EXECUTIVE CHAMBERS

HONOLULU

LINDA LINGLE
GOVERNOR

December 11, 2008

TO: Karen Seddon, Executive Director
Hawaii Housing Finance and Development Corporation

SUBJECT: Acceptance of the Final Environmental Impact Statement of the Keahuolu Affordable Housing Project

With this memorandum, I accept the Final Environmental Statement for the Keahuolu Affordable Housing Project as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statues. The economic, social and environmental impacts, which will likely occur should this project be built, are adequately described in the statement. The analysis, together with the comments made by reviewers, provides useful information to policymakers and the public.

My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws.

I find that the mitigation measures proposed in the environmental impact statement will minimize the negative impacts of the project. Therefore, I direct the Hawaii Housing Finance and Development Corporation and/or its agents to perform these, or alternative and at least equally effective, mitigation measures at the discretion of the permitting agencies. The mitigation measures identified in the environmental impact statement are listed in the attached document.

LINDA LINGLE

Attachment

c: Katherine Puana Kealoha, Office of Environmental Quality Control

ATTACHMENT TO ACCEPTANCE MEMORANDUM
FROM GOVERNOR LINDA LINGLE
TO KAREN SEDDON, EXECUTIVE DIRECTOR, HHFDC
MITIGATION MEASURES
FINAL ENVIRONMENTAL IMPACT STATEMENT
KEAHUOLU AFFORDABLE HOUSING PROJECT

The Keahuolu Affordable Housing Project is planned as a response to the regional needs for housing and the desire to reduce congestion on regional highways due to residents traveling long distances between home and work.

The following list of mitigative measures identified in the Final Environmental Impact Statement will minimize the negative impacts of the project. If the project is implemented, the Hawaii Housing Finance and Development Corporation (HHFDC) and/or its agents should perform these or alternative and at least equally effective mitigation measures at the discretion of the permitting agencies.

GEOLOGY AND TOPOGRAPHY

A grading permit, a National Pollution Discharge Elimination System (NPDES) permit, and other necessary permits would be required prior to construction. An Underground Injection Control (UIC) permit would be required for any dry wells constructed. The contractor would be required to comply with erosion and sedimentation rules and regulations. Runoff flow rates and volume would not be increase from the site to comply with the County of Hawaii's Storm Drainage Standard. Storm drainage filtration devices would be installed to mitigate pollutants from entering the groundwater.

GROUNDWATER, HYDROLOGY, SURFACE WATER, AND DRAINAGE

The project would be required to comply with the NPDES permit requirements, County Erosion and Sedimentation Control and County Strom Drainage Standards. Storm drain filtration devices and other measures would be employed to reduce potential impacts to groundwater. Runoff volumes and rates would not increase.

NATURAL HAZARDS - EARTHQUAKES

Construction of the improvements would be required to comply with the Uniform Building Code's (UBC) standards for Zone 4.

ARCHAEOLOGICAL AND HISTORIC RESOURCES

Archaeological sites and cultural resources determined to be significant under State criteria would be preserved. Data recovery plans, site preservation plans and burial treatment plans would be prepared as required.

A monitoring plan would be prepared and submitted to the Department of Land and Natural Resources (DLNR) State Historic Preservation Division (SHPD) prior to groundbreaking on the proposed reservoir site on Department of Hawaiian Home Lands.

ROADWAYS AND TRAFFIC

To address the impacts upon the regional traffic system, the following series of mitigation measures would be followed.

- Intersection 3: Kamakaeha Avenue & Palani Road (SR 190) – Install a traffic signal with the existing lane configuration.
- Intersection 4: Henry Street & Palani Road (SR 190) – Widen the makai-bound approach to provide two left-turn lanes, one through lane, and one shared through/right-turn lane; widen the northbound approach to provide one left-turn lane, one through lane, and one shared through/right-turn lane; and construct the southbound approach with one left-turn lane, one through lane, and one shared through/right-turn lane.
- Intersection 5: Palani Road (SR 190) & Minor Site Access Road – Add a makai-bound deceleration lane into the project site and a makai-bound acceleration lane out from the project, separated by a raised island to channelize traffic. A second makai-bound lane would be added to receive traffic exiting the project site.
- Intersection 7: Ane Keohokalole Highway & Major Site Access Road – Install a traffic signal.
- Intersection 8: Kealaka'a Street/Pahiliholo Street & Palani Road (SR 190) – Widen Palani Road to provide one left-turn lane, one through lane, and one shared through/right-turn lane on the southbound approach and two left-turn lanes and one shared through/right-turn lane on the northbound approach. Widen the southbound departure to two lanes, which would merge into a single land downstream of the intersection.
- Intersection 10: Uluaoa Street & Palani Road (SR 190) – Install a traffic signal within the existing lane configuration.
- Intersection 12: Kealakehe Parkway & Ane Keohokalole Highway – Install a traffic signal within the existing lane configuration.

NOISE

Measures to minimize noise impacts may include limiting work to daytime hours, reducing truck/equipment idling when not in use, using manually adjustable or self-adjusting backup alarms, and fitting generators and equipment with manufacturer-approved exhaust mufflers. Noise from construction activity will be short-term and will be required to comply with Department of Health (DOH) noise regulations.

To buffer the project from the Ane Keohokalole Highway, the conceptual plans for the project provide for commercial uses along the highway and a wide landscaped greenway between the highway and the project site.

Residential and commercial uses within the Keahuolu project site would be required to conform to DOH rules and regulations for noise, which state maximum allowable noise limits at property lines.

AIR QUALITY

A dust control program would be developed and followed to control dust from construction activities. Fugitive dust emissions can be controlled to a large extent by watering active work areas, using wind screens, keeping adjacent paved roads clean, and covering open-bodied trucks. Other measures include limiting the area to be disturbed at any given time, mulching or chemically stabilizing inactive areas, or paving and landscaping areas early in the construction schedule.

INFRASTRUCTURE AND UTILITIES

Off-Site Roadway System. Landowners with frontage to Ane Keohokalole Highway would be expected to share in the cost of constructing the highway. The project would be responsible for satisfying its allocated share of the cost of the improvements including one lane in each direction plus a middle turn lane with drainage but excluding other utilities. A right-in/right-out intersection is proposed along Palani Road. To minimize impacts on traffic along Palani Road, the intersection would include deceleration and acceleration lanes and a raised median to prevent vehicles from attempting to make left turn movements.

Drainage System. The contractor would be required to comply with Chapter 10 – Erosion and Sedimentation Control – of the County Code, the Department of Public Works Storm Drainage Standard, and the NPDES permit requirements, including the Best Management Practices (BMP) plan to contain and control site erosion and to prevent the discharge of sediment from the site. After completion of the project construction, ground surfaces would be stabilized with landscape and hardscape.

The developer would comply with the County's Storm Drainage Standard, runoff flow rates and volume would not be increased from the site. The runoff would be collected and discharged to on-site seepage areas, seepage wells, and drywells for percolation into the ground. Recommended drainage systems would also include storm drain filtration devices to mitigate potential pollutants. Filtration devices may include vegetated swales, bioretention areas, sand, or organic filtering systems or commercially available proprietary products such as catch basin inserts and hydrodynamic devices. The method of filtration would be determined based on available technology and integrated with the system design.

The developer would provide educational materials and programs to residents regarding how they can control and prevent non-point source pollution, including but not limited to, vehicular maintenance and proper disposal of vehicle fluids, the impacts of washing cars on the street, potential impacts of fertilizer and pesticides on the environment, and alternatives to fertilizers

and pesticides. The developer would also establish community association covenants to include landscape management and vehicle maintenance controls. Landscape management controls would include the use of fertilizers, pesticides and herbicides, a listing of approved fertilizers, pesticides and herbicides, and a listing of preferred landscape plant species including native plant species and those thought to have a low risk of becoming invasive. Vehicle maintenance controls would include vehicle washing and maintenance. The developer would also provide the County Department of Parks and the State Department of Education information on the landscape management controls and vehicle maintenance controls to be used within the Keahuolu site.

Water System. The developer would be required to comply with the NPDES permit requirements, including the BMP plan, and Chapter 10 – Erosion and Sedimentation Control – of the County Code during construction, and prevent the discharge of sediment from the site. The project would be designed to comply with the County's Storm Drainage Standard such that runoff volumes and rates would not increase as a result of site development.

The NPDES permit requirements, including the BMP plan, would require the contactor to manage materials to prevent discharge of pollutants to the ground. During and after development, landscape management practices and community association covenants would be applied in public and private areas to minimize the use of fertilizers, pesticides and herbicides that could potentially enter the groundwater.

Water supply infrastructure, including source wells, storage reservoirs, and distribution lines, would be constructed as required and approved by the County Department of Water Supply. Short-term localized water system shut-downs and road closures may be required as the new water infrastructure is connected to the existing water system.

The developer would implement water conservation measures including installing low flow toilets and showerheads waterless urinals in public restrooms, plant drought tolerant native landscaping and providing residents with information on the importance of water conservation.

To reduce the amount of pollutants from entering the groundwater, the developer would provide educational materials and programs to residents, establish community association covenants and implement BMPs. Educational materials and programs, and community association covenants would include, but not be limited to, landscape management and vehicular maintenance controls. BMPs would include vegetative swales, bioretention areas, storm drain filtration devices, ground stabilization with landscape and hardscape, educational warning signs on the drainage systems, and coordinating environmental educational programs for project area residents with the DOH Clean Water Branch.

Wastewater System. Construction activities would be required to conform to the applicable environmental requirements for storm water protection and mitigation of potential noise and dust

impacts. County fees associated with permission to connect would be applied by the County to upgrade the existing treatment and disposal facilities on an as-needed basis.

Solid Waste. Emphasis for the management of solid wastes generated by the Keahuolu project would be placed on waste diversion and recycling. Solid wastes would be managed in conformance with the applicable DOH and County requirements. The developer would provide educational materials and information on recycling programs to residents to minimize and divert wastes.

Electrical Service. An additional Hawaii Electric Light Company (HELCo) substation would be required to accommodate anticipated loads from the Keahuolu project coupled with the partial buildout of the Villages of La'i'opua and the Queen Liliuokalani Trust's ongoing Makalapua development. The preferred location for the new substation is in the Keahuolu project in the vicinity of the County reservoir near the Palani Road/Ane Keohokalole Highway intersection.

PUBLIC FACILITIES

Civil Defense. The developer would be required to install one outdoor warning siren at a central location within the development.

Education. An elementary school would be located on-site to relieve crowding at Kealakehe Elementary.

Recreation. The project would include approximately 25 acres of park and open space for use by residents, in accordance with County Parks Department requirements.

September 2008

Final Environmental Impact Statement

KEAHUOLU

AFFORDABLE HOUSING PROJECT

Kailua-Kona, North Kona, Island of Hawaii

Volume 1 of 2

PREPARED BY

BelfCollins®

PREPARED FOR

Hawaii Housing Finance & Development Corporation
STATE OF HAWAII
1959
UA MAU KE EA O KA AINA I KA PONO

September 2008

VOLUME 1 OF 2

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AFFORDABLE HOUSING PROJECT

Kailua-Kona, North Kona, Island of Hawaii

THIS ENVIRONMENTAL IMPACT STATEMENT HAS BEEN PREPARED BY BELT COLLINS HAWAII LTD. ACTING AS A CONSULTANT TO THE HAWAII HOUSING FINANCE & DEVELOPMENT CORPORATION

Karen Seddon

KAREN SEDDON
EXECUTIVE DIRECTOR
HAWAII HOUSING FINANCE & DEVELOPMENT CORPORATION

09/18/08
DATE

LEE SICHTER
PRINICPAL PLANNER
BELT COLLINS HAWAII LTD.

Sept. 18, 2008
DATE

PREPARED BY

BeltCollins

PREPARED FOR

HAWAII HOUSING FINANCE & DEVELOPMENT CORPORATION
STATE OF HAWAII
1959

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Appendix B *Botanical Survey of the Proposed Keahuolu Affordable Housing Project*, November 2007;

Botanical Survey of the Keahuolu Affordable Housing Project Proposed Reservoir Site, January 2008, prepared by Art Whistler, Ph.D.

Appendix C Avifaunal and Feral Mammal Survey of the Proposed Keahuolu Affordable Housing Project and Reservoir Site, North Kona, Island of Hawaii, prepared by Phillip Bruner, May 30, 2008.

Survey of the Avifauna and Feral Mammals at Queen Liliuokalani Trust Property, Kailua, Kona, Hawaii, prepared by Phillip Bruner, July 7, 1989.

Appendix D *Archaeological Survey and Cultural Impact Assessment in Support of an EIS for the Kona Non-Ceded Lands, Land of Keahuolu, North Kona District, Island of Hawai'i, TMK:3-7-21:020,Por.014,Por.021*, prepared by Paul H. Rosendahl, Ph.D., Inc. (PHRI), December 2007.

Appendix E *An Archaeological Inventory Survey for the Proposed Development of a Water Reservoir and Service Road (TMK:3-7-4-21:por. 014, 020, and 021)*, prepared by Rechtman Consulting LLC, January 2008.

Chapter 6E-42 Historic Preservation Review – Archaeological Inventory Survey for Water Reservoir and Service Road Keahuolu and Kealakehe Ahupua'a, North Kona District, Island of Hawai'i TMK: (3) 7-4-021: por. 014, 020, 021. Letter from State of Hawaii, Department of Land and Natural Resources dated May 5, 2008.

Appendix F *Traffic Study for the Keahuolu Affordable Housing Master Plan, North Kona, Island of Hawaii, Hawaii*, prepared by Fehr & Peers/Kaku Associates, January 2008.

Planning Level Cost Estiamates and Fair-Share Cost Contriution Calculation for Off-Site Mitigation Measures for the Keahuolu Affordable Housing Master Plan Project, Technical Memorandum prepared by Fehr & Peers Transportation Consultants, August 2008.

Appendix G *Civil Infrastructure Keahuolu Affordable Housing Project Kailua-Kona, Hawaii TMK: (3) 7-4-021: 20*, prepared by Belt Collins Hawaii Ltd., December 2007.

ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
ADA	Americans with Disabilities Act
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
BLNR	Board of Land and Natural Resources (State of Hawai‘i)
BMP	Best Management Practices
BOE	Board of Education
c.	circa
CDP	Community Development Plan
CFR	Code of Federal Regulations
CIA	Cultural Impact Assessment
County	County of Hawai‘i
CPI	Consumer price index
CPR	Condominium property regimes
CT	Census Tract
~~CTTP~~CTPP	County Transportation Planning Process
CWRM	Commission on Water Resource Management (State)
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Area
DBEDT	Department of Business, Economic Development and Tourism (State of Hawai‘i)
dBA	A-weighted sound level in decibels
DHHL	Department of Hawaiian Home Lands (State of Hawai‘i)
DHS	Department of Homeland Security
DOA	Department of Agriculture (State of Hawai‘i)
DOE	Department of Education (State of Hawai‘i)
DOH	Department of Health (State of Hawai‘i)
DLNR	Department of Land and Natural Resources (State of Hawai‘i)
DPW	Department of Public Works (County of Hawai‘i)
du	Dwelling units
DWS	Department of Water Supply (County of Hawai‘i)
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
gpd	gallons per day
GPS	global positioning system
HAR	Hawai‘i Administrative Rules
HELCo	Hawaii Electric Light Company
HHFDC	Hawaii Housing Finance & Development Corporation
Hiluhilu	Hiluhilu Development LLC
HRS	Hawai‘i Revised Statutes
HTA	Hawai‘i Tourism Authority
HTCo	Hawaiian Telcom
HUD	Housing and Urban Development (U.S. Department of)

ICBO	International Conference of Building Officials
ITE	Institute of Transportation Engineers
LEED	Leadership in Energy and Environmental Design
LOS	Level of Service
LSB	Land Study Bureau (University of Hawai‘i)
LUC	Land Use Commission
LUPAG	Land Use Pattern Allocation Guide
Makai	towards the ocean
Mauka	towards the mountains
MG	million gallons
mgd	million gallons per day
msl	mean sea level
MUTCD	*Manual on Uniform Traffic Control Devices*
MW	megawatt
n.d.	no date
NCREIF	National Council of Real Estate Investment Fiduciaries
NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service (U.S. Department of Agriculture)
Oceanic	Oceanic Time Warner
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
P&R	Parks and Recreation (County of Hawai‘i)
PASH	Ppublic Aaccess Sshoreline Hawai‘i
PHRI	Paul H. Rosendahl, Ph.D., Inc.
psi	Pounds per square inch
Planning Act	Hawai‘i State Planning Act 1978
QLT	Queen Lili‘uokalani Trust
RFP	Request for Proposal
rKED	Kaimu extremely stony peatsoil
rLV	soil from A‘a‘a Lava Flows
rLW	soil from Pahoehoe Lava Flows
rPYD	Punaluu extremely rocky peat soil
ROW	Rights-of-Way
SF	Square foot
SHPD	State Historic Preservation Division
SIHP	State Inventory of Historic Places
SMA	Special Management Area
State	State of Hawai‘i
STP	Sewage Treatment Plant
TCP	traditional cultural property
TIAR	Traffic Impact Analysis Report
TMK	Tax Map Key
TOD	Transit-oriented development
UBC	Uniform Building Code
UH	University of Hawai‘i
UIC	Underground Injection Control

USDA	U.S. Department of Agriculture
USDW	underground sources of drinking water
USGS	U.S. Geological Survey
V/C	volume-to-capacity
vog	volcanic haze
WWTP	Wastewater Treatment Plant

~~1~~CHAPTER ONE: INTRODUCTION AND SUMMARY

1.1 PROJECT PROFILE

Project Name:	Keahuolu Affordable Housing Project
Location:	Keahuolu, North Kona, Hawai‘i
Judicial District:	North Kona
Project Site Tax Map Key:	TMK (3) 7-4-021: 020
Project Site:	272.063 acres owned by Hawai‘i Housing Finance & Development Corporation (HHFDC)
Project Site Existing Use:	Vacant undeveloped land
Project Site Existing Land Use Designations:	*State Land Use:* ..... 271.865 acres in Agricultural *State Land Use:* ..... 0.198 acres in Urban *Hawai‘i County General Plan’s Land Use Pattern Allocation Guide (LUPAG): ...* Urban Expansion and Low Density Urban *Hawai‘i County Zoning:* .....Agricultural (A-5a)
State Land Use District Boundary Amendment Area:	271.865 acres of the 272.063-acre Tax Map Key (TMK) (3) 7-4-021:020 is proposed for a state land use district boundary amendment from State Agricultural to State Urban.
Additional Study Area:	Proposed Off-Site Reservoir A proposed off-site reservoir to service the project would be located adjacent to the project site on land owned by the Department of Hawaiian Home Lands (DHHL). The proposed reservoir site is an approximately 7.3-acre area of TMK (3) 7-4-021: por. 021 *State Land Use:* ..... Urban *LUPAG* ..... Urban Expansion and Low Density Urban *Hawai‘i County Zoning:* ..... Residential (RS-15)
Total Environmental Impact Statement (EIS) Study Area:	Approximately 279 acres

Project Site	State Land Use District Boundary Amendment
Permits/Approvals Required (not an exhaustive list):	County Change of Zone National Pollutant Discharge Elimination System Subdivision Approval Plan Approval Grading and Building Permits
Proposing Agency:	Hawaii Housing Finance & Development Corporation 677 Queen Street, Suite 300 Honolulu, Hawaii 96813 Contact: Mr. Stan S. Fujimoto, Project Manager Telephone: 808-587-0541 Fax: 808-587-0600
Accepting Authority:	Office of the Governor c/o Hawaii Housing Finance & Development Corporation 677 Queen Street, Suite 300 Honolulu, Hawaii 96813 Contact: Ms. Janice Takahashi, Chief Planner Telephone: 808-587-0639 Fax: 808-587-0600
EIS Preparer:	Belt Collins Hawaii Ltd. 2153 North King Street, Suite 200 Honolulu, Hawaii 96819 Contact: ~~Mary O'Leary, AICP~~Lee Sichter Telephone: 808-521-5361 Fax: 808-538-7819

1.2 PROJECT OVERVIEW

The Hawaii Housing Finance & Development Corporation (HHFDC) is the State of Hawai‘i (State) agency tasked with developing and financing low- and moderate-income housing projects and administering homeownership programs. The HHFDC is proposing the development of the Keahuolu Affordable Housing P~~p~~roject (also referred to as “Keahuolu” or “project”) to serve the people employed in West Hawai‘i. The project is intended to be a mixed-use community with affordable and market-priced housing, as well as commercial space and public facilities.

In the first half of 2007, the HHFDC undertook a master plan process and developed three alternative conceptual land use plans for the 272-acre housing project site, which is owned by the HHFDC and located along Palani Road mauka of Kailua-Kona town in the North Kona district. The alternative concept plans, which offer single- and multi-family dwelling units in varying densities, differ primarily in the total number of dwelling units (Table 1-1). The concept plans are described in further detail in Chapter 2 of the EIS.

In addition to housing, the three mixed-use concept plans have the following common elements: 197,000 square feet of commercial/retail space, a civic open space at a town center, a site reserved for a school, neighborhood parks, an archeological preserve area, and landscaped buffers and open space.

Table 1-1: Alternative Concept Plans – Housing Unit Totals and Densities

	Alternative Concept Plans		
	A	**B**	**C**
Number of residential units:			
High density - multi-family	400	800	800
Medium density - multi-family	220	440	1,530
Low density - single-family	400	600	None
Total Residential Dwelling Units (du)	**1,020 du**	**1,840 du**	**2,330 du**
Density (dwelling units per acre):			
High density - multi-family	12	24	24
Medium density - multi-family	8	16	12
Low density - single-family	4	6	None

Source: The Keahuolu Affordable Housing Master Plan – June 2007

1.3 LOCATION

The Keahuolu Affordable Housing ~~p~~Project site is located in the ahupua‘a of Keahuolu in the North Kona district on the island of Hawai‘i (Figure 1-1). The project site is bordered by the Department of Hawaiian Home Lands’ (DHHL) Villages of La‘i ‘Opua to the north, future DHHL housing to the east (mauka), Palani Road to the south, and Queen Lili‘uokalani Trust (QLT) lands to the west (makai) (Figure 1-2). The off-site reservoir property, owned by the DHHL, is adjacent to the eastern tip of the project site. The future Ane Keohokalole Highway

(also referred to as the mid-level road or mid-level highway) will be adjacent to the project site's western boundary.

The vacant and undeveloped project site is comprised of lava flows of various ages that are covered mostly by alien-dominated scrub vegetation that has been disturbed in the past. The subject property and adjacent vacant lands are shown in the aerial photo in Figure 1-3.

1.3.1 Project Subdivision Map and Tax Map Key

The project site received final subdivision approval from the County of Hawai'i (County) on September 7, 2006. The 272.063-acre project site is described as Tax Map Key (TMK) 7-4-021: 020 as illustrated in Figure 1-4. The off-site reservoir will be located on TMK 7-4-021: por. 021.

1.3.2 Access to the Project Site

Future Extension of Ane Keohokalole Highway

Primary access to the Keahuolu Affordable Housing ~~project~~ Project will be off of the County's future Ane Keohokalole Highway (Figure 1-2). The County plans to use Ane Keohokalole Highway as the main bus transit corridor for this area. The highway will connect at Henry Street and extend north to the Kona International Airport. The County envisions that the Ane Keohokalole Highway will not only serve as a main bus transit corridor, but will ultimately connect Kailua-Kona to the airport without having to drive on Queen Ka'ahumanu Highway.

At the time of this writing, Ane Keohokalole Highway is planned to be a minor arterial with a 120-foot-wide right-of-way and a posted speed limit of 35 miles per hour. Two lanes are proposed in each direction.

BeltCollins

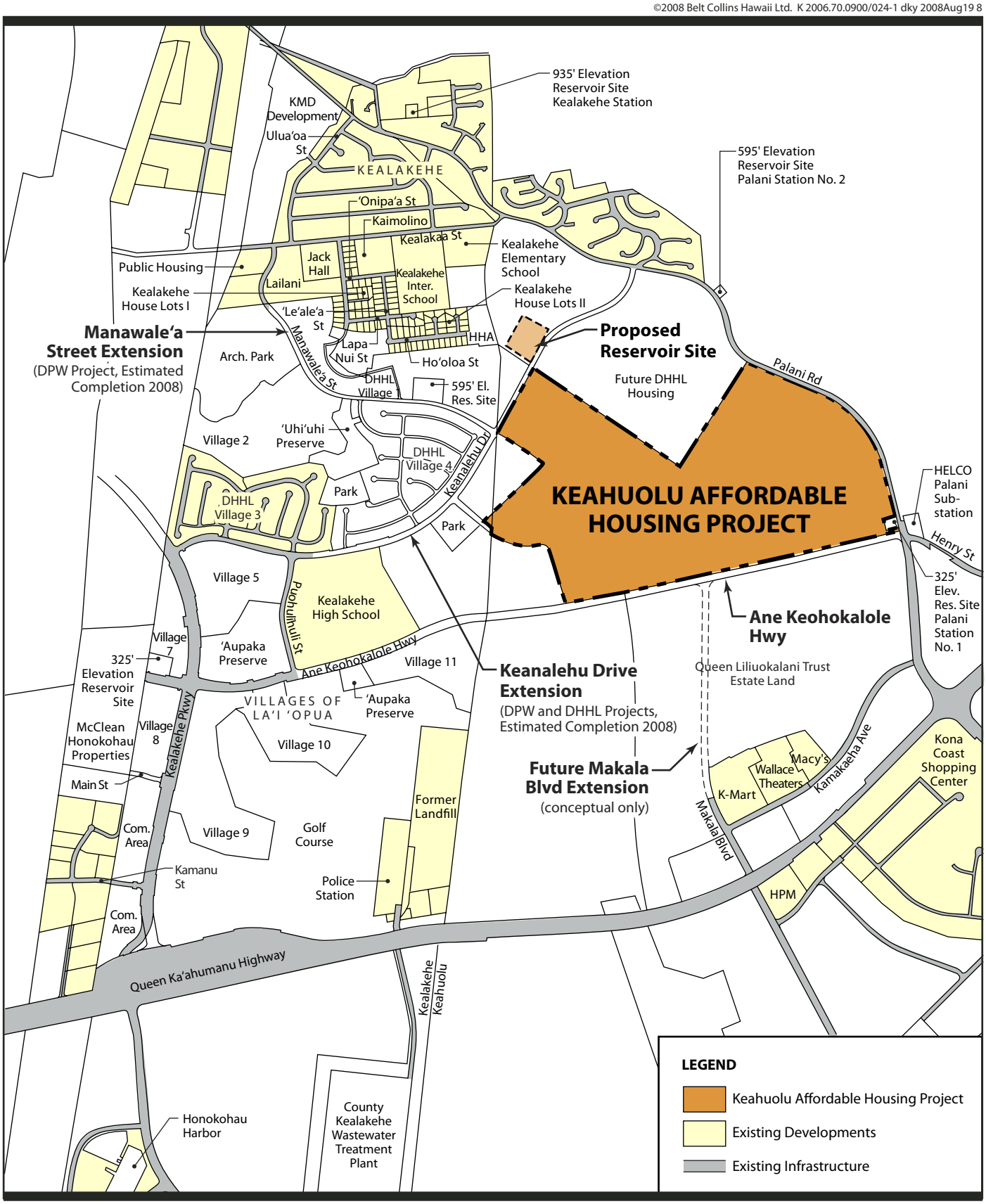
NORTH

0 3 6 12

SCALE IN MILES

Figure 1-1
LOCATION MAP

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008



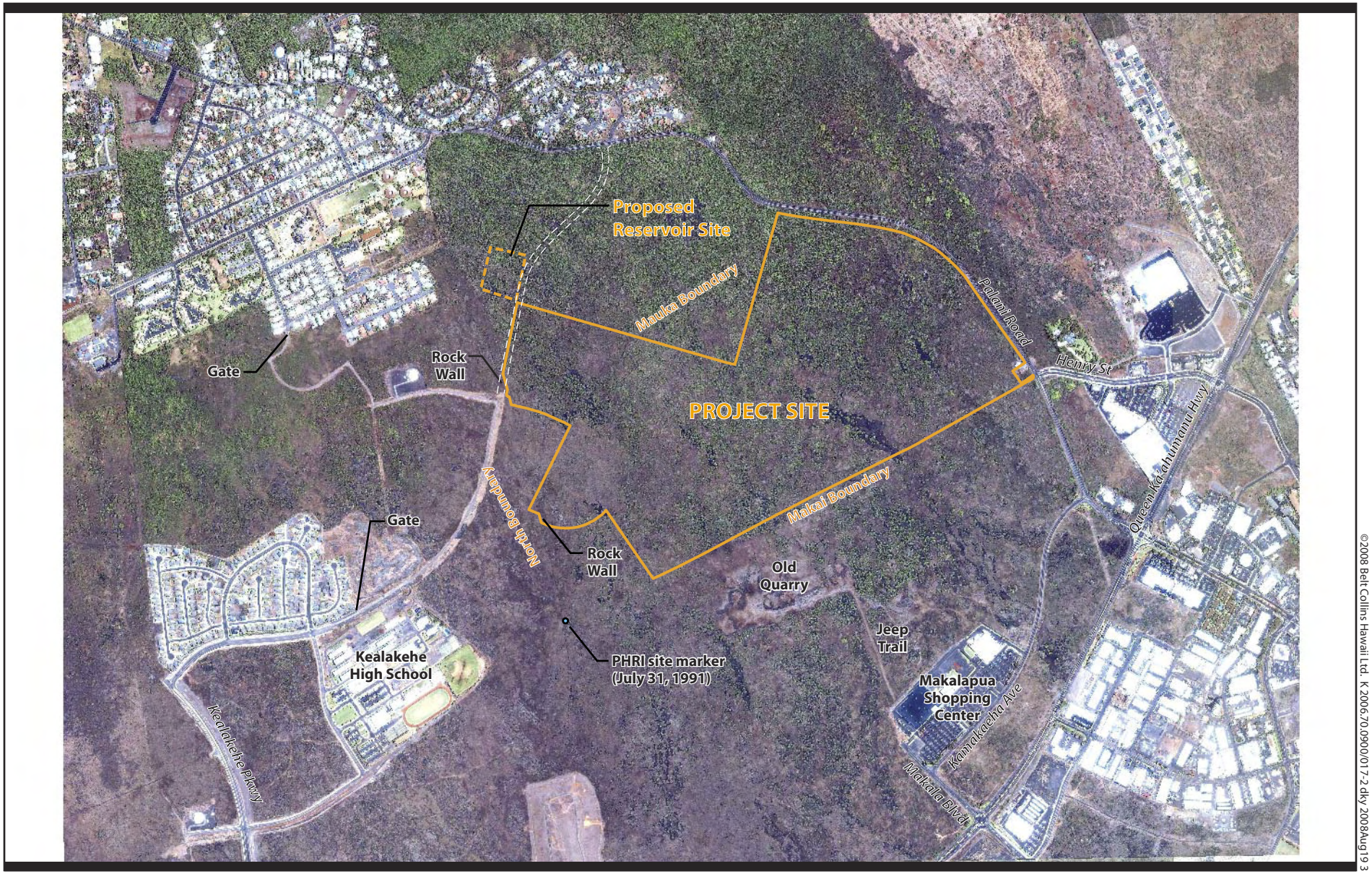
NORTH

0 600 1200 1800

SCALE IN FEET

Figure 1-2
KAILUA-KONA AREA MAP

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008



NORTH

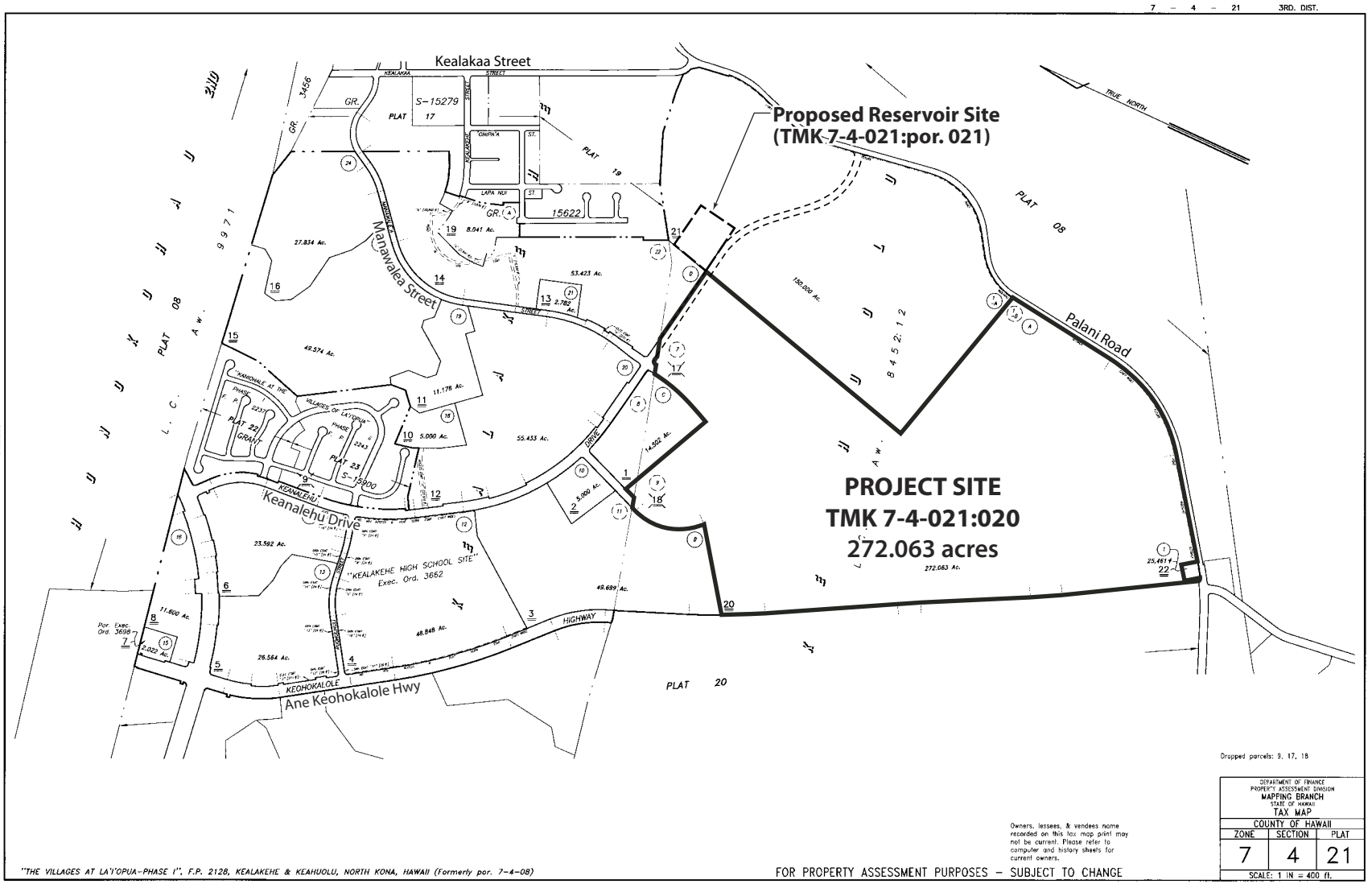
0 500 1000 1500
SCALE IN FEET

LEGEND

Property Line

Figure 1-3
PROJECT SITE AERIAL PHOTO

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008



BeltCollins

NORTH

0 750 1500

SCALE IN FEET

Figure 1-4
PROJECT SITE TAX MAP KEY

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008

Extension of Keanalehu Drive from Kealakehe High School to Kealaka‘a Street

The project site will have access onto the north extension of Keanalehu Drive, which is adjacent to a portion of the project site’s northeastern boundary. Access to the off-site reservoir will be via a service road to be located within the alignment of the south extension of Keanalehu Drive. The County has started construction of the extension of Keanalehu Drive and Manawale‘a Street from Kealakehe High School to Kealaka‘a Street within the Villages of La‘i ‘Opua. The estimated completion of this roadway is 2008. A short section of the extension of Keanalehu Drive mauka of Kealakehe High School to the entrance of DHHL’s Village 4 will be constructed by DHHL.

Future Extension of Makala Boulevard

Access to the project site would also be available via a future extension of Makala Boulevard. The conceptual plans for the Keahuolu Affordable Housing Pproject have a central boulevard mauka of Ane Keohokalole Highway that could link with the future extension of Makala Boulevard makai of Ane Keohokalole Highway. This would link the Keahuolu Affordable Housing project site to Queen Ka‘ahumanu Highway via Makala Boulevard.

1.4 PROJECT BACKGROUND

1.4.1 2007 Keahuolu Master Plan

The HHFDC initiated master planning of the Keahuolu Affordable Housing Pproject in early 2007 when it developed alternative land use plans for the project site, including preliminary infrastructure requirements for the alternative plans. The HHFDC’s June 2007 “Keahuolu Affordable Housing Master Plan” report contains three alternative concept plans, basic infrastructure plans, and preliminary development costs.

Following the finalization of the master plan report, the HHFDC issued a Request for Proposals (RFP) in July 2007, to prospective developers for the proposed Keahuolu Affordable Housing project. The “Keahuolu Affordable Housing Master Plan” report was included with the RFP documents as a reference.

This ~~Draft~~ EIS evaluates the land use and preliminary infrastructure components of the Master Plan's three alternative concept plans. A "preferred alternative" is not indicated.

While the ultimate developer of this project may have a somewhat different development plan, it will be consistent with and fit within the Master Plan's three alternative concept plans. HHFDC's RFP to prospective developers provided the guidelines for submittal. Therefore, the analysis, potential impacts, and applicable mitigation measures discussed in this EIS apply to the ultimate development project proposed by the selected developer.

1.4.2 Prior Environmental Studies of the Project Site

The entire project site was formerly part of QLT lands ~~which~~ that were studied in the QLT's "Keahuolu Lands of Kailua-Kona - Final Environmental Impact Statement," dated October 1990 and prepared by Belt Collins Hawaii. Some QLT lands, including a portion of the current project site, were acquired by the State in 1992 in order to develop affordable housing. The HHFDC's "Kealakehe Planned Community - Final Environmental Impact Statement," dated September 1990, and prepared by Belt Collins Hawaii, also studied a portion of the current project site. A portion of the former Kealakehe Planned Community P~~p~~roject, located mauka of Queen Ka'ahumanu Highway, is now known as the Villages of La'i 'Opua.

These prior EISs and related technical studies were consulted in preparation of this ~~Draft~~ EIS for the Keahuolu Affordable Housing P~~p~~roject. Other technical studies were prepared for the project to assess the existing natural and physical site conditions, potential impacts, and applicable mitigation measures:

- A 2007 report on the findings of the Archaeological Inventory Survey for the 1990 QLT property's EIS.
- A Botanical Survey
- A Civil Infrastructure Study
- A Cultural Impact Assessment (CIA)
- A Traffic Impact Analysis Report (TIAR)

1.5 PURPOSE AND NEED FOR THE PROJECT

The Keahuolu Affordable Housing Pproject responds to the strong demand for affordable homes for working families in and around North Kona. While Kailua-Kona is an employment center, its workforce is scattered throughout West Hawai‘i and even in East Hawai‘i. The County has identified the development of housing near job centers as a planning priority in order to lessen regional road congestion.[1]

The North Kona district has seen continued increases in population, visitor numbers, and commercial areas. The resident population of the North Kona district in 1980 was 13,748; in 1990 it was 22,284. That equates to a 62 percent increase from 1980. The resident population in 2005 was approximately 28,550. That equates to 208 percent of the 1980 district population.

The majority of people working in Kailua-Kona commute from other places on the island. In 2000, some 10,000 persons worked in Kailua-Kona. Of these, 70 percent commuted from other places on the island.[2] In 2000, data for West Hawai‘i zip code areas show that the time spent commuting increases the farther a home is from the job center. The mean travel time to work was an hour. According to the 2006 update of the *Hawaii Housing Policy Study*,[3] more than 7,000 households expect to move in the next few years and want their next home to be in North Kona.

The cost of housing is a significant burden for many Hawai‘i County families. A quarter of households pay 40 percent or more of their monthly income for shelter payments. One eighth of Hawai‘i County households pay 30 to 40 percent of their monthly income for shelter. Renters are especially vulnerable; nearly half of all renters surveyed pay 30 percent or more for shelter.

For all of Hawai‘i County, the median affordable housing payment for survey respondents expecting to move was just under $1,400 per month. The 2006 study update suggests that some

1 *Hawaii County General Plan,* 2005, pages 9-10.

2 This Census calculation is for the Kailua-Kona Census Designated Place. Residents of the subdivisions to the north of Kailua-Kona such as Kona Palisades would count as “commuters” to Kailua-Kona along with residents of more distant areas (US Census data calculated by Department of Business Economic Development & Tourism, available at http://www.hawaii.gov/dbedt/info/census/Folder.2005-10-13.2927/DaytimePop).

3 SMS Research & Marketing Services, Inc. (2007). *Housing Policy Study, 2006.* Prepared for HHFDC and Honolulu, Maui, Hawaii, and Kauai Counties. Honolulu, HI. Posted at http://www.hawaii.gov/dbedt/hhfdc/resources/Reports.

2,500 families in North Kona are likely to move and fall into the affordable housing range (80 percent to 140 percent of median income). More than 7,000 families islandwide fit this range, as shown in Table 1-2:

Table 1-2: Households Expecting to Move, by Housing Payment

Number of house-holds, by monthly housing cost:	Live in North Kona			Islandwide		
	Rent	Own	Total	Rent	Own	Total
Can afford --						
under $500	646	268	914	2,669	1,027	3,696
$500 to $799	431	55	486	1,466	1,399	2,865
$800 to $1,099	126	649	775	821	3,932	4,753
$1,100 to $1,399	352	300	***652***	762	1,821	***2,583***
$1,400 to $1,699	390	725	***1,115***	444	2,837	***3,281***
$1,700 to $1,999	468	265	***733***	656	509	***1,165***
$2,000 to $2,999	55	2,102	2,157	122	4,101	4,223
$3,000 and up		1,514	1,514		2,360	2,360

NOTES: Data from survey weighted to represent the total population.
Rent — Respondents who will move, and intend to rent, move in with friends, or some other tenancy.
Own — Respondents who will move, intend to buy their next unit, or who would buy if it was affordable.
SOURCE: 2006 Hawaii Housing Policy Study, unpublished Hawai'i County tables made available by HHFDC, Table F-32~~.~~, Affordable Housing Cost.

The increase in population in West Hawai'i over the past two decades, and the fact that the majority of workers in Kailua-Kona commute from other places on the island are indicators of the pent-up demand for new housing. Demand exists for both affordable and market-priced housing, as well as expanded residential-oriented commercial and public services closer to Kailua-Kona.

Major new housing projects in the region include County and private projects in Waikoloa and the Palamanui project mauka of Keahole Airport. DHHL plans to expand its La'i 'Opua housing areas next to the HHFDC property. While these and smaller projects will increase housing

inventory and include affordable units for working families, demand still outweighs current and anticipated supply.

1.6 STATEMENT OF PROJECT OBJECTIVES

The proposed Keahuolu Affordable Housing Pproject is intended to create an affordable, livable community based on New Urbanist planning and design principles to serve the North Kona community. The project's primary objective is to provide affordable housing opportunities in response to regional needs for housing and the need to provide affordable housing closer to employment centers in West Hawai'i. This will help to reduce traffic on regional highways caused by residents' traveling long distances between home and work. The objectives of this project are listed below (from June 2007 Master Plan report).

- Provide the maximum number of affordable***** units in the most livable community within the shortest feasible duration.
- Use design principles that will create a walkable, bikable, active-lifestyle community.
- Promote a walkable community that offers multiple modes of transportation options.
- Integrate the project site with the area's current and future transportation network.
- Accommodate the potential for future feasible roadway connections to development on adjacent lands.
- Provide transit-oriented, high density development within easy walking distance (1/4 mile) of future bus transit stops along Ane Keohokalole Highway and the future extension of Makala Boulevard.
- Provide a mixed-use town center in a multi-block area that contains multi-family housing, ground-floor commercial space, and civic open space.
- Provide neighborhood parks.
- Provide an approximately 12-acre site for a school facility.
- Retain the approximately 7-acre archeological preserve area.
- Develop required infrastructure for the project.

***** "Affordable" housing is capped at 140 percent of the area median income established by the U.S. Department of Housing and Urban Development (HUD).

1.7 PURPOSE OF THIS ~~DRAFT~~ ENVIRONMENTAL IMPACT STATEMENT DOCUMENT

The HHFDC, which owns the approximately 272-acre project site, is the proposing agency filing this ~~Draft~~ EIS for the Keahuolu Affordable Housing Pproject. The HHFDC has proposed this ~~Draft~~ EIS in support of a Land Use District Boundary Amendment Petition that will be submitted by the ultimate developer of the Keahuolu Affordable Housing Pproject to the State Land Use Commission (LUC).

The boundary amendment is necessary to reclassify a majority of the project parcel from State Agricultural to State Urban classification (Figure 1-5). A small portion of the project parcel, 0.198 acres, is in the State Urban district (Table 1-3).

Table 1-3: Proposed State Land Use Boundary Amendment Petition Area

Petition Area	Acres	Land Use
TMK 7-3-021: por.020	271.865	From: State Agricultural To: State Urban
TMK 7-3-021: por.020	000.198	In: State Urban
Project Site Total TMK 7-3-021: 020	272.063	

Hawaii Revised Statutes (HRS), Chapter 343, identifies nine triggers that require the preparation of an environmental assessment or environmental impact statement. The triggers for the Keahuolu Affordable Housing Pproject include the following:

- The use of State lands for development of an affordable housing project and master planned mixed-use development community; and
- ~~Reclassification of land from the State Land Use Agricultural District to the State Land Use Urban District; and~~
- The use of State lands for the development of off-site infrastructures, some of which may take place within State Rights-of-Way (ROW).

PROPOSED STATE LAND USE BOUNDARY AMENDMENT PETITION AREA				
Petition Area	TMK 7-3-021: por. 020	271.865 acres	From	State Agricultural
			To	State Urban
	TMK 7-3-021: por. 020	000.198 acres	In	State Urban
Project Site Total	TMK 7-3-021: 020	272.063 acres		

Figure 1-5
BOUNDARY AMENDMENT MAP—PETITION AREA

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008

In addition, the development of the Keahuolu Affordable Housing Pproject may involve or impact State and/or County lands or funds relating to infrastructure improvements for public facilities, roadways, water, sewer, utility, drainage, or other facilities.

An Environmental Impact Statement Preparation Notice (EISPN) for the proposed project was prepared and filed with the Hawai'i State Office of Environmental Quality Control (OEQC). Notification of the EISPN's availability for public review was published in OEQC's publication, "The Environmental Notice," on July 23, 2007. A 30-day public review period followed and ended on August 22, 2007. Chapter Nine Ten contains copies of comment letters received on the EISPN and response letters.

The Draft Environmental Impact Statement was prepared and filed with OEQC. Notification of the Draft EIS's availability for public review was published in "The Environmental Notice" on February 23, 2008. A 45-day public review period followed and ended on March 24, 2008. Chapter Ten contains copies of comment letters received on the Draft EIS and response letters.

1.8 RELATIONSHIP TO LAND USE POLICIES

State Land Use Law, Chapter 205, HRS. The majority of the Keahuolu Affordable Housing Pproject site is currently in the State Agricultural district. The developer will need to file a petition with the State LUC to reclassify 271.865 acres of the property to the State Urban district. A small portion of the property, 0.198 acres, is already in the State Urban district. Chapter Five, Section 5.21, discusses this in greater detail.

Hawai'i State Plan, Chapter 226, HRS. The Hawai'i State Plan contains goals, objectives, and policies that serve as long-range guidelines for the growth and development of the State. The Keahuolu Affordable Housing project is relevant to many of the goals, objectives, and policies set forth by the State Plan. Conformance of the project with the State Plan is discussed in detail in Chapter Five, Section 5.32.

State Functional Plans. The Hawai'i State Plan directs State agencies to prepare functional plans for their respective program areas. There are 13 state functional plans that serve as the

primary implementing vehicles for the goals, objectives, and policies of the Hawai~~'~~i State Plan. The functional plans are discussed in Chapter Five, Section ~~5.4~~5.3.

County of Hawai'i General Plan. The General Plan sets forth a policy of comprehensive development for the entire island and incorporates an awareness of the relationship between social, physical, and economic environments. Table 5-5 in Chapter Five presents the goals and policies of the current Hawai'i County General Plan and discusses by element the relationship and applicability, if any, to the proposed project.

Also discussed in Chapter 5 are the Keahole to Kailua Development Plan, the Keahole to Honaunau Regional Circulation Plan, and the Kona Community Development Plan.

Table 1-4: Kona Community Development Plan

KONA COMMUNITY DEVELOPMENT PLAN	CONFORMS		NOT APPLICABLE
	YES	NO	
GUIDING PRINCIPLES			
Protect Kona's natural resources and culture.	X		
Provide connectivity and transportation choices.	X		
Provide housing choices.	X		
Provide recreation opportunities.	X		
Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, and historical character.	X		
Provide infrastructure and essential facilities concurrent with growth.	X		
Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.			X
Promote effective governance.	X		
COMMENTARY: This project responds to the critical affordable housing needs in Kona, Hawaii. This project will add to a continuum of housing options for all residents, including low-income and elderly, in Kona, Hawaii. In Kona, Hawaii, rapid population growth has not been accompanied by a growth in affordable housing. Proposed park areas will create new recreational opportunities. The landowner, developer, and county will work together to achieve concurrency in infrastructure development whenever practicable. The project is located in an area long-identified for urban expansion thereby contributing to the preservation of more sensitive environmental and cultural areas.			
PURPOSE			
Articulate Kona's resident's vision for the planning area;	X		
Guide regional development in accordance with that vision, accommodating future growth while preserving valued assets;	X		
Provide a feasible infrastructure financing plan to improve existing deficiencies and proactively support the needs of future growth;	X		

KONA COMMUNITY DEVELOPMENT PLAN	CONFORMS		NOT APPLICABLE
	YES	NO	
Direct growth to appropriate areas;	X		
Create a plan of action where government and the people work in partnership to improve the quality of life in Kona for those who live, work, and visit;	X		
Provide a framework for monitoring the progress and effectiveness of the plan and to make changes and update it, if necessary.			X
COMMENTARY: The purpose of this project is to provide a mixed-use community with affordable and market-priced housing, and commercial space and public facilities to residents of Kona, Hawaii. Ultimately, this project provides a response to the number of households with inadequate housing and the rising costs of monthly income for Hawaii County families.			
GOALS			
TRANSPORTATION: An efficient, safe, and attractive multi-modal transportation system integrated with land use planning that allows movement around and through Kona with minimal reliance on the automobile.	X		
LAND USE: Public policies set the foundation and framework within which the community and private sector work collaboratively towards a shared vision of concentrating growth within urban villages in North Kona, preserving rural character and agricultural lands, protecting significant natural and cultural resources, providing a range of housing opportunities, and a process to constructively, efficiently, and fairly achieve these ends with the best practices and quality.	X		
ENVIRONMENTAL RESOURCES: The natural and cultural resources enhance Kona's character together with the built environment, developed in harmony with ecological principles, where residents and visitors enjoy and interact with nature through a networked system that promotes a healthy active lifestyle, and where the financial and moral commitment reflects the high level of caring that the Kona people have for the land.	X		
CULTURAL RESOURCES: The multi-ethnic cultures of Kona are preserved, protected, and restored in a manner that perpetuates those cultures and all aspects of the Aloha Spirit.	X		
HOUSING: Diversity of housing choices for all segments of the population close to places of employment and/or daily needs.	X		
PUBLIC FACILITIES, INFRASTRUCTURE, AND SERVICES: A community where the public infrastructure and facilities are sustainably built and maintained with innovation and pride, promote sense of community, and support a quality of life where visitors and residents feel safe, healthy, and inspired.	X		
ENERGY: Establish Kona as a model for sustainability and energy self-sufficiency.			X
ECONOMIC DEVELOPMENT: To foster economic diversification, reduce import dependence, and increase employment opportunities that pay living wages.	X		
COMMENTARY: The Keahuolu Affordable Housing project supports the growing population of Kona, Hawaii. This project allows the market to deliver affordably priced homes that are closer to employment job centers, for many of the prospective home occupiers of this affordable housing			

KONA COMMUNITY DEVELOPMENT PLAN	CONFORMS		NOT APPLICABLE
	YES	NO	
project. Additionally, affordable housing close to the urban center of Kailua-Kona is essential to maintain an economical and diverse community. The proposed land use plan attempts to better integrate residential, recreational, and commercial land use to create a more walkable community. The development of the mid-level roadway as part of the proposed project will contribute to multi-modal transportation opportunities in the future.			

1.9 REQUIRED PERMITS AND APPROVALS

The following is a summary of major approvals and permits required for implementation of the proposed project. Additional approvals and permits may be necessary. The HHFDC will not be the developer of the project. The developer will be required to comply with the rules, regulations, ordinances, codes, and standards of the County and any federal and state requirements. It is the intention of the HHFDC that the developer submit the project with the State LUC and the County of Hawai'i under the expedited approval process provided for under Section 201H-38, HRS. Chapter 5 includes a more detailed discussion of the project's consistency with federal, state, and local land use plans, policies and controls.

Table ~~1-4~~1-5: Required Permits and Approvals

Permit or Approval	What is Needed	Agency	Status
Chapter 343, HRS Compliance	Acceptance of Final EIS	Office of the Governor	Submitted Final EIS on September 2008. The Office of the Governor acceptance of the Final EIS is pending.
Land Use Boundary Amendment	State Agricultural District to State Urban District	State LUC	Filed under Section 201H-38 HRS. Expected submittal January 1, 2009.
Zone Change	A-5a (Agriculture) to new zoning designation(s) to be determined by selected developer	County of Hawai`i County Council	Submit under Section 201H-38 HRS or Sections 46-15 or 15.1 HRS, pending approval of Land Use Commission
Exemptions from statutes, ordinances charter provisions and/or rules	Approval of exemptions	County of Hawai`i County Council	Pending identification of exemptions
Archaeological Inventory Survey of Queen Lili'uokalani Trust Property by PHRI/Donham in 1990	Approval of archaeologist's work and recommendations	State Historic Preservation Division (SHPD)	SHPD approval letter 2/17/1993 Log. 6839, Doc 9302RC34

Permit or Approval	What is Needed	Agency	Status
Archaeological Mitigation Program for Queen Lili'uokalani Trust Property by PRHI/Jensen in 1992	Approval of archaeologist's work and recommendations	SHPD	SHPD approval letter 10/21/1993 Log 10361 Doc. 9312RC02
Data Recovery Work	Approval of archaeologist's work and recommendations	SHPD	Archaeologist not yet contracted.
Site Preservation Plan	Approval of archaeologist's work and recommendations	SHPD	Archaeologist not yet contracted.
Archaeological Survey for proposed Water Reservoir	Approval of archaeologist's work and recommendations	SHPD	SHPD approval letter 5/5/2008 Log 2008.1339 Doc. 0805TS02
Monitoring Plan for proposed Water Reservoir	Approval of archaeologist's work and recommendations	SHPD	Archaeologist not yet contracted.
National Pollutant Discharge Elimination System (NPDES) Permit	Approval of plans	State Department of Health (DOH)	Expected submittal July 1, 2009
Subdivision Approval	Preliminary and Final approvals	County of Hawai`i	Submit under Section 201H-38 HRS or Sections 46-15 or 15.1, HRS. pending zoning approval
Grading, building, plan approval and other necessary development permits	Approval of plans	County of Hawai`i	Submit under Section 201H-38 HRS or Sections 46-15 or 15.1, HRS pending subdivision approval.
Production Well(s) Construction Permit / Pump Installation Permit	Approval of plans and water allocation by the County of Hawai'i, Department of Water Supply (DWS)	State Department of Land and Natural Resources (DLNR) Commission on Water Resource Management	Expected submittal July 1, 2009

1.10 SUMMARY OF ALTERNATIVES

The alternatives that have been considered are:

1. The "No Action" Alternative;
2. Alternative Locations;
3. The Alternative of Postponing Action Pending Further Study.

None of the alternatives meet HHFDC's objectives to provide for sale affordable housing in West Hawai'i in a timely manner in response to market demand. None of these alternatives would meet the project-specific objectives. An expanded discussion is provided in Chapter 6, Alternatives.

This ~~Draft~~ EIS evaluates the land use and preliminary infrastructure components of the three alternative concept plans in HHFDC's June 2007 "Keahuolu Affordable Housing Master Plan" report. A "preferred alternative" is not indicated because the HHFDC is undergoing a Request for Proposal process and will select the developer of the Keahuolu Affordable Housing Project. The Master Plan was included in the RFP materials. Table 1-5 summarizes the three conceptual plans. Below the table is a list of ~~comment~~ common elements of the three conceptual plans.

Table ~~1-5~~1-6: Alternative Concepts

	Alternative Concepts		
	A	B	C
Residential Units			
High density – multifamily	400	800	800
Medium density - multifamily	220	440	1,530
Low density – single-family	400	600	0
Total	**1,020**	**1,840**	**2,330**
Density (dwelling units per acre)			
High density – multifamily	12	24	24
Medium density – multifamily	8	16	12
Low density – single-family	4	6	n/a

	Alternative Concepts		
	A	B	C
Commercial/retail	**197,000 SF**	**197,000 SF**	**197,000 SF**

Common Elements of the Three Alternative Concept Plans

- Use identical physical roadway and block layouts.
- Provide a minimum of 1,020 to a maximum of 2,330 dwelling units (single-family and multi-family residences). The differences are in housing types and range of densities.
- Provide a mixed-use community center that comprises roughly a six-block area featuring multi-family housing, ground-floor commercial/retail uses, and civic open space.
- Provide 197,000 square feet of commercial/retail space to be located at the community center.
- Provide a site reserved for a school (approximately 12 acres).
- Provide for archaeological preserve areas (approximately 7 acres).
- Provide neighborhood parks (approximately 25 acres), street trees, and a landscaped buffer along Ane Keohokalole. Two large parks are proposed to be centered within each of the north and south neighborhoods.
- Provide on- and off-site infrastructure improvements.
- Create a walkable, bikable, active-lifestyle community.
- Provide a transit-oriented development centered on future northbound and southbound bus stops to be located at the intersection of the proposed Ane Keohokalole Highway and the proposed extension of Makala Boulevard.
- Provide high-density development within easy walking distance (1/4 mile) from the transit stops.
- Accommodate the potential for feasible roadway connections to future development on adjacent lands.

1.11 SUMMARY OF POTENTIAL IMPACTS AND MITIGATION

A summary of the potential impacts and mitigation for the three conceptual plans and the "No Action Alternative" appears in Table 1-6.

Table ~~1-6~~1-7: Summary of Potential Impacts and Mitigation Measures for All Alternatives

Issue or Resource	Alternative Concept Plan A	Alternative Concept Plan B	Alternative Concept Plan C	No Action
CLIMATE				
	No impacts on climatic conditions are expected under Alternative A.	No impacts on climatic conditions are expected under Alternative B.	No impacts on climatic conditions are expected under Alternative C.	No impacts on climatic conditions are expected under the No Action Alternative.
GEOLOGY AND TOPOGRAPHY				
	A grading permit and an NPDES permit would be required prior to construction. A Underground Injection Control (UIC) permit would be required for any dry wells constructed. No significant long-term impacts to topography are anticipated. The contractor would be required to comply with erosion and sedimentation rules and regulations. Runoff flow rates and volume would not be increased from the site to comply with the County's Storm Drainage Standard. Precipitation falling on the site would discharge into the ground as it does under pre-development conditions. Storm drainage filtration devices are recommended to mitigate pollutants from entering the groundwater.	Generally the same grading improvements would be required for Alternative B as Alternative A. A grading permit, a National Pollution Discharge Elimination System (NPDES) permit, and other necessary permits would be required prior to construction.	Generally the same grading improvements would be required for Alternative C as Alternative A. A grading permit, an NPDES permit, and other necessary permits would be required prior to construction.	No impacts to geology or topography are anticipated under the No Action Alternative.
GROUNDWATER, HYDROLOGY, SURFACE WATER AND DRAINAGE				
	The project would be required to comply with the NPDES permit requirements, County Erosion and Sedimentation Control and	The project would be required to comply with the NPDES permit requirements, County Erosion and Sedimentation Control and	The project would be required to comply with the NPDES permit requirements, County Erosion and Sedimentation Control and	No impacts to groundwater, hydrology, surface water and drainage are anticipated under the No Action Alternative.

Issue or Resource	Alternative Concept Plan A	Alternative Concept Plan B	Alternative Concept Plan C	No Action
	County Storm Drainage Standards. Storm drain filtration devices and other measures are recommended to reduce potential impacts to groundwater. Runoff volumes and rates would not increase.	County Storm Drainage Standards. Storm drain filtration devices and other measures are recommended to reduce potential impacts to groundwater. Runoff volumes and rates would not increase.	County Storm Drainage Standards. Storm drain filtration devices and other measures are recommended to reduce potential impacts to groundwater. Runoff volumes and rates would not increase.	
SOILS AND AGRICULTURE POTENTIAL				
	The subject properties have poor soils and lack irrigation water. The land is unsuitable for commercial crop production. No adverse impacts to soils or the potential for agricultural activity are anticipated under Alternative A. No mitigation measures are warranted.	The subject properties have poor soils and lack irrigation water. The land is unsuitable for commercial crop production. No adverse impacts to soils or the potential for agricultural activity are anticipated under Alternative B. No mitigation measures are warranted.	The subject properties have poor soils and lack irrigation water. The land is unsuitable for commercial crop production. No adverse impacts to soils or the potential for agricultural activity are anticipated under Alternative C. No mitigation measures are warranted.	There are no existing agricultural operations on the subject property. No impacts to soils or the potential for agricultural activity are expected under the No Action Alternative.
NATURAL HAZARDS				
Earthquakes	Construction of the improvements will be required to comply with the Uniform Building Code's (UBC)~~'s~~ standards for Zone 4.	Construction of the improvements will be required to comply with the UBC's standards for Zone 4.	Construction of the improvements will be required to comply with the UBC's standards for Zone 4.	Regardless of whether the property remains undeveloped or developed, it is subject to the impacts of earthquakes. No mitigation measures are warranted.
Volcanic Hazards	Based on the statistical probability of risk, the likelihood of volcanic hazards adversely affecting the subject property is minimal. No mitigation measures are warranted.	Based on the statistical probability of risk, the likelihood of volcanic hazards adversely affecting the subject property is minimal. No mitigation measures are warranted.	Based on the statistical probability of risk, the likelihood of volcanic hazards adversely affecting the subject property is minimal. No mitigation measures are warranted.	Based on the statistical probability of risk, the likelihood of volcanic hazards adversely affecting the subject property is minimal. No mitigation measures are warranted.
Tephra	Due to the project's location, the risk of tephra fall on the subject property is anticipated to be slight. No mitigation measures are warranted.	Due to the project's location, the risk of tephra fall on the subject property is anticipated to be slight. No mitigation measures are warranted.	Due to the project's location, the risk of tephra fall on the subject property is anticipated to be slight. No mitigation measures are warranted.	Due to the project's location, the risk of tephra fall on the subject property is anticipated to be slight. No mitigation measures are warranted.

Issue or Resource	Alternative Concept Plan A	Alternative Concept Plan B	Alternative Concept Plan C	No Action
Tsunami Inundation	The subject property is located outside the coastal tsunami evacuation area. No mitigation measures are warranted.	The subject property is located outside the coastal tsunami evacuation area. No mitigation measures are warranted.	The subject property is located outside the coastal tsunami evacuation area. No mitigation measures are warranted.	The subject property is located outside the coastal tsunami evacuation area. No mitigation measures are warranted.
FLORA				
	No threatened or endangered species were found. The majority of the species found are naturalized alien plants. Potential impacts are not anticipated to be significant adverse impacts because no endangered species are present. No mitigation measures are warranted.	No threatened or endangered species were found. The majority of the species found are naturalized alien plants. Potential impacts are not anticipated to be significant adverse impacts because no endangered species are present. No mitigation measures are warranted.	No threatened or endangered species were found. The majority of the species found are naturalized alien plants. Potential impacts are not anticipated to be significant adverse impacts because no endangered species are present. No mitigation measures are warranted.	If the subject property is undeveloped, its vegetation will remain undisturbed.
FAUNA				
	The proposed uses should pose no threat to the relative abundance of birds and mammals in this region of the island of Hawai'i. These properties are not known to contain any threatened or endangered fauna species, nor contain any unusual or unique habitat important to fauna. No mitigation measures are warranted.	The proposed uses should pose no threat to the relative abundance of birds and mammals in this region of the island of Hawai'i. These properties are not known to contain any threatened or endangered fauna species, nor contain any unusual or unique habitat important to fauna. No mitigation measures are warranted.	The proposed uses should pose no threat to the relative abundance of birds and mammals in this region of the island of Hawai'i. These properties are not known to contain any threatened or endangered fauna species, nor contain any unusual or unique habitat important to fauna. No mitigation measures are warranted.	There would be no adverse impacts to faunal resources under the No Action Alternative. The project site does not contain any threatened or endangered fauna species. The property does not contain any unusual or unique habitat important to fauna.
ARCHAEOLOGICAL AND HISTORIC RESOURCES				
Archaeological and Historic Resources	Archaeological sites and cultural resources determined to be significant under State criteria would be preserved. Data recovery plans, site preservation plans and burial treatment plans would be prepared as required.	Archaeological sites and cultural resources determined to be significant under State criteria would be preserved. Data recovery plans, site preservation plans and burial treatment plans would be prepared as required.	Archaeological sites and cultural resources determined to be significant under State criteria would be preserved. Data recovery plans, site preservation plans and burial treatment plans would be prepared as required.	Data recovery and preservation of sites would not occur. Uncontrolled vegetation growth would eventually lead to the gradual loss of sites and decreased accessibility.

Issue or Resource	Alternative Concept Plan A	Alternative Concept Plan B	Alternative Concept Plan C	No Action
Proposed Reservoir Site on DHHL Land	No further work is recommended by the archaeologist. A monitoring plan should be prepared and submitted to the Department of Land and Natural Resources (DLNR) State Historic Preservation Division (SHPD) prior to groundbreaking.	No further work is recommended by the archaeologist. A monitoring plan should be prepared and submitted to the DLNR SHPD prior to groundbreaking.	No further work is recommended by the archaeologist. A monitoring plan should be prepared and submitted to the DLNR SHPD prior to groundbreaking.	Uncontrolled vegetation growth would eventually lead to the gradual loss of sites and decreased accessibility.
CULTURAL RESOURCES				
	Based on the findings of the CIA, the proposed project will have limited impact on Hawaiian cultural resources, beliefs and practices.	Based on the findings of the CIA, the proposed project will have limited impact on Hawaiian cultural resources, beliefs and practices.	Based on the findings of the CIA, the proposed project will have limited impact on Hawaiian cultural resources, beliefs and practices.	No ongoing practices were identified relative to the land proposed for the housing area and the reservoir site.
ROADWAYS AND TRAFFIC				
	Development of the project would have significant impacts upon the regional traffic system. To address those impacts, a series of mitigation measures are proposed.	Development of the project would have significant impacts upon the regional traffic system. To address those impacts, a series of mitigation measures are proposed.	Development of the project would have significant impacts upon the regional traffic system. To address those impacts, a series of mitigation measures are proposed.	Some improvements to the regional traffic system, such as the mid-level highway, would be required to achieve/maintain the County's desired Level of Service (LOS D) even if the property remains vacant.
NOISE				
	Short-term temporary noise impacts would occur during construction. Construction work will be conducted in compliance with applicable State Department of Health (DOH) noise regulations. Long term noise impacts are not anticipated to be significant over the development period of the project.	Short-term temporary noise impacts would occur during construction. Construction work will be conducted in compliance with applicable State DOH noise regulations. Long term noise impacts are not anticipated to be significant over the development period of the project.	Short-term temporary noise impacts would occur during construction. Construction work will be conducted in compliance with applicable State DOH noise regulations. Long term noise impacts are not anticipated to be significant over the development period of the project.	The No Action Alternative would have no impacts on noise quality.
AIR QUALITY				

Issue or Resource	Alternative Concept Plan A	Alternative Concept Plan B	Alternative Concept Plan C	No Action
	Short-term potential impacts during construction will be mitigated by following State of Hawai'i Air Pollution Control regulations. Long-term traffic related potential impacts are not expected to exceed state and national Ambient Air Quality Standards (AAQS). Long-term potential impacts associated with indirect air pollution emissions from the project's electrical demand and solid waste disposal demand would be minor.	Short-term potential impacts during construction will be mitigated by following State of Hawai'i Air Pollution Control regulations. Long-term traffic related potential impacts are not expected to exceed state and national AAQS. Long-term potential impacts associated with indirect air pollution emissions from the project's electrical demand and solid waste disposal demand would be minor.	Short-term potential impacts during construction will be mitigated by following State of Hawai'i Air Pollution Control regulations. Long-term traffic related potential impacts are not expected to exceed state and national AAQS. Long-term potential impacts associated with indirect air pollution emissions from the project's electrical demand and solid waste disposal demand would be minor.	The No Action Alternative would have no impacts on air quality.
VISUAL RESOURCES AND ATTRIBUTES				
	The visual character of the project will be determined by the final development scheme of the selected developer. No mitigation is proposed at this time.	The visual character of the project will be determined by the final development scheme of the selected developer. No mitigation is proposed at this time.	The visual character of the project will be determined by the final development scheme of the selected developer. No mitigation is proposed at this time.	The No Action Alternative would have no impacts on visual resources.
INFRASTRUCTURE AND UTILITIES				
Roadway System	No significant short- or long-term environmental impacts are anticipated from the development of the roadways within the project site.	No significant short- or long-term environmental impacts are anticipated from the development of the roadways within the project site.	No significant short- or long-term environmental impacts are anticipated from the development of the roadways within the project site.	No impacts are anticipated under the No Action Alternative.
Grading, Drainage and Erosion Control	Site drainage in the long term would be collected and discharged to on-site seepage areas, seepage wells, and drywells for percolation into the ground. The development will be required to comply with the County's Storm Drainage	Site drainage in the long term would be collected and discharged to on-site seepage areas, seepage wells, and drywells for percolation into the ground. The development will be required to comply with the County's Storm Drainage	Site drainage in the long term would be collected and discharged to on-site seepage areas, seepage wells, and drywells for percolation into the ground. The development will be required to comply with the County's Storm Drainage	No impacts are anticipated under the No Action Alternative.

Issue or Resource	Alternative Concept Plan A	Alternative Concept Plan B	Alternative Concept Plan C	No Action
	Standard. Storm drainage filtration devices are recommended to mitigate pollutants from entering the groundwater.	Standard. Storm drainage filtration devices are recommended to mitigate pollutants from entering the groundwater.	Standard. Storm drainage filtration devices are recommended to mitigate pollutants from entering the groundwater.	
Water Supply	Two source wells, numbered 3 and 4 in the *Villages of La'i 'Opua Water Master Plan* (October 26, 2006), have been identified for the project. Alternative A would require development of Well 4.	Two source wells, numbered 3 and 4 in the *Villages of La'i 'Opua Water Master Plan* (October 26, 2006), have been identified for the project. Alternative B would require development of Well 3 and Well 4.	Two source wells, numbered 3 and 4 in the *Villages of La'i 'Opua Water Master Plan* (October 26, 2006), have been identified for the project. Alternative C would require development of Well 3 and Well 4.	No impacts are anticipated under the No Action Alternative.
Wastewater	Extension of the sewer system for the proposed development would not have significant short-term impacts on the environment. The long-term impacts of the project on the sewer system would be the construction of new sewer lines through either the DHHL/Villages of La'i 'Opua lands or the QLT lands to the Kealakehe Wastewater Treatment Plant (~~STP~~WWTP). The impact would be an increase in daily flows to the ~~STP~~ WWTP of 430,598 ~~gpd~~ for Alternative A. Adequate treatment and disposal capacity has been reserved at the Kealakehe ~~STP~~ WWTP for project Alternative A, and no long-term detrimental impacts to the ~~STP~~ WWTP are anticipated.	Extension of the sewer system for the proposed development would not have significant short-term impacts on the environment. The long-term impacts of the project on the sewer system would be the construction of new sewer lines through either the DHHL/Villages of La'i 'Opua lands or the QLT lands to the Kealakehe ~~STP~~WWTP. The impact would be an increase in daily flows to the ~~STP~~ WWTP of 665,436 ~~GPD~~ gpd for Alternative B. Alternative B would require the County to upgrade the ~~STP~~ WWTP to handle the added sewage flows and to mitigate any long-term detrimental impacts to the ~~STP~~WWTP.	Extension of the sewer system for the proposed development would not have significant short-term impacts on the environment. The long-term impacts of the project on the sewer system would be the construction of new sewer lines through either the DHHL/Villages of La'i 'Opua lands or the QLT lands to the Kealakehe ~~STP~~WWTP. The impact would be an increase in daily flows to the ~~STP~~ WWTP of 720,856 ~~GPD~~ gpd for Alternative C. Alternative C would require the County to upgrade the ~~STP~~ WWTP to handle the added sewage flows and to mitigate any long-term detrimental impacts to the ~~STP~~WWTP.	No impacts are anticipated under the No Action Alternative
Electrical, Cable, Phone	Service for this project is anticipated to be from the	Service for this project is anticipated to be from the	Service for this project is anticipated to be from the	No impacts are anticipated under the No Action Alternative.

Issue or Resource	Alternative Concept Plan A	Alternative Concept Plan B	Alternative Concept Plan C	No Action
	existing HELCo's Huehue Substation, which has a capacity of 7.5 megawatt (MW). This project will require an upgrade of capacity from 7.5 MW to possibly 10.0 MW at the Huehue Substation. The upgrade of Huehue substation and the extension of existing electrical distribution systems will not create adverse conditions for HELCo. The project will be served by Oceanic Time Warner Cable, which has existing facilities in the Kona Acres area that could be extended to project. Oceanic Time Warner Cable has sufficient capacity. Hawaiian Telcom's existing system has the capacity to serve the project. The proposed project will require upgrades of the existing electrical transmission system serving the region, as well as the installation of telecommunication facilities. All electrical and telecommunication system lines will be placed underground.	existing HELCo's Huehue Substation, which has a capacity of 7.5 MW. This project will require an upgrade of capacity from 7.5 MW to possibly 10.0 MW at the Huehue Substation. The upgrade of Huehue substation and the extension of existing electrical distribution systems will not create adverse conditions for HELCo. The project will be served by Oceanic Time Warner Cable, which has existing facilities in the Kona Acres area that could be extended to project. Oceanic Time Warner Cable has sufficient capacity. Hawaiian Telcom's existing system has the capacity to serve the project. The proposed project will require upgrades of the existing electrical transmission system serving the region, as well as the installation of telecommunication facilities. All electrical and telecommunication system lines will be placed underground.	existing HELCo's Huehue Substation, which has a capacity of 7.5 MW. This project will require an upgrade of capacity from 7.5 MW to possibly 10.0 MW at the Huehue Substation. The upgrade of Huehue substation and the extension of existing electrical distribution systems will not create adverse conditions for HELCo. The project will be served by Oceanic Time Warner Cable, which has existing facilities in the Kona Acres area that could be extended to project. Oceanic Time Warner Cable has sufficient capacity. Hawaiian Telcom's existing system has the capacity to serve the project. The proposed project will require upgrades of the existing electrical transmission system serving the region, as well as the installation of telecommunication facilities. All electrical and telecommunication system lines will be placed underground.	
Solid Waste	Emphasis for the management of solid wastes generated by the project would be on waste diversion and recycling. Solid wastes would be managed in conformance with DOH and	Emphasis for the management of solid wastes generated by the project would be on waste diversion and recycling. Solid wastes would be managed in conformance with DOH and	Emphasis for the management of solid wastes generated by the project would be on waste diversion and recycling. Solid wastes would be managed in conformance with DOH and	No impacts are anticipated under the No Action Alternative.

Issue or Resource	Alternative Concept Plan A	Alternative Concept Plan B	Alternative Concept Plan C	No Action
	County requirements. The project's full- build out annual occupancy landfill waste percentage of the annual West Hawaii Landfill waste would be estimated to be 4.43% for Alternative A. The project's waste stream is a small fraction of the waste that would go to the landfill. No significant short- or long-term impacts on the existing solid waste collection and disposal systems or the environment are anticipated as a result of the proposed development.	County requirements. The project's full- build out annual occupancy landfill waste percentage of the annual West Hawaii Landfill waste would be estimated to be 6.79% for the development Alternative B. The project's waste stream is a small fraction of the waste that would go to the landfill. No significant short- or long-term impacts on the existing solid waste collection and disposal systems or the environment are anticipated as a result of the proposed development.	County requirements. The project's full- build out annual occupancy landfill waste percentage of the annual West Hawaii Landfill waste would be estimated to be 7.40% for the development Alternative C. The project's waste stream is a small fraction of the waste that would go to the landfill. No significant short- or long-term impacts on the existing solid waste collection and disposal systems or the environment are anticipated as a result of the proposed development.	
SOCIO-ECONOMICS				
	The project is anticipated to be built-out over a 10 year period. Socio-economic impacts are anticipated to be positive with an increased supply of affordable housing near employment centers.	The project is anticipated to be built-out over a 10 year period. Socio-economic impacts are anticipated to be positive with an increased supply of affordable housing near employment centers.	The project is anticipated to be built-out over a 10 year period. Socio-economic impacts are anticipated to be positive with an increased supply of affordable housing near employment centers.	No impacts are anticipated under the No Action Alternative.
PUBLIC SERVICES				
	The project is anticipated to be built out over a 10 year period. The project site provides open space / play area and a site is reserved for a school facility.	The project is anticipated to be built out over a 10 year period. The project site provides open space / play area and a site is reserved for a school facility.	The project is anticipated to be built out over a 10 year period. The project site provides open space / play area and a site is reserved for a school facility.	Demand for school and recreation facilities is strong independent of the project.

1.12 SUMMARY OF SECONDARY AND CUMULATIVE IMPACTS

The Keahuolu Affordable Housing Pproject's primary impacts include an increase in the supply of affordable housing, an increase in commercial floor area in the Kailua-Kona region, population growth, increased traffic, and the demand for potable water, wastewater treatment and disposal, and energy. The project's secondary impacts are effects that are induced by these primary impacts, such as the additional jobs created in the economy and the effects resulting from the project residents' demand for goods and services. As a primarily affordable housing residential development, the cumulative impact of the Keahuolu Affordable Housing Pproject will be its contribution to meet the demand for affordable housing units located in West Hawai'i near employment centers.

1.13 SUMMARY OF IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Development of the subject property as a master-planned community with residential, commercial, and mixed-use development will permanently alter the use and character of the land. Grubbing will remove vegetation and grading will change the topography of the land. Fauna and avifauna will be temporarily displaced from the land during construction. Development of the project will require large amounts of aggregate rock for the construction of roadbeds and house and building foundations, and the production of concrete and asphalt.

Archaeological sites and cultural resources determined to be significant under State criteria will be preserved. Archaeological sites identified for data collection will be further analyzed and recorded in an effort to increase understanding of the historical use of the area. Once this process is completed in accordance with the requirements of the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources (DLNR) and in accordance with the approved mitigation plan, any sites that have been determined to require no further study will be lost. Those sites and cultural resources determined to be significant under State criteria will be preserved.

Development of the project will require the expenditure of energy in the form of fuel for construction vehicles and equipment and the consumption of natural and man-made resources in the form of construction materials (metal, glass, wood, plastic, etc.). Construction of the project will also require the consumption of potable water. Some of the water used for dust control will percolate back into the soil while the remainder will evaporate.

The project will require the investment of human labor that might otherwise be employed elsewhere. The so-called operational phase of the project, that is to say once the project is completed and the houses and commercial buildings have been built and occupied, will require an ongoing commitment of potable water, electrical energy, and fuel for privately owned vehicles and motorized equipment.

1.14 SUMMARY OF UNRESOLVED ISSUES

The following issues remain unresolved at the time this document is being prepared. See Chapter ~~Six~~ Seven for a discussion of these unresolved issues.

Final Development Scheme and Schedule: The HHFDC is reviewing proposals from qualified developers to develop the Keahuolu Affordable Housing P~~p~~roject. The final development scheme will be within the range of the concept plans presented in this EIS. However, the following details are unknown at the time of this writing: the total number of housing units; the mix of affordable units and market units; the mix of single-family and multi-family; the mix of low density, medium density, and high density; the total square footage of commercial floor area; and the alignment/route of off-site wastewater lines that will service the project. The Board of Directors of HHFDC approved Forest City Hawaii Residential, Inc., as the developer of the project, subject to successful negotiation and execution of a development agreement. However, until the development agreement is signed, there is the possibility that an agreement may not be reached between HHFDC and Forest City, and thus the search for a developer would continue until one is selected and a development agreement is signed. Until that time, the details of the proposed project and the developer's schedule for the project are not available. That information will become available prior to subsequent permitting processes, which will provide the opportunity

for public and agency input and comment, as well as the opportunity to request additional information.

~~**Kona Community Development Plan:** It is likely that this EIS will be published for public and agency review and comment prior to publication of the first complete draft of the Kona Community Development Plan.~~

Concurrency Ordinance: Since publication of the February 2008 Draft EIS for the Keahuolu project, the County of Hawai'i Planning Department clarified that Ordinance No. 07 99 became effective on June 25, 2007. It created concurrency standards for roads and water supply in change of zone actions. According to the County of Hawai'i Planning Department, rezoning would not take effect unless improvements to the traffic situation occur before the occupancy of the project, and that there would also be standard expectations for water supply for new rezonings.

It is the intention of the HHFDC that the project developer submit the project with the State LUC and the County of Hawai'i under the expedited approval process provided for under Section 201H-38, HRS. If the expedited approval process is used by the Keahuolu project developer, it is unresolved as to what extent the concurrency standards would or would not apply. ~~At the time this EIS is being prepared, the Hawai'i County Council is considering a bill for an ordinance that would require the concurrent development of project-related infrastructure. It is unknown if the ordinance will be adopted, what its final language might contain, when it might become effective, and if it might impact the Keahuolu project.~~

County Council Deferred Action on Change of Zone Applications: Since publication of the February 2008 Draft EIS for the Keahuolu Project, the County of Hawai'i Planning Department clarified that Resolution No. 529 08 was adopted on March 12, 2008. According to the County, it extended the temporary delay of Council action on rezoning applications until the North and South Kona Community Development Plan is adopted by ordinance, or December 1, 2008, whichever occurs first.

It is the intention of the HHFDC that the project developer submit the project with the State LUC and the County of Hawai'i under the expedited approval process provided for under Section 201H-38, HRS. According to the estimated permit schedule in Table 1-4 of this EIS, it is anticipated that a zone change application for the Keahuolu project would at the earliest be submitted to the County on January 1, 2009, which is after the December 1, 2008 deadline for the temporary delay of Council action on rezoning applications. It is unknown whether the County's deadline will be extended and if the Council will continue to defer action on change of zone applications. If the expedited approval process is used by the Keahuolu project developer, it is unresolved as to what extent the Council's deferral on change of zone applications would or would not apply, if it is still in effect.

~~In early 2007, the Hawai'i County Council adopted a resolution calling to defer action on any Change of Zone applications prior to adoption of the Kona Community Development Plan. It is unknown when and how this resolution might impact the Keahuolu Affordable Housing project.~~

2CHAPTER TWO: DESCRIPTION OF THE PROPOSED ACTION

2.1 BACKGROUND INFORMATION

This section provides background information and a general description of the Keahuolu Affordable Housing Pproject's master plan process and development of the alternative concept plans, the land use components of the concept plans, HHFDC's Request for ProposalsRFP process, and the preliminary development timetable and costs.

2.1.1 Regional Setting

For much of the twentieth century, West Hawai'i was an agricultural area, with coffee from South Kona, sugar from North Kohala, and cattle from the uplands of South Kohala as its major products. Major public facilities for West Hawai'i – the hospital and the area's first high school – were located in Kealakekua, in the South Kona district.

The visitor industry in North Kona grew after statehood, and the district had the majority of the island's visitor units (as shown for 1980, in Table 2-1). By 1990, however, the South Kohala coastal resorts had become important destinations. With expansion of the coastal resorts, West Hawai'i became more dependent on tourism. Kailua-Kona is now a regional center with commercial, industrial, and resort facilities. The North Kona district has seen continuing increases in population, visitor numbers, and commercial areas. As of 2002, Kailua-Kona had 165 retail establishments, with gross sales of $410 million, 24 percent of the island total. The retail workforce in Kailua amounted to 2,174 persons.

The ratio of visitors to residents in Hawai'i County is about 1 to 6. In West Hawai'i, the ratio is about 1 to 3. (In 2000, West Hawai'i had 56,301 residents and an average daily visitor census of 17,784.)

Table 2-1: Hawai'i County and North Kona Socio-Economic Indicators

	1980	1990	2000	2005
Hawaii County				
Resident population	92,053	120,317	148,677	167,293
Jobcount	37,150	49,000	56,000	64,500
Unemployment rate	6.3%	3.5%	4.8%	3.3%
Average visitor census				
Island	7,195	16,698	21,891	27,579
West Hawaii		13,502	17,784	21,940
Visitor units	6,299	8,952	9,774	11,351
Hotel occupancy rate	51.0%	61.7%	72.8%	72.2%
North Kona district				
Resident population	13,748	22,284	28,543	NA
Share of county	14.9%	18.5%	19.2%	NA
Visitor units	3,774	4,096	4,295	5,053
Share of county	59.9%	45.8%	43.9%	44.5%
Hotel occupancy rate	59.0%	66.8%	72.6%	NA

SOURCES: Hawaii State Data Book, 1985 and 2005; historical and current statistics posted by Hawaii State Department of Labor and Industrial Relations, available at www.hiwi.org.; Visitor Plant Inventory conducted by Hawaii Visitors Bureau, and later by DBEDT.

The HHFDC Keahuolu project is planned as a response to the regional needs for housing and the desire to reduce congestion on regional highways due to residents traveling long distances between home and work. Future residents of Keahuolu are likely to come from West Hawai'i, ranging from Ocean View in Ka'u to North Kohala.[1] Figure 2-1 shows the region and the district and zip code areas of West Hawai'i. Major transportation facilities in the district include the Queen Ka'ahumanu Highway linking Kailua to Kawaihae, the Hawai'i Belt Road (Mamalahoa Highway), the Kona International Airport at Keahole and the Honokohau small boat harbor.

2.1.2 Location

The project site is located on the western slope of Hualalai mountain in the Keahuolu ahupua'a. It is adjacent to Palani Road, approximately one mile north of Kailua-Kona (Figure 1-1).

[1] Hawai'i County is divided into nine judicial districts. North Kohala, South Kohala, North Kona and South Kona are commonly identified as West Hawai'i. However, the Ocean View area in Ka'u, zip code area 96737, is home to many resort workers, and it is given attention here as a potential source for future Keahuolu residents.

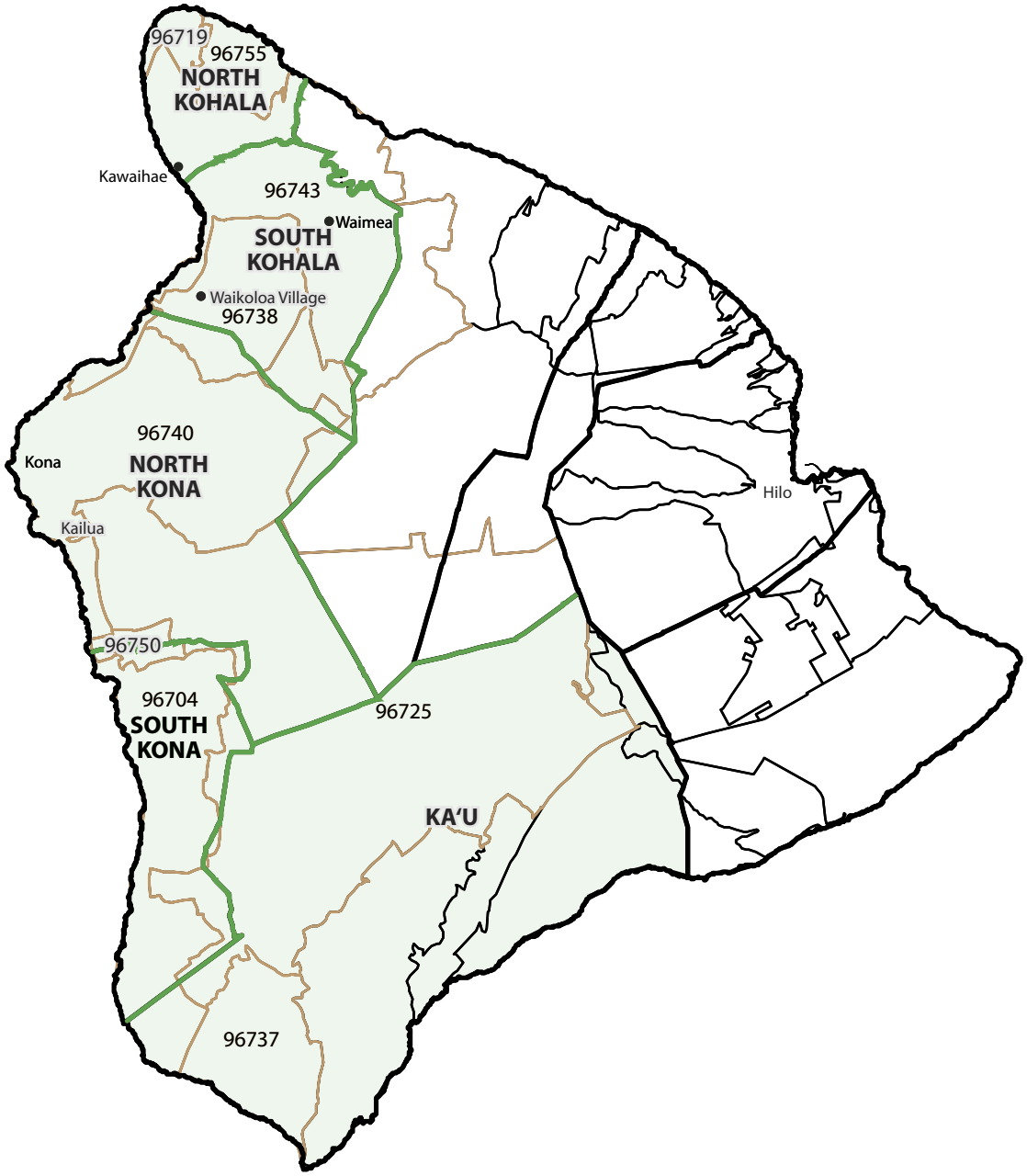


Figure 2-1
WEST HAWAII REGION

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008

2.1.3 Ownership

~~The Hawaii Housing Finance & Development Corporation~~HHFDC is the owner of the 272.063-acre project site. The property is identified as TMK (3) 7-4-021: 020.

2.1.4 Surrounding Uses

The HHFDC property is situated between lands to the east (mauka) owned by DHHL and lands to the west (makai) owned by the QLT. Nearby developments include housing at Kealakehe and the initial increment of DHHL's Villages of La'i' Opua. Commercial and light industrial land uses are found to the south across Palani Road and to the west along the Queen Ka'ahumanu Highway corridor. Public facilities in the vicinity include Kealakehe High School to the north, Kealakehe Intermediate and Elementary Schools to the northeast, and the County of Hawai'i wastewater treatment plant (WWTP) and police station to the northwest.

The planned Ane Keohokalole Highway will be adjacent to the western (makai) boundary of the project site. At the time of this writing, plans for Ane Keohokalole Highway place the highway within QLT lands. However, the ongoing highway study is still developing the roadway alignment, profile, and width. It may be possible that the planned Ane Keohokalole Highway improvements could impact the Keahuolu project parcel.

2.1.5 Description of the Property

The Keahuolu Affordable Housing P~~p~~roject site is an irregularly shaped property totaling 272.063 acres. The site is located approximately one mile upslope of Kailua-Kona. The elevation of the property ranges between 300 and 580 feet above mean sea level (msl). Slopes range between 5 to 15 percent. The project site is vacant and undeveloped. The adjacent proposed reservoir site, which is vacant, ranges in elevation from approximately 580 to 640 feet above msl.

2.1.6 State Land Use District

Almost the entire Keahuolu Affordable Housing project site is currently in the State Agricultural District (Figure 2-2). Figure 1-5 illustrates the area for which the developer will have to file a Land Use District Boundary Amendment Petition with the State LUC to reclassify 271.865 acres of the 272.063-acre property to the Urban District.

2.1.7 Hawai'i County General Plan's Land Use Pattern Allocation Guide

A majority of the project site is designated Urban Expansion. The remainder is designated Low Density Urban (Figure 2-3).

2.1.8 Hawai'i County Zoning

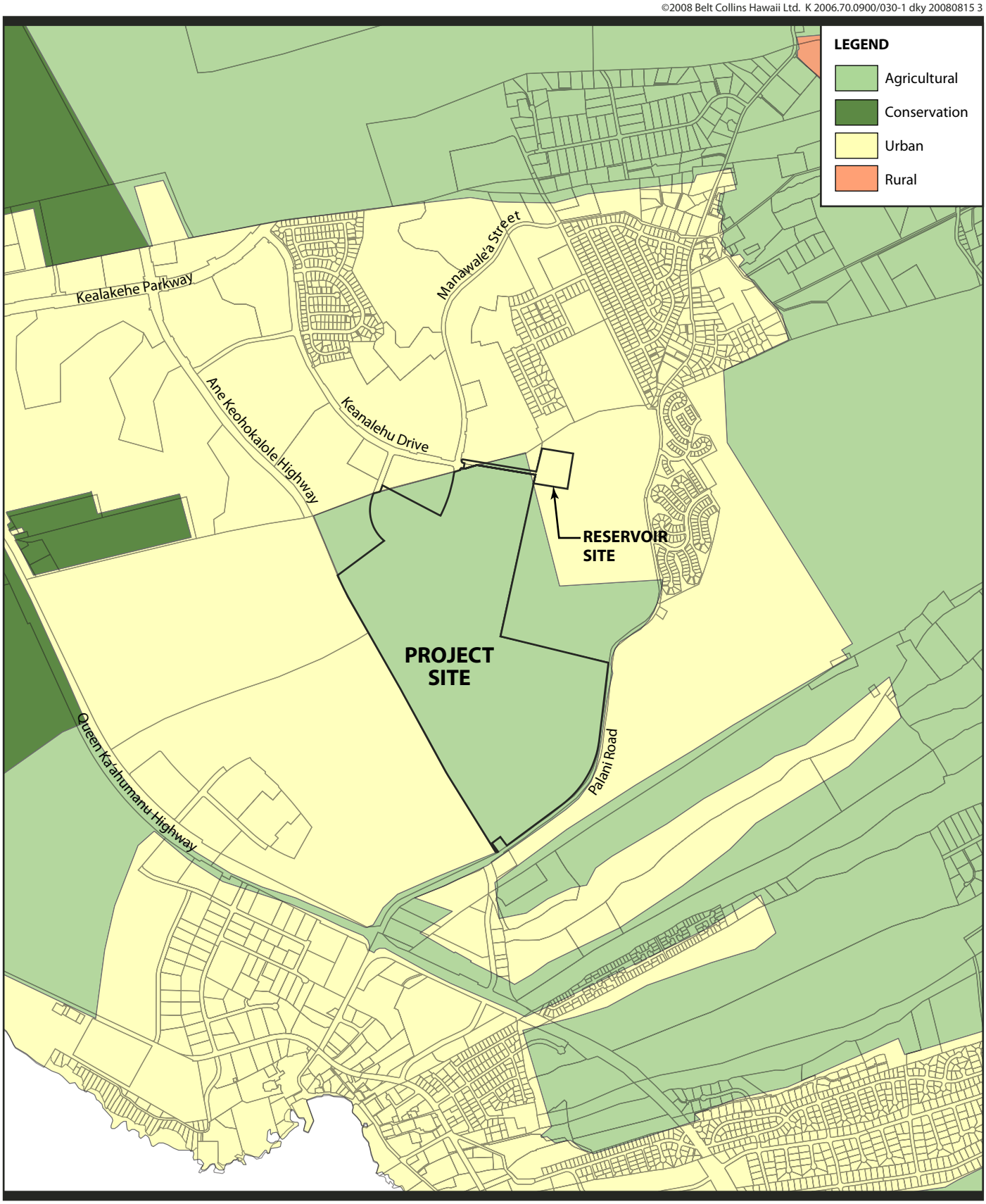
The majority of the property is within the County's Agricultural (A-5a) zoning district, while a small portion is within the County's Residential (RS-15) zoning district (Figure 2-4). The developer will be responsible for seeking the appropriate Change of Zone for the project.

2.2 MASTER PLAN PROCESS

In the first half of 2007, the HHFDC developed alternative concept plans for the Keahuolu Affordable Housing Pproject. The master planning process was conducted iteratively with engineers working to identify and evaluate off-site infrastructure requirements for the various approaches and options considered.

2.2.1 Overview of Site Conditions, Opportunities, and Constraints

Site analysis information was gathered during the master plan process and the initial development of the alternative concept plans (Figure 2-5). Since that time, some further detailed information such as the botanical and archeological survey reports have been completed. The information below is more of an overview in nature because it was utilized during the formulation of the concept plans.



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NORTH

0 1000 2000

SCALE IN FEET

Figure 2-2
EXISTING STATE LAND USE DISTRICTS MAP

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008

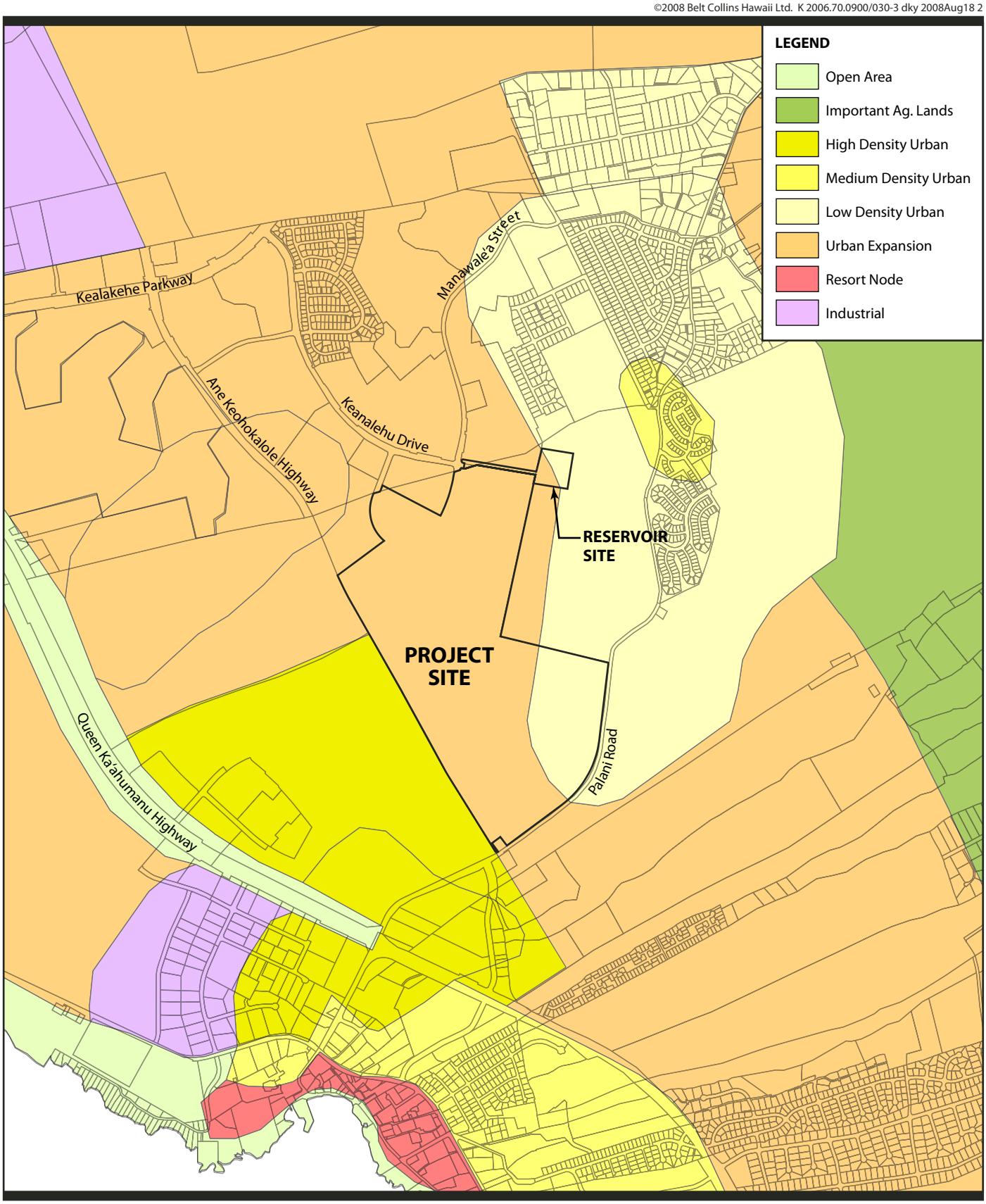

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Figure 2-3
GENERAL PLAN'S LAND USE PATTERN ALLOCATION GUIDE MAP

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008

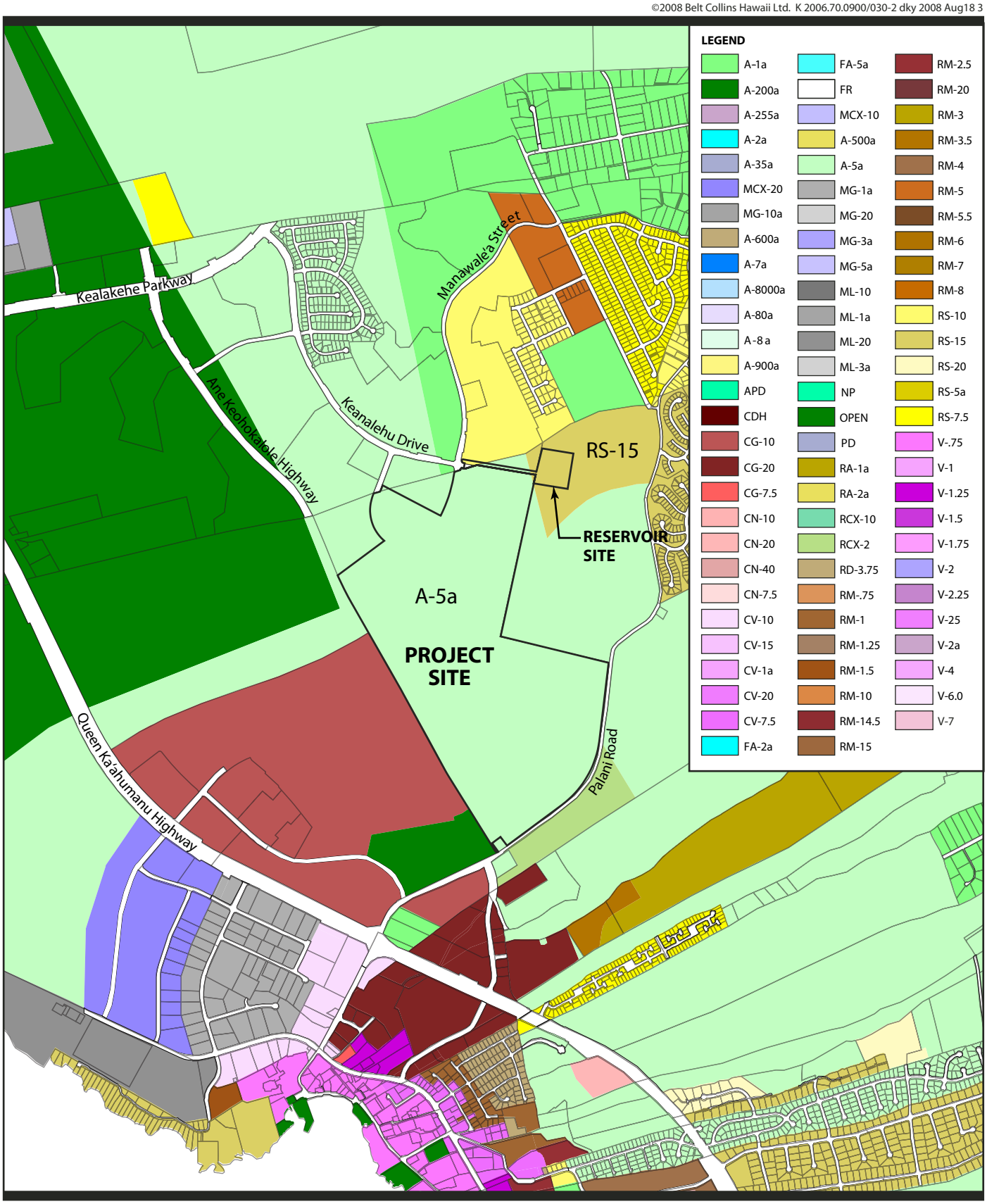

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Figure 2-4
COUNTY OF HAWAI'I ZONING MAP

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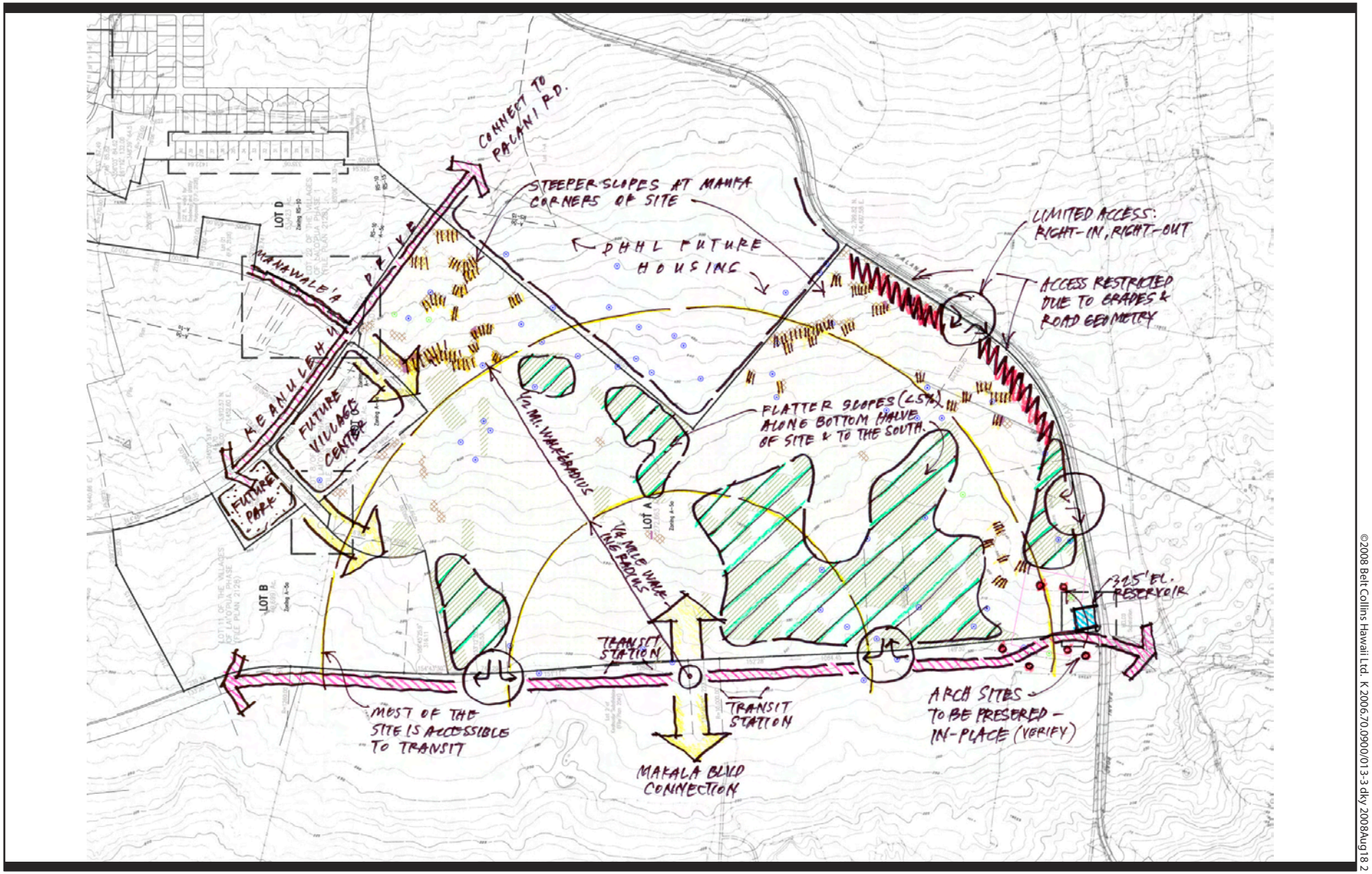

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SCALE IN FEET

Figure 2-5
SITE ANALYSIS

HHFDC Keahuolu Affordable Housing Project
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A number of on-site constraints can be resolved with appropriate planning and design. The most significant opportunities are the site's proximity to Kailua-Kona town and access to the proposed Ane Keohokalole multi-modal transportation corridor.

The 272-acre parcel has irregular edges along its north, east, and south boundaries. It is twice as long in the north-south dimension as compared to the east-west dimension. The west boundary is the only regular edge and will serve as frontage to the future Ane Keohokalole Highway.

Most of the adjacent land is vacant but planned for development. Parcels to the north, east, and south are planned by DHHL for residential villages and support uses, including a community center and neighborhood park. QLT is currently planning a major development makai of Ane Keohokalole Highway. The future context of the Ane Keohokalole corridor will be urban, which is consistent with the North Kona Community Development Plan (CDP) now being updated by the County.

Existing site access is limited. Keanalehu Drive provides good access to the northeast portion of the site. The south section along Palani Road may at best be restricted to a right-in/right-out intersection. Ane Keohokalole Highway will provide the primary access to the site with potentially a full-movement intersection and two limited-access intersections. Additionally, to fully optimize access to adjacent development parcels, HHFDC must coordinate alignment of the Makala Boulevard extension with both DHHL and QLT to assure improved mauka-makai access.

The Ane Keohokalole Highway corridor is planned to provide bus transit with one-mile stops along the alignment and local bus service with stops spaced at closer intervals (1/4 mile). A transit stop is proposed at the Keahuolu project site's future intersection with the Makala Boulevard extension, which would be the first stop outbound from Kailua-Kona town. This places HHFDC's Keahuolu development in excellent proximity to the major employment center of Kailua-Kona, as well as regional retail and services, and offers the opportunity to locate a transit-oriented development (TOD) on the site.

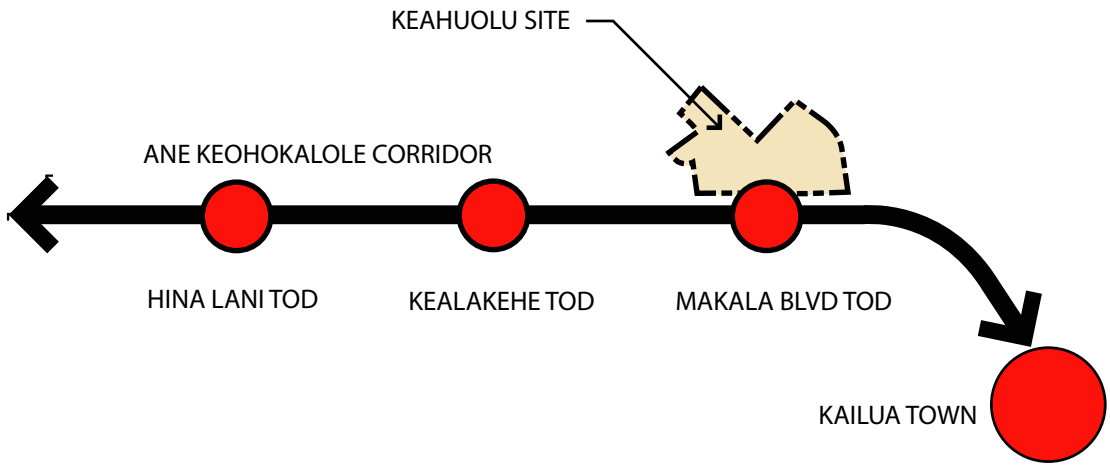
Topography slopes downhill from east to west. The lower or western half of the site is easily developable, with approximately half of the area in less than 5 percent slopes and the remainder in 5-15 percent slopes. The upper or eastern half of the site is steeper; some of the slopes are greater than 15 percent, but the larger portion has slopes less than 15 percent. This organizes the site to be used more intensively in the lower sections with larger footprint uses or higher density residential uses being placed on the flatter areas. The upper sections should be used for smaller footprint residential structures that can accommodate grade changes more easily.

Archaeological sites are generally clustered in the southern and northeastern portions of the parcel. These were identified in an archaeological inventory survey conducted by Paul H. Rosendahl, Ph.D., Inc. (PHRI) for the previous landowner, the QLT, in 1989-1990, and reconfirmed for this project. Sites recommended for preservation include a large habitation-agricultural complex in the northeastern portion of the area and a number of habitation, burial, and possible burial sites in the southwestern portion.

2.2.2 Design Principles of the Alternative Concept Plans

Design principles were formulated for the Keahuolu project during the master plan process. The overriding development concept is to create an affordable, livable community based on design principles that will serve the North Kona community. The following describes the primary design principles that were the basis for the alternative concept plans.

The North Kona Community Development Plan: Integrate the North Kona CDP vision into the Keahuolu project, including a transit-oriented mixed-use development at the intersection of Ane Keohokalole Highway and the future extension of Makala Boulevard. The development concept is laid out using the planning principles of New Urbanism or smart growth to create a compact urban pattern. The concept plans integrate the project site with the surrounding transportation network, which will be necessary to accommodate existing needs and future urban growth, and existing and future land use development plans for the region and adjacent properties (Figure 2-6).



TOD = Transit-Oriented Development

NORTH

NOT TO SCALE

Figure 2-6
TRANSIT-ORIENTED DEVELOPMENT—
NORTH KONA COMMUNITY DEVELOPMENT PLAN

Walkable Neighborhoods and Connectivity: Create a community composed of walkable neighborhoods with five-minute walking distances from the neighborhood's center to its edge. Each neighborhood would have an open space focal point, such as a neighborhood park or community center green, and a network of interconnected streets and blocks. The highly connected road system provides the greatest number of alternative routes from one part of the neighborhood to another and optimizes access for all modes of travel. This level of access promotes walking, especially when destinations for recreation, goods, and services are conveniently located throughout the community. The Keahuolu community neighborhoods would connect to smaller adjacent parcels via sub-collector roads and to larger adjacent parcels, like Village of La'i 'Opua, with larger collector roads (Figure 2-7).

Multimodal Connectivity: Offer a full array of transportation options using pedestrian, bicycle, and transit connections. Provide pedestrian sidewalks on every street, bike lanes on sub-collector and collector roads, and transit stations and local bus service along Ane Keohokalole Highway. A future circulator or local bus route is shown on the Makala Boulevard extension, connecting mauka and makai areas to the Keahuolu community center and proposed transit station (Figure 2-8).

Mixed Use: Create neighborhoods that have a fine-grain mix of land uses. A community or neighborhood center should have residential, commercial, and public or community uses. Residential neighborhoods should be composed of a variety of residential prototypes that vary somewhat in density (Figure 2-9).

Pedestrian-Scaled Streets: Create pedestrian friendly streets that set the scale for the neighborhood and community. Use buildings to define public spaces, which include parks, greens, and streets. Building placement on lots requires a rigorous structure and order to enhance the human scale and social interaction of the neighborhood. The architectural vocabulary should be human-scaled and feature treatments such as doors, windows, and porches along building frontages rather than blank walls or garage doors. Place parking behind buildings so as not to create large spaces between buildings. The streetscape within the street ~~right-of-way~~ROW is equally important in creating a quality pedestrian experience. Streetscape elements

include narrow streets, on-street parking, street trees, special pavement, traffic calming devices as appropriate, and streetscape furnishings (Figure 2-10).

2.2.3 Master Plan Report

Two preliminary land use concept plans for the project site were distributed in April 2007 to more than 50 stakeholders with a request for comments and suggestions (the list of stakeholders is in Appendix A). As a result of feedback received, a third concept plan with a lower overall total of housing units than the original two was also developed.

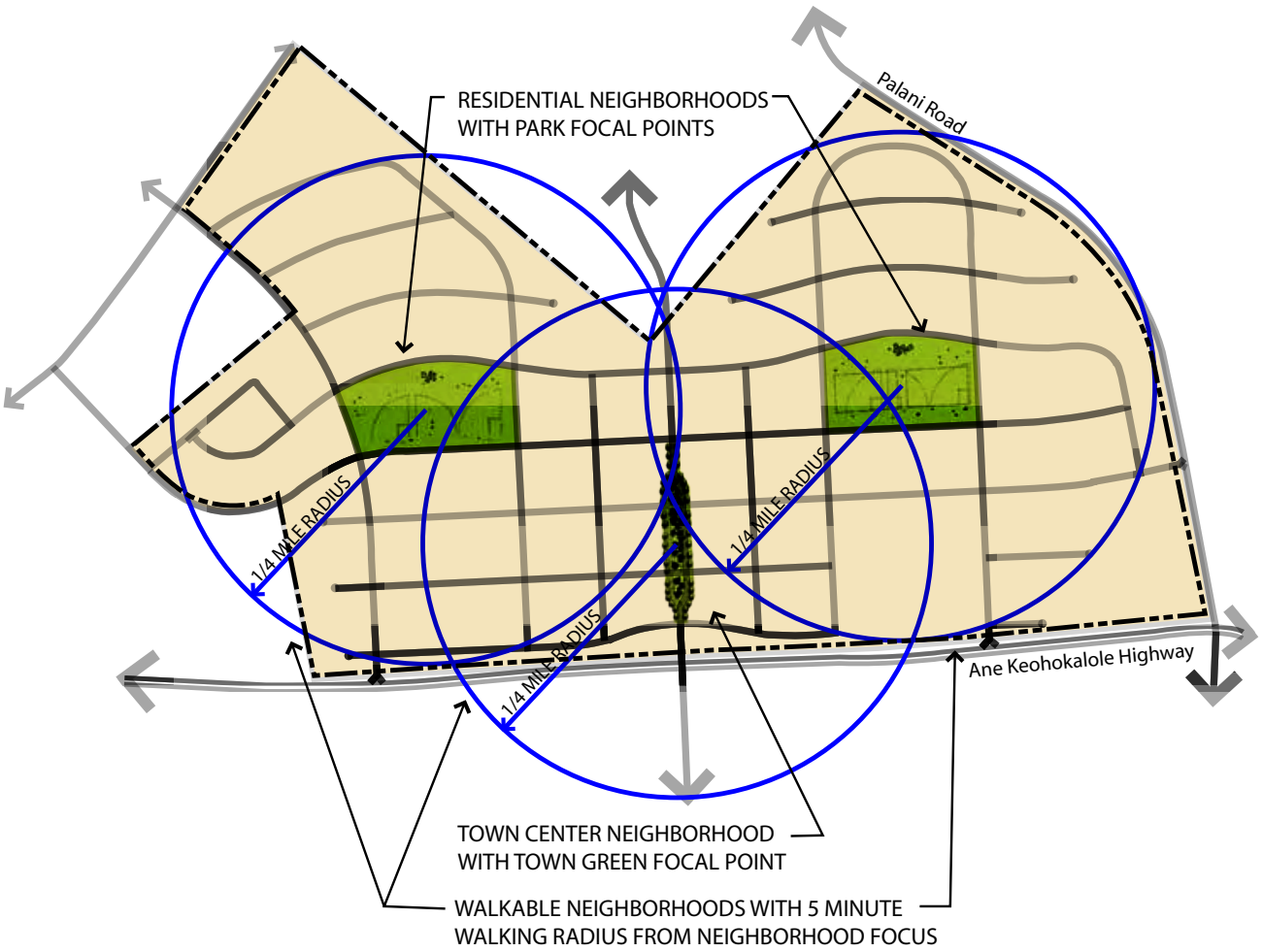
In June 2007, the HHFDC issued the final "Keahuolu Affordable Housing Master Plan Report," which contains the three alternative concept plans that are evaluated in this EIS. A "preferred alternative" is not identified.

The alternative concept plans, which offer single- and multi-family dwelling units in varying densities, differ primarily in the total number of dwelling units (see Table 2-2). In addition to housing, the three mixed-use concept plans have a number of common elements such as the development of commercial floor area, provision of parks and open space, and a site reserved for a school. The concept plans and land use components are described further in Sections 2.4 and 2.5.

Table 2-2: Alternative Concept Plans – Housing Unit Totals and Densities

	Alternative Concept Plans		
	A	**B**	**C**
Number of residential units:			
High density – multi-family	400	800	800
Medium density – multi-family	220	440	1,530
Low density - single-family	400	600	None
Total Residential Dwelling Units (du)	**1,020 du**	**1,840 du**	**2,330 du**
Density (dwelling units per acre):			
High density – multi-family	12	24	24
Medium density – multi-family	8	16	12
Low density - single-family	4	6	None

Source: The Keahuolu Affordable Housing Master Plan – June 2007



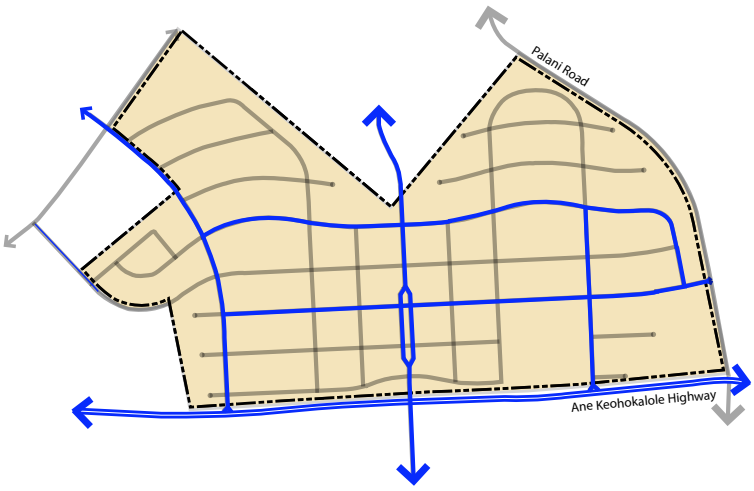
Belt Collins

NORTH

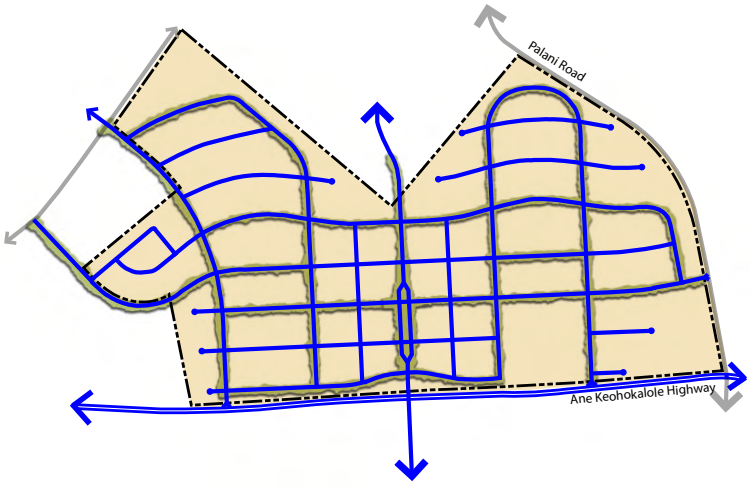
NOT TO SCALE

Figure 2-7
WALKABLE NEIGHBORHOODS AND CONNECTIVITY

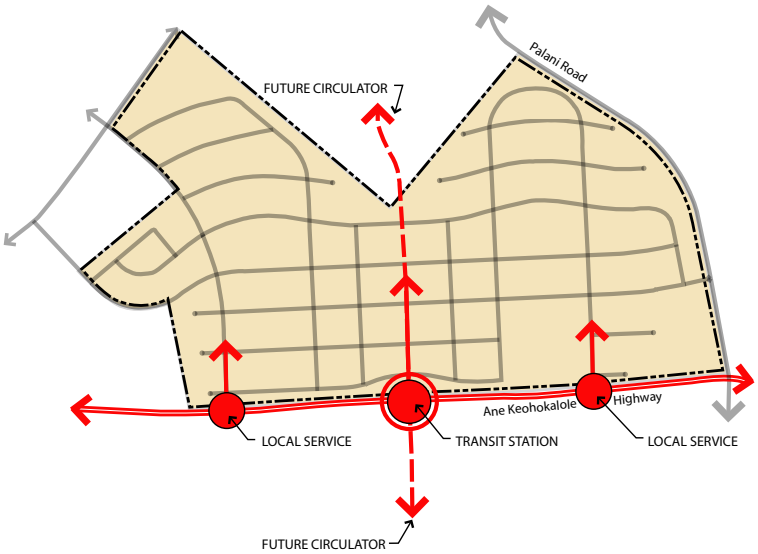
HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008



Bike Lanes



Sidewalks



Bus Mass Transit & Local Service

NORTH

NOT TO SCALE

Figure 2-8
MULTI-MODAL CONNECTIVITY

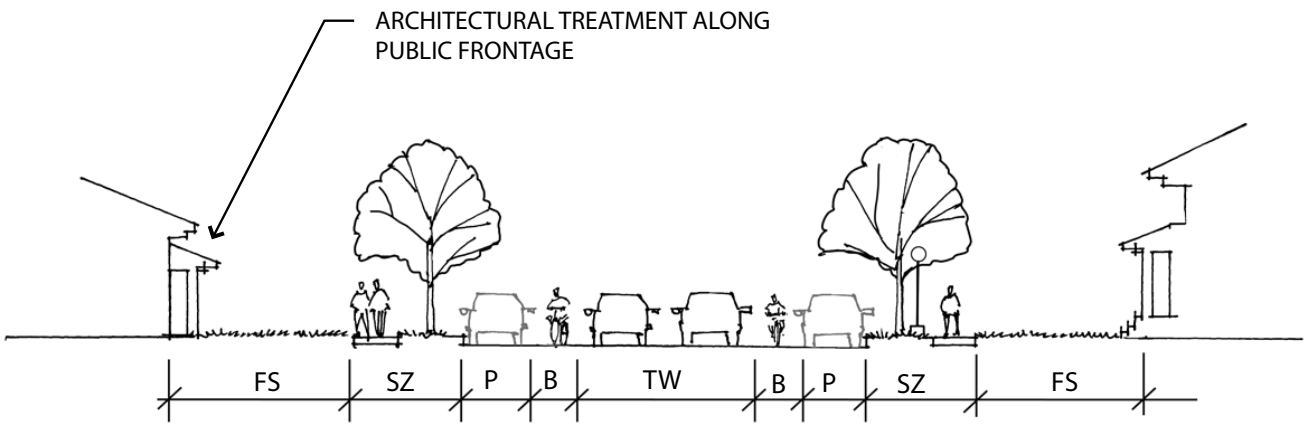
HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008

NORTH

NOT TO SCALE

Figure 2-9
MIXED USES

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008



TW - Travelway
B - Bike lane
P - Parking (on-street)
SZ - Streetscape Zone
FS - Front Setback

NORTH NOT TO SCALE

Figure 2-10
PEDESTRIAN-SCALED STREETS

HHFDC Keahuolu Affordable Housing Project
Environmental Impact Statement
September 2008

2.3 HHFDC'S RFP PROCESS – SELECTION OF A DEVELOPER

Following completion of the Master Plan process on July 23, 2007, the HHFDC issued a ~~Request for Proposals~~RFP for the purpose of soliciting proposals from interested developers who meet the qualifications set forth by the HHFDC to plan, design, and develop "mixed income rental and/or for sale units" on the approximately 272-acre vacant and undeveloped project site. The HHFDC RFP document states that the submitted proposal is expected to be conceptual in nature. The total number and mix of affordable and market-priced housing units, as well as the final configuration of the various land uses, will be determined in the course of the HHFDC's RFP process and HHFDC's selection of the ultimate developer and development scheme.

The RFP document states that the "Keahuolu Affordable Housing Master Plan" report is included as part of the RFP for reference "but is not a requirement." The HHFDC's RFP objective is as follows:

> *The objective of this RFP is to produce the maximum number of affordable units in the most livable community within the shortest feasible duration.*
>
> *"Affordable" housing is capped at 140% of the median income established by the U.S. Department of Housing and Urban Development (HUD).*

2.3.1 Selection of the Developer

According to HHFDC's July 23, 2007 RFP document, selection of the developer will be subject to approval of the HHFDC Board of Directors. The Selection Committee will make a recommendation approximately 60 calendar days from the deadline for submittal of the RFP proposals, which was December 14, 2007. The timing of the recommendation is an estimate and is subject to change by HHFDC. The Selection Committee will pick a developer and the developer's conceptual proposal based on the developer's response to the RFP.

2.3.2 HHFDC Evaluation Criteria

The proposals submitted to HHFDC in response to the July 23, 2007 RFP will be evaluated in accordance with the following criteria taken from the RFP:

1. Development qualifications, including development and management experience and capacity of the developer and his team to undertake the type of project proposed - 20 pts;
2. Maximum number of affordable units - 15 pts;
3. Most livable community - 15 pts;
4. Earliest feasible completion dates for the affordable units - 15 pts;
5. Feasibility of overall project and proposal - 15 pts;
6. Range and mix of affordability - 10 pts;
7. Minimum Use of State Resources* - 10 pts;
8. Maximum number of affordable rental units, with a preference for family rental units (up to a maximum of 35% rental units of the total units in the project) - 5 pts;
9. Maximum number of affordable rental units with three bedrooms or more (up to a maximum of 20% of the total rental units in the project) - 5 pts;
10. Compliance with RFP and Application requirements - 5 pts.

    Total Points - 115 pts.

* For purposes of the RFP, the "use of State resources" does not include the following:
   a. Use of the property pursuant to the RFP;
   b. Use of State tax exempt bond authority; and
   c. Use of non-competitive 4% tax credits.

2.3.3 Relationship Between the Developer and HHFDC

According to the RFP, HHFDC will not be the developer, nor landlord or a seller of dwelling units. The RFP stipulates that there will be no partnership, joint venture, employer and employee, master or servant or other agency relationship between HHFDC and the developer.

The developer ultimately selected by HHFDC for the project will be responsible for all on-site and off-site infrastructure improvements, costs and expenses associated with, and required for

the development, ownership, management and operation of the project, including planning, design, permit fees, utility charges, operation, management and sales expenses.

2.4 THE CONCEPT PLANS

The three alternative concept plans were developed based on the design principles and the analysis of site opportunities and constraints as described in previous sections. All three concept plans have multi-family housing and commercial uses concentrated around a centrally located community center and civic green space. Single-family and medium-density housing neighborhoods are indicated on the perimeter, while high-density housing is centrally located. All three plans provide neighborhood parks, an archaeological preserve near Palani Road, and an approximately 12-acre area reserved for a future school facility. The existing County water reservoir tank located along Palani Road is not part of the project property and is expected to remain in place.

The three concept plans integrate the project site with the area's existing and future transportation network. Primary access to the Keahuolu project site will be from the new Ane Keohokalole Highway. Access is also proposed along the extension of Keanalehu Drive, and there is the potential for a right-turn-in/right-turn-out along Palani Road.

The concept plans have several elements in common:

Common Elements of the Three Alternative Concept Plans

- Feature identical physical roadway and block layouts.
- Provide a minimum of 1,020 to a maximum of 2,330 dwelling units (single-family and multi-family residences). The differences are in housing types and range of densities.
- Provide a mixed-use community center that comprises roughly a six-block area featuring multi-family housing, ground-floor commercial/retail uses, and civic open space.
- Provide 197,000 square feet of commercial/retail space to be located at the community center.
- Provide a site reserved for a school (approximately 12 acres).
- Provide for archaeological preserve areas (approximately 7 acres).

- Provide neighborhood parks (approximately 25 acres), street trees, and a landscaped buffer along Ane Keohokalole. Two large parks are proposed to be centered within each of the north and south neighborhoods.
- Provide on- and off-site infrastructure improvements.
- Create a walkable, bikable, active-lifestyle community.
- Provide a TOD centered on future northbound and southbound bus stops to be located at the intersection of the proposed Ane Keohokalole Highway and the proposed extension of Makala Boulevard.
- Provide high-density development within easy walking distance (1/4 mile) from the transit stops.
- Accommodate the potential for feasible roadway connections to future development on adjacent lands.

Table 2-3 identifies the various land use components and their relative scope for each concept plan. The individual concept plans are described in the following sections.

Table 2-3: Alternative Land Use Concept Plans

Uses	Concept A		Concept B		Concept C	
	Quantity	Acres	Quantity	Acres	Quantity	Acres
Single-Family - Low Density	400 du	100.88	600 du	100.88	--	--
Multi-Family – Medium Density	220 du	27.83	440 du	27.83	1,530 du	128.71
Multi-Family – High Density	400 du	33.66 *	800 du	33.66 *	800 du	33.66 *
Commercial	197,000 sf	*	197,000 sf	*	197,000 sf	*
School Facility		11.82		11.82		11.82
Archaeological Preserve		7.23		7.23		7.23
Open Space		25.18		25.18		25.18
Internal Roads		65.40		65.40		65.40
Total Dwelling Units	**1,020 du**		**1,840 du**		**2,330 du**	
Total Commercial SF	**197,000 sf**		**197,000 sf**		**197,000 sf**	
Project Site		**272 acres**		**272 acres**		**272 acres**

* The multi-family high-density land use area contains the commercial floor area in all three concept plans.
du dwelling units
sf square feet
Source: *The Keahuolu Affordable Housing Master Plan, June 2007*

2.4.1 Concept Plan A – 1,020 Dwelling Units

Concept Plan A has a total of 1,020 dwelling units (Figure 2-11). It has a mix of low-density single-family housing and multi-family housing. The multi-family housing is in both medium-