should be for renters. Affordable house prices and affordable rentals will be needed. According to affordability numbers provided by the Hawai‘i Housing Finance Development Corporation (HHFDC) and the U.S. Department of Housing and Urban Development (HUD) for 2009, an “affordable home” for a family of 4 persons with an income of 50 percent of the O‘ahu median income, assuming financing at 6.0 percent, would be priced at \$194,800. Affordable Rentals, based on 30 percent of income and including utilities, for a family with an income of 50 percent of the O‘ahu median, would be \$1,236/month for a 3-bedroom unit.

For Wai‘anae, the typical 2008 for-sale house price, including land, was in the range of \$350,000 to \$400,000 and the typical rent for a 3-bedroom unit was in the range of \$1,000 to \$1,200 (Honolulu Board of Realtors). Thus, for Wai‘anae, house prices were higher than HHFDC/HUD’s affordability guidelines, but rents were slightly lower. For many Wai‘anae families, however, these rent levels were still very high.

Housing affordability is a critical issue throughout the State of Hawai‘i, and the need for affordable housing is especially acute in lower income areas like Wai‘anae. The 1980's were a period of accelerating housing prices throughout the State. By 1990, the median price for a single-family home on O‘ahu was over 300 percent of the national median price. The 1990's brought a period of economic stagnation for Hawai‘i, and housing prices declined from the peak levels of 1989-1990. However, housing costs have risen dramatically since 2000, and there is little likelihood that these high prices will become significantly lower in the future.

One major factor that could substantially affect the future population growth of the Wai‘anae Sustainable Communities Plan area – and thus affect all aspects of the District’s development, including housing – is the development of the “Second Urban Center” in the ‘Ewa District.

### **‘Ewa and Kapolei**

The neighboring district of ‘Ewa, and the planned development of the City of Kapolei may have a major impact on the Wai‘anae District’s population, housing resources, and land use. The City government is strongly committed to the development of the City of Kapolei, especially in terms of the creation of new jobs at Kapolei, with hopefully an accompanying easing of commuter traffic to downtown Honolulu. However, assuming that the City of Kapolei

does develop as planned, housing prices there will probably escalate faster than the O‘ahu average, and more pressure will be brought to bear on nearby, lower cost housing markets like Waipahu to the east and Wai‘anae to the west. It is likely that there will be many more “affordable” housing projects like the Māili Kai project proposed for development. Wai‘anae could thus become the “low cost” bedroom community for the City of Kapolei.

### **Mākaha Valley**

Lastly, there are approximately 450 acres of undeveloped State “Urban” designated lands in Mākaha. According to one recent conceptual planning study, as many as 1,830 new units could be constructed on these lands. There are about 3,334 housing units in Mākaha. Additional development under the current zoning could thus raise the number of units to 5,000+ units. Existing City zoning would allow for single-family and duplex units, condominium-hotel, club house, ranch/farms, additional golf courses, recreation, grocery stores, and group living facilities.

The Mākaha Special Area Plan (SAP), completed in early 2009, provides guidelines for accommodating future development while preserving the rural character of Mākaha Valley. It presents a “Mākaha Rural Development Plan” that includes:

- Mākaha Vision
- Rural Development Concept
- Rural Development Policy Framework
- Rural Development Guidelines

The “Rural Development Policy Framework” provides the following guidance for future planning and development for Mākaha:

“Guiding Principle:

*Land located in the rural development area shall be compatible with, or provide protection for, the natural environment and shall be designed to integrate with the existing rural settlement patterns.*

The framework for the Mākaha Rural Development Concept supports the Wai‘anae Sustainable Communities Plan theme of ‘keeping the Country – Country’ through the following policies:

- Future developments, i.e., resort and residential, should promote rural character in terms of scale and physical design, i.e., relatively low density, low building heights, informal landscaping, and lots of open space.
- Energy and water conservation measures should be applied to all future developments in Mākaha Valley.
- Preserve *mauka* and *makai* view planes and open space.
- Preserve natural stream banks and waterways.
- Provide opportunities for small-scale farming.
- A roadway circulation plan should address pedestrian safety and movement, especially in the existing residential areas.
- Private roadway maintenance should be enforced with City oversight.
- Some affordable housing should be provided in all future development proposals that involve residential housing.
- Some local small businesses should be provided for, as well as small-scale farming and possibly retirement residential units.”

### **3.8.2 Policies Pertaining to Residential Lands**

#### **3.8.2.1 Do Not Increase Lands Designated “Residential”**

For the foreseeable future, there should be no increase in lands designated for Sustainable Communities Plan “Residential” in the Wai‘anae District. Existing undeveloped lands within the Community Growth Boundary should be sufficient to accommodate infill housing development that may be needed over the next 25+ years (see Land Use Map in Appendix A).

#### **3.8.2.2 Coordinate with the Department of Hawaiian Home Lands (DHHL)**

The City and the Department of Hawaiian Home Lands should establish an ongoing dialogue, with the objective of coordinating the City’s General Plan and the Wai‘anae Sustainable Communities Plan with DHHL’s Regional Plans for the District. The City’s focus should be on minimizing adverse impacts on the Wai‘anae District from potential major DHHL housing developments. DHHL should develop agricultural lots and sustainable farming practices that are compatible with the City’s General Plan and the Wai‘anae Sustainable Communities Plan. The City recognizes DHHL’s plans and DHHL’s right to develop residential subdivisions in their lands located in the rural areas of Wai‘anae Valley and Nānākuli Valley. However, DHHL should concentrate home building within the Community Growth Boundary (see Land Use Map in Appendix A).

Overall, the timing and conditions of the development of DHHL’s Wai‘anae lands are not subject to the Policies of the Wai‘anae Sustainable Communities Plan, nor to review and approval by the City Council because DHHL is exempt from City and County zoning and land use regulations.

#### **3.8.2.3 Preserve Agricultural Lands**

Future housing development should be limited to undeveloped lands that are designated by the Wai‘anae Sustainable Communities Plan for urban use, and should not be allowed to encroach upon agricultural lands.

#### **3.8.2.4 Support Home-Based Businesses**

Many Wai‘anae residents currently work from home, and many more are interested in doing so. However, they are limited in the types of activities they can carry out, and in the number of people they can have working there. While it is recognized that there are some occupations that are not compatible with residential neighborhoods (*i.e.*, vehicle repair), there are others that are. Home-based businesses should be supported in Wai‘anae to help increase the number of local jobs, and decrease people’s commute time to jobs outside of the District.

#### **3.8.2.5 Although Allowed to be Exempt by State Law, 201H Projects Should Meet Wai‘anae Sustainable Communities Plan Guidelines**

A relatively high proportion of the island’s affordable housing projects have been built in the Wai‘anae District. Although they are often built with the intention of helping the District’s residents, there are significant negative impacts, such as increased population and higher demand on infrastructure and public facilities. Therefore, the Wai‘anae community is not opposed to new affordable housing projects, but they would like to see them distributed more equally around the island. In addition, if they are built in Wai‘anae, they should follow the guidelines listed in Guideline 3.8.3.1.

### **3.8.3 Guidelines for Residential Development**

#### **3.8.3.1 Follow Wai‘anae Sustainable Communities Plan Affordable Housing Guidelines**

Proposed new affordable housing projects should meet the following criteria:

- Affordable housing projects should be distributed equally around the island (i.e., Wai‘anae should not have a significantly higher proportion of affordable housing units than the other Districts).
- The project needs to address the needs of the community, such as new and/or improved infrastructure and facilities. These needs should be discussed and decided upon through extensive community outreach and collaboration initiated by the proposed developer.
- 201 H projects should conform to the Policies and Guidelines within the Wai‘anae Sustainable Communities Plan.

#### **3.8.3.2 Limit the Height of Residential Structures**

Residential building heights should generally not exceed two stories or 30 feet, including the roof form, with heights above 30 feet allowed only when necessary due to the required flood elevation, steep slope of the site, or the desire to protect important natural features.

#### **3.8.3.3 Encourage Clustered Housing in Wai‘anae Country Town**

Encourage the development of clustered housing in the vicinity of the designated Wai‘anae Country Town. Public agencies could provide incentives to landowners in the form of infrastructure improvements in the Country Town; the provision of public amenities including parks, gathering places, and main street landscaping; and special abatements for real property taxes. Clustered housing would help to create a people-oriented Country Town, where more residents could easily walk to local shops, stores, and service businesses. In the context of the Wai‘anae District, “clustered housing” does not mean high-rise or even mid-rise structures. Small lot single-family housing, duplex homes, townhomes, and other types of residential structures can be constructed at densities from 10 to 20 units per acre. The traditional configuration of apartments over first floor commercial spaces should be brought back to the Wai‘anae Country Town. These somewhat higher densities could result in housing for a population of up to several thousand people within a 10-minute walk of the Town Center.

### **3.8.4 Relation to Land Use Map**

Residential lands are part of the Rural Residential lands illustrated on the Land Use Map (Exhibit A-1). These development lands are bounded by the Community Growth Boundary, and include existing residential uses, small-scale commercial and industrial uses, institutional uses, and undeveloped residentially-zoned lands suitable for “infill” development. Also included in this land use designation are as yet undeveloped residentially-zoned lands in Mākaha Valley. The Mākaha Special Area Plan recommends that these parcels be developed at a lower density than their current zoning allows.

## **3.9 COMMERCIAL AND INDUSTRIAL USES**

### **3.9.1 Overview of Commercial and Industrial Uses**

Wai‘anae’s retail commercial and industrial areas generally serve the needs of the resident population: Wai‘anae does not contain “destination retail” centers like the Waialeale Power Center in Central O‘ahu or Ala Moana Center

in Honolulu, or “regional industrial” centers like Campbell Industrial Park in ‘Ewa. Mākaha Resort is the area’s only significant destination resort area. During the 1970’s and 1980’s, this resort provided as many as 300 jobs, many of them filled by Wai‘anae residents. The Resort closed in 1996 due to low occupancy levels. It has since re-opened, but the number of jobs it provides is significantly lower than at its peak.

In keeping with the overall theme of a “rural Wai‘anae,” the General Plan does not foresee significant growth in commercial or industrial land use for this area. There is general community support for the development of more strongly defined local commercial and service centers (discussed more in Section 3.10), although recent trends indicate a shifting of shopping habits away from local stores to the larger commercial centers in the ‘Ewa District.

Regarding industrial uses, the Wai‘anae community agrees that their District needs local jobs, including industrial jobs within a light industrial park with moderately priced lease rents or fee simple prices for industrial lots. However, there has not been community-wide consensus on the most appropriate size or location for such industrial activities.

Local small businesses and light industrial operations are an important source of jobs for Wai‘anae’s people. A healthy level of small local businesses is essential for the local economy and also lessens the volume of commuter traffic that causes severe congestion on Farrington Highway during morning peak traffic periods.

### **3.9.2 Policies Pertaining to Commercial and Industrial Uses**

#### **3.9.2.1 Encourage the Continuation of Existing Commercial Establishments**

Encourage the continued viability of the District’s existing commercial businesses, including the many small neighborhood retail stores and restaurants as well as the larger commercial centers like Wai‘anae Mall and Nānākuli Shopping Center. Parcels already zoned for commercial use should continue to be zoned commercial.

#### **3.9.2.2 Encourage Establishment of Commercial Businesses that Serve the Community**

Encourage the establishment of appropriate commercial businesses that will provide jobs and goods and services in the Wai‘anae District, especially within the designated Country Town and Village Center areas. Public agency actions in this area may include the approval of appropriate commercial zoning, provision of infrastructure, beautification of main streets, tax abatements, technical assistance, training in small business management, grants, and loans. Commercial businesses should be allowed only in the Rural Residential areas, except for those small-scale country businesses that are compatible with agricultural land uses (see Land Use Map in Appendix A).

#### **3.9.2.3 Support the Continued Viability of the Mākaha Resort**

The Mākaha Resort has been an important resource for the Wai‘anae community – as an employer, a community gathering place, and a resort where visitors can enjoy the beauty of the Wai‘anae coast. The continued economic viability of this resort, including the possibility of some expansion of its facilities, is thus very desirable. However, the development of new resorts in Wai‘anae may not be economically or environmentally feasible. Therefore, no other land in the district is designated for new resort development.

#### **3.9.2.4 Prohibit “Big Box” Stores**

Prohibit the building of any “big box” stores in the Wai‘anae District. In commercial development terminology, “big box” generally refers to a physically large chain store, with more than 50,000 square feet of retail space, as well

as to those company names that are commonly known as such. The terms superstore, megastore, and supercenter also refer to these types of retail establishments.

#### **3.9.2.5 Encourage Light Industrial Businesses**

Encourage the establishment of light industrial businesses that provide jobs for local people, and that are generally compatible with the predominantly residential uses of the Rural Residential areas along the coast, but not in Mākaha Valley. Light industrial uses should be allowed only in the existing Industrial areas in Wai‘anae and Lualualei Valley, as shown on the Land Use Map (Exhibit A-1).

The Industrial site in Lualualei Valley is intended for light industrial uses that are not noxious or socially objectionable in nature. Light industrial lots at this location should be affordably priced for Wai‘anae businesses, and include vocational training and other facilities that will benefit the Wai‘anae community.

Special areas such as the Wai‘anae Small Boat Harbor may also provide opportunities for ocean-related light industrial and research uses.

#### **3.9.2.6 Do Not Allow Heavy Industry**

New heavy industrial uses should not be permitted in the Wai‘anae District. Such uses should be sited in the Campbell Industrial Park in ‘Ewa.

### **3.9.3 Guidelines for Commercial and Industrial Uses**

#### **3.9.3.1 Design Guidelines for Neighborhood Commercial Establishments**

Neighborhood commercial establishments in the Wai‘anae District typically consist of one to several buildings that are one or two stories in height, with associated parking areas. The two main shopping centers, Nānākuli Shopping Center and Wai‘anae Mall, are not included in this classification of “Neighborhood Commercial.” The scale of neighborhood commercial buildings is generally compatible with the surrounding residential land uses. Design guidelines for any future new neighborhood commercial buildings thus include the following:

- Buildings should be residential in scale: Height, size, and massing of the building should be compatible with adjacent residential structures.
- Total floor area of any building should not exceed 10,000 square feet.
- Building forms and roof lines should incorporate some design variation in order to avoid large uniform walls or large roof plates.
- Exterior materials and colors should be compatible with those used in adjacent residences.
- Access to parking and loading areas should be from an arterial or collector street.
- Storefronts should be oriented to pedestrian ways, with parking in the rear of the commercial buildings.
- Parking and loading areas should be screened from nearby residential areas and from the street.
- Lighting and signage should be relatively low key so as to avoid conflict with nearby residential areas.

#### **3.9.4 Relation to Land Use Map**

Most of the District’s existing commercial and industrial uses are small in scale and are included within the Community Growth Boundary. One significant industrial-zoned area is in the vicinity of the Wai‘anae Wastewater Treatment Plant. The other is in Lualualei Valley.

### 3.10 COUNTRY TOWNS, RURAL COMMUNITY COMMERCIAL CENTERS, AND GATHERING PLACES

#### 3.10.1 Overview of Concepts for Country Towns, Rural Community Commercial Centers, and Gathering Places

Within the “Rural Residential” areas for each of the subcommunities of Nānākuli, Lualualei, Wai‘anae, and Mākaha, there is the need for the development of more strongly defined **local commercial and service centers**. These Centers should contain a concentration of small retail businesses, restaurants, professional offices, medical clinics, and social services centers. They should also contain some clustered housing units, including second-story housing units above ground-level commercial space. Structures would be one or two stories in height. This more compact development pattern would provide for a stronger local community identity, further reinforce the concept of the *ahupua‘a*, encourage more pedestrian traffic and less dependence on cars, support small local businesses, and potentially alleviate the strong “strip mall” development pattern that presently exists along Farrington Highway.

After several years of intensive community-based planning, the Nānākuli Hawaiian Homestead Community Association (NHHCA) has taken the initiative to develop such a village center project. It will include a multi-purpose cultural center (The Agnes K. Cope Cultural Center), an affordable housing rental complex, commercial retail spaces, and the International Surfing Hall of Fame. The project, which has a total estimated development cost of nearly \$70 million, will be located on a 13.57-acre site centrally located within the Nānākuli community (adjacent to the Nānāikapono elementary school). NHHCA was awarded a long-term 65 year lease from the DHHL. The Nānākuli Village Center will be completed in 2 phases over the next 2-3 years.

There is also a need for the development of **Community Gathering Places**. These Gathering Places should be park-like areas of several acres that would be managed and maintained by a community organization. People would gather here informally to visit and talk story; have parties and celebrations; stage festivals and special events; teach and learn traditional crafts, music, and dance; buy, sell, and barter homegrown produce and homemade items; and renew contact and communication with friends and neighbors.

Originally, the community discussed developing these Community Gathering Places *mauka* of Farrington Highway, relatively close to the town centers. More recently, residents discussed the possibility of instead putting the Community Gathering Places on the beaches, one in each of the major *ahupua‘a*. The idea was that these gathering places could help bring the community back to the beaches. They also envisioned connecting these areas by a paved walking/jogging/biking path that extends along the entire Wai‘anae Coast. The path would be wide enough for Police Cushmanes to utilize for patrolling. It could also be lit by photovoltaic-powered lights, and provide safety phones and water fountains.

The major benefits of this concept include: allowing people to utilize the beaches and feel safe doing so, providing a venue for exercise and sporting events, and allowing people to get around the District by bike safely, which could also help to reduce traffic within the District.

The existing commercial center of Wai‘anae Town is designated a “Country Town.” Smaller “Rural Community Commercial Centers” are designated for the communities of Nānākuli, Lualualei, and Mākaha. Community Gathering Places are also schematically shown on the Land Use Map for all of these communities.



### **3.10.2 Policies Pertaining to Country Towns, Rural Community Commercial Centers and Gathering Places**

#### **3.10.2.1 Establish a Phased Development Program**

A program should be established for the phased development and improvement of Community Commercial Centers and Community Gathering Places for Nānākuli, Lualualei, Wai‘anae and Mākaha (note: as of 2010, the Nānākuli Village Center has been planned, but is still under development). The development program should include the coordination of various public planning and financial resources and partnering with local landowners and local businesses. The overall goal of the phased development program should be to establish: (1) physically distinct and economically viable Rural Community Commercial Centers that will serve local commercial needs, provide local jobs, encourage pedestrian and bicycle circulation, and foster a spirit of community identity and community pride, and (2) Community Gathering Places that will provide a setting for cultural, educational, and social activities.

Actions toward the achievement of these objectives should include the appropriate use of zoning, special tax abatements, provision of infrastructure, beautification of main streets, construction of mini-parks and gathering places, technical assistance, training in small business management, clustering of public structures and services, and the provision of grants, loans, and loan guarantees.

### **3.10.3 Guidelines for Country Towns, Rural Community Commercial Centers and Gathering Places**

#### **3.10.3.1 Geographic Size of the Centers**

As a general guide, the geographic extent of the commercial and residential land uses that make up the Centers should be relatively small in scale.

Thus, the area to be developed as “Wai‘anae Country Town” could extend from Wai‘anae Mall to Old Government Road, and from Pōka‘i Bay Beach Park to the vicinity of Wai‘anae Elementary School. This area is about 4/5 mile long by about 1/4 mile wide, or about 100 acres in area. Walking time at a reasonable pace from the farthest edges of Wai‘anae Country Town to the commercial establishments in the middle of the Center would be about 5 minutes.

The focal concept for Wai‘anae Town Center is the improvement and expansion of Pōka‘i Bay Beach Park, including the development of a Community Gathering Place there, and the revitalization of traditional “town center” commercial properties located on both sides of Farrington Highway. Ideally, improvements to the Park would include bringing park greenery and open space up to the Farrington Highway corridor, such that the Park and Pōka‘i Bay are visible from the highway. More detailed plans for Wai‘anae Country Town should be developed in the near future.

The Rural Community Commercial Centers would range in size from about three to five acres. Nearby homes would be within a reasonable walking distance of Center commercial establishments.

#### **3.10.3.2 Commercial Establishments in the Centers**

Commercial buildings located within the Country Town and Rural Community Commercial Centers should be low-rise one-, two-, or at most three-story buildings. Where possible, existing older buildings that have some architectural interest should be preserved. New buildings should be designed and sited to create a strong building line along the main street. Parking lots should generally be located behind the buildings. The typical configuration for strip commercial development, with a large parking lot fronting the street and the commercial building located

at the back of the parking lot, should not be allowed. A limited amount of “fast turnover” parking stalls could be located in front of new commercial buildings. The design of new buildings should incorporate elements and materials from traditional local architectural styles. Where possible, commercial buildings should be designed as multipurpose structures, with retail commercial space on the ground floor, and space for professional offices or residential apartments on the second floor.

### **3.10.3.3 Residential Structures in the Centers**

The proposed Wai‘anae Country Town should be developed incrementally. There are some vacant commercial and residential lots along Farrington Highway between Wai‘anae Mall and the Wai‘anae Community Center. Over time, there will be more opportunities to replace obsolete structures.

New residential development within Wai‘anae Country Town should be built at a higher density than the typical local housing that has been developed along the Farrington Highway corridor, which usually has minimum lot sizes of 5,000 square feet. Although it is recognized that many residents would prefer to have larger lots – 10,000 or 20,000 or more square feet – clustered housing is important for the overall design and commercial success of these Centers. Thus, the suggested housing types are 2-story townhomes, duplex units, and clustered single-family homes that may have average lot sizes of about 4,000 square feet. High-rise and mid-rise apartment and condominium buildings are not appropriate for the Wai‘anae Coast. These kinds of structures are urban in character and are not compatible with the character of the Wai‘anae District.

If the redeveloped Wai‘anae Country Town eventually has about 40 gross acres of clustered residential use, and the average density is about 10 units per acre, the Country Town would have about 400 homes. This would mean that about 1,600 people would be within a few minutes walk of essential shopping and services.

### **3.10.3.4 Center Amenities**

The Country Town and Rural Community Commercial Centers should be landscaped and contain other amenities to identify them as special places for people to frequent. These amenities could include:

- Street trees along the main streets of the Center;
- Mini-parks and gathering places;
- Wider sidewalks to accommodate outdoor cafes and sidewalk displays of merchandise;
- Pedestrian-scale street lights;
- Street furniture at appropriate places: benches, trash receptacles, bike racks, planters with flowering plants.

### **3.10.3.5 Guidelines for Community Gathering Places Connected by a Walking/Jogging/Biking Path Located along the Coast**

Wai‘anae residents would like to create four Community Gathering Places, one in each of the major *ahupua‘a* (Nānākuli, Lualualei, Wai‘anae, and Mākaha), in their beach parks. The Gathering Places should be connected by a walking/jogging/biking path that would be constructed from Mākaha to Nānākuli. The Gathering Places should reflect the needs and preferences of the community that it serves. As a general guide, the following facilities should be considered:

- One or more acres of park-like space. This open space would be used for informal gatherings, games, parties, and performances
- A hula mound
- A picnic area
- Restrooms
- A multipurpose building that could be used for community meetings, indoor classes, and storage of materials and equipment
- Adequate parking
- Signage, lighting and landscaping

The walking/jogging/biking path should have the following characteristics and amenities:

- ADA compliant
- Wide enough for Police Cushman's to utilize for patrolling the area
- Lit by photovoltaic-powered lights
- Safety phones
- Water fountains

Land acquisition and capital funding for the development of the Community Gathering Places will be a challenge. A combination of City, private sector, and community resources will probably be needed. The management and maintenance of a Gathering Place should be the responsibility of the local community. A system of volunteer labor for routine maintenance chores will be needed. Some funds will also be needed for maintenance materials and supplies.

### **3.10.4 Relation to Land Use and Open Space Maps**

Wai'anae Country Town and Rural Community Commercial Centers for Nānākuli, Mā'ili, and Mākaha are schematically shown on the Land Use Map. Community Gathering Places for Nānākuli, Mā'ili, Wai'anae, and Mākaha are schematically located on the Open Space Map.

## **3.11 PARKS AND RECREATIONAL AREAS**

### **3.11.1 Overview of Existing Parks and Recreational Areas**

The Wai'anae District has a diverse number of parks as shown in Table 3-6, and contains the world-renowned Mākaha Beach for surfing competitions. The District has one (undeveloped) Regional park, eight Beach Parks, one District Park, four Community Parks, one Neighborhood Park, one Cultural Park, and four Beach/Shoreline Access Points. The location of these parks is shown in Exhibit 3-3.

One of the last semi-wilderness areas on O'ahu, Ka'ena Point State Park, consisting of approximately 2,236 acres, encompasses rugged lava shorelines, large white sand beaches, cliffs, gorges and valleys as well as forested mountain regions that contribute to a wide variety of recreational, educational, and cultural opportunities.

Overall, there are two major issues currently associated with the District's parks. First, there is a significant shortfall in the number of community-based parks and in the total acreage of park lands. This shortfall was pointed out in the original Wai'anae Sustainable Communities Plan, but has still not been addressed. (The details are in the subsequent pages of this chapter.) The second major issue related to Wai'anae's parks is the large number of

homeless living on the beaches. Many of these areas are City Beach Parks, which normally offer camping through the Parks Permitting System.

There is no simple solution to this difficult situation. The Wai‘anae Sustainable Communities Plan recognizes that this “user conflict” further aggravates the shortfall of parks.

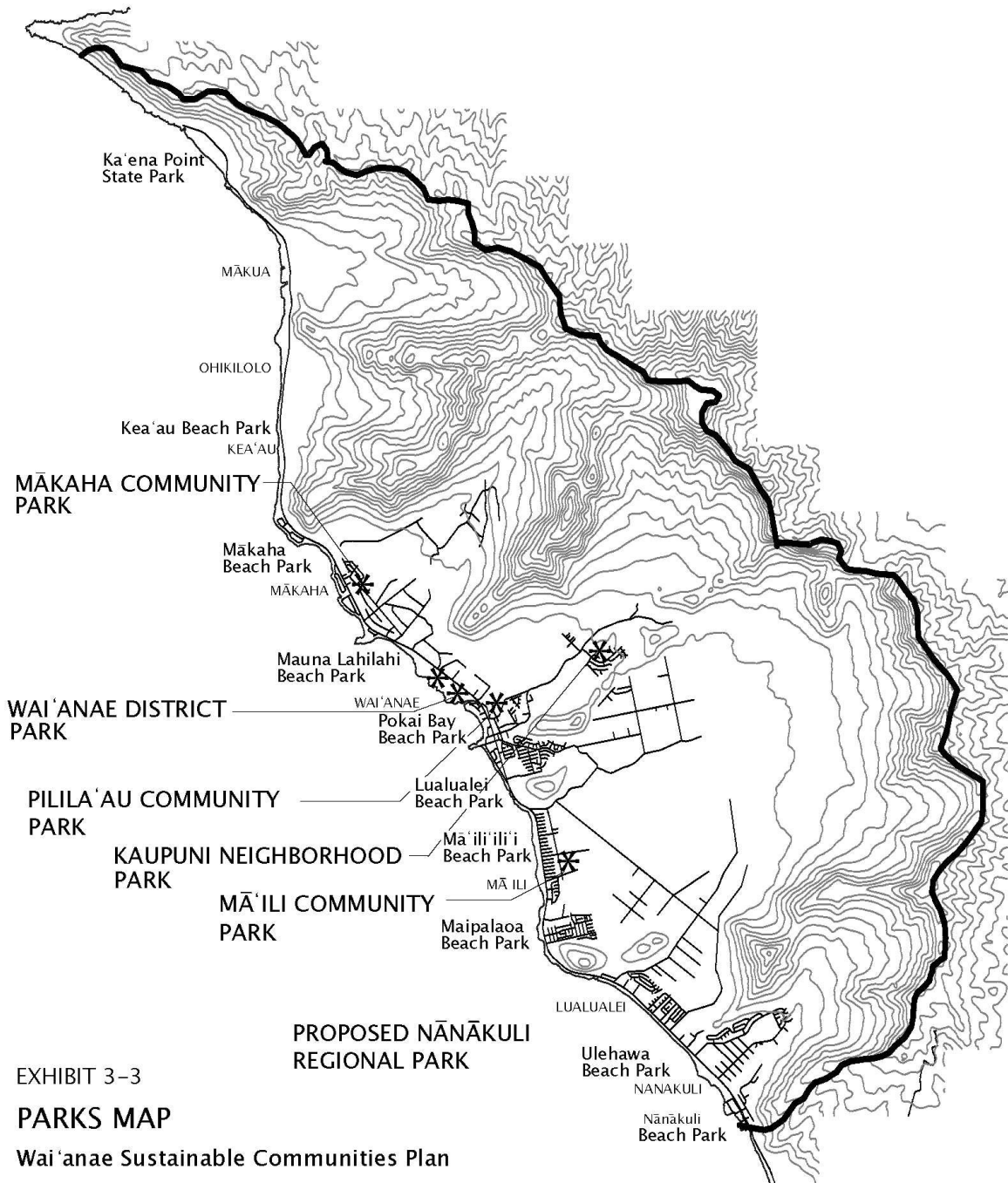


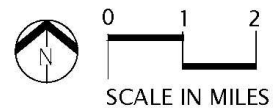
EXHIBIT 3-3

### PARKS MAP

Wai'anae Sustainable Communities Plan

Department of Planning and Permitting  
City and County of Honolulu

Source: Department of Planning and Permitting  
and Department of Parks and Recreation



<b>Table 3-6: City Parks and Park Acreage</b>	
<b>Park Name (and type)</b>	<b>Acreage</b>
<b>Regional Park</b>	
Nānākuli Regional Park (proposed)	(50)
<b>Beach Parks</b>	
Kea‘au Beach Park	38.05
Lualualei Beach Park	17.75
Mā‘ili Beach Park	39.56
Mākaha Beach Park	20.62
Mauna Lahilahi Beach Park	8.74
Nānākuli Beach Park	39.63
Poka‘i Bay Beach Park	15.49
Ulehawa Beach Park (1 and 2)	57.65
<b>District Park</b>	
Wai‘anae District Park	22.92
<b>Community Parks</b>	
Mā‘ili Community Park	3.68
Mākaha Valley Community Park	4.32
Herbert K. Pilila‘au Community Park	10.44
Pu‘u o Hulu (or Mā‘ili Kai) Community Park	11
<b>Neighborhood Park</b>	
Kaupuni Neighborhood Park	7.51
<b>Others:</b>	
Mauna Lahilahi Cultural Garden	14.3
Makau Street A Beach Right-of-Way	0.02
Makau Street B Beach Right-of-Way	0.02
Moua Street Beach Right-of-Way	0.02
<b>Total Acreage:</b>	<b>331.29</b>
<b>Source: DPR, 2008</b>	
<b>(Note: the acreage from the proposed Nānākuli Regional Park was not added into the total.)</b>	

The City and County of Honolulu parks department has plans to expand the Mākaha Beach Park by adding lands *mauka* of Farrington Highway. The plan is to reroute a portion of Farrington Highway *mauka* to allow for this expansion. However, because rerouting of Farrington Highway will be a major undertaking, controlled by the State DOT, the expansion will occur in phases. The Wai‘anae community is generally in favor of rerouting the highway *mauka*, to allow people safer access to the restrooms, shower, and paddling *halau wa‘a* (canoe storage).

There are two 18-hole golf courses in the Wai‘anae District: 1) Mākaha Valley Country Club and 2) Mākaha Golf Club. These courses are privately owned, but open to the public.

The City's community-based park standards for the various types of parks are:

- Neighborhood Parks (4 to 6 acres): one per 5,000 population Service Area 1/2 Mile
- Community Parks (10 acres): one per 10,000 population Service Area 1 Mile
- District Parks (20 acres): one per 25,000 population Service Area 2 Miles

<b>Table 3-7: City Park Requirement per City Standards for 2009 Wai‘anae District Population (+/- 45,000)</b>			
<b>Park Type</b>	<b>Current: Number/Acreage</b>	<b>City's Park Standards per 45,000 (approximate 2009 population)</b>	<b>Shortfall: Number/Acreage</b>
<b>Neighborhood</b>	1 / 7.5 acres	9 / 45 acres	8 / 37.5 acres
<b>Community</b>	4 / 29.4 acres	4 / 40 acres	0 / 10.6 acres
<b>District</b>	1 / 22.9 acres	2 / 40 acres	1 / 17.1 acres
<b>TOTAL:</b>	6 / 59.8 acres	15 / 125 acres	9 / 65.2 acres
<b>Source: DPR, 2008</b>			

As shown in the table above, the total park acreage requirement for the Wai‘anae District is 125 acres based on an estimated population of 45,000 people. In 2009, there were still just under 60 acres of these parks, which is a shortfall of approximately 65 acres of park space. Most notably, the Wai‘anae District has a shortfall of **eight** Neighborhood Parks.

It should also be noted that two of the four existing Community Parks are substandard in size: Māili Community Park at 3.68 acres, and Mākaha Community Park at 4.32 acres. The City's creation of Mā‘ili Kai Community Park fulfilled the need for a fourth Community Park in the District, however, it is not yet fully developed.

In addition, a Nānākuli Regional Park was proposed in May 2010. It replaces the previously planned Wai‘anae Regional Park, and will be the District's first Regional Park, consisting of 50 acres. It will provide facilities for active recreational sports activities such as baseball, softball, football, tennis, basketball, and volleyball.

### **3.11.2 Policies Pertaining to Parks and Recreational Facilities**

#### **3.11.2.1 Develop Adequate Public Parks**

Parks and recreational facilities are of great importance to the health and welfare of the Wai‘anae community, and are especially important to the health and well-being of Wai‘anae's children and young people. At least the minimum number and size of community-based parks should be developed by the Year 2020. According to Table 3-7, in 2009, the District had a shortfall of eight Neighborhood Parks, one District Park, and 10 acres of Community Parks. By 2020, the District will need at least one more Neighborhood Park (total requirement of 9 parks) and one additional Community Park (total requirement of 1 park and 20.6 acres). The development of the Nānākuli Regional Park should also be a high priority. In addition, at least some of the parks in the District should be “dog-friendly.”

#### **3.11.2.2 Prohibit More Golf Courses That Compete with Agriculture or Open Space Resources**

There is no land available within the Rural Residential areas of the Wai‘anae Land Use Map (Exhibit A-1) that would be large enough for a golf course. Golf courses may be incompatible with Agricultural lands or Preservation lands of the Wai‘anae District. Therefore, public agencies should discourage new golf courses within the Wai‘anae

District that compete with Agricultural and Preservation land to the detriment of agricultural or open space resources.

### **3.11.2.3 Plan for a System of Hawaiian Cultural and Educational Parks**

The Wai‘anae community would greatly benefit from the development of numerous Hawaiian Cultural and Educational Parks throughout the District.

### **3.11.3 Guidelines for Parks and Recreational Facilities**

#### **3.11.3.1 Increase Neighborhood Parks Based on City’s Park Standards**

In the Wai‘anae District, there is a shortfall of 8 Neighborhood Parks based on the City’s park standards. This shortfall should be addressed through an incremental park development program. Generally, there should be two neighborhood parks for each of the main settlement areas of the District: Nānākuli, Mā‘ili/Lualualei, Wai‘anae, and Mākaha. There are some but not many undeveloped lands within these Rural Residential areas. The needed acreage for park development should be secured before infill residential development of vacant/residentially zoned lands precludes the location of neighborhood parks in close proximity to these developed areas.

There is a recognized deficiency in the number and acreage of active, community-based public parks. It is a condition that exists across the entire island and because park development standards were only adopted about 30 years ago, although much of the residential development occurred earlier. Also, City park dedication requirements were included in its subdivision ordinance about the same time – in 1976. At locations where the military or other institutions will eventually vacate substantial land areas of six acres or more, these will present opportunities for the City to consider, as funds permit, developing new public parks with active-type recreational facilities.

#### **3.11.3.2 Create Flexible Criteria for Recreational Facilities**

In developing neighborhood parks, there is a need for more flexibility within the criteria for “allowed” recreational facilities. For example, current City standards specify the development of a comfort station for a neighborhood park, but a “recreation building” is not included. However, depending on the service population, the location of the neighborhood park, and the distance to a community park that provides a recreation building, a recreation building or multi-purpose building should be provided for a neighborhood park if there is a clear need for one. Since building maintenance and supervision services are always an issue – in terms of both personnel and overall cost – a cooperative program utilizing the department of parks and recreation’s Adopt-a-Park Program could be established at parks where there is community interest whereby a community organization could share in supervision responsibilities and maintenance costs of a recreation building.

### **3.11.4 Relation to Open Space Map**

Existing beach parks and active recreation parks are schematically shown on the Open Space Map.

## **3.12 MILITARY LAND USE**

### **3.12.1 Overview of Military Land Use in the Wai‘anae District**

The U.S. Navy obtained, via Executive Order, 7,498 acres of Lualualei Valley – “Naval Magazine Lualualei Headquarter Branch” – which the Navy uses for the storage of various kinds of ordnance needed for the different branches of the U.S. Military in Hawai‘i. The Navy also obtained, via Executive Order, and controls an additional



1,729 acres of Lualualei – “NCTAMS EASTPAC, RFT Lualualei” – which is used for high and low frequency radio signal transmissions.

The U.S. Army uses a portion of the 4,130 acres of Mākua Valley, although on a limited basis, due to community concerns on environmental issues. The Army’s Mākua lands consist of 170 acres of “fee simple” land, 782 acres of land leased from the State of Hawai‘i, and 3,237 acres of ceded lands, also leased from the State. The leases expire in the year 2029. The Army’s use of Mākua for live fire training dates back to World War II. Prior to that time, Mākua lands had been used for ranching, fishing, and farming. In earlier times, Mākua Valley and its sister valleys, Kahanahāiki and Koiahi were home to a large Native Hawaiian population.

There has been considerable discussion in recent years about the return of some Military controlled lands to public use. About 1,000 acres of the Navy’s Radio communications installation at Lualualei was identified by the Federal Government as possibly excess. The Navy has a long range plan for the relocation of its stored ordnance from Lualualei to the Naval Magazine at West Loch. The Wai‘anae community looks forward to the return of these lands and has many concerns about the health impacts of the communication towers at Lualualei and the cumulative impacts of storing ordnance upwind of the community.

The Army’s use of Mākua Valley is controversial and has been so from the time that the Army took control of the Valley. For many members of the Wai‘anae community, Mākua Valley has a special cultural and religious significance. This significance predates the Army’s presence and use of Mākua Valley. There are a number of important *heiau* and other significant cultural and religious sites found there. Many in the Wai‘anae community advocate for the return of Mākua Valley. The Army’s use of Mākua in recent years has been minimal, due to environmental and cultural concerns. Many in Wai‘anae believe that the Army has demonstrated its ability to train at alternate locations, thus negating the need for Mākua Valley as a training area.

### **3.12.2 Policies Pertaining to Military Lands**

#### **3.12.2.1 Preserve and Transition Military Lands to Civilian Use**

In keeping with the Wai‘anae Concept Map, the overall long-range land use policy for the military lands at Lualualei and at Mākua Valley is that these lands should be preserved as agricultural/open space and returned to public use. These lands should also be preserved for cultural uses, and not be used for any other purposes, such as the creation of a new landfill or new private or public development.

The importance of U.S. military uses of lands at Lualualei and in Mākua Valley is controversial and debatable.

Therefore, the continued use of these lands for military purposes should be debated, and transition to public use should be pursued. Access to certain sites for cultural and religious practices should be allowed as per existing Federal Statutes and Rules. Upon such a time that Mākua Valley is released from military use, there should be a community participation process to plan for its re-use.

#### **3.12.2.2 Organize and Implement Cooperative Programs**

The City is committed to working with the community and with the Army and Navy to organize and implement programs for the ongoing protection and preservation of important cultural and natural resources found on the military lands of the Wai‘anae District.

**3.12.3 Relation to Land Use Map**

The two Navy installations at Lualualei and the Army's Mākua Training Area are shown on the Land Use Map by a "dot screen" pattern that allows the overall land use designation colors for "Agriculture" and "Preservation" to be seen.

## **Honolulu - Land Use**

#### 4. PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES

This chapter of the Wai‘anae Sustainable Communities Plan presents Policies and Guidelines for the principal infrastructure systems that the Wai‘anae Community would like to see provided for the District.

The infrastructure issues presented here include the standard systems that the various City agencies are in charge of constructing and maintaining. The Wai‘anae Planning Advisory Committee has also discussed the importance of recognizing their community’s “original infrastructure” – the landscape and cultural resources, such as the *pu‘u* and *heiau* that the ancient Hawaiians living here used. They would like to ensure that this cultural infrastructure is recognized and preserved as much as possible.

The following are **General Policies** that are overarching to many of the infrastructure systems included in this chapter:

- The latest technology that allows the Wai‘anae Community to be as sustainable, or “green” as possible, should be implemented, while remaining consistent with other community objectives.
- Rural Infrastructure Standards should be considered and, where possible, developed by the City and State to maintain and reinforce a country feel and character. Standards would consider less impervious surfaces, attention to roadway quality of service – in addition to level of service, preference for bioretention solutions for storm waters, and alternative landscaping requirement for street trees. These standards would need to be such that they would not result in potentially hazardous conditions for vehicular or pedestrian traffic, or negatively impact abutting private property.

This Chapter includes the following sections:

- 4.1 Transportation Systems
- 4.2 Potable and Nonpotable Water Systems
- 4.3 Wastewater Collection and Treatment Systems
- 4.4 Electrical Power and Communications
- 4.5 Drainage Systems
- 4.6 Solid Waste Handling and Disposal
- 4.7 Civic, Public Safety, and Education Facilities
- 4.8 Health Care Facilities

#### 4.1 TRANSPORTATION SYSTEMS

##### 4.1.1 Overview of Transportation Systems in the Wai‘anae District

#### ROADWAYS

The major roadway in Wai‘anae is Farrington Highway. In the “old days,” Farrington Highway was a narrow, dusty track. Paved roads ended in Waipahu, and the ride out to the Wai‘anae Coast was a long haul. Then as now, Farrington Highway was the only road linking the Wai‘anae District to ‘Ewa and to Honolulu beyond. During the heyday of rail transportation on O‘ahu, a single track ran along the Wai‘anae Coast to Ka‘ena Point, and around to Mokuleia and Waialua on the North Shore. The embankment for this old railroad right-of-way still exists along a portion of the coast.

Today in 2010, Farrington Highway in the Wai‘anae District has four travel lanes as far as Mākaha Valley Road, and thereafter two lanes to its terminus at Keawaula. It serves as both the local coastal road for trips within the District as well as the only commuter highway for trips outside of Wai‘anae. During peak traffic, Farrington Highway is heavily congested, especially between Wai‘anae Town Center and Nānākuli. Important local collector roadways include Nānākuli Avenue, Heleakala Avenue, Lualualei Naval Road, Hakimo Road, Pa‘akea Road, Wai‘anae Valley Road, and Mākaha Valley Road (Exhibit 4-1).

The 2020 O‘ahu Regional Transportation Plan (ORTP) recommended safety and operational improvements for Farrington Highway in the 1995 to 2000 time frame, including sidewalks, pedestrian crosswalks or bridges, additional traffic signals, and continuous left-turn lanes. The O‘ahu Transportation Improvement Program (TIP) for FY 2006 through FY 2008 included bridge replacements and intersection improvements at numerous locations on Farrington Highway. The 2030 ORTP recommends congestion relief projects for Farrington Highway, consisting mostly of highway widening.

In the 2006-2020 time period, the ORTP recommends that Farrington Highway be widened to 6 lanes from Kapolei to Nānākuli. This would improve the highway level of service (LOS) to a projected LOS “C.”

In recent years, with the increase in the Wai‘anae District’s population, and the general trend of more automobile use by most citizens, traffic congestion on Farrington Highway has grown progressively worse. Congestion during the peak traffic period for morning commuters – about 5:00 to 7:00 a.m. – has been aggravated by the addition of unsynchronized traffic signals, which the State department of transportation has had some success in remedying. In the 8 miles between Mākaha Valley Road and Nānākuli Valley Road, there are 27 signalized intersections. That 8-mile drive can take up to 45 minutes during the morning peak period. However, commuters headed for jobs in the downtown Honolulu or Waikiki area are still faced with another 1 to 1-1/2 hour drive, which continues to worsen with increased development in the ‘Ewa and Kapolei areas.

As a possible solution to this increasingly severe commuter problem, some area residents have advocated the construction of a Second Access Highway. This is different from the Emergency Bypass Road, which would only be opened in times of emergency. It is also different from the Wai‘anae Coast Emergency Access Road. The three projects are described briefly here for clarification/distinction:

- The **Emergency Bypass Road** would go from Farrington Highway, up Lualualei Naval Road, and through the Kolekole Pass to Kunia Road. It would only be opened in times of emergency.
- The **Wai‘anae Coast Emergency Access Road** was completed in 2009. This project connects existing roads *mauka* of Farrington Highway to provide an alternate way in and out of the District during those emergency situations when Farrington Highway is closed.
- In contrast, the concept for the **Second Access Highway** is to provide an alternate route to commute into and out of the District – at all times, not just during emergencies. The proposed alignment for a Second Access Highway is from Farrington Highway, up Lualualei Naval Road, through the Wai‘anae Mountain Range at Pōhakea Pass, to connect to Kunia Road in the ‘Ewa District. In 2001, the City’s department of transportation services published the Lualualei Naval Road/Kunia Road Connector Road Concept Study. This report estimated the cost of building the road, which would include a tunnel, to be approximately \$250 million. More recent estimates put the cost closer to \$500 million.

The Second Access Highway concept raises some difficult and fundamental issues concerning regional transportation systems and regional growth management. Traffic congestion on Farrington Highway is severe, and

will probably grow worse. However, the construction of a major new commuter roadway that would ease traffic congestion and shorten commuting time to areas outside of the District will facilitate urban growth and development. The fundamental policies of preservation of agricultural lands and support of a rural lifestyle for the Wai‘anae community will be more difficult to sustain if major new infrastructure projects like a new highway are implemented.

Overall, most of the community agrees that the first priority is the opening of the Emergency Bypass Road for emergency situations, and continue to discuss options for a Second Access Highway for the future. The Emergency Bypass Road, of course, would not help the issue of lengthy commuting times to downtown Honolulu. Since the Second Access Highway will not be developed in the foreseeable future, public transportation options are encouraged.

## **PUBLIC TRANSPORTATION**

Traffic congestion could be alleviated through an enhanced public transportation system for the Wai‘anae District. Recent improvements to TheBus system include the completion of Phase 1 of the Wai‘anae Community Transit Center, consisting of a transit station with bus stops and shelters. There is also adjacent land available for a future park-and-ride lot. This would increase residents’ ability to utilize TheBus services.

There are currently several bus routes and shuttle services in operation in the Wai‘anae community. Routes C, 40, 40A, 93, and 93A offer regional service, while Routes 401, 402, and 403 operate as a neighborhood shuttle service.

In addition, the Honolulu Rail Transit Project has plans to run buses along the Wai‘anae Coast to connect with a rail station at Kapolei. TheBus connection to the planned Honolulu Rail Transit Project has the potential to decrease commute time and increase transportation options for residents who commute to Honolulu regularly.

## **BIKEWAYS, SIDEWALKS, AND REDEVELOPMENT OF TOWN AND VILLAGE CENTERS**

The development of more and safer bikeways and sidewalks, along with the redevelopment of Town and Village Centers, could decrease automobile use within the District. There is a need for a safe bicycle route along the entire Wai‘anae Coast, and up some of the major valley roads, at least as far as the concentrations of urban/suburban development. Farrington Highway and the major valley roads also need safe sidewalks for pedestrian use. The provisions for the creation of more local jobs and the clustering of homes near Town Centers and Village Centers, as discussed earlier in this Plan, and thus less dependence on out-of-District commuting, would also be beneficial.

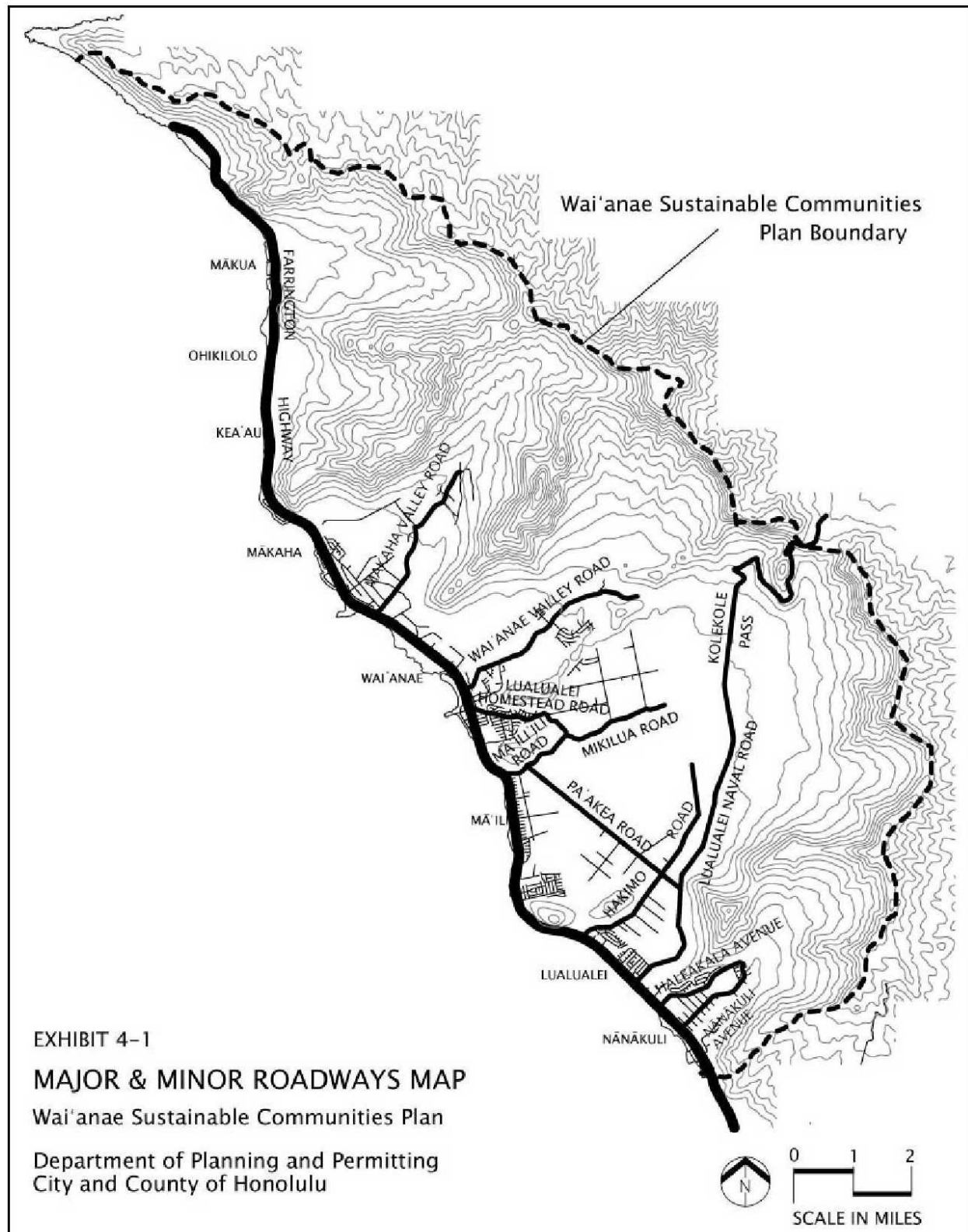
One specific idea is the development of a bike path on the old railroad right-of-way. Part of the right-of-way is under DOT jurisdiction, and part is incorporated within City park areas. The old railroad right-of-way has also been proposed for use by “antique trains” that would bring tourists into Wai‘anae to shop. This concept may have some appeal to local business people, but such a use would not alleviate the traffic problem. In contrast, developing a bikeway along this route could help the situation.

In addition, residents are advocating for the creation of a walking/jogging/biking path along the coast (see Section 3.10.3.5).

## **COMPLETE STREETS**

Act 54 (May 2009), requires State and County transportation departments to adopt and implement a complete streets policy and establishes a task force to determine necessary standards and guidelines. The intent of a complete streets

policy is to create and configure a connected street system that provides for all users; including, but not limited to, pedestrians, bicyclists, and transit passengers of all ages and abilities.



## **4.1.2 Policies Pertaining to Transportation Systems**

### **4.1.2.1 Implement Farrington Highway Safety Improvements for Pedestrians and Motorists**

A thorough study of safety improvements should be undertaken for Farrington Highway in Wai‘anae, and needed safety measures should be implemented in a timely manner. Safety improvements to be considered should include:

- Sidewalks, dedicated bike lanes, improved lighting, relocating utility poles, and fire hydrants that are too close to the edge of the travelway, left turn lanes, deceleration and acceleration lanes, bus pull-outs, traffic signals, traffic islands, median strip, pedestrian overpasses, and signalized pedestrian crosswalks.
- Use of a contra-flow system during the A.M. peak period and synchronization of traffic signals would also improve traffic flow and traffic safety.

To the extent possible, these safety measures should not impede the movement of vehicles on Farrington Highway, but where there is a conflict between pedestrian safety and vehicular flow, pedestrian safety should be the primary concern.

### **4.1.2.2 Beautify Farrington Highway**

A comprehensive program for the incremental beautification of Farrington Highway in Wai‘anae should be established by the State DOT with community involvement. The program should consider undergrounding of overhead wires and elimination of utility poles, the planting of shade trees and other landscaping, with an emphasis on native, drought-tolerant plants; attractive signage announcing the entrance to the Wai‘anae District and the entrance into the subcommunities of Nānākuli, Mā‘ili, Lualualei, Wai‘anae, and Mākaha; and special design elements within the Country Town and Village Centers, including planting, lighting, signage, paving, and street furniture. Curb to curb pavement width could also be reduced. The overall objective should be to return at least parts of Farrington Highway to a more human and pedestrian-friendly scale.

Action should be taken to screen visually unattractive industrial facilities such as the Wai‘anae Wastewater Treatment Plant and the Department of Transportation’s Base Yard. Eventual relocation of the Base Yard should also be considered.

### **4.1.2.3 Establish an Emergency Bypass Road**

There is a need to establish an Emergency Bypass Road that can be used as an alternate to Farrington Highway for those times when one or more sections of Farrington Highway may be impassable due to storm damage, a severe vehicular accident, or some other cause. The recommended alignment is from Farrington Highway up the Lualualei Naval Road through the Kolekole Pass to Kunia Road. This should begin with an analysis of upgrading the Kolekole Pass.

### **4.1.2.4 Enhance Public Transportation**

TheBus has made recent improvements within the District, including the completion of Phase 1 of the Wai‘anae Community Transit Center, consisting of a transit station with bus stops and shelters. There is also adjacent land available for a future park-and-ride lot. The construction of the park-and-ride is recommended, since it would increase residents’ ability to utilize TheBus services.



In addition, the Honolulu Rail Transit Project has plans to run buses along the Wai‘anae Coast to connect with a rail station at Kapolei. This SCP supports TheBus connections to the planned Honolulu Rail Transit Project, since it has the potential to decrease commute time and increase transportation options for residents who commute to Honolulu.

#### **4.1.2.5 Encourage Other Modes of Transportation**

Encourage plans and programs for other modes of transportation, including bikeways, pedestrian walkways and paths, and creative use of existing unutilized transportation corridors such as the old OR&L railroad right-of-way (ROW). This ROW could be used for a multiuse path for bikers, roller bladers, skateboarders, personal transportation vehicles, and pedestrians that would be safe from vehicular traffic. The community also supports the development of a walking/jogging/biking path along the coast.

### **4.2 POTABLE AND NON POTABLE WATER SYSTEMS**

#### **4.2.1 Overview of Potable Water Systems**

The potable water system currently servicing the area consists of seven source wells in Mākaha, the Mākaha shaft, three wells in Wai‘anae Valley, the Wai‘anae Tunnel, and the Plantation Tunnel.

The sustainable yield of the Wai‘anae and Mākaha Aquifer System Areas, where active BWS sources are allocated, is only about 3 mgd each, as adopted by the State Commission on Water Resource Management (CWRM) in the August 2008 Water Resource Protection Plan. In the year 2005, the City produced about 4.9 mgd from these sources. This volume of water was less than the 2005 District demand of approximately 11.1 mgd. The balance of about 6.2 mgd is currently imported into the District from the much larger Pearl Harbor Aquifer Sector Area. Additionally, Wai‘anae is supplied by small, in-district Federal, State, and private sources.

The Wai‘anae Watershed Management Plan (BWS, 2010), described in Section 3.1.7, indicates that the District will need to diversify its water supply sources in the future, since there will be competing demands for currently undeveloped water from the Pearl Harbor Aquifer Sector Area, and Wai‘anae’s ground water withdrawals are already maximized.

BWS projections for the year 2030 indicate that the Wai‘anae District will consume 13.37 mgd of potable water. These projections are based on a BWS-served population of 50,616, and DPP estimated growth in jobs. It is projected that the Wai‘anae District will have to import approximately 7.21 mgd to provide for this projected 2030 scenario.

Potable water is conveyed to users through a system of water mains that follow the major roads in the District: Farrington Highway, Nānākuli Avenue, Heleakala Avenue, Hakimo Road, Kaukama Road, Pa‘akea Road, Mā‘ili‘ili‘i Road, Lualualei Homestead Road, Wai‘anae Valley Road, and most of the major roads in Mākaha Valley. The water distribution system along Farrington Highway ends at the last 1-acre lot just past Kepuhi Point.

The cost of installing water service, especially for irrigation of crops on a small family farm, is an issue in Wai‘anae. These charges are large capital outlays for the small family farms of the Wai‘anae Coast. Federal and State assistance could help farmers offset infrastructure costs.

## **4.2.2 Overview of Nonpotable Water Systems**

Regarding the use of nonpotable water in Wai‘anae, there is some potential, but it is limited. As of 2009, BWS only provided nonpotable water from Glover Tunnel in Mākaha, with water from this system directed into the Mauna Olu Nonpotable Open Reservoir, which stores irrigation water for the Mākaha Resort’s West Golf Course. Additionally, there are two existing unused brackish water sources that, in the past, supplied drinking water to the old suburban water supply company, which served the Nānākuli and Lualualei area. The two sources that could possibly be rehabilitated for brackish water irrigation are the Nānākuli Shaft, State Well No. 2308-01, and the Lualualei Shaft, State Well No. 2508-02.

In addition, the BWS conducted a feasibility study on water re-use. It found that the water is too brackish for re-use due to seawater intrusion into the District’s sewer lines. In order to re-use Wai‘anae’s wastewater, the sewer lines would need to be upgraded to reduce/eliminate seawater intrusion. One possible alternative would be the use of Membrane Bioreactor units (MBRs). MBRs provide an alternative method of producing recycled water adjacent to the areas of use for irrigating golf courses and landscaped areas (R-1 quality). More details on this technology and other alternatives can be found in the Wai‘anae Watershed Management Plan (BWS, 2010).

## **4.2.3 Water Conservation in the Wai‘anae District**

The O‘ahu Watershed Management Plan encourages water conservation. In Wai‘anae, water conservation is especially important, since the community has expressed the desire to be as self-sufficient as possible. Thus, the Wai‘anae Watershed Management Plan (WWMP) includes numerous strategies to reduce water use and extend existing supplies. Those strategies are incorporated into the following Policies regarding both potable and nonpotable water systems.

## **4.2.4 Policies Pertaining to Potable and Nonpotable Water Systems**

### **4.2.4.1 Implement Watershed Protection Strategies to Improve Forest Health & Perennial Stream Flows**

Watershed protection is essential, since healthy forests sustain streams and groundwater aquifers. They provide a buffer for drought mitigation, as well as educational and vocational opportunities. Two critical watershed protection strategies include: (1) Restoration of natural watershed structure and functions, and (2) Preservation of species and habitat biodiversity by assessing and restoring critical water-related habitats. Details of these strategies are included in the WWMP.

### **4.2.4.2 Encourage Water Conservation**

Public education and coordination to develop conservation programs to efficiently utilize potable water are needed to reduce the District’s reliance on imported Pearl Harbor aquifer water. Some conservation measures include: leak detection/repair, low-flow fixtures, and use of rain catchments.

### **4.2.4.3 Diversify Water Supply, Matching Quality with Use**

The Wai‘anae water supply should be diversified, so nonpotable water use can be maximized, and potable water can be reserved for potable uses. Brackish sources should be developed and innovative new technologies like Membrane Bioreactors should be utilized to produce recycled water. In addition, The Wai‘anae water system infrastructure should be expanded to allow this diversification, as well as to improve adequacy and dependability of the supply, transmission, and storage.

**4.2.4.4 Support the Goals and Objectives of the Adopted Wai‘anae Watershed Management Plan**

The five major objectives are: (1) Promote sustainable watersheds; (2) Protect and enhance water quality and quantity; (3) Respect Native Hawaiian rights and traditional and customary practices; (4) Facilitate public participation, education, and project implementation; and (5) Meet future water demands at reasonable costs. The specific details of how to implement those objectives are included in that Plan.

**4.3 WASTEWATER COLLECTION AND TREATMENT SYSTEMS****4.3.1 Overview of Wastewater Collection and Treatment Systems**

Wastewater for the Wai‘anae District is collected at the Wai‘anae Wastewater Treatment Plant (WWTP) located north of Pu‘u Mā‘ili‘ili‘i and south of Wai‘anae Mall. The treatment plant has been designed for average dry weather flows of 5.2 mgd with a peak flow of 13.8 mgd. 2007 average flows to the treatment plant were approximately 3.5 mgd, an increase of 0.3 mgd since 1997. Thus, the plant still has excess capacity to handle additional flows.

Based on 80 gallons per capita per day, the current design capacity of the wastewater treatment plant could handle an additional 18,750 people, or an additional 4,688 households (based on an average of 4 persons per household) tied into the system.

The location of the WWTP – fronting on Farrington Highway and next to Wai‘anae Mall, the largest shopping center in the Wai‘anae District – is less than ideal. A community landscaping project has helped to screen the WWTP.

The major sewer lines generally follow Farrington Highway and the major valley roads, with the exception of Lualualei Valley, where the sewer lines do not extend beyond the more densely developed coastal zone.

Although the treatment plant has excess capacity to handle new flows, many of the existing residences that were initially developed with cesspools have not yet connected to the wastewater system. The Wai‘anae Sustainable Communities Plan (2000) estimated that approximately 1,180 residences that are near existing sewer lines were not yet connected.

Based on City records from the 1990s, approximately 20 percent of the residences in the Wai‘anae District were not hooked up to the wastewater collection system. Many of these residences are on property that was developed by the Department of Hawaiian Home Lands. The responsibility for tying into the wastewater collection system lies with the residents. The sewer lines have been sized to handle these house lots. However, since many people have not connected to the system, low flows in the lines cause septic conditions in the sewer lines, which often result in odors.

The Wai‘anae Wastewater Treatment Facility was recently upgraded to secondary level treatment. The ocean outfall was also extended to a greater depth.

Although the wastewater treatment plant has adequate capacity to handle additional flows, sewer lines in the District may need to be upgraded, depending on where and when new development occurs. The first sewer lines were installed during the 1950s, and some of these lines may be nearing the end of their useful lives.

#### **4.3.2 Policies Pertaining to Wastewater Collection and Treatment**

##### **4.3.2.1 Continue Phased Program for Replacement of Old Sewer Lines**

The program for the phased replacement of old sewer lines in Farrington Highway and in the main valley roadways should be continued.

##### **4.3.2.2 Improve the Wai‘anae Wastewater Treatment Plant**

Implement landscaping improvements to the Wai‘anae WWTP to minimize this facility’s visual impact on the community. Monitoring of the operations that contribute to odor problems should be continued and operational improvements should be implemented if needed to minimize odor impacts.

##### **4.3.2.3 Coordinate with DHHL Regarding Sewer Connections**

Develop a strategy to assist Hawaiian Homesteads homeowners to connect to the City’s wastewater collection system. The cooperating entities should seek federal, state, and local assistance in establishing a program of small grants and low interest loans that can be made available to lower income families to finance these hookups.

#### **4.4 ELECTRICAL POWER AND COMMUNICATIONS**

##### **4.4.1 Overview of Electrical Power and Communications Systems**

The Wai‘anae District is at present adequately served in terms of electrical power, and both telephone and cable television systems. Hawaiian Electric Company is planning a new electrical substation in the vicinity of Wai‘anae Valley Road/Plantation Road to provide a more reliable system. As relatively little growth is planned for this District to the Year 2035, upgrading these systems is not a significant issue for the Wai‘anae Sustainable Communities Plan.

##### **Renewable Energy**

Hawaiian Electric Company continues to engage in a broad spectrum of renewable energy related initiatives and activities, including projects that will occur in Wai‘anae. They include:

- *Solar Water Heating*  
Since commencing in 1996, Hawaiian Electric’s residential solar water heating program has resulted in more than \$34 million in rebates to help over 39,000 Hawai‘i households statewide to install rooftop solar water heating systems. Hawaiian Electric continues to advocate maintaining demand-side management programs, including solar water- heating.
- *Bio fuels*  
Hawaiian Electric provides research funding for biofuels crop research conducted with the University of Hawai‘i. Some of this research includes the evaluation of promising oil producing crops.
- *Photovoltaics*  
The number of photovoltaic (PV) systems installed under net energy metering continues to grow in Hawai‘i. Hawaiian Electric expects continued interest in PV by both residential and business customers.

In addition, Hawaiian Electric is developing a program that will offer its customers another option to install PV systems at customer sites.

Hawaiian Electric is in its 12th year of the *Sun Power for Schools* program with the State of Hawai'i department of education. Through the *Sun Power for Schools* program, it continues to install PV systems at Hawai'i public schools using voluntary customer contributions and in-kind utility contributions, including engineering, project management, administration, advertising, and marketing. To date, 30 public schools have received PV systems totaling over 38 kilowatts. Three of them, Wa'ianae High School, Wai'anae Intermediate, and Nānākuli High and Intermediate are in the Wai'anae District.

## **Antennas**

Antennas have been around as long as we have had radio and television services. Antennas associated with communication purposes have grown tremendously especially since the U.S. introduction of mobile communication devices in the early 1980s. While the telecommunication industry has provided more convenient communication capabilities for individuals, it has also increased the public agencies' ability to provide faster and more efficient response to those in need, particularly on an emergency basis.

While the benefits of the telecommunications industry cannot be disputed, communities have opposed the antennas due to aesthetic impacts, particularly on public views and on neighborhood character. Their visibility has increased, especially where antennas are mounted on free-standing towers.

The general public has also raised concerns about the environmental effects of electromagnetic field exposure associated with radio transmissions, as evidenced by the presence of antennas. However, the Federal Communications Commission (FCC) is responsible for evaluating the human environmental effects of radio frequency (RF) emissions from FCC-regulated transmitters. The federal guidelines specifically preclude local decisions affecting environmental effects of radio frequency emissions, assuming that the provider is in compliance with the Commission's RF rules.

The following are general principles governing utilization of antennas, to be applied to telecommunications providers and not to personal use antennas:

- Encourage co-location of antennas: towers should host the facilities of more than one service provider to minimize their proliferation and reduce visual impacts.
- Mount antennas onto existing buildings or structures so that public scenic views and open spaces will not be negatively affected. However, except for the occupant's personal use, antennas on single-family dwelling roofs in residential districts are not appropriate.
- Use stealth technology (e.g. towers disguised as trees) especially on free-standing antenna towers in order to blend in with the surrounding environment and minimize visual impacts.

## **4.4.2 Policies Pertaining to Electrical Power and Communications**

### **4.4.2.1 Reduce the Visual Impact and Improve Safety of Utility Lines and Poles and Reliability of Service**

As discussed in the section on Transportation and the policies relating to the beautification of Farrington Highway, there is a need for a phased program of under-grounding utility lines that now severely impact the scenic quality of the District's main coastal roadway. The utility lines also pose a safety threat to drivers on Farrington Highway, as they sometimes get knocked down by car accidents or severe weather. In addition, any new transmission line

corridors for electricity or communications should be located with care so that scenic qualities are not adversely impacted.

#### **4.4.2.2 Encourage the Development of Alternative Energy Sources**

The City and State should provide incentives for the use of alternative energy sources in the building of new developments.

#### **4.4.3 Guidelines Pertaining to Electrical Power and Communications**

##### **4.4.3.1 Require New Developments to be Powered by Alternative Energy**

Require all new developments proposed for the Wai‘anae District to be powered at least 50 percent by alternative energy sources.

### **4.5 DRAINAGE SYSTEMS**

#### **4.5.1 Overview of Drainage Systems**

There are no perennial streams in the coastal areas of the Wai‘anae District, and the average annual rainfall in the coastal plain is less than 20 inches. However, because of flood damage that has occurred in the area from severe storms, such as Kona storms, studies were performed in the late 1950s by the West O‘ahu Soil Conservation District and the City and County of Honolulu. These studies were performed to determine what drainage facilities would be needed to handle the one percent event or the 100-year storm.

As a result of these studies, four large concrete-lined drainage channels were constructed to discharge stormwater runoff into the ocean. These channels are: 1) Kaupuni Stream Channel in Wai‘anae that discharges into the northwestern side of Pōka‘i Bay; 2) Mā‘ili‘ili‘i Stream Channel that discharges into the ocean between Lualualei Beach Park and Mā‘ili Beach Park at Pu‘u Mā‘ili‘ili‘i; 3) Mā‘ili Channel that discharges into the ocean north of Mā‘ili Point; and 4) Ulehawa Stream Channel that discharges into the ocean south of Pu‘u o Hulu Kai.

These “improvements” notwithstanding, Wai‘anae still has localized flooding and drainage problems. These problems are caused by the lack of adequate drainage facilities in existing subdivisions, residents building walls around their property to divert stormwater, and people filling in natural drainage swales and ditches. In addition, certain sections of Farrington Highway were constructed at a higher elevation than areas *mauka* of the road and the highway thus acts like a dam.

The City is currently designing a project for a new drain line on Lahaina Street and conducting a study for potential drainage improvements on Hakimo Road. Also contained in the City’s 6-year Capital Improvement Program are drainage improvements for Auyong Homestead Road and Wai‘anae Elementary School. The City has submitted a proposal to the Department of Land and Natural Resources (DLNR) through the “Flood Mitigation Assistance Program” to prepare a Drainage Master Plan for Wai‘anae. However, competition for these funds is high and the prioritizing system for projects is uncertain. It appears that a comprehensive study of local drainage problems in Wai‘anae would provide a long-range plan of action for the City. Alternative ways of funding such a study should be considered.

The larger flooding problems relate to flooding from major storms, including heavy rainfall from Kona storms and high surf from coastal storms. Storms with heavy rains create severe local flooding and, on occasion, can cause

major damage to homes from *mauka* stream flooding. Coastal storms with high winds and waves can result in flooding and sand accumulation on shoreline properties, including sections of Farrington Highway that are adjacent to the beach. Farrington Highway is especially vulnerable to coastal flooding in the vicinity of Ulehawa Channel, Mā‘ili Channel, Mā‘ili‘ili‘i Channel, East Mākaha Stream, Mākaha Stream, and sections of the highway in Kea‘au and Ohikilolo. In addition, the entire Wai‘anae Coast is subject to severe damage from any major tsunami. The tsunami evacuation zone here extends up to, and in some cases as much as 1/4-mile *mauka* of Farrington Highway. (Note: As of July 2010, the department of emergency management was in the final phase of updating the current O‘ahu tsunami evacuation zone maps.)

#### **4.5.2 Policies Pertaining to Flooding and Drainage**

##### **4.5.2.1 Develop Wai‘anae District Local Drainage Improvements Plan and Program**

Prepare a comprehensive study of local flooding and drainage problems in the Wai‘anae District, together with a phased plan for the correction of these problems. Corrective measures may include removal of barriers, cleaning of drainage channels and stream channels, re-grading areas to encourage positive drainage, and construction of new drainage channels, culverts, and other drainage structures. The Drainage Improvements Plan and Program should also include programs for the ongoing enforcement of rules and regulations relating to proper grading and drainage for both urban development projects and agricultural use of the land, and public education.

Drainage system design should emphasize control and minimization of nonpoint source pollution and retention and detention. Modifications if needed for flood protection should maintain rural character and aesthetic quality, avoid degradation of coastline and of stream and near shore water quality. To the extent possible, integrate planned drainageway improvements into the regional open space network by providing for access for pedestrians and bicycles.

##### **4.5.2.2 Establish a Sediment Control Program**

Establish a sediment control program to protect both stream quality and the quality of nearshore waters. Minimally, standards for the creation and use of sediment basins at critical locations on both agricultural and urban lands should be established. Thereafter, a program of phased implementation and conscientious enforcement of sediment control measures should be pursued.

#### **4.6 SOLID WASTE HANDLING AND DISPOSAL**

##### **4.6.1 Overview of Solid Waste Issues**

The majority of Wai‘anae’s domestic solid waste is collected and disposed of by the City’s department of environmental services, refuse division. The refuse division handles the bulk of O‘ahu’s residential solid waste services, including the recycling and green waste collection. Since 1990, most of O‘ahu’s residential and general commercial trash has been disposed of at H-POWER, the City’s waste-to-energy plant, located in Campbell Industrial Park. Noncombustible solid waste, construction and demolition (C&D) debris, and industry wastes go directly to a privately owned landfill – the PVT Nānākuli Construction and Demolition Material Landfill, located in the Wai‘anae District, on Lualualei Naval Station Road. Waimanalo Gulch, located in the southwestern corner of the ‘Ewa District, near the border with the Wai‘anae District is city owned, and operated by a private solid waste company. These landfills are near their permitted capacities, and the question of what to do with the island’s waste in the long-run remains unanswered.

The future of O‘ahu’s solid waste became a major public and political issue in 2004, when the decision to expand Waimanalo Gulch landfill came before the City Council. At that time, the Council voted to expand the Waimanalo Gulch, instead of opening one of the four alternative sites proposed. The other sites given consideration were Mā‘ili, Nānākuli, and Makaiwa Gulch, all on the Leeward Coast, and Kapa‘a Quarry in Kailua. Wai‘anae residents were vocally adamant that their District should not have to carry the burden of housing yet another landfill. In addition, most did not support the expansion of Waimanalo Gulch. Wai‘anae residents have continued to watchdog landfill proposals for their District.

Another local solid waste issue that is of concern to the Wai‘anae community is the problem of illegal dumping of all kinds of solid waste, including material from demolished buildings and from construction sites, old cars, old appliances, animal carcasses, animal wastes, and various other kinds of junk and debris. The many country roads and open spaces in the Wai‘anae District are unfortunately very easy to use for illegal and indiscriminate dumping of unwanted solid (and liquid) wastes. The many illegal dump areas in the District are both unsightly and a threat to public health. Much stronger State and City controls are needed to combat this problem.

#### **4.6.2 Policies Pertaining to Solid Waste Disposal**

##### **4.6.2.1 Enforce Anti-Dumping Laws**

Public agencies should coordinate with the community to develop and implement a comprehensive program for the cleanup of illegal dumps and the ongoing enforcement of laws forbidding illegal dumping of wastes and debris. The enforcement program may include some form of partnership with the community whereby each subcommunity of the Wai‘anae District organizes volunteers who will patrol the area’s roads on a regular basis and report to a designated code enforcement officer any illegal dumps or illegal dumping activity. Public agencies, in turn, must provide the manpower to follow up on these reports of illegal dumping. The appropriate field visits and investigations must be made, and, where necessary, prosecution of offenders must be pursued.

##### **4.6.2.2 Encourage Green Waste Composting**

Green waste composting should be encouraged by private sources within the District.

#### **4.7 CIVIC, PUBLIC SAFETY, AND EDUCATIONAL FACILITIES**

##### **4.7.1 Overview of Civic, Public Safety, and Educational Facilities**

**Wai‘anae Satellite City Hall** is located within the Wai‘anae Neighborhood Community Center at 85-670 Farrington Highway, just south of Wai‘anae Intermediate School. As of 2010, services include:

- Car Motor vehicle registration, renewal, and transfer of ownership
- Bicycle and moped registration
- Payment of water bill and real property tax
- Disabled parking permits
- Dog licenses
- Spay/neuter certificates
- Monthly bus passes
- Picnic and campsite permits
- Informational brochures and applications for voter registration and Handi-Van



- Bus time schedules
- Conference Room

**The Honolulu Police Department** provides police services to the Wai‘anae District through the Wai‘anae Police Station and the Barbers Point substation. Between 14 and 17 police officers are normally on duty to service the area. The Wai‘anae Police Station handles a large number of 911 calls and a large number of arrests: typically about 6,000 to 7,000 calls to 911 and 500 to 600 arrests in an average month. There are not enough officers to handle this substantial need for police services.

**The Honolulu Fire Department** has two fire stations in the Wai‘anae District – one in Nānākuli and the other in Wai‘anae Valley. The Nānākuli Fire Station is equipped with a 5-person engine and a 1-person tanker truck. The Wai‘anae Fire Station is equipped with a 5-person engine, a 5-person quint (combination pumper/ladder truck), and a 1-person tanker. Backup service is provided by fire stations located in Kapolei, Makakilo, ‘Ewa, and Waipahu. The firefighters in the Wai‘anae District are called upon to respond to a large number of brushfires each year, especially during the dry summer months. The Honolulu fire department has recently stated their need for a new fire station in the Mā‘ili area, between the Nānākuli and Wai‘anae Fire Stations, in order to meet their Standards of Response Coverage goals.

Emergency ambulance service is also provided out of the Wai‘anae Fire Station with one unit. Patients are taken to Hawai‘i Medical Center-West or the Wai‘anae Comprehensive Health Care Facility. In severe cases, a helicopter is dispatched to Wai‘anae to transport patients to Queen’s Medical Center. Members of the community have voiced the need for a full service hospital on the Wai‘anae Coast. There is also a need for a second ambulance that operates 24 hours a day.

In regards to **Emergency Shelters**, the Civil Defense system for the City and County of Honolulu is the responsibility of the Department of Emergency Management (DEM). The DEM is responsible for monitoring, warning, evacuating, and securing (if necessary) the vulnerable areas of the Wai‘anae Coast susceptible to natural hazards such as tsunami, tropical storms, high surf, and hurricanes. The DEM recommends that any new public buildings, such as schools and recreation centers, be required to consider emergency shelter capabilities as a secondary use of the building. The following schools are the existing emergency shelters within the District:

- Kamaile Elementary
- Leihoku Elementary
- Mā‘ili Elementary
- Mākaha Elementary
- Nānākuli Elementary
- Nānākuli High & Intermediate
- Wai‘anae Elementary
- Wai‘anae Middle

Regarding **schools**, the Wai‘anae District currently contains ten public schools operated under the State Department of Education (DOE). There are six elementary schools, one intermediate, one combined intermediate and high school and one high school. The total enrollment of each of the schools as of the 2008-2009 school year are shown in Table 4-1.

In addition to these public schools, the District has two charter schools, Ka Waihona o ka Na auao-PCS and Kamaile Academy. Ka Waihona is located at the former Nānāikapono DOE school site in Nānākuli. Kamaile Academy is located in Wai‘anae Valley, in an area historically known as Kamaile. These charter schools strive to offer an

educational experience that is based on community and cultural values, an experience that is a viable alternative to the existing conventional public school model. They also offer after school and summer programs.

The Wai‘anae community generally supports such charter schools, as is shown by their growth. Both schools’ enrollments have increased to over 500 students each. This is significant growth, considering that Ka Waihona enrolled only 68 students in its start-up year of 2002-2003.

Recent plans for developments in Mākaha Valley include the establishment of a special “Learning Community” facility that will provide special educational resources and opportunities for all of the people of the Wai‘anae community, from small children to *kūpuna*.

<b>Table 4-1: Public School Enrollment in the Wai‘anae District</b>		
<b>School</b>	<b>Grades</b>	<b>Official Enrollment Count, 2008-2009 School Year</b>
<b>PUBLIC</b>		
Leihoku Elementary	K – 6	770
Mā‘ili Elementary	K – 6	681
Mākaha Elementary	K – 6	484
Nānāikapono Elementary	K – 6	758
Nānākuli Elementary	K – 6	421
Nānākuli HS & Intermediate	7 – 12	820
Wai‘anae Elementary	K – 6	487
Wai‘anae Intermediate	7 – 8	780
Wai‘anae HS	9 – 12	1,611
<b>TOTAL</b>		<b>6,812</b>
<b>Charter</b>		
Ka Waihona O Ka Na‘auao-PCS	K – 8	510
Kamaile Academy	K – 6	589
<b>TOTAL</b>		<b>1,099</b>
<b>OVERALL TOTAL</b>		<b>7,911</b>
<b>Source: DOE, 2008</b>		

The Board of Education has approved new design enrollment guidelines for new Department of Education schools (Board Policy 6701):

- Elementary (K-5)
  - 400-750 students
  - 8 to 15 usable acres
- Middle (6-8)
  - 500-1,000 students
  - 15 to 20 usable acres
- High (9-12)
  - 800 to 1,600 students
  - 45 to 55 usable acres

**Leeward Community College** has a satellite facility in Wai‘anae that offers Associate Degrees and vocational programs, such as nursing. The current student population is approximately 720 people. The college is located in a single building next to Wai‘anae Mall and contains five classrooms.

Wai‘anae also offers a number of enrichment programs on Hawaiian culture for children and adults. One of the better known programs is the Cultural Learning Center at Ka‘ala. This center began operations in 1979 with a focus on working with youth and adults on “hands-on” projects, such as planting taro and other food and medicinal plants in Wai‘anae Valley. The focus of the program is “Aloha ‘Aina – loving and caring for the Land.”

It is recognized that public schools are a State function, and that the City’s Sustainable Communities Plans cannot provide definitive plans for these facilities. However, City policies can provide some guidance to the development of future schools for the community.

#### **4.7.2 Policies Pertaining to Civic, Public Safety, and Educational Facilities**

##### **4.7.2.1 Improve Quality of Facilities and Adequacy of Staffing**

There is a need for improvements in both the quality of public facilities and the level of staffing for some of these facilities. Specifically, the Wai‘anae Satellite City Hall needs to be improved in terms of staffing, programs, equipment, and maintenance. The Wai‘anae Police Station needs more manpower. Adequate police services are critical to the safety and welfare of Wai‘anae’s people.

##### **4.7.2.2 Selection of Sites for New Schools Should Comply with the Wai‘anae Sustainable Communities Plan Criteria**

Even if future growth in the Wai‘anae District is fairly slow, there will be an eventual need for one or more new elementary schools, and possibly another Intermediate School and High School by the Year 2035. The sites for these new schools should be selected through a careful planning process. Public agency planners should coordinate with the community to ensure that the site selection process for new schools fully considers the plans and policies that make up the Wai‘anae Sustainable Communities Plan. Specifically, the site selection studies will need to focus on potential sites within the Rural Residential areas, and eliminate from consideration any sites on Agricultural lands or sites *makai* of Farrington Highway. The construction of a school on Agricultural land would encourage urban and suburban development that is not compatible with the intent of this land use designation, and would potentially compromise the learning environment for students, teachers and staff due to odors, dust and vectors that often accompany agricultural land uses. Schools should not be *makai* of Farrington Highway, due to the long-term issue of sea level rise, as well as more immediate threats, such as tsunamis.

In addition, schools should be located next to parks, and should allow for shared facilities in order to maximize use of facilities. The City should support fair share contribution, as adopted by State law.

##### **4.7.2.3 Consider Multi-Purpose Function of Schools**

School planners should consider the multipurpose role of schools in the community. Thus, in addition to classroom education, schools in many communities throughout the State provide other functions and facilities that are important to the community, including after school programs, meeting places for adult education and special programs, meeting places for community groups and organizations, and meeting places for youth groups and health and fitness classes. Schools are also the primary emergency shelters during hurricanes, tsunamis, or other large-scale

emergency events. Recognizing these diverse functions of public schools, new schools should be sited in centralized locations that are easily accessible to a large number of residents.

#### **4.7.2.4 Encourage Charter Schools**

Encourage and support the opening of more charter and immersion schools. (Please note that “stand alone” charter schools do not use DOE facilities.)

#### **4.7.2.5 Increase Ambulance Service**

There is currently only one ambulance that serves the District 24 hours a day. It is recommended that a second one also be on duty at all times.

#### **4.7.2.6 Provide Adequate Emergency Shelters**

Emergency shelters provide places for people to live temporarily when there are natural disasters, such as hurricanes and tsunamis. They can also provide shelter for people fleeing other situations, such as domestic violence or other types of abuse. An adequate number of emergency shelters should be provided for the Wai‘anae District.

### **4.7.3 Guidelines for Civic, Public Safety, and Educational Facilities**

#### **4.7.3.1 Design Standards**

Public buildings, whether designed and constructed by federal, state, or city agencies or by other quasi-public entities, should be designed to be both functionally efficient and aesthetically pleasing. Too many public buildings on O‘ahu, including police stations, fire stations, and schools, have been designed with insufficient attention to sound design principles, which should include:

- The use of building forms and materials that reflect Hawai‘i’s diverse cultural and architectural heritage.
- The predominantly residential scale of the built environment of the Wai‘anae District. Massive building forms would not be compatible with this residential scale.
- The hot, dry climate of the coastal plain zone of the Wai‘anae District. Public buildings should therefore incorporate “natural” cooling devices including lanais, wide roof overhangs, natural air circulation, strategically placed shade trees, and cooler colors for exterior walls.
- Related open areas including front yard areas, parking lots, playgrounds, and garden spaces should be generously planted with colorful trees, shrubs, and ground covers. Drought-tolerant native plant species should be favored.
- Sea level rise should be taken into account when choosing the location of a public building, especially emergency facilities.
- Design new public buildings, such as schools and recreation centers, to serve a secondary function as an emergency shelter.

## 4.8 HEALTH CARE FACILITIES

### 4.8.1 Overview of Health Care Facilities

There is a wide variety and a large number of health care facilities and programs in the Wai‘anae Sustainable Communities Plan area. These programs include mental health, family violence counseling, substance abuse counseling and health support groups (e.g., Alzheimer, cancer, diabetes, AIDS, etc.). Regular health care services are provided by Kaiser Permanente in Nānākuli and by the Wai‘anae Coast Comprehensive Health Center.

The Kaiser Permanente Clinic offers the following services:

- Family Practice
- Internal Medicine
- Pediatrics
- Behavioral Health Services
- Diabetes education
- Diabetic eye exams (once a month)
- Diagnostic Imaging (General Radiology)
- Health Education
- Laboratory
- Medical Social Services
- Medication counseling
- Nutrition counseling
- Pharmacy (24-hour prescription refill)
- Nephrology (selected days)

Emergency service for Kaiser Permanente is provided from the Moanalua center with ambulance service provided by the Waipio Clinic in Waipahu. The nearest hospital is the Hawai‘i Medical Center-West on Fort Weaver Road. For severe cases, a helicopter is dispatched to the Wai‘anae coast and the patients are taken to Queen’s Medical Center.

Wai‘anae Coast Comprehensive Health Center is an outpatient primary care medical center that offers a wide variety of health care and supportive services. The Health Center has a main clinic located in Wai‘anae, and satellite clinics located in the Wai‘anae Mall and Nānākuli Shopping Center. The Health Center’s primary health care services include:

- Primary Care: family practice, pediatrics, and internal medicine
- Specialty Care: orthopedics, podiatry, dermatology, obstetrics, gynecology, nephrology, general surgery, pain management, ophthalmology
- Dental: adult and pediatric
- Behavioral Health: mental health and substance abuse treatment
- Integrative Health: acupuncture
- Pharmacy

The Health Center also provides a 24-hour emergency room, laboratory, and radiology services. The emergency room is designated a Trauma Support Clinic as well as a Type II facility for Hospital Capability for Readiness in case of a natural disaster, pandemic, or bioterrorism event.

Other Patient and Community Services include:

- Adult Day Care
- Anonymous HIV Counseling and Testing
- BabySafe Services
- Case Management
- Child Passenger Safety Seat Fitting Stations
- Chronic Disease Management
- Community Health Education
- Diabetes Support Group
- Family Planning
- Fitness Training and Classes
- Health Care for the Homeless
- Health Education (Smoking Cessation, Asthma)
- Kid-Fit Program
- Medical Nutrition Therapy
- Native Hawaiian Healing
- Patient Assistance Services
- Perinatal Services
- Transportation
- Wai‘anae Health Academy
- WIC (Women, Infants, and Children Program)
- Youth Health Corp: TeenBEAT (Teens Being Educated About Tobacco)

The Wai‘anae Coast Community Mental Health Center also offers a number of programs and services. They operate six Headstart offices at Koa Ike, Nānākuli, Puu Heleakala, Mā‘ili, Mākaha, and Wai‘anae. These offices provide comprehensive child development programs with education, health, and social services. The service is offered to low-income children and their families as well as to people with handicapped conditions or referrals from the Child Protective Services. Education and vocational support services, job search and placement are also provided for persons 55 years of age or older.

Although there are no housing facilities for the elderly in the Wai‘anae District, there are programs and services that provide assistance to the elderly. Adult day care is provided by Wai‘anae Adult Day Care operating out of the Wai‘anae Coast Comprehensive Health Center. Activities such as crafts and exercise in a social environment are provided, as well as breakfast, lunch and a snack.

Other programs for the elderly include the Honolulu Gerontology Program that offers exercise and social support twice a week; Hui O Ka‘ala, Kupuna O Nānākuli, and Wai‘anae Golden Age that provide social activities and crafts; and senior citizens social clubs.

## **4.8.2 Policies Pertaining to Health Care Facilities**

### **4.8.2.1 Support Quality, Community Health Care Facilities**

Support and assist community health care facilities and programs to ensure high quality health care for Wai‘anae residents.

**4.8.2.2 Assess the Need for New Health Care Facilities and Services**

Assess the need for new health care facilities, including possibly a full-service hospital. Proceed with planning and funding of new health care facilities as appropriate.

**4.9 RELATION TO PUBLIC FACILITIES MAP**

The major existing and planned public facilities discussed in Chapter 4 for the Wai‘anae District are located schematically on the Public Facilities Map in Appendix A.

## 5. IMPLEMENTATION

Throughout the process of updating the Wai‘anae Sustainable Communities Plan, the number one concern raised by community members was the lack of Plan implementation. While the community generally agrees that DPP (the City Department of Planning and Permitting) has satisfactorily utilized the Wai‘anae Sustainable Communities Plan as a tool when assessing development proposals for the District, they are concerned that there has been little-to-no implementation of the projects and programs set forth within the Plan. However, the responsibility of achieving proactive implementation should be shared by the community and the City, including all of the City’s planners, engineers, and other technical and policy-level personnel, as well as elected officials who determine the allocation of City resources.

Many other City, county, and town jurisdictions on the U.S. mainland have instituted comprehensive planning programs that emphasize a proactive community-based planning and implementation process. These local governments seek to establish a strong link between planning policies and guidelines, and specific organization, funding, and actions needed to implement a variety of public and private projects and programs. The following sections of this Chapter are intended to strengthen the linkage to implementation to realize the Vision of the future presented in this Plan. It should also be noted that implementation will depend on each department’s priorities and availability of resources.

This Chapter includes the following sections:

- 5.1 Overview of Planning Implementation Tools
- 5.2 Implementation Matrix
- 5.3 Public Facility Investment Priorities
- 5.4 Development Priorities
- 5.5 Special Area Plans
- 5.6 Functional Planning
- 5.7 Review of Zoning and Other Development Applications
- 5.8 Five-Year Sustainable Communities Plan Review
- 5.9 Relationship to General Plan and Development Codes

### 5.1 OVERVIEW OF PLANNING IMPLEMENTATION TOOLS

Implementation of the Wai‘anae Sustainable Communities Plan should be pursued through a variety of means, including:

- Organization and action by the appropriate City departments towards the realization of the policies contained in the Wai‘anae Sustainable Communities Plan;
- On-going cooperation and communication with community leaders and community organizations in order to accomplish the objectives of the Wai‘anae Sustainable Communities Plan;
- Broad dissemination and explanation of the Wai‘anae Sustainable Communities Plan to public agencies, landowners, major local development companies, community services providers, and community organizations. The Wai‘anae Sustainable Communities Plan can be an effective planning guide if it is widely known and supported;
- Guiding the City’s investment in infrastructure in accordance with the policies and guidelines of the Wai‘anae Sustainable Communities Plan;



- Initiating development code amendments to achieve consistency with the Wai‘anae Sustainable Communities Plan, including changes to the Land Use Ordinance that will result in standards that are more appropriate to rural areas;
- Recommending approval, approval with modifications, or denial of developments seeking zoning and other development approvals based on their conformance with the Wai‘anae Sustainable Communities Plan;
- Evaluating progress in fulfilling the Vision of the Wai‘anae Sustainable Communities Plan every two years, and presenting the results of the evaluation in the Biennial Report; and
- Conducting a review of the Vision, Policies, Guidelines, and CIP priority investments of the Wai‘anae Sustainable Communities Plan every five years and recommending revisions as necessary.

## 5.2 IMPLEMENTATION MATRIX

This section provides a summary of the specific physical improvements and actions identified in Chapters 3 and 4 of the Plan to help organize and facilitate plan implementation.

Table 5-1 presents the implementing actions, the related plans, regulatory code or action, and the public or private entities responsible for implementing the action. The table is organized by land use category, with the categories listed according to the order of Chapters 3 and 4.

- The first column of the table – Policy/Guideline – is comprised of the guideline statements for each land use category. Policy statements are used if the land use category does not include guidelines.
- The second column – Program – relates each statement to a specific regulatory code, functional plan, or other action. The term “project review” indicates the review of discretionary land use approvals, such as State land use, zoning and special management area use permits. In some instances, To Be Determined (TBD) was used to indicate that the related code/plan/action was not clear. TBD actions are intended to be identified and developed by the agencies responsible for implementation.
- The third column – Agency(ies) – identifies the public and/or private entities responsible for implementing the policy or guideline. Although many of the implementing actions fall under DPP’s jurisdiction, some actions are the responsibility of other Federal, State or City departments or public agencies, while a few have been assigned to private entities or individual landowners.
- The fourth column identifies the role of the agencies involved in implementation. The three categories identified include Implementer, Regulator (after the law or regulation is implemented), and Advocate.

The following acronyms and abbreviations are used in the Implementation Matrix:

BFS	Department of Budget and Fiscal Services
BWS	Board of Water Supply
CBO	Community-Based Organizations*
CIP	Capital Improvement Program
CSD	Customer Services Department
CWRM	State Commission on Water Resource Management
DDC	Department of Design and Construction
DES	Department of Emergency Services
DLNR	State Department of Land and Natural Resources
DOA	State Department of Agriculture
DOH	State Department of Health

DOT	State Department of Transportation
DPP	Department of Planning and Permitting
DPR	Department of Parks and Recreation
DTS	Department of Transportation Services
ENV	Department of Environmental Services
HECO	Hawaiian Electric Company
IBC	International Building Code
LUC	State Land Use Commission
MIL	Military (U.S. Navy and/or U.S. Army)
NPDES	National Pollution Discharge Elimination System
TAX	State Department of Taxation
TBD	To Be Determined
WWMP	<u>Wai‘anae Watershed Management Plan</u> , PreFinal (BWS, 2010)
WWTP	Wastewater Treatment Plant

*\*Community-Based Organizations (CBO) consist of groups that are already formed, or that may form in the future, that will partner with government agencies to manage Wai‘anae’s natural and cultural resources. Thus, although “CBO” is listed numerous times in the matrix, these organizations may not yet be ready to implement the Policy they are listed next to, but their formation should be encouraged, and when appropriate, assisted.*

TABLE 5-1: IMPLEMENTATION MATRIX				
NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
CHAPTER 3 LAND USE POLICIES AND GUIDELINES				
3.2 Preservation of Open Space				
3.2.2.1	Do Not Allow Significant Negative Impacts on Large Open Spaces	Project Review	DPP/DLNR/MIL	Implementer
3.2.2.2	Address Project Impacts on Open Space	Project Review	DPP/DLNR/MIL	Implementer
3.2.2.3	Do Not Allow Significant Negative Impacts on Important Public Views	Project Review	DPP/DLNR/MIL	Implementer
3.2.2.4	Address Project Impacts on Important Public Views	Project Review	DPP/DLNR/MIL	Implementer
3.2.2.5	Limit Urban Development	Project Review	DPP	Implementer
3.2.2.6	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Open Spaces	TBD	DLNR/CBO	Implementer/ Advocate
3.2.2.7	Minimize Outdoor Lighting	TBD	Private	Advocate
3.2.3.1	Minimize Adverse Effects of Artificial Lighting	TBD	Private	Advocate
3.2.3.2	Adopt Outdoor Night Lighting Standards	TBD	Private	Advocate
3.3 Preservation of Coastal Lands				
3.3.2.1	Do Not Allow New Coastal Development	Project Review	DPP/DOT/DPR	Implementer
3.3.2.2	Incrementally Acquire Coastal Properties	TBD	DLNR	Implementer
3.3.2.3	Discourage Shore Armoring	TBD	DPP/DLNR	Implementer

TABLE 5-1: IMPLEMENTATION MATRIX				
NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
3.3.2.4	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Coastal Lands	TBD	DLNR/CBO	Implementer/ Advocate
3.3.2.5	Prohibit Projects that Negatively Impact Coastal Lands	Project Review	DPP/DLNR	Implementer
3.3.2.6	Prevent the Introduction of Alien Species	TBD	DOA/DOT/ DLNR/CBO	Implementer/ Advocate
3.3.2.7	Maintain Beaches/Sand	Project Review	DLNR/CBO	Implementer/ Advocate
<b>3.4 Preservation of Mountain Forest Lands</b>				
3.4.2.1	Protect Mountain Forest Lands	TBD	DLNR/MIL/CBO	Implementer/ Advocate
3.4.2.2	Develop Forest Restoration Plan	TBD	DLNR/MIL/CBO	Advocate
3.4.2.3	Do Not Grant Permits that Negatively Impact Mountain Forest Lands	Project Review	DLNR	Implementer
3.4.2.4	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Mountain Forest Lands	TBD	DLNR/CBO	Implementer/ Advocate
3.4.2.5	Protect Rare and Endangered Species	TBD	DLNR/MIL/CBO	Implementer/ Advocate
3.4.2.6	Prevent the Introduction of Alien Species	TBD	DOA/DOT/CBO/ DLNR	Implementer/ Advocate
3.4.2.7	Allow Public Access to Hiking Trails	TBD	DLNR	Advocate
3.4.2.8	Develop Wildfire Management Plan	TBD	DLNR/MIL/CBO	Implementer/ Advocate
<b>3.5 Preservation of Streams and Floodplains</b>				
3.5.2.1	Establish Stream Conservation Corridors	TBD	CWRM/DLNR/ BWS/CBO	Implementer/ Advocate
3.5.2.2	Restrict Uses within the Stream Conservation Corridors	TBD	DLNR/DPP/CBO	Implementer/ Advocate
3.5.2.3	Establish Minimum In-Stream Flow Standards	TBD	CWRM/DLNR/ BWS/CBO	Implementer/ Advocate
3.5.2.4	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Streams and Stream Corridors	TBD	DLNR/CBO	Implementer/ Advocate
<b>3.6 Preservation of and Access to Historic and Cultural Resources</b>				
3.6.2.1	Preserve Major Concentrations of Cultural Sites and Allow Access for Cultural Practices	TBD	DLNR/DPP/CBO	Implementer/ Advocate
3.6.2.2	Do Not Allow Development that Negatively Impacts Cultural Sites or Access to such Sites	Project Review	DPP/SHPD/ DLNR	Implementer

**TABLE 5-1: IMPLEMENTATION MATRIX**

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
3.6.2.3	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai‘anae’s Cultural Sites	TBD	DLNR/CBO	Implementer/ Advocate
3.6.2.4	Create Signage for Cultural Sites	TBD	DLNR/CBO/ SHPD	Implementer/ Advocate
3.6.2.5	Protect and Allow Access for Cultural Practices at Sites on City-Owned Lands	TBD	DLNR/CBO/ DDC/DPP	Implementer/ Advocate
3.6.2.6	Protect and Allow Access for Cultural Practices to Federal, State, or Private Lands	TBD	DLNR/CBO/MIL/ property owners	Implementer/ Advocate
3.6.2.7	Conduct a Thorough Cultural Survey of the District	TBD	DLNR/CBO/ SHPD	Implementer/ Advocate
<b>3.7 Preservation of Agricultural Lands</b>				
3.7.2.1	Maintain the Boundary for Agricultural Lands	Zoning	DPP	Implementer
3.7.2.2	Support Agriculture through Zoning Regulations and Tax Assessments	LUO	DPP/BFS	Implementer/ Advocate
3.7.2.3	Limit the use of “Agricultural” Land to Agriculture and other Compatible Land Uses	Zoning	DPP/LUC	Implementer
3.7.2.4	Prohibit Incompatible Land Uses of “Agricultural” Land	Zoning	DPP/LUC	Implementer
3.7.2.5	Coordinate Farmers Markets and Other Low-Cost Marketing Outlets	TBD	DOA/Local farmers	Advocate
<b>3.8 Residential Land Use</b>				
3.8.2.1	Do Not Increase Lands Designated “Residential”	WSCP	DPP	Implementer
3.8.2.2	Coordinate with DHHL	TBD	DPP	Advocate
3.8.2.3	Preserve Agricultural Lands	Zoning	DPP/SLUC	Implementer
3.8.2.4	Support Home-Based Businesses	Zoning	DPP	Implementer
3.8.2.5	201H Projects Should Meet Wai‘anae SCP Guidelines	Project Review	City Council/DPP	Implementer
3.8.3.1	Follow Wai‘anae SCP Affordable Housing Guidelines	Project Review	DPP/private developers	Implementer/ Advocate
3.8.3.2	Limit the Height of Residential Structures	LUO	DPP	Implementer
3.8.3.3	Encourage Clustered Housing in Wai‘anae Country Town	TBD	DPP	Regulator/ Advocate
<b>3.9 Commercial and Industrial Uses</b>				
3.9.2.1	Encourage the Continuation of Existing Commercial Establishments	TBD	DPP	Regulator/ Advocate
3.9.2.2	Encourage Establishment of Commercial Businesses that Serve the Community	TBD	Wai‘anae Chamber of Commerce	Regulator/ Advocate
3.9.2.3	Support the Continued Viability of the Mākaha Resort	TBD	Private	Implementer
3.9.2.4	Prohibit “Big Box” Stores	Project Reivew	DPP	Implementer

TABLE 5-1: IMPLEMENTATION MATRIX				
NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
3.9.2.5	Encourage Light Industrial Businesses	Zoning	DPP/private developers	Implementer/ Advocate
3.9.2.6	Do Not Allow Heavy Industry	LUO	DPP	Implementer
3.9.3.1	Design Guidelines for Neighborhood Commercial Establishments	Project Review	DPP	Implementer
<b>3.10 Country Towns, Rural Community Commercial Centers and Gathering Places</b>				
3.10.2.1	Establish a Phased Development Program	TBD	Private developers/DPP	Advocate
3.10.3.1	Geographic Size of Centers	Zone Change	DPP	Regulator
3.10.3.2	Commercial Establishments in the Centers	Zoning	DPP	Regulator
3.10.3.3	Residential Structures in the Centers	Zoning	DPP	Regulator
3.10.3.4	Center Amenities	Zoning	DPP	Regulator
3.10.3.5	Guidelines for Community Gathering Places Connected by Walking/Jogging/Biking Path	TBD	CBO/DPP	Implementer/ Advocate
<b>3.11 Existing Parks and Recreational Areas</b>				
3.11.2.1	Develop Adequate Public Parks	CIP	DPR	Advocate
3.11.2.2	Prohibit More Golf Courses That Compete with Agriculture or Open Space Resources	Zoning	DPP	Implementer
3.11.2.3	Plan for a System of Hawaiian Cultural and Educational Parks	TBD	DPR/CBO/ DLNR	Advocate
3.11.3.1	Increase Neighborhood Parks Based on City's Park Standards	CIP	DPR/DDC	Advocate
3.11.3.2	Flexible Criteria for Recreational Facilities	City Park Standards	DPR/CBO/DDC	Implementer
<b>3.12 Military Land Uses</b>				
3.12.2.1	Preserve and Transition Military Lands to Civilian Use	TBD	CBO/MIL	Implementer/ Advocate
3.12.2.2	Organize and Implement Cooperative Programs	TBD	CBO/MIL	Advocate
<b>CHAPTER 4 PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES</b>				
<b>4.1 Transportation Systems</b>				
4.1.2.1	Implement Farrington Highway Safety Improvements	CIP	DOT	Advocate
4.1.2.2	Beautify Farrington Highway	CIP	DOT	Advocate
4.1.2.3	Establish an Emergency Bypass Road	CIP	DOT/MIL	Advocate/ Implementer
4.1.2.4	Enhance Public Transportation	CIP	DTS	Advocate
4.1.2.5	Encourage Other Modes of Transportation	TBD	DTS/DOT/individuals	Advocate
<b>4.2 Potable and Nonpotable Water Systems</b>				
4.2.4.1	Implement Watershed Protection Strategies to Improve Forest Health & Perennial Stream Flows	WWMP	CWRM/BWS/ DLNR/CBO	Advocate

**TABLE 5-1: IMPLEMENTATION MATRIX**

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
4.2.4.2	Encourage Water Conservation	WWMP	BWS/CBO	Advocate
4.2.4.3	Diversify Water Supply, Matching Quality with Use	WWMP	BWS	Advocate
4.2.4.4	Support the Goals and Objectives of the Adopted <u>Wai'anae Watershed Management Plan</u>	WWMP	BWS/DPP	Advocate
<b>4.3 Wastewater Collection and Treatment Systems</b>				
4.3.2.1	Continue Replacement of Old Sewer Lines	CIP	ENV	Advocate
4.3.2.2	Improve the Wai'anae Wastewater Treatment Plant	CIP	ENV	Advocate
4.3.2.3	Coordinate with DHHL Regarding Sewer Connections	TBD	ENV/DHHL	Advocate
<b>4.4 Electrical Power and Communications</b>				
4.4.2.1	Reduce the Visual Impact and Improve Safety of Utility Lines and Poles and Reliability of Service	TBD	HECO/ Hawaiian Telcom	Advocate
4.4.2.2	Encourage the Development of Alternative Energy Sources	TBD	DBEDT, Developers, HECO, State Legislature	Advocate
4.4.3.1	Require New Development to be Powered 50% by Alternative Energy	IBC	DPP	Implementer
<b>4.5 Drainage Systems</b>				
4.5.2.1	Develop Wai'anae District Local Drainage Improvements Plan and Program	TBD	ENV/DDC	Advocate
4.5.2.2	Establish a Sediment Control Program	NPDES	ENV/DLNR/CBO	Advocate
<b>4.6 Solid Waste Handling and Disposal</b>				
4.6.2.1	Enforce Anti-Dumping Laws	TBD	DLNR/CBO	Implementer/ Advocate
4.6.2.2	Encourage Green Waste Composting	TBD	ENV/DLNR/DPP/CBO	Implementer/ Advocate
<b>4.7 Civic, Public Safety, and Education Facilities</b>				
4.7.2.1	Improve Quality of Facilities and Adequacy of Staffing	TBD	CSD	Advocate
4.7.2.2	Selection of Sites for New Schools Should Comply with <u>Wai'anae Sustainable Communities Plan</u> Criteria	TBD	DOE	Implementer
4.7.2.3	Consider Multi-Purpose Functions of Schools	TBD	DOE	Implementer
4.7.2.4	Encourage Charter Schools	TBD	Community	Advocate
4.7.2.5	Increase Ambulance Service	TBD	DES	Advocate
4.7.2.6	Provide Adequate Emergency Shelters	Civil Defense System	DEM	Implementer
4.7.3.1	Design Standards	Project Review	DPP/DDC	Implementer

TABLE 5-1: IMPLEMENTATION MATRIX

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
<b>4.8 Health Care Facilities</b>				
4.8.2.1	Support Quality, Community Health Care Facilities	Project Review	Funders	Implementer/ Advocate
4.8.2.2	Assess the Need for New Health Care Facilities and Services	TBD	DOH	Advocate

### 5.3 PUBLIC FACILITY INVESTMENT PRIORITIES

The VISION for the Wai‘anae District requires the cooperation of both public agencies and private organizations in planning, financing, and improving infrastructure. The City must take an active role in planning infrastructure improvements, such as land acquisition and site improvements for neighborhood parks, provision of adequate public access to the shoreline, provision of pedestrian, bicycle, and other transportation options, planning and implementation of drainage improvements, and improvements to the Wai‘anae Satellite City Hall and to the Wai‘anae Community Center building.

### 5.4 DEVELOPMENT PRIORITIES

Projects that should receive priority in the process of City land use approvals are those which:

- Involve land acquisition and improvements for public projects that are consistent with the Wai‘anae Sustainable Communities Plan’s Vision, Policies, and Guidelines;
- Involve applications for zoning and other regulatory approvals that are consistent with the Wai‘anae Sustainable Communities Plan’s Vision, Policies, and Guidelines;
- Are located on usable parcels of land that are consistent with the Wai‘anae Sustainable Communities Plan’s Land Use Map.

### 5.5 SPECIAL AREA PLANS

Special Area Plans provide more detailed policies and guidelines than Sustainable Communities Plans for areas requiring particular attention. The form and content of Special Area Plans depend on what characteristics and issues need to be addressed in greater detail in planning and guiding development or use of the Special Area.

Special Area Plans can be used to guide land use development and infrastructure investment in Special Districts, Redevelopment Districts, or Resource Areas. Plans for **Special Districts** provide guidance for development and infrastructure investment in areas with distinct historic or design character or significant visual and scenic resources. Plans for **Redevelopment Districts** provide strategies for the revitalization or the redevelopment of an area. Plans for **Resource Areas** provide resource management strategies for areas with special natural and cultural resource values.

In 2000, Mākaha Valley was identified for Special Area Plan status because of several important characteristics:

The City owns approximately 4,000 acres of land in the upper valley and the steeper valley walls;

- Most of the valley has been designated “urban” under the State Land Use system;
- There are approximately 350 acres of undeveloped land in Mākaha Valley that are already zoned for Residential and Resort uses;
- Mākaha Valley is an important resource area in terms of water resources, rare and endangered plants and animals, and cultural sites.

Since that time, the Mākaha Special Area Plan was developed through a community-based planning process. It was completed in 2009. See Section 3.8.1 “Overview of Existing and Planned Residential Uses” for a summary of the Mākaha Special Area Plan.

## 5.6 FUNCTIONAL PLANNING

Functional planning is the process by which various City agencies determine needs, assign priorities, phase projects, and propose project financing to further implement the vision articulated in the Sustainable Communities Plans. This process may take a variety of forms, depending upon the missions of the various agencies involved, as well as upon requirements imposed from outside the City structure, such as federal requirements for wastewater management planning.

Through the functional planning process, City agencies responsible for developing and maintaining infrastructure and public facilities or for provision of City services review existing functional planning documents and programs. As a result of these reviews, the agencies then update, if required, existing plans or prepare new long-range functional planning documents that address facilities and service system needs. Updates of functional planning documents are also conducted to assure that agency plans will serve to further implement the Sustainable Communities Plans as well as to provide adequate opportunity for coordination of plans and programs among the various agencies.

The functional planning process should have opportunities for early and continuing public involvement, timely public notice, public access to information used in the evaluation of priorities, and opportunities to suggest alternatives and to express preferences. The functional planning process provides the technical background for the Capital Improvement Program and public policy proposals that are subject to review and approval by the City Council.

## 5.7 REVIEW OF ZONING AND OTHER DEVELOPMENT APPLICATIONS

### 5.7.1 Wai‘anae District Zoning Designations

A primary way in which the Wai‘anae Sustainable Communities Plan will guide land use will be through the review of applications for zone changes and other development proposals. Approval for all development projects should be based on the extent to which the project supports the Policies and Guidelines of the Wai‘anae Sustainable Communities Plan.

Projects that do not involve significant zone changes will be reviewed by City Planners for consistency with the Policies and Guidelines of the Wai‘anae Sustainable Communities Plan during the Zone Change or permit



application process. Projects involving significant zone changes will require an environmental review in accordance with HRS Chapter 343.

### **5.7.2 Adequate Facilities Requirement**

All projects requesting zone changes shall be reviewed to determine if adequate public facilities and infrastructure will be available to meet the needs created as a result of the development. Level of Service Guidelines to define adequate public facilities and infrastructure requirements will be established as part of the City's Capital Improvement Program.

In order to guide development and growth in an orderly manner as required by the City's General Plan, zoning and other development approvals for new developments should be approved only if the responsible City and State agencies indicate that adequate public facilities and utilities will be available at the time of occupancy or if conditions the functional agency indicates are necessary to assure adequacy are otherwise sufficiently addressed.

Staff planners, as part of their report to the department of planning and permitting on the consistency of the project with the Wai'anae Sustainable Communities Plan, will review and summarize any individual agency's findings regarding public facilities and utilities adequacy which are raised as part of the EA/EIS process. The department of planning and permitting will address these findings and any additional agency comments submitted as part of the agency review of the zone change application and recommend conditions that should be included in the Unilateral Agreement or Development Agreement to insure adequacy of facilities.

## **5.8 FIVE-YEAR SUSTAINABLE COMMUNITIES PLAN REVIEW**

The Planning Division shall conduct a comprehensive review of the Wai'anae Sustainable Communities Plan and shall report its findings and recommended revisions to the Planning Commission and the City Council five years after adoption and every five years thereafter.

In the Five-Year review, the Wai'anae Sustainable Communities Plan will be evaluated to see if the regional vision, policies, guidelines, and implementing actions are still appropriate.

## **5.9 RELATIONSHIP TO GENERAL PLAN AND DEVELOPMENT CODES**

This section discusses the transition from the former Wai'anae Sustainable Communities Plan (2000) to this revised Wai'anae Sustainable Communities Plan (2010), including its relationship to the General Plan guidelines, and the need for review and revision of development codes, standards, and regulations.

### **5.9.1 Existing Land Use Approvals**

This Wai'anae Sustainable Communities Plan will go into effect upon adoption by ordinance. At that time, the Wai'anae Sustainable Communities Plan will become a self-contained document.

Land use approvals granted under existing zoning, Unilateral Agreements, and approved Urban Design Plans will remain in force and guide entitlement decisions until any zoning action to further implement the Vision and Policies of the Wai'anae Sustainable Communities Plan is initiated. If an Environmental Assessment or Environmental Impact Statement (EA/EIS) was accepted in the course of a Wai'anae Sustainable Communities Plan (2000) land use approval for a project, it should be acceptable to meet the requirement for an initial project EA/EIS when zone

change applications are submitted for subsequent phases of the project unless the project scope and land uses are being significantly changed from those described in the initial EA/EIS.

### 5.9.2 Review and Revision of Development Codes

Upon completion of the Sustainable Communities Plan Revision Program, current regulatory codes and standards should be reviewed and revised, as necessary, to maintain their consistency and effectiveness as standards to guide attainment of the objectives and policies envisioned for all Sustainable Communities Plan areas. At the time that such reviews are conducted, the following regulatory codes and standards may warrant further review and revision to ensure achievement of the vision for the Wai'anae District and consistency with the Wai'anae Sustainable Communities Plan:

- **Land Use Ordinance.** (Chapter 21, Revised Ordinances of Honolulu) Zoning code standards and the zoning map for the Wai'anae District need to be revised to further implement the Policies and Guidelines of the Wai'anae Sustainable Communities Plan. Special zoning provisions may be needed for the Commercial Centers and Gathering Places.
- **Subdivision Rules and Regulations.** (Department of Planning and Permitting, pursuant to Chapter 22, Revised Ordinances of Honolulu) Public road right-of-way standards used for subdivisions and rules for the consolidation of land may need to be revised to reflect the rural emphasis of the Policies and Guidelines in the Wai'anae Sustainable Communities Plan.
- **Traffic Standards Manual.** (Department of Transportation Services, July 1976, as revised) Standards that are applied to local and most collector streets may need to be revised to reflect transportation Policies and Guidelines in the Wai'anae Sustainable Communities Plan.
- **State Highways Division Procedures Manual**, Volume 8, Chapter 5, Section 4. (State Department of Transportation) These State highway standards need to be reviewed to identify provisions that may conflict with the transportation Policies and Guidelines in the Wai'anae Sustainable Communities Plan.
- **Standard Details for Public Works Construction.** (Department of Planning and Permitting) Engineering standards for the dedication of public works construction need to be revised to reflect Wai'anae Sustainable Communities Plan Policies and Guidelines.
- **Storm Drain Standards.** (Department of Planning and Permitting) Standards for the dedication of drainage systems to incorporate retention basins, rip-rap boulder lining of stream banks, and streamside vegetation into the design need to be created to further implement the Wai'anae Sustainable Communities Plan Policies and Guidelines for open space.
- **Park Dedication Rules and Regulations.** (Department of Planning and Permitting, pursuant to Chapter 22, Article 7, Revised Ordinances of Honolulu) Regulations need to be reviewed to determine if passive drainage systems which are designed for recreational use should count toward park dedication requirements, especially in cases where the area would exceed the amount of land that would be required under current rules and regulations.
- **Wastewater Management Design Standards.** (Department of Environmental Services and the 1990 Revised Ordinances of Honolulu, Chapter 14, relating to sewer services) These standards and ordinances may require review to further implement Wai'anae Sustainable Communities Plan Policies and Guidelines.

## **Honolulu - Land Use**

## APPENDIX: THE CONCEPTUAL MAPS: LAND USE, OPEN SPACE, AND PUBLIC FACILITIES

### INTRODUCTION

The Wai‘anae Sustainable Communities Plan includes three conceptual maps in color:

- The Land Use Map (EXHIBIT A-1)
- The Open Space Map (EXHIBIT A-2)
- The Public Facilities Map (EXHIBIT A-3)

These maps illustrate the long-range VISION for the Wai‘anae District and the major land use, open space, and public facility policies that are articulated in the Plan. In examining them the reader should keep in mind that:

1. These maps are general and conceptual.
2. They are illustrative of the Plan’s policy statements, presented in the text of this report.

These policy statements, which appear in the preceding chapters, are considered to be the most important elements of the Plan. The maps are considered illustrations of the policies. However, it is recognized that the maps may be more reader friendly than the written policies. This section of the Plan, therefore, presents a brief explanation of the contents of each of these maps.

Elements common to each of the three maps include one boundary and four land use designations: “Community Growth Boundary,” “Rural Residential,” “Agriculture,” “Preservation,” and “Golf Course.” These designations and the Community Growth Boundary are not parcel-specific. Because they are not parcel-specific, the lines do not indicate precise or abrupt demarcations. Rather, the extent of permissible or appropriate uses within these boundaries should be evaluated and determined in concert with relevant sections of the Plan’s text and specific site characteristics. These common elements are discussed below. Information particular to each map is presented under each map topic.

#### 1. Community Growth Boundary

The Community Growth Boundary defines, protects, and contains the intended extent of the “built-up” or “settled” areas of rural communities. Its purposes are to provide adequate lands to support established communities, to protect such communities from more intense forms of development, and to protect lands outside the boundary for agriculture or other resource or open space values. Areas within this boundary typically consist of relatively small, dispersed residential communities and towns. The Community Growth Boundary is not intended to reflect a desire for more growth in Wai‘anae than what is planned under the General Plan.

In the Wai‘anae District, the Community Growth Boundary is defined by a line that has been drawn to delineate and contain the Farrington Highway development corridor. This line, although conceptual in nature, has been drawn and should be interpreted such that the midsection of the line more or less coincides with the limits of lands that are zoned, as of 2009, R-5 and R-10, as well as existing scattered zoned commercial and industrial sites and the major residential developments of the Department of Hawaiian Home Lands in Nānākuli. The intent of this line is to identify existing urban/suburban areas, allow for infill residential and commercial development on undeveloped parcels within this boundary, and clearly define the limits of urban/suburban development. Thus, no new urban/suburban development shall be allowed *mauka* of this Community Growth Boundary line, except for already residentially zoned lands in Mākaha Valley and “Industrial” lands in Lualualei Valley. Lands *mauka* of this line

are designated “Agriculture” and “Preservation.” Continued small-scale agricultural uses of small farm lots within the Community Growth Boundary should be encouraged.

## **2. Rural Residential**

Most of the lands *makai* of the Community Growth Boundary are designated and colored “Rural Residential.” This general designation is intended to include single-family homes, town homes, small 2-story apartment buildings, and various relatively low density community support facilities that are permitted in residentially zoned areas, including schools and churches. Also included in this general land use area are a number of small commercial and light industrial uses that are too small to map at this scale and are therefore included as nonconforming existing uses. Alternate development options which result in greater amounts of open space and common facilities may also be used. The gross density of residential units should generally be in the range of 5 to 8 units per acre or up to 10 units per acre for alternative development options that preserve open space. Also included within this area, as “grandfathered” residential uses, are a number of existing “medium density” apartment buildings. New medium density apartment buildings or condominiums should not be permitted in “Rural Residential” areas.

## **3. Agriculture**

Lands with agricultural value by virtue of current agricultural use or high value for future agricultural use, including those areas identified as Prime, Unique, or Other Important lands on the Agricultural Lands Important to the State of Hawai‘i (ALISH) maps. “Agriculture” includes lands suitable for crop growing, grazing and livestock raising, flower cultivation, nurseries, orchards, aquaculture, or similar activities.

Included as Agriculture lands are existing “Country” zoned subdivisions with minimum lot sizes of one acre. The “Country” zoned subdivisions have been included in the Agricultural lands because many of the lots in these subdivisions are used for part-time agricultural pursuits.

Under the state constitution, the state is to identify important agricultural lands (IAL). Once identified, these lands cannot be rezoned except under a “super majority” vote. To date, IAL lands have not been identified. In 2005, Act 183 was adopted to address this mandate. It established a two-step process: first, incentives to assure the long term use and protection of IAL. Second, with adequate state funding, the counties would prepare maps identifying IAL lands to be adopted by the State Land Use Commission. Act 233, enacted in 2008, adopted the incentive programs. To date, no state funding has been appropriated to the counties for the mapping. Lands identified for agricultural purposes by this Plan can serve as the basis for the county mapping process.

## **4. Preservation**

Preservation lands include those lands not valued primarily for agriculture, but that form an important part of a region’s open space fabric. They possess natural, cultural, or scenic resource values, and include important wildlife habitat, cultural sites, significant landforms, views, or hazard areas. They include the following types of land:

- Lands necessary for protecting watersheds, water resources, and water supplies.
- Lands necessary for the conservation, preservation, and enhancement of sites with scenic, historical, archaeological, or ecological significance.
- Lands necessary for providing and preserving park lands, wilderness and beach reserves, and for conserving natural ecosystems of endemic plants, fish, and wildlife, for forestry, and other related activities to these uses.

- Lands having an elevation below the maximum inland line of the zone of wave action; and marine waters, fish ponds, and tide pools of O‘ahu unless otherwise designated on the development plan land use map.
- All offshore and outlying islands of O‘ahu unless otherwise classified.
- Lands with topography, soils, climate, or other related environmental factors that may not be normally adaptable or presently needed for urban, rural, or agricultural use.
- Lands with general slopes of 20 percent or more which provide for open space amenities and/or scenic values.
- Lands susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention by the State or Federal Government, and lands necessary for the protection of the health, safety, and welfare of the public by reason of soil instability or the lands’ susceptibility to landslides or inundation by tsunami and flooding, or both.
- Lands used for national, state, or city parks.
- Lands suitable for growing of commercial timber, grazing, hunting, and recreation uses, including facilities accessory to such uses when said facilities are compatible with the natural physical environment.

## 5. Golf Courses

Golf courses that are existing, or were approved as of November 2009, are included in this designation. These golf courses include: the Mākaha East golf course, the expansion area for an additional nine holes at the Mākaha East course, and the Mākaha West golf course. No other golf courses are designated on the Land Use Map, and no additional golf courses are provided for in the Wai‘anae Sustainable Communities Plan land use policies.

### A.1 LAND USE MAP

The LAND USE MAP illustrates both existing land uses within the Wai‘anae District as well as the desired long-range future land use pattern that is in concert with the VISION and policies for the Wai‘anae Coast. The Land Use Map thus includes the following elements:

#### A.1.1 Medium Density Residential

There are only two areas on the Land Use Map that have been designated as Medium Density Residential: the site of the existing Mākaha Towers project, and the site of the existing Mākaha Plantation project. Both of these parcels are currently zoned “A-2,” which allows a maximum density of 1.9 Floor Area Ratio (FAR) for lots of 40,000 square feet or more. Medium density residential development on O‘ahu generally has a gross density of 12 to 30 units per acre. The Plan’s Land Use Map thus recognizes the existence of these two zoned projects. However, it is the intent of the Wai‘anae Sustainable Communities Plan that no other lands within the Wai‘anae District be designated for “medium density”, which is a relatively urban residential density.

#### A.1.2 Resort

The Land Use Map recognizes the existence of two projects in Mākaha Valley that are at present zoned “Resort”: the site of the Mākaha Resort, and the site of the proposed Mākaha Conference Center. No other lands within the Wai‘anae District are designated for new Resort use on the Land Use Map.

**A.1.3     Mākaha Special Area Plan**

A grey dashed line on the Land Use Map defines Mākaha Valley as a “Special Area Plan.” This designation indicates the need for the development of a more detailed plan for future land use and land preservation. Accordingly, the Mākaha Special Area Plan was developed and finalized in 2009.

**A.1.4     Rural Community Commercial Center**

Smaller colored circles denote “Rural Community Commercial Centers” for the sub-communities of Nānākuli, Māili, and Mākaha. The location of these Centers is schematic in nature. This designation is intended to encourage the development of smaller-scale concentrations of commercial establishments and community services in a physical configuration that will help to provide a stronger physical identity for these subcommunities.

**A.1.5     Country Town**

A small-scale, low-rise, mixed-use center of commerce and community activity in rural character and setting in which principal establishments are oriented on the street. Land use mixtures may include retail, office, and dining establishments, compatible service businesses and light industry, and residential uses. Commercial activity is concentrated along street frontages in typically “Mainstreet” settings.

The Land Use Map shows the approximate location of the existing Wai‘anae town center, which extends roughly from the Wai‘anae Mall to the Wai‘anae Community Center. The intent of this designation is to recognize the traditional and contemporary importance of Wai‘anae town center as the primary commercial hub of the Wai‘anae Coast. The related policies encourage the renovation and development of this town center into a multi-faceted “Country Town” center for the District.

**A.1.6     Industrial**

The Wai‘anae District Land Use Map includes two “Industrial” areas. The intent of these Industrial areas is to provide areas for the development of non-polluting, light industrial uses that would provide employment opportunities for local people. The first such area is in the vicinity of the Wastewater Treatment Plant and Wai‘anae Mall. Some commercial uses should also be allowed in this Industrial area, to provide for an economically viable mix of uses, and also to serve as a buffer between light industrial uses and nearby residential areas. It is the intent of this Industrial use that industrial-mixed use “IMX” be allowed as a compatible zoning designation.

The second Industrial area is in Lualualei Valley. This site is intended for light industrial uses that are not noxious or socially objectionable in nature. Light industrial lots at this location should be affordably priced for Wai‘anae businesses, and include vocational training and other facilities that will benefit the Wai‘anae community.

**A.1.7     Military**

The two large existing U.S. Navy installations and the U.S. Army’s training lands in Mākua Valley have been shown on the Land Use Map with an overlay graphic texture. The intent of the Land Use Map is thus to recognize the existence of these military uses, but to show that the long-range vision for these lands are for agricultural, open space, and preservation uses that are compatible with the principal policies of the Wai‘anae Sustainable Communities Plan.

### **A.1.8 Farrington Highway Beautification**

A dashed green line is used to symbolize the various proposed improvements for Farrington Highway, including safety improvements for vehicles and pedestrians, traffic-calming devices, sidewalks, bikeways, beautification, and improved lighting.

## **A.2 OPEN SPACE MAP**

The Open Space Map is intended to illustrate the region's major open space patterns and resources as outlined in Chapter 3. It highlights major open space elements and resources, including agricultural and preservation lands, major recreational facilities, important "panoramic" views, natural stream corridors and drainageways, and important boundaries.

### **A.2.1 *Ahupua'a* Boundary**

*Ahupua'a* boundaries, based on the traditional *ahupua'a* method of land organization, have been adopted for use and displayed in the Plan as a method of organizing land uses and enhancing community definition within the region.

The approximate boundaries of the nine traditional *ahupua'a* of the Wai'anae Coast are shown on the map. These boundaries have great cultural, historical, and ecological significance, and should therefore provide a framework for the open space plan for the District.

### **A.2.2 Stream Corridors**

The major perennial and intermittent stream corridors are shown on the Open Space Map. These corridors should be protected and preserved in accordance with the policies and guidelines articulated in this Sustainable Communities Plan.

### **A.2.3 Concentrations of Archaeological Sites**

The known and probable concentrations of archaeological and cultural sites in the District are shown by means of an overlay graphic texture. These areas should be protected and preserved, and appropriate public access should be provided.

### **A.2.4 *Heiau***

The approximate locations of known *heiau* are shown on the map with brown triangles.

### **A.2.5 Parks**

Public and private parks and recreational facilities, including beach parks, playgrounds, playfields, district parks, botanical gardens, zoos, and golf courses. Neighborhood and beach parks are shown with a green circle.

### **A.2.6 Small Boat Harbor**

The existing Wai'anae small boat harbor is shown with a blue circle. The harbor is an important facility for both recreational and commercial fishermen.



**A.2.7 Gathering Places**

The concept of community gathering places is presented in the Wai‘anae Sustainable Communities Plan text. The location of future gathering places is schematically shown on the Open Space Map. These locations are subject to further planning by the various community groups that will take the lead in developing Gathering Places for their people.

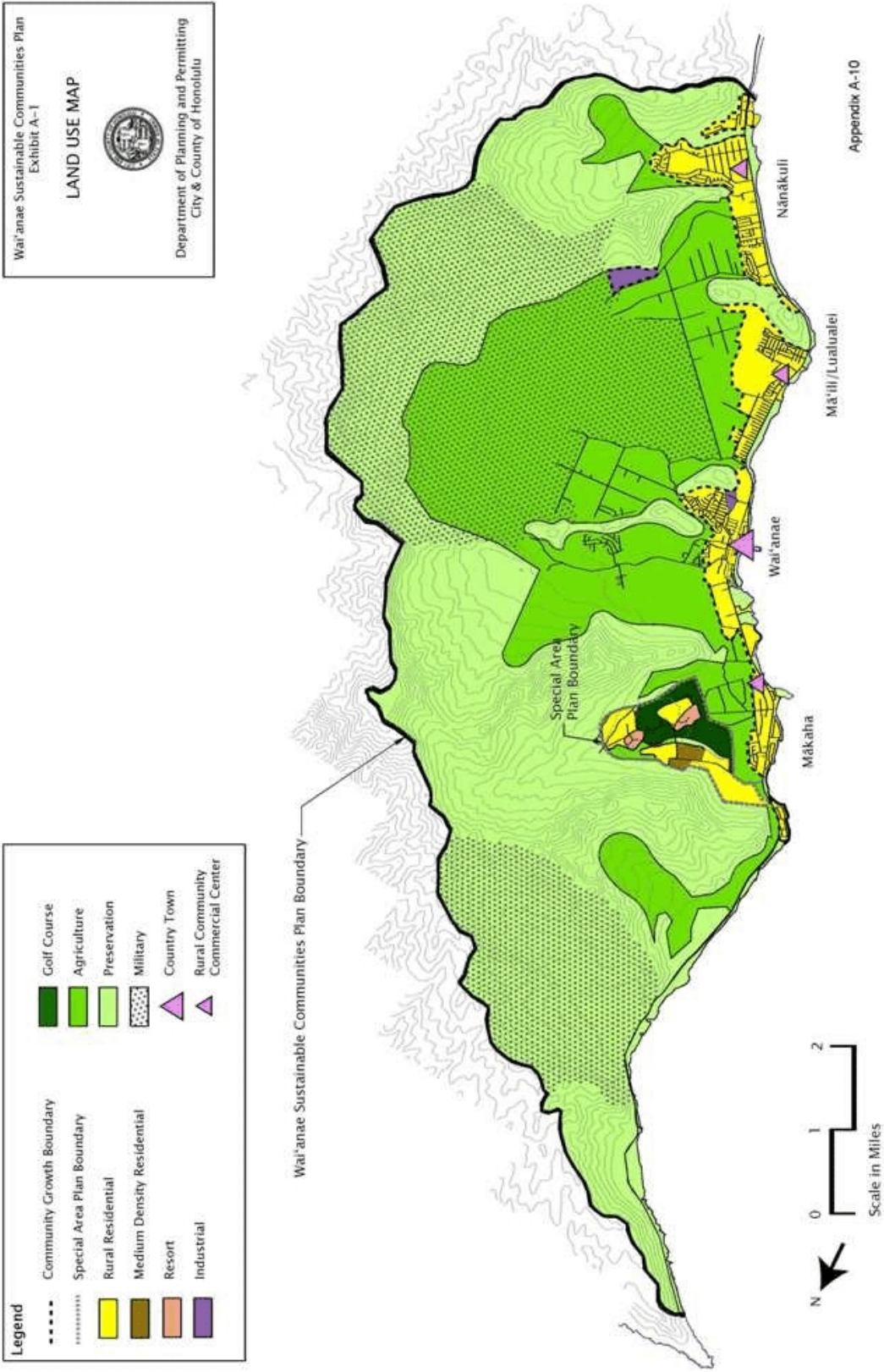
**A.3 PUBLIC FACILITIES MAP**

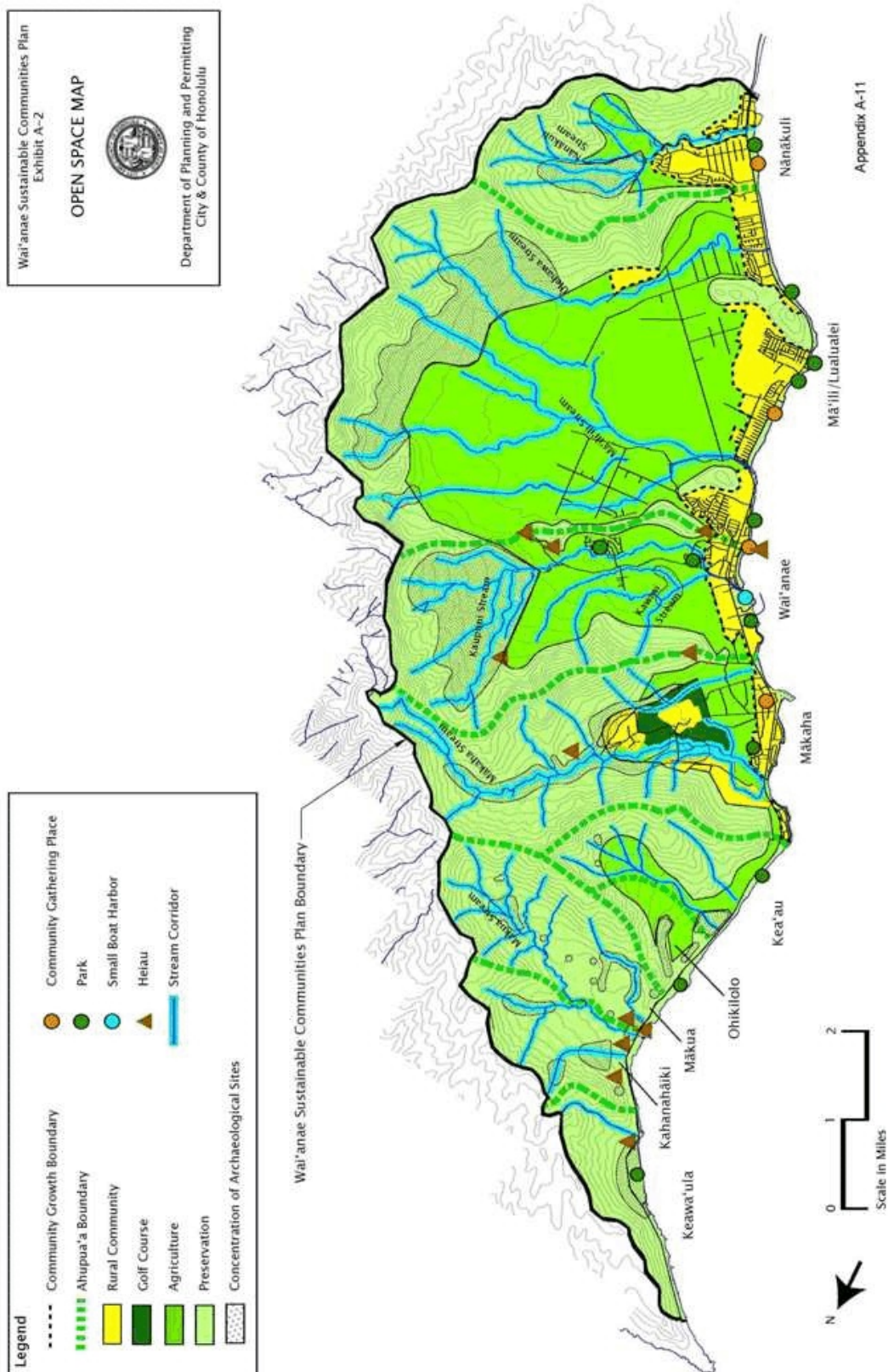
The Public Facilities Map illustrates major existing and future public facilities and privately owned facilities for public use. Its purpose is to display the public resources or assets available in the region. When the Plan is adopted, a separate “Public Infrastructure Map,” which will focus on and display facilities eligible for City Capital Improvements Program funding, will also be developed. For the Wai‘anae Region, the following types of facilities are displayed:

- Wastewater Treatment Plant
- Police Station
- Fire Stations
- High Schools
- Intermediate Schools
- Elementary Schools
- Small Boat Harbor
- Landfill

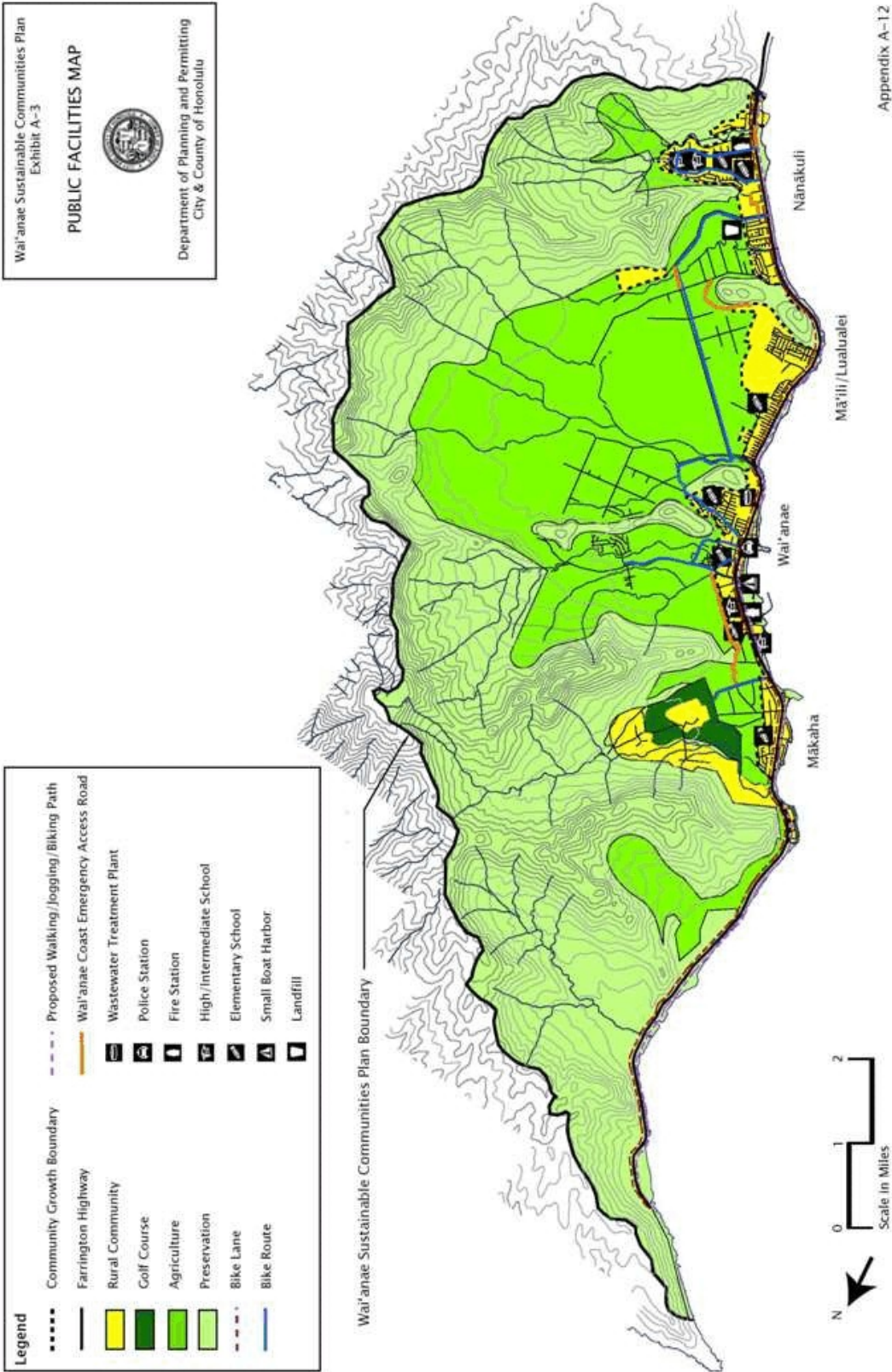
The Public Facilities Map for the Wai‘anae District also includes a conceptual alignment for bicycle lanes and bicycle routes:

- Bikeways on Farrington Highway
- Major valley roads designated and improved to accommodate bicycle routes
- Multi-purpose beach path









## **Honolulu - Land Use**

## ARTICLE 10: NORTHWESTERN HAWAIIAN ISLANDS

### Sections

#### *Part I. Development Plan Special Provisions for the Northwestern Hawaiian Islands*

- 24-10.1 Area description
- 24-10.2 Jurisdictional responsibilities
- 24-10.3 Land use and urban design principles, standards, and controls

#### *Part II. Development Plan Maps for the Northwestern Hawaiian Islands*

- 24-10.4 Land use maps
- Appendix 24-10

### **PART I. DEVELOPMENT PLAN SPECIAL PROVISIONS FOR THE NORTHWESTERN HAWAIIAN ISLANDS**

#### **§ 24-10.1 Area description.**

The northwestern Hawaiian islands consist of all islands, atolls, reefs, and shoals in the Hawaiian Archipelago. All islands, atolls, reefs, and shoals in the Hawaiian Archipelago, except for the Midway Islands, are included in the State of Hawaii under the Admission Act, the State Constitution, and the Hawaii Revised Statutes, and are a part of this development plan. Nine larger islands, or island groups, are: Nihoa; Necker Island; French Frigate Shoals; Gardner Pinnacles; Maro Reef; Laysan Island; Lisianski Island; Pearl and Hermes Atoll; and Kure Atoll. Many of these islands, or groups of islands, actually consist of many islets; for example, French Frigate Shoals contains 13 specific islets. The nine major islands, or groups of islands, range in size from Maro Reef with less than one acre to Laysan Island with 913 acres.

The Northwestern Hawaiian Islands have no permanent residents; however, the U.S. Coast Guard maintains facilities at Kure Atoll and the U.S. Fish and Wildlife Service has facilities on Tern Island in French Frigate Shoals. (Sec. 32-10.1, R.O. 1978 (1987 Supp. to 1983 Ed.)) (1990 Code, Ch. 24, Art. 10, § 24-10.1)

#### **§ 24-10.2 Jurisdictional responsibilities.**

- (a) The federal government has jurisdiction to manage most of the northwestern islands of the Hawaiian Archipelago. All northwestern Hawaiian islands, except Kure Atoll, are a part of the Hawaiian Islands National Wildlife Refuge established in 1909; these islands are administered and controlled by the U.S. Fish and Wildlife Service. Kure Atoll is also a wildlife refuge, but it is under the jurisdiction of the State of Hawaii, department of land and natural resources, division of fish and game. On French Frigate Shoals (Tern Island), the U.S. Fish and Wildlife Service has facilities and an airstrip. All of the northwestern Hawaiian islands and

archipelagic waters within the State of Hawaii are included in the State land use conservation district; thus, the State manages the subject islands where there is no federal jurisdiction.

(b) The city's general plan expresses:

(1) The city's awareness of the abundant and diverse populations of birds, marine life, and native plants in the northwestern Hawaiian islands;

(2) The city's awareness of the unique importance of these fragile resources; and

(3) The city's concern for their protection by appropriate agencies of the State and federal governments.  
(Sec. 32-10.2, R.O. 1978 (1987 Supp. to 1983 Ed.)) (1990 Code, Ch. 24, Art. 10, § 24-10.2)

### **§ 24-10.3 Land use and urban design principles, standards, and controls.**

The northwestern Hawaiian islands are primarily a wildlife refuge under the jurisdiction and administration of the federal or State government, or both. All northwestern Hawaiian islands included within this development plan are included within the State conservation district and designated for preservation of the development plan land use maps. The land use policy of the City and County of Honolulu for the northwestern Hawaiian islands is to protect and preserve the natural environment, including marine life and wildlife resources.

No special provisions with respect to land use and urban design are established at this time.  
(Sec. 32-10.3, R.O. 1978 (1987 Supp. to 1983 Ed.)) (1990 Code, Ch. 24, Art. 10, § 24-10.3)

## ***PART II. DEVELOPMENT PLAN MAPS FOR THE NORTHWESTERN HAWAIIAN ISLANDS***

### **§ 24-10.4 Land use maps.**

(a) The maps on file with the city clerk entitled "Development Plan Land Use Maps for the Northwestern Hawaiian Islands, City and County of Honolulu", are adopted and made a part of this development plan. They include an overall map of the Hawaiian Archipelago and eight large-scale maps of the major islands\* (including atoll, shoal, or island group) and depict the approximate land boundaries of each entity. All land areas are designated for preservation use.

(b) Any land use boundaries which may be established on the maps are not to be considered zoning boundaries, nor are they intended to reflect land use designations by metes and bounds. Therefore, the maps are not a precise graphic delineation of existing or potential future legal uses. They do not confer upon property owners any rights respecting the use of their land that they do not presently enjoy. Flexibility in interpreting the boundaries on the land use maps is permitted to the degree necessary to implement the intended land use pattern.

(Sec. 32-10.4, R.O. 1978 (1987 Supp. to 1983 Ed.)) (1990 Code, Ch. 24, Art. 10, § 24-10.4)

***Editor's note:***

*\* A map of Maro Reef, which only has one rock protruding above water, is not included.*

## **APPENDIX 24-10**

*[Reserved]*



## **Honolulu - Land Use**