WAIMĀNALO

REGIONAL PLAN

August 2008
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Introduction

The Department of Hawaiian Home Lands’ (DHHL) mission is to manage effectively the Hawaiian Home Lands Trust and to develop and deliver lands to native Hawaiians. DHHL works in partnership with other government agencies, private sector entrepreneurs, and non-profit organizations to carry out this mission. This work includes collaborative visioning, long-range planning, resource allocation, and project-specific joint ventures. DHHL believes that these partnerships benefit not only its native Hawaiian beneficiaries but the larger community as well.

This report has been prepared to facilitate the work of such partnerships as DHHL continues to develop its lands in Waimānalo. Specifically, this report is intended to:

- Help identify opportunities for partnerships with DHHL for further development of its Waimānalo lands;
- Provide information essential to the planning of projects, services, and entrepreneurial ventures;
- Identify key issues, opportunities, and constraints effecting regional development and area improvements;
- Assist in the efficient allocation of resources by DHHL and its partners; and
- Identify priority projects that are essential to moving development and community improvement projects forward.

DHHL knows that regional development is a dynamic process with constantly changing opportunities and emerging issues. With that in mind, this document will be regularly updated as development projects progress and priorities change.
Elected Officials

Linda Lingle
Governor

Duke Aiona
Lt. Governor

Daniel K. Inouye
U.S. Senator

Daniel K. Akaka
U.S. Senator

Mazie Hirono
U.S. House of Representatives
Congressional District 2

Micah Kane
DHHL Commissioner
Chairman

Donald S. M. Chang
O‘ahu Commissioner

Francis K. Lum
O‘ahu Commissioner

Trish Morikawa
O‘ahu Commissioner

Walter Meheula Heen
OHA Trustee, O‘ahu Chair

Mufi Hannemann
Honolulu Mayor

Barbara Marshall
Council District 3

Fred Hemmings
State Senatorial
District 25

Tommy Waters
State House of Representatives
District 51

Kamaki Kanahele
Chairman, O‘ahu Representative
Sovereign Councils of the Hawaiian Homelands Assembly

Disclaimer: The information and recommendations expressed in this report are not necessarily endorsed by the people depicted on this page. These same people cannot be held liable for the information presented or the results of the report.
Political Boundaries

State Senatorial District
- 25

State House of Representatives District
- 51

City Council District
- 3

Neighborhood Board
- 32

DHHL Property
Fred Hemmings (R)
Barbara Marshall
Tommy Waters (D)
Wilson Kekoa Ho
Community Leaders and Stakeholders

Wilson Kekoa Ho, Chair
Waimānalo NB - #32

Paul Richards, President
Waimānalo Hawaiian Homes Association

Christina Kealoha Lee, M.D.
Medical Director
Waimānalo Health Center

Clifford Migita
Waimānalo Agricultural Association

Ben Henderson
President & Executive Director
Queen Lili‘uokalani Children’s Center

Dee Jay A. Mailer, CEO
Kamehameha Schools

Laura H. Thielen, Chairperson
Department of Land and Natural Resources

Kevin A. Roberts, President
Castle Medical Center

Dr. Andrew C. Hashimoto Dean, CTAHR
Agricultural Experiment Station

Mitch D’Olier, President & CEO
The Harold K. L. Castle Foundation & Kaneohe Ranch Company

Kevin Andrews, President
Waimānalo Chamber of Commerce

Colonel Giovanni K. Tuck, Commander
Bellows Air Force Station 15th Airlift Wing

Colonel Mark A. Dungan, Commander
Marine Corps Training Area at Bellows AFS

Colonel Marty Wong, Commander
Hawai‘i Army National Guard

Clifford Migita
Waimānalo Agricultural Association

Kevin A. Roberts, President
Castle Medical Center

Friends of Waimānalo
Hawai‘i Job Corps Center
‘Aikahi Elementary
Blanche Pope Elementary
Enchanted Lake Elementary
Ka‘olepulu Elementary
Kailua Christian Academy
Kailua Elementary
Kailua Intermediate
Kailua High School

Jan Nagano, President
Anita Sharp, Center Director
Gay Kong, Principal
Ofelia Carag, Principal
Pua‘alā McElhaney, Principal
Sue Stock, Principal
Diana M. Abraham, Principal
Lanelle Hibbs, Principal
Suzanne Mulcahy, Principal
Francine Honda, Principal
Kainalu Elementary
Kalāheo High School
Kamehameha Schools Preschool
Ke Kula o Samuel M. Kamakau
Laboratory Public Charter School
Kea‘au Elementary
Le Jardin Academy
Masunwili Elementary
Mokapu Elementary
Lanikai Public Charter School

Sheri Sunabe, Principal
James Schlissner, Principal
Mahealani McClellan, Director
Marcii Wai‘ale‘ale Sarsona, Principal
Alma M Souki, Principal
Adrian Allan, Headmaster
Ryan Amine, Principal
Annette Ostrem, Principal
Frederick Birket, Principal
Redemption Academy
Trinity Christian School
Waimānalo Elementary & Intermediate
Waimānalo Fire Station
Olomana Fire Station
Kailua Fire Station
City and County of Honolulu Police
Department District 4
O‘ahu Physicians Group

Sheri Sunabe, Principal
James Schlissner, Principal
Mahealani McClellan, Director
Marcii Wai‘ale‘ale Sarsona, Principal
Alma M Souki, Principal
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Ryan Amine, Principal
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Olomana Fire Station
Kailua Fire Station
City and County of Honolulu Police
Department District 4
O‘ahu Physicians Group

Dr. Adrian Yuen, Founder & Dean
Nancy Shaw, Director
Susan Hummel, Principal

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DHHL Partnering Benefits and Examples

**BENEFITS OF PARTNERING**

DHHL is working in partnership with other government agencies, the private sector, and community organizations to develop its lands and improve community life. DHHL believes that partnerships are an effective way to leverage resources and capital investments, mitigate undesirable impacts of development, coordinate area growth, reduce risks in large-scale community projects, and create broad community benefits.

These partnerships allow for better prioritization and coordination of infrastructure improvement and the development of regional public and residential facilities. This coordination helps individual organizations achieve their goals while bringing long-term benefits to the community and region.

DHHL brings to these partnerships:

- Land for development in strategic locations
- Potential use of tax-exempt financing
- Access to legislative appropriations
- Access to federal funding such as HUD, USDA, SBA
- Flexibility in the application of development standards, zoning, and design
- Cultural understanding and resources

DHHL has participated in a number of successful partnerships. A few are highlighted here.

**SUCCESSFUL PARTNERSHIPS**

**1. Residential Partnerships**

Through partnerships, DHHL has reduced the cost of homes to low-income beneficiaries. DHHL has done this by sharing in the cost of infrastructure, helping to secure tax credits, and using self-help methods of construction. Partnerships in Kāneʻohe resulted in 70 Rent-to-Own units constructed by Mark Development using low-income tax credits and 45 self-help homes constructed with Menēhune Development and Honolulu Habitat for Humanity. In these types of partnerships, DHHL often provides the land, secures federal grants, and provides access to, or assistance in, acquiring tax credits, subsidies, or other financing.

2. **Infrastructure Partnerships**

DHHL has partnered with county governments and utility providers on infrastructure improvements that benefit the entire community. DHHL has participated in water system development with the counties by providing funding, land easements, and access to federal and state programs. Examples include the extension of the Lower Kula Water System on Maui, the Waimānalo Irrigation System and the Mānāwai Water System on Hawai‘i, and the Waiau-Waipahu water system on O‘ahu. DHHL water systems at Anahola on Kaua‘i, and Ho‘olehua on Molokai are interconnected with nearby County water systems providing both parties backup source and storage capacity in the event of emergencies. DHHL has also provided numerous easements over its lands to electrical, water, telephone, and cable companies to service both homestead areas and the general public.

**3. Public Facilities Partnerships**

DHHL has participated in a number of partnerships involving public facilities and community resources. The most notable partnerships have brought together Hawaiian agencies and non-profit organizations into a multi-service complex where a broad range of programs are housed to serve the public. Such multi-service complexes have been built on Hawaiian Home Lands in partnership with Kamehameha Schools, Queen Liliʻuokalani Children’s Center, Aliʻi Loke, Papa Ola Lokahi, the Office of Hawaiian Affairs, Hawaiian community organizations, and the counties. These multi-service complexes house preschools, offices, meeting facilities, health clinics, and activity centers. For example, the Pauʻukālo homestead on Maui is served by a County park on DHHL land next to a community hall, the DHHL district office, the Hawaiian Community Assets’ home ownership counseling center, and a Kamehameha Schools preschool. DHHL, private businesses, government agencies, and private foundations have joined together to provide materials for playgrounds constructed by homestead associations and other community volunteers.

Through a series of management partnerships with DLNR and the Nature Conservancy, unique ecosystems and historic sites are being protected. Examples include the Hakalau Forest Reserve, the ‘A‘ina Hou Management Area, the Pa‘au‘au and Mo‘omomi preserves, the Kalaupapa peninsula, and the Kapa‘a-Pu‘u‘eo National Historic District where koa forests, endangered plants and animals, and native species are being protected for future generations. Beachfront recreational values are protected through management agreements with the City and County of Honolulu for Makapu‘u, Kaiona, Kaupō, Waimānalo, and Nānākuli beach parks.
History and Cultural Aspects of the Area

Pre-contact

Waimānalo – potable or sweet water – Ahupua’a, named for its largest stream, covers just over 11 square miles. The ahupua’a was once rich with Hawaiian sites, though many have vanished or been destroyed over the years. Stories tell of former small fishing villages along the shore. The pū’uhonua of Haumāna (binding the teeth), a sacred site where anyone was forgiven, formerly rested on a small lill mauka of the present highway. Various sources have recorded at least four heiau in Waimānalo and numerous sacred pohaku (stones). They include Kīnī, a fishing shrine that was tossed inland when the road was built, and Pōhaku Pa’akiki, found in the shoreline waters near Sea Life Park and Kaupō Beach Park, the site of the ancient fishing village of Ko‘ōpīlani which was abandoned in 1853, due to the smallpox epidemic. Some of the earliest habitation sites in the State of Hawai‘i are located in the Bellows dune fields. Twelve major archeological sites, including religious temples (heiau), have been identified in the watershed.

In pre-contact and pre-sugar days the area supported a large system of taro lo‘i with a wide variety of traditional Hawaiian crops clustered around stream areas. Additional upland taro lo‘i, fed by small streams and springs, existed along the base of the Ko‘olau range. These lo‘i were served by a system of ‘auwai (irrigation ditches) from the springs and streams. The areas agricultural tradition has a long and rich tradition. The lo‘i were destroyed when the entire ahupua’a was leased and cattle were introduced. These changes destroyed the traditional plantings of sugar cane, ti, and wauke, as well as large trees, resulting in the loss of vegetation throughout the whole area.

During the Great Mahele of King Kamehameha III from 1846 to 1848, the approximately 7,000 acres Waimānalo Ahupua’a was reserved as “Crown Lands.” Between 1846 and 1851, native Hawaiians were awarded fee simple patents for their home sites and cultivated lands. In 1840, Waimānalo was a ranch for sheep and cattle, but ten years later, sugar dominated the ahupua’a.

Late 1800s to mid-1900s

During the period 1850 to 1920, one family leased the King’s land and acquired about 200 acres of fee simple land. They raised livestock and later developed a sugar cane plantation, the Waimānalo Sugar Company. Due to an inadequate water supply in Waimānalo and the high water volume needed to grow sugar, an irrigation system was developed to draw water from Kawainui Stream to Waimānalo. The Waimānalo Irrigation System ditches developed during this period are eligible for the National Register of Historic Places. In 1917, the 29-year-old Waimānalo Sugar Company sold 1,500 acres of beachfront property to the U.S. Government; the area that is presently Bellows Air Force Base.

The Sugar Company was liquidated in 1947. Leased land was sublet to local farmers, and fee simple lands were sold. As sugar became less profitable throughout the rest of the island, numerous farmers relocated away from the rapidly growing suburban centers of Kailua and Kāne‘ohe to the relatively unpopulated Waimānalo watershed.

In 1921, the Hawaiian Homes Commission Act listed most of the Valley floor as “available lands” but excluded military areas, cultivated cane lands, and beach lands. The first Hawaiian Homes Commission lots were made available in 1925. The DHHL Waimānalo lands are located in the southern end of the Ko‘olau Poko District on the windward side of O‘ahu. Comprising almost 2,000 acres and almost 4,000 Native Hawaiians, Waimānalo reflects a well-developed and mature Hawaiian community.

Modern times

The City and County’s Long Range Plan and the Ko‘olau Poko Sustainable Communities Plan call for maintaining agricultural land uses for flower growing, aquaculture, livestock production, and other types of diversified agriculture, while placing limits on new housing. The plans suggest revitalizing existing commercial centers and maintaining development character that is generally low-density, low-rise, small scale, and reflective of a “country” setting.

Waimānalo is country. Waimānalo is local style. Waimānalo is home. Waimānalo is Hawaiian. The words from the popular song “Waimānalo Blues” expresses the deep love of place and people that the community represents. It reflects a laid back local lifestyle that is soothing and healthful, friendly, family oriented with an unhurried pace. Slack key guitarist, Gabby Pahinui and his ‘ohana and impromptu musical jamming in the garage remain quintessential Waimānalo symbols. Trade winds blow constantly and sand and sea and windblown hair are as natural as the naupaka on the beach. Fishing and surfing, picnicking and ‘ukulele, paddling and horses all make up the outdoor lifestyle that is Waimānalo. Long, sandy beaches edged with ironwood trees and the dramatic Ko‘olau cliffs frame the community. In the continuing development and growth of this community DHHL is committed to maintaining these precious qualities.

Waimānalo Sugar Plantation

Irrigation in Waimānalo

Small Waimānalo Farms

Sunrise over Waimānalo Bay
DHHL OWNED PARCELS

1. Waimānalo Villages - urban/residential (180.5 ac)
2. Kumuhau - agriculture (11.6 ac)
3. Kakaʻina - agriculture (8 ac)
4. Quarry Site - agriculture (86.2 ac)
5. Pine Tree Triangle - agriculture (8.65 ac)
6. Homestead Farm Lots - agriculture (5.2 ac)
7. Waimānalo Foothills - agriculture & unimproved res (52.1 ac)
8. Waimānalo Forest Reserve - conservation (1470 ac)
9. Makapuʻu Beach Park and Lookout - conservation (47 ac)
10. Waimānalo Beach Park - unimproved res (22 ac)
11. Kaiona Beach Park - unimproved res (5 ac)
12. Kaupō Beach Park - conservation (8 ac)
13. Wong Farm (Pending Acquisition) - agriculture (50.3 ac)

LAND SUMMARY
Total = 1,952.75 Acres
Regional Demographics

<table>
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<th>Waimānalo</th>
<th>O‘ahu</th>
<th>State</th>
<th>U.S.</th>
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<tr>
<td>Total Population</td>
<td>10,919</td>
<td>688,751</td>
<td>1,227,008</td>
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<tr>
<td>Median age (Years)</td>
<td>32.9</td>
<td>37.9</td>
<td>38</td>
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<tr>
<td>Social Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School Graduate or Higher</td>
<td>8,899 (81.5%)</td>
<td>87.7%</td>
<td>87.2%</td>
</tr>
<tr>
<td>Bachelor’s Degree or Higher</td>
<td>1,671 (15.3%)</td>
<td>30.8%</td>
<td>29.1%</td>
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<tr>
<td>Economic Characteristics</td>
<td></td>
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<tr>
<td>Median Household Income</td>
<td>$49,242</td>
<td>$55,624</td>
<td>$53,554</td>
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<tr>
<td>Per Capita Income</td>
<td>$15,302</td>
<td>$24,878</td>
<td>$24,452</td>
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<tr>
<td>Housing Characteristics</td>
<td></td>
<td></td>
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<tr>
<td>Total Housing Units</td>
<td>2,486</td>
<td>325,775</td>
<td>482,873</td>
</tr>
<tr>
<td>Occupied Units</td>
<td>2,354 (94.7%)</td>
<td>88%</td>
<td>88.5%</td>
</tr>
<tr>
<td>Units Occupied by owner</td>
<td>1,391 (67.6%)</td>
<td>52.7%</td>
<td>52.1%</td>
</tr>
<tr>
<td>Median Value - Single Family Home</td>
<td>$477,500</td>
<td>$620,000</td>
<td>$364,840</td>
</tr>
<tr>
<td>Units Occupied by Renter</td>
<td>763 (32.4%)</td>
<td>39.3%</td>
<td>36.4%</td>
</tr>
<tr>
<td>Median Gross Rent</td>
<td>$751</td>
<td>$874</td>
<td>$871</td>
</tr>
<tr>
<td>Vacant units</td>
<td>135 (5.3%)</td>
<td>0.07%</td>
<td>11.4%</td>
</tr>
<tr>
<td>Homeowner vacancy rate</td>
<td>0.9%</td>
<td>0.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Rental vacancy rate</td>
<td>3.2%</td>
<td>3.1%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Home ownership rate</td>
<td>70%</td>
<td>55%</td>
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<tr>
<td>Median Age - Owner</td>
<td>53.8</td>
<td>--</td>
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<tr>
<td>Median Age - Renter</td>
<td>43.7</td>
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Source: American Factfinder, 2005 & Honolulu Board of Realtors, 2005
Development Characteristics and Trends

POPULATION GROWTH & INVESTMENT

Waimānalo has a stable population base. The area is home to almost 11,000 individuals, of whom more than 50% are full or part Native Hawaiian. The community has experienced relatively slow developmental growth, in part, due to its rural community boundary.

Waimānalo has significant tax incentives for businesses and investors, due to its inclusion in the Foreign Trade Zone and Oʻahu Enterprise Zone. Bellows Air Station presents potential reuse opportunities for industrial, commercial or recreation activities.

WORKFORCE

Over 4,500 residents of Waimānalo are in the labor force, equal to 65% of working age citizens. Most of the working residents are employed outside of the community and commute, on average, 35 minutes to work. Small-scale employment opportunities in the immediate region are generally limited to agricultural related activities, retail and outdoor recreation. Additionally, another 2,800 residents are enrolled in school.

HOUSING & COMMERCIAL

There are almost 2,486 housing units in Waimānalo and the area has a 70% home ownership rate. Native Hawaiian home ownership rate is almost 70%. The vacancy rate is 1.5% for homes that are for sale and a 3% rental vacancy rate. The region is characterized by older dwellings and is near buildout. Its aging infrastructure, facilities and dwellings, though, are in need of improvements and upgrades. The community places a high emphasis on natural resource preservation, agricultural and rural retention and traditional ways of life. As Waimānalo’s aging housing stock is replaced, expanded or remodeled, the area is experiencing growth in the area of multi-generational and “non-traditional” households, as well as larger dwelling sizes on single-family residential lots.

Commercial uses in Waimānalo are clustered in commercial strips along Kalanianaʻole Highway. These strips are primarily located in two areas: Waimānalo Town and the makai side of the beach area between Waimānalo Bay State Recreation Area and Waimānalo Beach Park. Sea Life Park also represents a significant commercial venue.

AGRICULTURE

The Waimānalo district is a vibrant area for nursery and orchard operations. Small-scale truck farms growing fresh greens and organic foods are growing in number. The area’s relatively close proximity to markets, in addition to fertile growing lands is a significant positive attribute for agricultural activities. The UH Agricultural Experiment Station and Oceanic Institute serve as incubators for new crop development, best practice models, and emerging agriculture and aquaculture operations, while equestrian and ranching operations present potential opportunities to capitalize on traditional and rural activities.
Waimānalo is a long-standing Hawaiian Homes community which has evolved organically over many decades. Over time an internal development pattern has emerged. Within this context the Department of Hawaiian Home Lands’ recently articulated policy of creating communities instead of simply housing guides the policy for the area. The plan calls for an extension of uses in the quarry parcel and the Wong Farm transfer area to solidify the concept of a Waimānalo Village Center with concentric elliptical, rainbow-like bands. These bands would be extensions of residential and employment areas as shown in the figure. This pattern complements existing DHHL and non-DHHL land uses adjacent to the project areas.

The village center concept builds on the existing kupuna housing complex, QLCC office, Kamehameha preschools and the Waimānalo Homestead Community Center to form a nucleus of what will eventually be the center of the social and economic activities in the Waimānalo Homestead. The quarry building parcel adjacent to Kalaniana‘ole Highway will be developed into commercial uses due to its access to the highway and proximity to businesses and services along the highway. Its location allows it to meet homesteader needs and drive-by travelers along the highway. This commercial development will provide employment, entrepreneurial opportunities and a potential new revenue stream to DHHL. Other service and office uses may be added to the areas immediately mauka of the QLCC and KS facilities. Recreational and community facilities may be added to create a critical mass of activity integrated around a definable center. This will be a retail and community service core for the Hawaiian Home Lands and its residents. It will enhance the sense of place and provide a clear, central, sustainable area that will define the character of the Waimānalo homestead community as well as the neighboring properties.

Around the village center the plan calls for a ring of residential development mixed with recreational uses and facilities. Active and passive areas should be integrated together with recreational areas being accessible to the village center area. This residential/recreational ring should integrate the existing residential areas, the planned development of the Wong Farm site into an extension of the subdivision and a portion of the 20-acre community association expansion area. Waimānalo Beach Park could be viewed as part of this ring.

The final ring around the village center would be the non-service and employment ring. The relocated Wong Farm, the old quarry and University of Hawai‘i Waimānalo Agricultural and Livestock Extension Service Areas would be a part of this ring. Recreational or open space areas would serve as a buffer from the residential areas. Ideas are being explored to make the old quarry a light industrial and entrepreneurial zone.

New roads are needed to provide access across the bands and separate alternative access routes to the agricultural and light industrial areas. The new roads will allow trucks, service vehicles and worker traffic to access the industrial area without going through residential areas. Landscaping, buffers and setbacks will mitigate potential conflicts of use and beautify the area.
BACKGROUND OF ROADS AND TRANSIT CONDITIONS

Kalanianaʻole Highway serves as the major access highway to the Waimānalo area. It links Waimānalo to communities in East Honolulu and serves as a scenic, secondary route for travel between Kailua/Waimānalo and Honolulu. The 2-lane Kalanianaʻole Highway is the primary arterial through Waimānalo and sometimes backs up during peak travel times. Right of way is ample for expansion to a four-lane roadway which has been proposed by the City and County of Honolulu between 2006 - 2020. Most DHHL lands lie in close proximity to familiar transit stops and park and ride facilities. The Bus services the region with routes 57, 77, & 89.

PROPOSED ROAD AND TRANSIT PROJECTS

1 Kalanianaʻole Highway Bikeway
   New bike lanes have been proposed in the Koʻolau Poko Sustainable Communities Plan linking Waimānalo to East Honolulu & Kailua/Enchanted Lakes. The 2008 -2011 Oʻahu Transportation Improvement Program (TIP) lists this project as S42, requesting $1,200,000 for construction in FY 2009. The project will provide improvements to the bike route on Kalanianaʻole Highway from Huli Street to Makapuʻu Beach Park. The bikeway would provide a shared roadway with paved, continuous shoulder for bicycle use. Total estimated project cost $2,833,000.

2 Kalanianaʻole Highway Bridge Replacement
   The State Department of Transportation (DOT) will be replacing the existing single-cell culvert Inoaʻole Stream Bridge with a multi-cell culvert bridge structure. The project includes improvements to roadway approaches, a possible detour road, and utility relocations. State DOT is currently assessing the detour road option through Bellows Air Force Base, and working on the environmental assessment and design process for this project. Estimated total cost is approximately $18.5 million. Funding for this project as reported in the FY 2008-2011 TIP, as Project S49, includes $100,000 for pre-right-of-way in FY 2008; $500,000 for rights-of-way purchases in FY 2010 and; $6,600,000 for construction in FY 2011.

3 Kalanianaʻole Highway Improvements
   The State DOT Oʻahu Transportation Improvement Program proposes improvements to Kalanianaʻole Highway from Olomana Golf Course to Waimānalo Beach Park. The proposed improvements include construction of turning lanes, sidewalks, wheelchair ramps, bike paths or bike lanes, traffic signal upgrades, utility relocation, and drainage improvements. The project is listed as S43, S44, S45 and S46 in the FY 2008-2011 TIP. A Final EA has been filed. Total cost is projected at $40 million and will be constructed in four phases.

4 Kalanianaʻole Highway Retaining Wall
   The State DOT Oʻahu Transportation Improvement Program proposes to construct and/or repair a retaining wall in the area of Makapuʻu. The project would include slope protection and mitigation. $11,400,000 for construction has been requested. The project is S47 in the FY 2008-2011 TIP. State DOT has completed the design phase for this project. The State has received funds for this project. Construction bid expected December 2008.

5 Waikupanaha Street Improvement and Ilauhole Street Extension
   The Waimānalo Hawaiian Homes Association proposes to plan and design an extension of Ilauhole Street to the CTTEC and recreational area in the quarry. This new road provides circulation access to the inner section of the quarry. WHHA requested $60,000 as part of the Waimānalo Homestead Village Center development but did not receive funding. DHHL is resubmitting the funding request for $100,000 for planning and design in the FY 2009 CIP budget. The Department of Hawaiian Home Lands is also proposing improvements to Waikupanaha Street to provide access to a future light industrial park above the quarry that may link to Ilauhole Street in the future. The existing gravel road will be retained for emergency purposes.
BACKGROUND OF CURRENT REGIONAL WATER SYSTEM

The Waimānalo watershed’s fresh water sources come from the mountains, springs, and a diversion from Kailua. The Board of Water Supply estimates potable water capacity at approximately 28 mgd and current demand at 22 mgd. Waimānalo Stream, formerly called Puha Stream, serves as the primary freshwater drainage of the Waimānalo Basin into Waimānalo Bay. Waimānalo Stream runs through a predominately agricultural land use area and has been designated a Water Quality Limited Segment (WQLS) for failing to meet the State’s water quality standards. Studies indicate that Waimānalo Stream is a highly altered waterway that no longer functions as a natural stream. Heavy rain often results in discharged pollutants from the land, transported via Waimānalo Stream into Waimānalo Bay, significantly degrading water quality for several weeks at a time. Stream channels are severely modified due to various flood control projects, resulting in clogged channels. Inoa‘ole Stream is the second major stream draining the basin. Like Waimānalo Stream it is subject to high nutrient loads, excessive sedimentation and a clogged waterway.

All of the streams in Waimānalo suffer from poor circulation due to extensive plant growth, lack of water, and trash dumping. The community believes that animal waste, excessive fertilizer, seepage from individual cesspools, disposal of water from chicken coops, and nutrients from the holding ponds at the dairy are sources of pollution and algal blooms in nearshore waters.

Source: Ko‘olau Poko Water Quality Action Plan, Kailua Bay Advisory Council, 2002 & Ko‘olau Poko Sustainable Communities Plan, City and County of Honolulu, 2000

PROPOSED WATER SYSTEM PROJECTS

There are no proposed water system projects for Waimānalo at this time.
Infrastructure - Wastewater/Sewer

- Bellows Air Force Station
- Waimānalo Bay State Recreation Area
- Waimānalo Bay Wastewater Treatment Plant
- Waimānalo Beach Park
- Sea Life Park
- Makapu‘u Beach Park
- DHHL Property Boundary

Feet
BACKGROUND OF WASTEWATER SYSTEM CONDITIONS

In May 2008, the State completed upgrades to the Waimānalo Wastewater Treatment Plant, increasing its capacity to serve future needs. The Waimānalo Wastewater Treatment Plant is now operational with a capacity of 1.1 mgd and a new secondary biological treatment process. New hookups were not being allowed due to capacity and performance issues of this treatment plant. The completion of this project allows housing developments in the area to move forward.

Approximately 65 percent of residences in the Waimānalo Wastewater Service Area are 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 (WWTP), which has a rated average design capacity of 1.1 million gallons per day (mgd) and average flow of approximately 0.7 mgd. The wastewater collection system, including the Kahawai WWPS, is owned by the State of Hawai‘i and operated and maintained by the City and County of Honolulu. 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. Nearly 15 percent of the homes in sewered 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 occur periodically in the nearshore waters of Waimānalo, possibly stemming from nutrient loading by individual wastewater treatment systems, stormwater runoff, and/or treatment plant effluent.


PROPOSED WASTEWATER PROJECT

Waimānalo Wastewater Treatment Plant Upgrade

The State envisions future improvements to the Waimānalo Wastewater Treatment Plant to address issues relating to reuse. Potential improvements may include planning and design of 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.
BACKGROUND OF DRAINAGE CONDITIONS

Although dry most of the year, Waimānalo Valley is severely affected during storms. The streams are shallow, overgrown with grass, and often incapable of carrying the large flows resulting from flash floods. The road culverts and bridges are inadequate and subject to obstruction by debris or siltation. These conditions often result in flooding of the adjacent lowlands, especially near the highway. At least 10 major storms have inundated the watershed since 1941, and it is reasonable to assume more damages can be expected as developments increase. Runoff drains into Kahaluu, Waiokeola, Waimānalo, and Ihoa’ole Streams. The drainage problem in the Waimānalo watershed is characterized by small capacity channels, badly restricted by vegetation. The vegetation not only reduces channel capacity but produces debris that moves downstream during flood flows. This debris collects at channel restrictions such as bridges and culverts resulting in flow blockages. The channels are usually very steep in the upper reaches and flat in the lower reaches that extend through the sandy soils along the coast. Large areas of Waimānalo Valley become flooded during severe rain storms, primarily because of the capacity of small stream carrying capacities, inadequate road crossings, and low lying coastal plains. During past severe storms, flood waters ponded over low lying areas in the flat coastal plains, causing inundation of residential and commercial lands as well as roads and highways. Unlike the low flow velocities occurring in the ponding areas, storm waters flowing on steeper areas have high velocities, and become a greater hazard to life and property. In the steeper middle and upper sections of the valleys, overflowing waters have eroded agricultural lands, damaged crops, and partially washed out roadways. A DLNR study identified the following major problems of drainage in Waimānalo:

1. Poor maintenance of existing ditches, channels and culverts
2. No single agency responsible for maintenance
3. Irrigation ditches need manual adjustments for flood control
4. Kailua Reservoir releases can aggravate flooding
5. Local ponding behind channel walls and at roads
6. Land development potential restricted by flooding problems and floodplain zoning


PROPOSED DRAINAGE PROJECTS

While there are no specific proposed drainage improvement projects for Waimānalo at this time, sources used for this report identify the following actions to improve drainage and stream health in Waimānalo.

In-stream flow levels must be increased by removing channel-clogging vegetation and construction of low flow channels in order to increase the ability of the stream to assimilate sediments and nutrients. Pollutant-reducing Best Management Practices, reasonable stream restoration, and an increase in base flow will bring Waimānalo streams closer to their desired condition – streams that meet the State Water Quality Standards and are fishable and swimmable.

Specific suggestions for drainage and stream improvement include:

- Increase the community’s ability to protect and enhance streams;
- Improve the streams’ ability to move water, filter pollutants, and support aquatic life;
- Establish vegetated buffers next to streams;
- Improve wastewater treatment;
- Assure good agricultural management practices;
- Assure good animal waste management practices;
- Reduce nutrients and sediments in urban runoff;
- Develop methods for stabilizing stream channels to allow them to filter pollutants and support aquatic life.
- Conduct regular stream cleanups and maintenance.
- Install signs and create community awareness about the effects of stream pollutants.
- Ensure access along the entire reach of channel to permit the use of heavy equipment for maintenance. Establish a perpetual easement would have to be provided by the landowners to the public agency performing the work. This easement would need to be approximately 50 feet wide, 25 feet each side of the existing channel centerline.
- Install bridge trash racks along the Hiihimanu and Kaka‘ina Streets bridge crossings to reduce the possibility of the plugging of these bridges and of the downstream road crossing.
SCHOOLS

Within the Kailua-Kalaeo Complex-Area are ten elementary schools, two intermediate schools, three high schools, four private schools.

Future Need

Existing facilities are adequate to serve the needs of Waimanalo’s stable population.

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<tr>
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<tbody>
<tr>
<td>KAILUA COMPLEX</td>
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<tr>
<td>Enchanted Lake Elementary</td>
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<td>538</td>
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<td>Ke Kula o Samuel M. Kamakau Laboratory Public Charter School</td>
<td>K-12</td>
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<td>N/A</td>
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<tr>
<td>Kailua High School</td>
<td>9-12</td>
<td>988</td>
<td>1225</td>
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KALÄHEO COMPLEX

‘Aikahi Elementary | K-6 | 496 | 666 | 501 |
| Kailua Elementary | K-6 | 366 | 546 | 343 |
| Kainalu Elementary | K-6 | 536 | 761 | 459 |
| Mokapu Elementary | K-6 | 750 | 792 | 765 |
| Lanikai Public Charter School | K-6 | 706 | 1305 | 581 |
| Kailua Intermediate | 7-8 | 706 | 1305 | 581 |
| Kalaeo High School | 9-12 | 922 | 1138 | 761 |

PRIVATE

Kailua Christian Academy | K-12 | | |
| Le Jardin Academy | PK-12 | 788 | 1000 |
| Redemption Academy | PK-12 | | |
| Trinity Christian School | PK-6 | | |

TOTAL | 6,327 | 8,614 | 7,052 |

HEALTH CARE FACILITIES

Waimanalo Health Center and Castle Medical Center in Kailua provide health care services for the Waimanalo region.

Future Need

Existing facilities are adequate to serve the needs of Waimanalo’s stable population. However, an increased need for elder care services is anticipated to accommodate the region’s aging population.

POLICE FACILITIES

Windward Oahu, including Waimanalo is within the Honolulu Police Department’s District 4.

Future Need

Existing facilities are adequate to serve the needs of Waimanalo’s stable population.

FIRE/EMS FACILITIES

Honolulu Fire Department operates 3 fire stations in the region. They are the Waimanalo Fire Station (Engine Company), the Olomana Fire Station (Engine Company), and the Kailua Fire Station (Engine and Ladder Company).

Future Need

Existing facilities are adequate to serve the needs of Waimanalo’s stable population.

LIFEGUARD STATIONS

The City and County of Honolulu operates 3 lifeguard stations in Waimanalo. They are Makapuu Station 5, Waimanalo Bay Stations 6A & 6B, and Bellows Beach Station 7.

Future Need

Existing facilities are adequate to serve the needs of Waimanalo’s stable population.

OTHER COMMUNITY SERVICES

Sandwich Isles Communications (SIC)

Exclusive telecommunications provider for DHHL parcels that utilizes the latest technology fiber optic cables and linkups. As part of its agreement with DHHL to provide telecommunications infrastructure and networking, all upfront infrastructure is provided at no cost to DHHL. SIC’s affordable access to both telephone and broadband services provides residents of DHHL lands with high speed internet access to telemenced services, distance learning courses and e-commerce opportunities, among others.

Kamehameha Schools’ Extension Education Program provides career education and lifelong learning opportunities for Hawaiian youth and adults.

Recreation & Other Resources

- Olo Manu Golf Course, Waimanalo Beach Park, Kaiona Beach Park, Kaupu Beach Park, Makapuu Beach Park, Waimanalo Regional Park, Waimanalo Bay State Recreational Area, Bellows Air Force Base, Ka Iwi Scenic Shoreline, horse-riding and rodeo facilities, churches and multiple historical / cultural sites.
Development Projects

- Kalanianaʻole Hwy Improvements
- Kalanianaʻole Hwy Bridge Replacement
- Waimānalo Wastewater Treatment Plant
- Kalanianaʻole Hwy Retaining Wall
- Waimānalo Bay
- CTTEC
- Bells Air Force Station
- Bikiway Improvement
- State Highway Bridge Replacement
- State Highway Improvement
- Retaining Wall
- Future Extensions
- Future Emergency Access Road
- Kumuhau Single Family Residential
- Kakaʻina Single Family Residential
- Community Facilities Complex
- Wong Farm Property
- Wastewater Treatment Plant
- Proposed
- In Progress/Planned
- DHHL Property Boundary
- State Highway Improvement

Feet:
- 1,750
- 3,500
- 7,000

- Kalanianaʻole Hwy
- Kakaʻina Street
- Kumuhau Street
- Waimānalo
- Waikupanaha Street
- Ilauhole Street
- Wong Farm Acquisition
- Sea Life Park
- Kalanianaʻole Hwy
- Retaining Wall
1 Wong Farm Acquisition
- Cost: N/A
- Description: Negotiate transfer of lands, relocate lessee to another property for purpose of constructing new homes
- Status: DLNR has agreed to transfer lands to DHHL for Wong relocation. Need to develop formal agreement, relocation plan and subdivision of relocation site. Survey work underway.
- Est Comp: 2009

2 Kalanianaʻole Highway Bikeway, Waimānalo Beach Park to Makapuʻu
- Cost: $2.5 million
- Description: Provide a shared roadway with paved, continuous shoulder for bicycle use
- Status: Design work underway. $1,000,000 for construction was requested in the FY 2008-2011 TIP
- Est Comp: N/A

3 Kalanianaʻole Highway, Bridge Replacement, Inoaʻole Stream Bridge
- Cost: $8 million
- Description: Replace existing bridge with a larger bridge. Project to include improvements to roadway approaches, detour road, and utility relocations
- Status: Development money was requested in the FY 2008-2011 TIP for rights-of-way purchases and construction. An environmental impacts and design alternatives are being assessed.
- Est Comp: Construction pending design

4 Kalanianaʻole Highway Improvements, Olomana Golf Course to Waimānalo Beach Park
- Cost: $40 million
- Description: Construction of turning lanes, sidewalks, wheelchair ramps, bike paths or bike lanes, traffic signal upgrades, utility relocation, and drainage improvements. Planned to be developed in four phases.
- Est Comp: Phase 4 construction to begin in 2015

5 Kalanianaʻole Highway Retaining Wall at Makapuʻu
- Cost: $12,600,000
- Description: Construction and/or repair of a retaining wall
- Status: Design is completed. Funding received. Construction bid expected August 2008
- Est Comp:

6 Waikupanaha Improvements/Ilaulehole Street Extension
- Cost: $100,000 for planning and design
- Description: Improvements to extend Ilaulehole Street to the inner quarry area to access CTTEC and the recreational area. Improve Waikupanaha for development of a future light industrial area. Design should allow for emergency connection with Ilaulehole Street with the possibility of a future connector.
- Status: WHHA requested $60,000 in state funding for planning and design of road extension. Funding not received but DHHL is resubmitting the request in the FY 2009 CIP budget.
- Est Comp: 2010

7 Kumuhau Street Residential Development
- Cost: $6.43 million for engineering and site construction
- Description: Development of 52 new single family homes
- Status: 50 leases awarded July 2006. Groundbreaking held June 2008
- Est Comp of site construction: July 2009

8 Kakaʻina Street Residential Development
- Cost: $9.55 million for engineering and site construction
- Description: Development of 50 new single family homes
- Est Comp of site construction: April 2010

9 Community Technology, Telehealth and Employment Center (CTTEC)
- Cost: $2.5 million
- Description: Phase 4 of the Waimānalo Hawaiian Homes Association Community Facilities Complex to provide a new services and employment-generating center for technology-related activities
- Status: Siting agreement is being developed. Planning and design funding are being requested
- Est Comp: 2010
**Priority Project: Wong Farm Acquisition & Relocation**

**Partners** - DHHL, DLNR, Wong Farms, and UH

**Location** - Wong Farms, behind quarry location

**Cost** - N/A

**Status** - DLNR has agreed to transfer land to UH and DHHL, contingent upon completion of a relocation plan. A topographic survey is underway to determine the boundaries for the Wong Farm and provide a tool to discuss future road access to the farm.

**Description** - DHHL has selected the Wong Farm parcel as part of the settlement under Act 14. On February 23, 2007, the Board of Land and Natural Resources approved the issuance of a direct lease to the University of Hawaii, College of Tropical Agriculture and Human Resources (CTAHR), and a fee simple conveyance of state lands to the Department of Hawaiian Home Lands (DHHL) on approximately 335 acres of state lands at Waimānalo, known as the former Meadow Gold Dairies site, further identified by Tax Map Key Nos. (1) 4-1-08-5 & 80 & (1) 4-1-26-4. The UH-CTAHR will get approximately 283 acres and DHHL will get 52 acres, more or less. The exact area will be worked out between UH and DHHL. The purpose of the subdivision is to allow DHHL to relocate the Wong Farm to the newly subdivided parcel so that DHHL can develop homestead on its existing farm lot under Tax Map Key No. (1) 4-1-879. The subdivision process involves approval by the City and County of Honolulu and is targeted for December 2009. Once subdivision approval is granted for the new Wong Farm, operations will be relocated and DHHL will begin work on a proposed 200 unit residential subdivision.

**Estimated Completion Date** - 2009

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**Wong Farms**

**Future DHHL Residential**

**Open Space**

**Potential Wong Farm Relocation**

**Potential Access Road**

**Potential of TMK: 41-08-080**

**52 Acres**

**Existing Access Road**

**Potential Residential**

**Potential Wong Farm Relocation**

**Potential of TMK: 41-08-080**

**52 Acres**

**Existing Wong Farm (Future Acquisition Area)**

**Potential Access Road (TBD)**

**DHHL Property Boundary**

**Estimated Completion Date** - 2009

**Relocation plan & BLNR approval**

**Survey, subdivision for new Wong Farm**

**Subdivision approval granted**

**Wong Farms**

**Plot of Wong Farms**

**Potential Wong Farm Relocation**
**Priority Projects: Kumuhau/Kaka‘ina Street Residential Development**

**Kumuhau**
- **Partners**: DHHL
- **Location**: Southeast of Bellows Air Force Station
- **Cost**: $6.43 million for engineering and site construction
- **Status**: 50 undivided interest leases awarded. Design and planning work on the Kumuhau parcel has begun. Groundbreaking held June 2008.
- **Description**: In July 2006, DHHL awarded 50 undivided interest leases for the Kumuhau parcel. Development of 52 single family homes. Planning and design work on the Kumuhau parcel is expected to be completed by November 2007. Funding for site construction ($7 million) will be included in DHHL’s FY 2007-2008 CIP budget. Site improvements expected to be completed by June 2009 with home construction to follow.
- **Estimated Completion Date**: The Kumuhau parcel will be ready for house construction around July 2009.

**Kaka‘ina**
- **Partners**: DHHL
- **Location**: Southeast of Bellows Air Force Station
- **Cost**: $9.55 million for engineering and site construction
- **Status**: 50 undivided interest leases awarded.
- **Description**: In July 2006, DHHL awarded 50 undivided interest leases for the Kaka‘ina parcel. There will be approximately 50 single family lots. Conveyance for the Kaka‘ina parcel was completed in February 2007. Construction plans are underway. Construction is expected to begin in April 2009 with completion targeted for April 2010.
- **Estimated Completion Date**: Site construction for the Kaka‘ina parcel is scheduled for completion in April 2010.
**Priority Projects: Waikupanaha St. Improvement / Ilauhole St. Extension**

**Partners** - DHHL, WHHA, County

**Location** - Waikupanaha Street / Ilauhole Street, Waimānalo

**Cost** - $100,000 for planning and design

**Status** - WWHA requested $60,000 but was denied. DHHL is resubmitting a request for funding of $100,000 for planning and design in FY 09 CIP budget.

**Description** - In 2006, the Waimānalo Homestead Village Center concept was created to provide a central, sustainable area and sense of place for the Waimānalo homestead community. The concept envisions turning the existing quarry into commercial uses for economic opportunities, developing new recreational areas and social services and linking these with the existing residential areas currently located off Ilauhole Street. The two road projects are viewed as separate but complementary projects. The Ilauhole Street extension would service the inner Quarry Area (CTTEC and recreational facilities).

The road extension is envisioned to be of two lanes with an approximate width of 55 feet. The Waikupanaha improvements are intended to provide service to the light industrial area at the back of the Quarry and the bluff above the Quarry. The old road connecting to Ilauhole would be maintained for emergency purposes.

Existing access is currently provided by either Waikupanaha or Ilauhole from Kamehameha Highway. The new road will allow trucks, service vehicles and worker traffic to access the industrial area without going through residential areas.

**Estimated Completion Date** - Target date for completion of construction for the Ilauhole Street extension is 2010. The Waikupanaha improvement needs to go through design and engineering.
Priority Project: Community Technology, Telehealth and Employment Center (CTTEC)

**Potential Partners** - DHHL, WHHA

**Location** - Waimānalo Hawaiian Homes Association Community Facilities Complex

**Cost** - Estimated at $2.5 million dependent upon excavation and grading requirements, and final design. Planning, design, and permitting is estimated at $100,000 for a new road and $298,000 for CTTEC.

**Status** - DHHL and WHHA are working out an agreement for locating the new CTTEC facilities in the old quarry. WHHA is also seeking preliminary planning and design funding the building and a road to access the area.

**Description** - Phase 4 of the Waimānalo Hawaiian Homes Association Community Facilities Complex focuses on creating an “Economic and Technology Zone” that will be the services and employment-generating center for technology-related activities. The new Community Technology, Telehealth and Employment Center (CTTEC) facilities will provide internet access, distance learning, and technology training to residents. It will also provide access to telehealth services and high technology and information industry business incubation services in partnership with local schools, community colleges, Native Hawaiian Health Systems and community health centers and other non-profit organizations and private businesses. The CTTEC will be a gateway for community learning, health information and related services, employment training, and e-commerce business development.

The Economic and Technology Zone concept includes locating a multi-tenant retail business center with state-of-the-art office space nearby on Kalaniana‘ole Highway to provide a retail outlet for businesses’ products and services developed at the CTTEC. The retail center will provide additional employment and entrepreneurial opportunities for homestead residents. The center will be designed to include a multi-media studio, a made-in-Waimānalo products shop, a café, and 4 or more market rate, high tech enabled office/retail spaces with shared office equipment.

In addition, Ilauhole Street will be extended beyond the Community Facilities Complex to connect with Waikupanaha Road in order to provide greater accessibility to the Economic and Technology Zone from both the North and South ends of Waimānalo.

**Expected Completion Date** - 2010
|-------------------------------------|---------------|---------------|---------------------------------------------------------------------------------|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Kumuhau                            | Residential   | DHHL          | 50 Leases awarded 4Q 2006  
Site plans completed 1Q 2007  
Site construction began 3Q 2007 | Site construction begins |         |         |         |         |         |         |         |         |         |         |         |         |
| Kaka‘ina                           | Residential   | DHHL          | 50 Leases awarded 4Q 2006  
Site plans completed 1Q 2007  
Site construction begins 3Q 2007 | Site construction completed |         |         |         |         |         |         |         |         |         |         |         |         |
| Community Technology Telehealth & Employment Center | Community Service | WHHA          | Submission for funding 2Q 2007  
Funding secured; conceptual drawings  
Schematic & construction documents submitted | Permit applications |         |         |         |         |         |         |         |         |         |         |         |         |
| Wong Farm Acquisition              | Residential   | DHHL          | Relocation plan approved by BLNR 2Q 2007  
Subdivision planning begins 3Q 2007 | Survey property |         |         |         |         |         |         |         |         |         |         |         |         |
| Waikupanaha Improvements/Ilaubole Street Extension | Highway improvements | DHHL/WHIA    | Funding requested |                 |         |         |         |         |         |         |         |         |         |         |         |         |
| Kalaniana‘ole Highway Bikeway       | Highway improvements | DOT          | Design process started 4Q 2006 |                 |         |         |         |         |         |         |         |         |         |         |         |
| Kalaniana‘ole Highway Bridge Replacement | Highway improvements | DOT          | Design process started 4Q 2006 | Design in progress |         |         |         |         |         |         |         |         |         |         |         |
| Kalaniana‘ole Highway Improvements  | Highway improvements | DOT          | Design process started 4Q 2006 | Bid process for construction 3Q 2007 | Right-of-way |         |         |         |         |         |         |         |         |         |         |
| Kalaniana‘ole Highway Retaining Wall | Highway improvements | DOT          | Design process started 4Q 2006 | Bid process for construction |                 |         |         |         |         |         |         |         |         |         |         |