



**Palamanui Waterline,
343-foot Elevation Reservoir
& Main Street Collector Road Extension**

F I N A L E N V I R O N M E N T A L A S S E S S M E N T

July 2008

prepared for accepting authority:
Department of Land and Natural Resources

applicant:
Palamanui, LLC

prepared by:

 **PBR HAWAII**
& ASSOCIATES, INC.

**Palamanui Waterline,
343-foot Elevation Reservoir
& Main Street Collector Road Extension
Final Environmental Assessment**

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**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
AND MAIN STREET COLLECTOR ROAD EXTENSION
FINAL ENVIRONMENTAL ASSESSMENT**

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LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|-------|--|
| ALISH | Agricultural Lands of Importance in the State of Hawai'i |
| CDP | Census Designated Place |
| CZ | Coastal Zone |
| CZM | Coastal Zone Management |
| CZMA | Coastal Zone Management Act |
| DAGS | Department of Accounting and General Services |
| DBA | District Boundary Amendment |
| DHHL | Department of Hawaiian Home Lands |
| DLNR | Department of Land and Natural Resources |
| DOH | Department of Health |
| DWS | County Department of Water Supply |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EPA | Environmental Protection Agency |
| FIRM | Flood Insurance Rate Map |
| FHWA | U.S. Federal Highway Administration |
| FWS | U.S. Fish and Wildlife Service |
| HDOT | Hawai'i State Department of Transportation Highways Division |
| HELCO | Hawai'i Electric Light Company |
| HRS | Hawai'i Revised Statutes |
| kV | Kilovolt |
| LLC | Limited Liability Corporation |
| LRDP | Long Range Development Plan |
| LUC | Land Use Commission |
| mgd | million gallons per day |
| msl | mean sea level |
| MOU | Memorandum of Understanding |
| NOAA | National Oceanic & Atmospheric Administration |
| NGPC | Notice of General Permit Coverage |
| NPDES | National Pollutant Discharge Elimination System |
| NRCS | U.S. Department of Agriculture Natural Resources Conservation Services |
| OEQC | Office of Environmental Quality Control |
| OSP | Office of State Planning |
| ROW | Right of way |
| SHPD | State Historic Preservation Division |
| SMA | Special Management Area |
| TMK | Tax Map Key |
| UH | University of Hawai'i |
| UHCWH | University of Hawai'i Center at West Hawai'i |
| USGS | United States Geological Survey |
| WWTP | Wastewater Treatment Plant |

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1.0 INTRODUCTION

This Environmental Assessment (EA) is prepared in accordance with Chapter 343, Hawai'i Revised Statutes (HRS), because it is triggered by the use of State lands.

1.1 PROJECT SUMMARY

Project Name: Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension

Location: North Kona, Island of Hawai'i, Hawai'i (Figure 1)

Land Owner: State of Hawai'i Department of Land and Natural Resources (DLNR); Department of Hawaiian Home Lands (DHHL)

Applicant: Pāalamanui, LLC

Tax Map Key: (3) 7-3-10:39 (por.), 40 (por.), 42 (por.), 43 (por.), 44 (por.) and 45 (por.) (Figure 2)

Land Area: Approximately 12 acres

Existing Use: Vacant

Proposed Use: Construction of a new 16-inch underground Pāalamanui Waterline on State lands

Construction of 343-Foot Elevation Reservoir to service both the Pāalamanui Development and the University of Hawai'i Center at West Hawai'i (UHCWH) project site (TMK: 7-3-10:42).

Construction of Main Street Collector Road Extension through the UHCWH parcel into Pāalamanui from the Main Street Collector Road

Land Use Designations: State Land Use District: Urban
County General Plan: Urban Expansion, University Use
Hawai'i County Zoning: Agricultural (A-5a), Open
Special Management Area: Project is not within the SMA

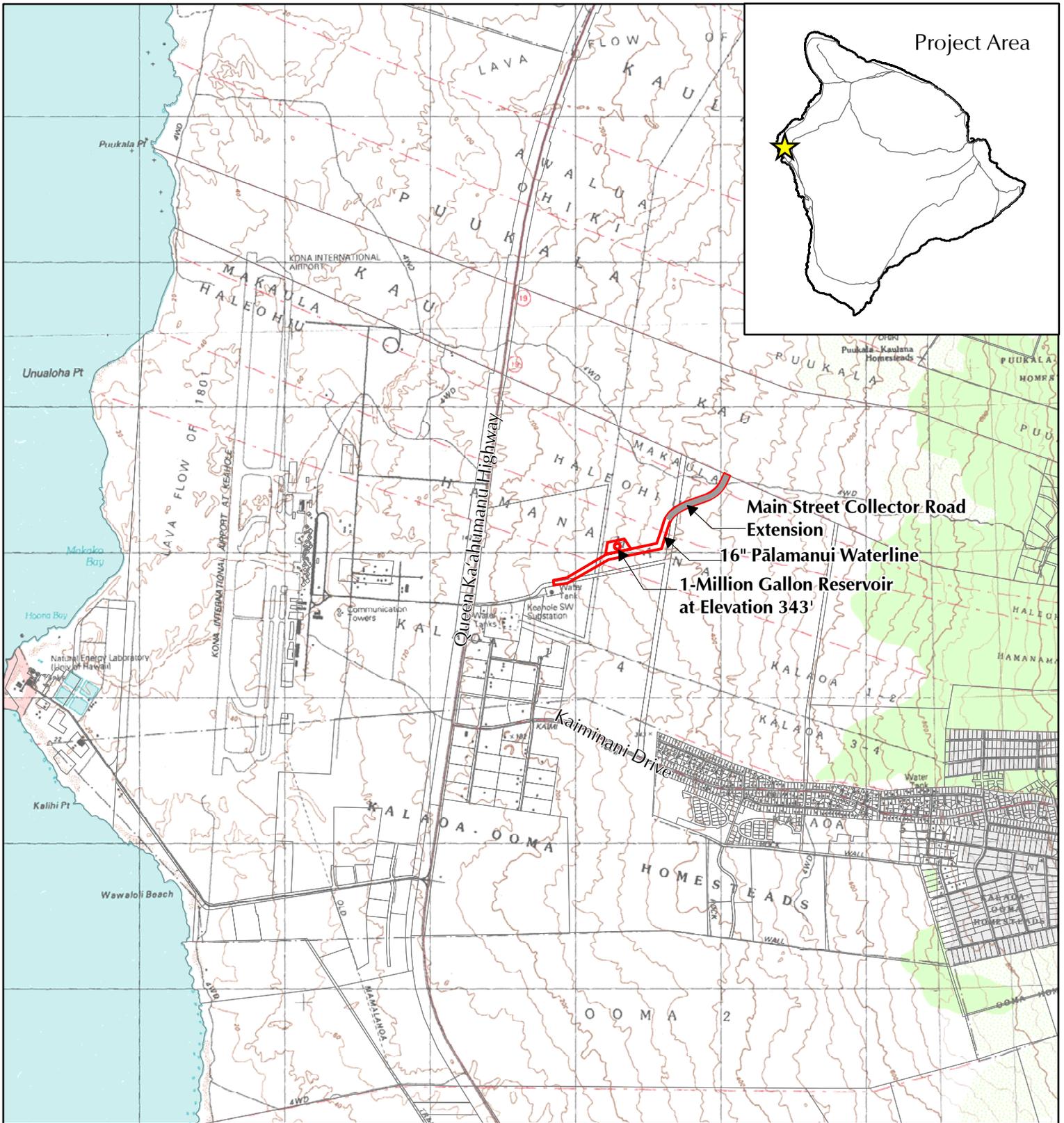
Permits/Required: Construction Permits (Building, Grading & Paving)
National Pollutant Discharge Elimination System (NPDES)
Underground Injection Control (UIC)

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Water System Construction Plan Approval
Consolidation and re-subdivision of rights-of-way (ROW)
Plan Approval

Approving Agency: State of Hawai'i Department of Land and Natural Resources

Determination: Finding of No Significant Impact (FONSI)



LEGEND

 Project Site Boundary

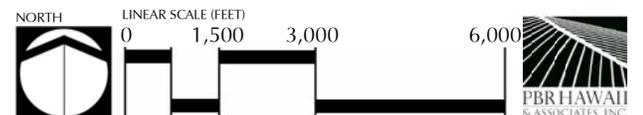
FIGURE 1

Regional Location

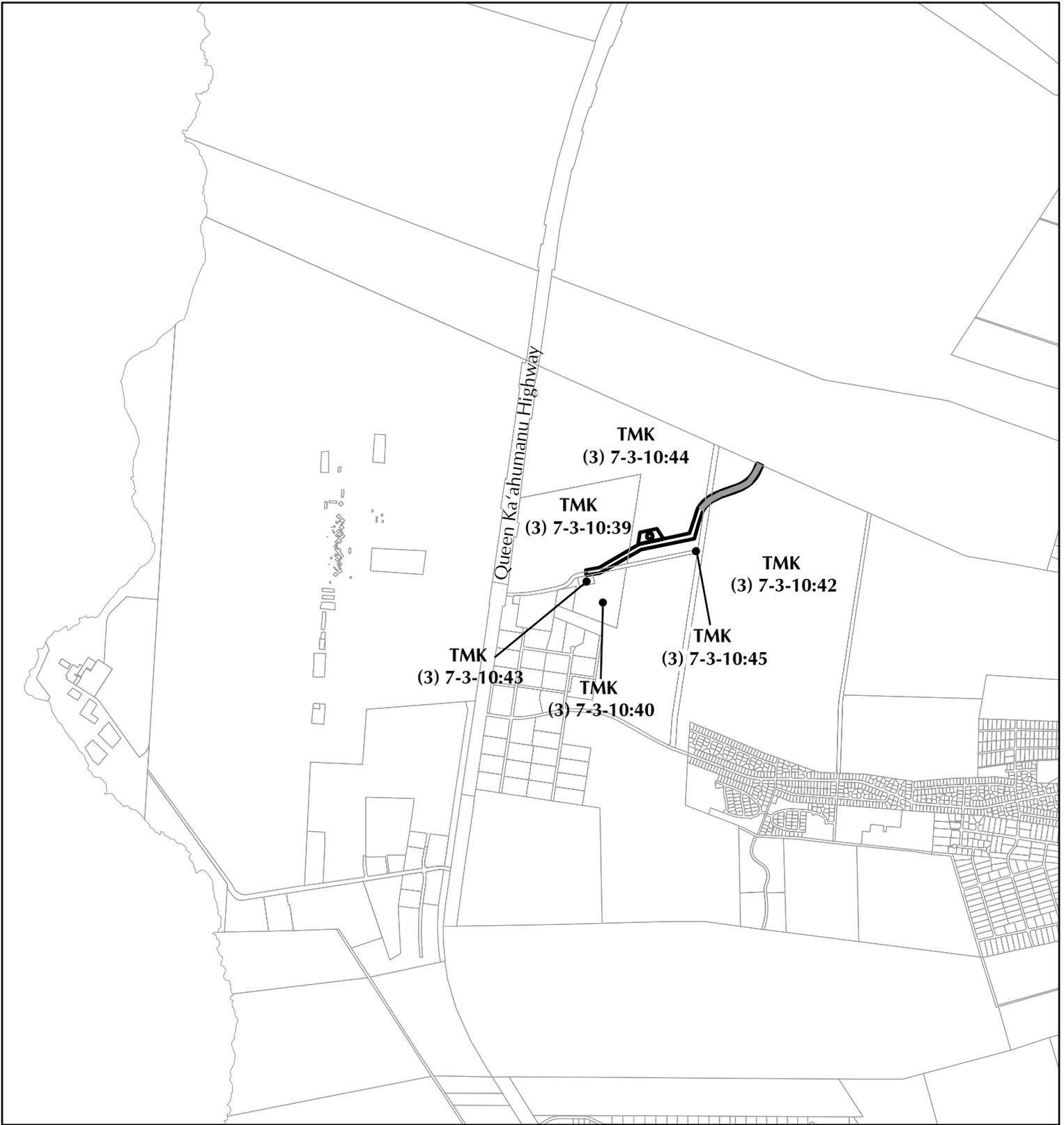
**Pālanui Waterline,
343-foot Elevation Reservoir and
Main Street Collector Road Extension**

Pālanui, LLC

Island of Hawai'i



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



LEGEND

 Project Site Boundary

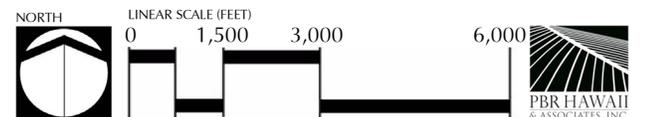
FIGURE 2

Tax Map Key

**Pālanui Waterline,
343-foot Elevation Reservoir, and
Main Street Collector Road Extension**

Pālanui, LLC

Island of Hawai'i



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1.2 LOCATION

The project area is located mauka of Queen Ka'ahumanu Highway and the Kona International Airport at Keāhole, in the North Kona district on the Island of Hawai'i (Figure 1). The major commercial center in the North Kona district is Kailua-Kona, the second largest city on the Island of Hawai'i. The two major roads that pass through Kailua-Kona are Queen Ka'ahumanu Highway (State Route 19) and Māmalahoa Highway (State Route 190). Queen Ka'ahumanu Highway was completed and opened for use in 1975 and is the main transportation route between Kailua-Kona, West Hawai'i's deep water harbor at Kawaihae, and the large resort areas of Hualālai, Waikoloa and Hapuna Beach.

1.3 LAND OWNERSHIP

The land under the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension project area (TMKs: (3) 7-3-10: 39, 40, 42, 43, 44 and 45) (Figure 2) is owned by the State of Hawai'i, but managed by various agencies. The affected portion of Parcel 42 is anticipated to fall under the jurisdiction of the University, but has yet to be transferred from DLNR. Parcels 39 and 40 are under the jurisdiction of DHHL. Parcel 45 is the existing right-of-way owned by the State. The remainder of the parcels are managed by DLNR.

1.4 IDENTIFICATION OF APPLICANT

The applicant is Pāalamanui, LLC.

Contact: Roger Harris, Director of Planning
Pāalamanui, LLC
PO Box 9007
Kailua-Kona, HI 96745
Telephone: (808) 325-0700
Fax: (808) 443-0701

1.5 IDENTIFICATION OF ENVIRONMENTAL CONSULTANT

The environmental consultant is PBR HAWAII.

Contact: Vincent Shigekuni, Vice President
PBR HAWAII
1001 Bishop Street, ASB Tower 650
Honolulu, Hawai'i 96813
Telephone: (808) 521-5631
Fax: (808) 523-1402

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1.6 IDENTIFICATION OF APPROVING AGENCY

The Department of Land and Natural Resources serves as the accepting agency for this document. The proposed action (Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension) sits on DLNR land.

Contact: Charlene Unoki
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809
Telephone: (808) 587-0414
Fax: (808) 587-0455

1.7 COMPLIANCE WITH STATE OF HAWAI'I AND COUNTY OF HAWAI'I ENVIRONMENTAL LAWS

This document has been prepared in accordance with the provisions of Chapter 343, Hawai'i Revised Statutes (HRS) and Title 11, Department of Health, Chapter 200, Hawai'i Administrative Rules (HAR) relating to Environmental Impact Statement Rules. Section 343-5, HRS, sets forth nine "triggers" requiring either an environmental assessment or an environmental impact statement.

In accordance with Section 343-5(b), HRS, the use of State land is a "trigger" requiring preparation of an environmental assessment (EA) by the applicant at the earliest practicable time in order to determine whether an environmental impact statement (EIS) shall be required. As such, this EA is prepared in compliance with all pertinent statutes and regulations.

1.8 IDENTIFICATION OF AGENCIES CONSULTED

The individuals and agencies (or agency documents) listed below were consulted in preparation of this EA. Correspondence received during the pre-consultation period and respective reply letters from the consultant are included as APPENDIX A.

Federal

Federal Emergency Management Agency
U.S. Army Corps of Engineers
U.S. Department of Agriculture, Natural Resources Conservation Service
U.S. Department of the Interior, Fish and Wildlife Service

State of Hawai'i

Department of Business Economic Development & Tourism (DBEDT)
Land Use Commission
Office of Planning

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

County of Hawai'i

Mayor Harry Kim
Angel Pilago, County Council Member
Department of Environmental Management
Department of Parks and Recreation
Department of Public Works
Department of Water Supply
Department of Research and Development
Fire Department
Planning Department
Police Department

Private

Hawai'i Electric Light Company, Inc.
Hawaiian Telcom
Oceanic/Time Warner Cable

1.9 STUDIES CONTRIBUTING TO THIS ENVIRONMENTAL ASSESSMENT

The information contained in this report has been developed from site visits, generally available information regarding the characteristics of the site and surrounding areas and technical studies. A botanical survey report is provided as APPENDIX B. An archaeological study is provided as APPENDIX C.

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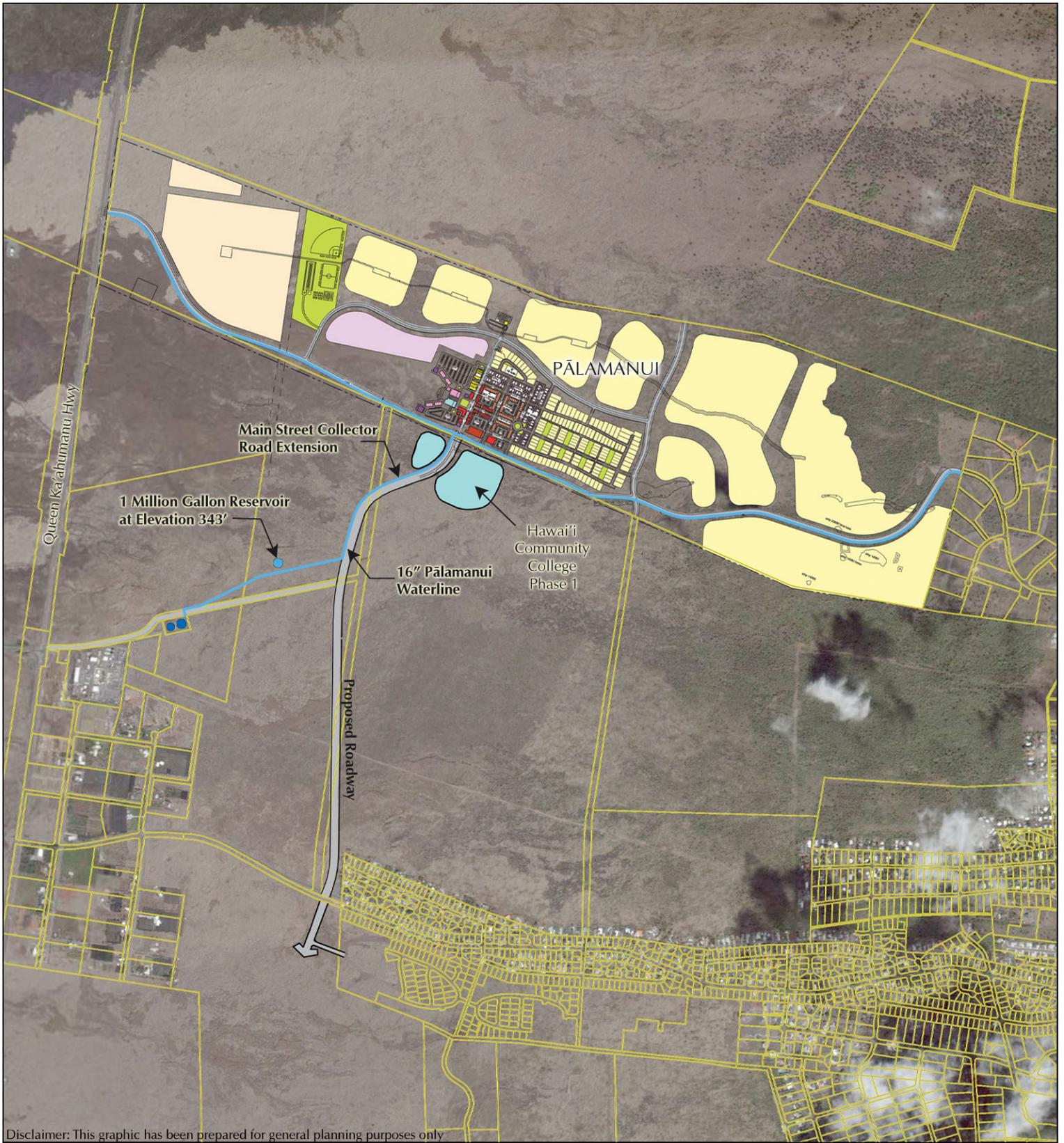
2.0 PROJECT DESCRIPTION

This section provides information on the existing uses, a general description of Pāalamanui Waterline, the 343-foot elevation reservoir and the Main Street collector road extension. The section also includes background on the purpose and need for the proposed infrastructure, discusses the development timetable, and preliminary development costs.

Concurrent with development of the waterline, reservoir and collector road extension, the construction of a 20,000 square foot building complex for UHCWH would commence – a project separate from the proposed action. These activities, along with their impacts and related mitigation measures, have been fully disclosed in the 2000 *University of Hawai'i Center at West Hawai'i* and 2004 *Pāalamanui Development* final environmental impact statements.

2.1 EXISTING LAND USE

The Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension project area currently sits vacant and undeveloped (see Figure 3). Most of the area is covered with scrub grass, small trees and shrubs. No modern development has occurred in the immediate area.



LEGEND

-  Proposed New Water Tank
-  Proposed 16" Waterline
-  Proposed Road and Utility Alignment

FIGURE 3

Aerial Photograph

**Pālanui Waterline,
343-foot Elevation Reservoir, and
Main Street Collector Road Extension**

Palamanui, LLC

Island of Hawai'i

NORTH



NOT TO SCALE



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2.2 BACKGROUND INFORMATION ON PALAMANUI DEVELOPMENT AND UNIVERSITY OF HAWAI'I AT WEST HAWAI'I (UHCWH)

The Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are proposed as infrastructure support for the Pāalamanui Development and the UHCWH, described below:

Pāalamanui Development: Pāalamanui, LLC (Pāalamanui) proposes development of its approximately 725-acre parcel (TMK: (3) 7-2-05:01) located mauka of Queen Ka'ahumanu Highway and makai of Makalei Estates (Figure 3). As a master planned community, Pāalamanui includes single- and multi-family residential units, University residential facilities, health facilities, research and development facilities, mixed commercial development, a small hotel, archaeological preserves, cave and lava tube preserves, a dry forest preserve, passive and active parks, open space and parking areas. Pāalamanui, LLC will provide the infrastructure facilities to support the Pāalamanui Development.

Infrastructure includes access and internal circulation roadway networks, a wastewater treatment and disposal system, a potable water supply and fire protection system, a non-potable water irrigation system, major electrical improvements and other utility systems. A Final Environmental Impact Statement was prepared for the "Pāalamanui—A Hiluhilu Development Project" in September 2004 by Group 70 International, Inc. and accepted October 7, 2004 by the State of Hawai'i Land Use Commission.

University of Hawai'i Center at West Hawai'i: The University of Hawai'i Center at West Hawai'i (UHCWH) currently operates in the Kealakekua Business Plaza at the intersection of Haleki'i Street and Māmalahoa Highway (81-964 Haleki'i Street). University Centers are located in communities that lack access to programs offered elsewhere in the University of Hawai'i system. University Centers offer degrees and certificate programs accredited at other UH system campuses offered through distance learning. For administrative purposes, the UHCWH is assigned to the Hawai'i Community College in Hilo.

A new permanent facility for the UHCWH has been proposed at Kalaoa, on a portion of the parcel (TMK: (3) 7-3-10:42) located adjacent to the Pāalamanui Development. This 500 acre parcel is owned by the State of Hawai'i. Initially, the campus will be approximately 33 acres. The UHCWH will include a Library/Learning Resource Center, Food Service Building, Operations and Maintenance Building, Instructional Support/Director Building, Student Services Building, Continuing Education Building and General Instruction classrooms. A Final Environmental Impact Statement was prepared for the UHCWH in October 2000 by Wil Chee – Planning & Environmental, Inc. and accepted by the Governor in March 2001. During the public review period, the UH Community

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Colleges wrote: “The subject project appears at this time to be beneficial to the future expansion of our Center at West Hawai’i.”

Pāalamanui, LLC will develop and provide some of the infrastructure and buildings for UHCWH. On November 21, 2002, with University of Hawai’i Board of Regents’ (BOR) approval, Hawai’i Community College entered into a Memorandum of Understanding (MOU) with Pāalamanui to consult and discuss joint development opportunities for the adjacent properties, with the developer providing initial infrastructure for the UHCWH. Pāalamanui, LLC will also develop a residential/commercial community on its property, with a University Village Center on a small portion of Pāalamanui’s land and spanning a small part of the State’s property (Figure 3). The University Village is envisioned as a walking village which would link the University’s facilities with complimentary commercial, recreational and cultural facilities.

A 120-foot wide north-south roadway right-of-way paralleling Queen Ka’ahumanu Highway borders the makai boundary of the University site. Pāalamanui has proposed an alignment for the Main Street Collector Road which will provide access and utility corridor to Pāalamanui and the UHCWH. The Main Street Collector Road will run from Ka’iminani Drive to Pāalamanui and will be located in portions of TMK: (3) 7-3-10:42, 46 and 49-33, 42, 44, and 45. The Main Street Collector Road was initially planned to follow the existing 120-foot right-of-way (TMK: (3) 7-3-10:45), but was slightly realigned north to avoid archaeological sites. The Main Street Collector Road will initially consist of two 12-foot lanes, with the possibility to expand to four lanes in the future.

A Final Environmental Assessment was prepared by Wil Chee – Planning & Environmental, Inc. for the “University of Hawai’i Center at West Hawai’i Main Street Collector Road” in January 2007, with a determination by the approving agency, the State of Hawai’i Department of Accounting and General Services (DAGS), that there will be no significant environmental impacts associated with the proposed action.

2.3 DESCRIPTION OF THE PROPOSED IMPROVEMENTS

Pāalamanui, LLC is proposing to construct a 16-inch underground waterline (Pāalamanui Waterline), 343-foot Elevation Reservoir and Main Street Collector Road Extension in the North Kona district on the Island of Hawai’i. A brief description of each are included below:

Waterline: The Waterline will run approximately 5,750 feet. The waterline will start at the existing County of Hawai’i Department of Water Supply’s (DWS) Keāhole water tanks (located at the 280-foot elevation). The Keāhole water tanks consist of one 0.5 million gallon tank and one 1 million gallon tank. From the

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Keāhole water tanks, the waterline will extend mauka through open land, where it will intersect and run within the future Main Street Collector Road right-of-way. The 16-inch waterline connects to existing mauka and makai waterlines and forms an important northern “loop” in the DWS regional system. The Pāalamanui Waterline will provide water to the University of Hawai‘i Center at West Hawai‘i (UHCWH) and Pāalamanui development.

A 10-foot wide service/access road will be constructed by Pāalamanui for use by DWS and follow the same alignment of the Pāalamanui Waterline (from the Keāhole water tanks to the intersect with Main Street Collector Road). Upon completion, the waterline and reservoir will be dedicated to the County of Hawai‘i through a title document similar to an Executive Order from the Governor of Hawai‘i.

343-foot Elevation Reservoir: The proposed reservoir will be constructed along the proposed alignment for the Pāalamanui Waterline and mauka of the existing Keāhole water tanks. The reservoir will be concrete, designed according to DWS standards, and have a design capacity of 1 million gallons. The water for the reservoir will be drawn from two newly outfitted wells adjacent to Māmalahoa Highway and within the same ahupua‘a.

Upon completion, the waterline and reservoir will be dedicated to DWS through a title document similar to an Executive Order from the Governor of Hawai‘i.

Main Street Collector Road Extension: As shown in Figure 1, the Main Street Collector Road Extension is an s-shaped curved road running through the UHCWH parcel into Pāalamanui from the Main Street Collector Road.

At the same time as the collector road extension waterline and reservoir are being implemented, the initial UHCWH 20,000 square foot building complex and 20-acre regional park will be constructed. These activities, along with their impacts and related mitigation measures, have been fully disclosed in the 2000 *University of Hawai‘i Center at West Hawai‘i* and 2004 *Pāalamanui Development* Final Environmental Impact Statements.

2.4 PROJECT COST AND IMPLEMENTATION TIMEFRAME

The cost of the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension is approximately \$6 million. Pāalamanui anticipates commencement of development to begin as soon as all entitlements and approvals have been received, including with land agreements that require Board of Land and Natural Resources and Hawaiian Homes Commission approval. Completion is estimated within 18 months from commencement.

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3.0 DESCRIPTION OF THE NATURAL ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

This section describes the existing conditions of the physical or natural environment, potential impacts of the Pālanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension on the environment and mitigation measures to minimize impacts.

3.1 CLIMATE

Hawai'i Island's geological features heavily influence its climate. Although the island consists of five volcanoes, the peaks of Mauna Loa (13,679 foot summit elevation) and Mauna Kea (13,796 foot summit elevation) dominate ground-based atmospheric influences. The region receives an annual rainfall of approximately 25 inches, with mauka areas typically experiencing larger amounts of rainfall than makai areas. Regional temperatures range from 72 to 77 degrees Fahrenheit (County of Hawai'i Department of Research and Development, 2005). Humidity ranges throughout the year between 68 percent in the morning to 80 percent in the afternoon (NOAA, no date).

Trade winds are typical of the Hawaiian Islands, blowing predominantly from a northeast direction, and averaging approximately 7 miles per hour (mph) (NOAA, no date). Hualālai and Mauna Loa, further influence the wind pattern for the Island of Hawai'i. In the early morning, the prevailing wind pushes out towards the ocean, and in the afternoon, the winds blow from the ocean towards the island (Juvick & Juvick, 1998).

Potential Impacts and Mitigation Measures

Construction of the Pālanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are not anticipated to have any impact on climatic conditions and no mitigation measures are planned.

3.2 GEOLOGY AND TOPOGRAPHY

Geology

Hualālai Volcano shaped the landscape of North Kona. Its most recent flow in 1800-1801, and including earlier flows, have created a harsh landscape that greatly slopes towards the sea. Multiple flows of differing ages overlap each other creating a layered landscape with lava colors reflecting differences in age, chemical composition, and state of weathering. Hualālai lay dormant since 1801, but a series of earthquakes in 1929 and other seismic activity indicate its most recent eruptive phase may not have concluded (Macdonald, Abbott & Peterson, 1983).

The site's geomorphology consists of multiple interbedded pāhoehoe and a'a flows. Pāhoehoe flows harden and form a smooth ropey surface while a'a flows harden as a

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rough jagged surface. Both lavas contain buried voids like pockets, blisters, and extensive lava tubes and tunnels that form as the molten rock cools and residual lava drains beneath the solidified surface. Many of these lava tubes and voids have been found in the area. The thin roofs of lava tubes can collapse when placed under additional weight.

Topography

The project area slopes in an east to west (mauka to makai) direction, with a cross-slope of approximately four percent. The mauka extent will be located at an elevation of approximately 435 feet above mean sea level (msl) and the makai extent will be located at an elevation of approximately 180 feet above mean sea level.

Potential Impacts and Mitigation Measures

Construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will have no substantial adverse effect on the geology or topography of the area. Trenching will be necessary in order to install the waterline underground and existing vegetation will have to be cleared and the surface grubbed. Topography along the utility line alignment will not be altered and drainage patterns will be maintained. All construction will be conducted in compliance with dust and erosion control requirements of the County of Hawai'i. During site grading and all other construction activities involving soil disturbance, Best Management Practices (BMPs), which may include use of silt fences, sediment traps and diversion swales, will be utilized to minimize erosion of soil and the discharge of other pollutants, associated with project development.

3.3 SOILS

There are three soil suitability studies prepared for lands in Hawai'i whose principal focus has been to describe the physical attributes of land and the relative productivity of different land types for agricultural production. These are: 1) the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) Soil Survey; 2) the University of Hawai'i Land Study Bureau Detailed Land Classification; and 3) the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawai'i (ALISH).

3.3.1 Natural Resources Conservation Service (NRCS)

The Natural Resource Conservation Service, Soil Survey for the Island of Hawai'i, classifies the soils of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension project site as pāhoehoe lava flows (rLW), Punalu'u extremely rocky peat, 6 to 20 percent slopes (rPYD) and a'a lava flows (rLV) (Figure 4). A brief description of each soil type is included below:

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Lava Flows, pāhoehoe (rLW) - This soil has a billowy, glassy surface that is relatively smooth. In some areas, the surface is rough and broken and there are hummocks and pressure domes. The soil has no cover and is typically bare of vegetation, except for mosses and lichens. Some flat slabs are used as facings on buildings and fireplaces.

Punalu‘u extremely rocky peat, 6 to 20 percent slopes (rPYD) - This soil has a rapidly permeable black peat surface layer, about four inches thick and is underlain by very slowly permeable pāhoehoe lava bedrock. The peat has weak, very fine, granular structure that is very friable, non-sticky, non-plastic and non-smearly, with many very fine pores, few pebbles on the surface and many roots. The soil has medium acidity. Approximately 40 to 50 percent of the surface consists of rock outcrop. Runoff is slow and there is slight erosion hazard. Roots are matted over the pāhoehoe lava. The soil is primarily used for pasture.

Lava Flows, a‘a (rLV) – This soil is rough and broken, consisting of a mass of clinkery, hard, glassy, sharp pieces piled in tumbled heaps. There is practically no soil covering and is typically bare of vegetation, except for mosses, lichens, ferns and a few small ‘ōhi‘a trees.

3.3.2 Land Study Bureau Detailed Land Classification

The University of Hawai‘i Land Study Bureau document, Detailed Land Classification, Island of Hawai‘i, classifies soils based on a given class productivity rating using the letters A, B, C, D and E, with A representing the highest class of productivity and E the lowest. There is also a U designation, which means the soils are not classified. The soils under the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension project site have no classification (Figure 5).

3.3.3 Agricultural Lands of Importance to the State of Hawai‘i (ALISH)

The Agricultural Lands of Importance to the State of Hawai‘i (ALISH) system classify important agricultural lands as Prime, Unique, or Other Agricultural Land. The Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension project site lands have no classification (Figure 6).

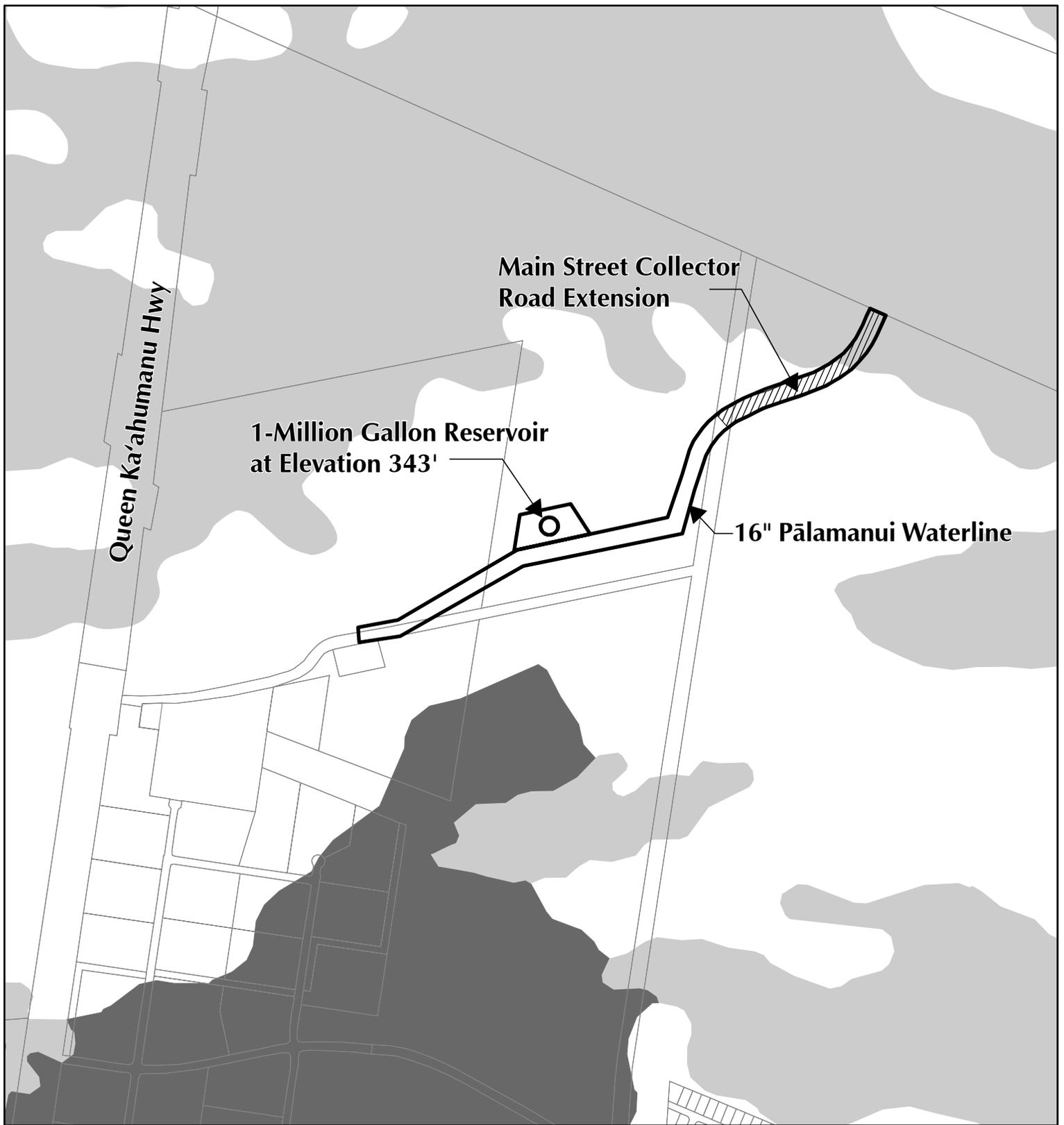
Potential Impacts and Mitigation Measures

Construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will have no adverse effect on the potential for cultivation of the soils on the project site. Because the soils at the project site are not well suited for

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crop cultivation, the proposed development is not expected to impact the availability of agricultural land.

Potential impacts to soils include soil erosion and the generation of dust during construction. However, subsequent to line installation, trenches will be backfilled to match existing grades. All construction will be conducted in compliance with dust and erosion control requirements of the County of Hawai'i. During site grading and all other construction activities involving soil disturbance, Best Management Practices (BMPs), which may include use of silt fences, sediment traps and diversion swales, will be utilized to minimize erosion of soil and the discharge of other pollutants, associated with project development.



LEGEND

-  Project Site Boundary
-  rLV: Lava Flows, A'a
-  rLW: Lava Flows, Pahoehoe
-  rPYD: Punalu'u Extremely Rocky Peat, 6-20% Slopes

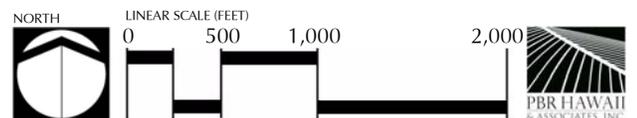
FIGURE 4

Natural Resources Conservation Service
Soil Survey

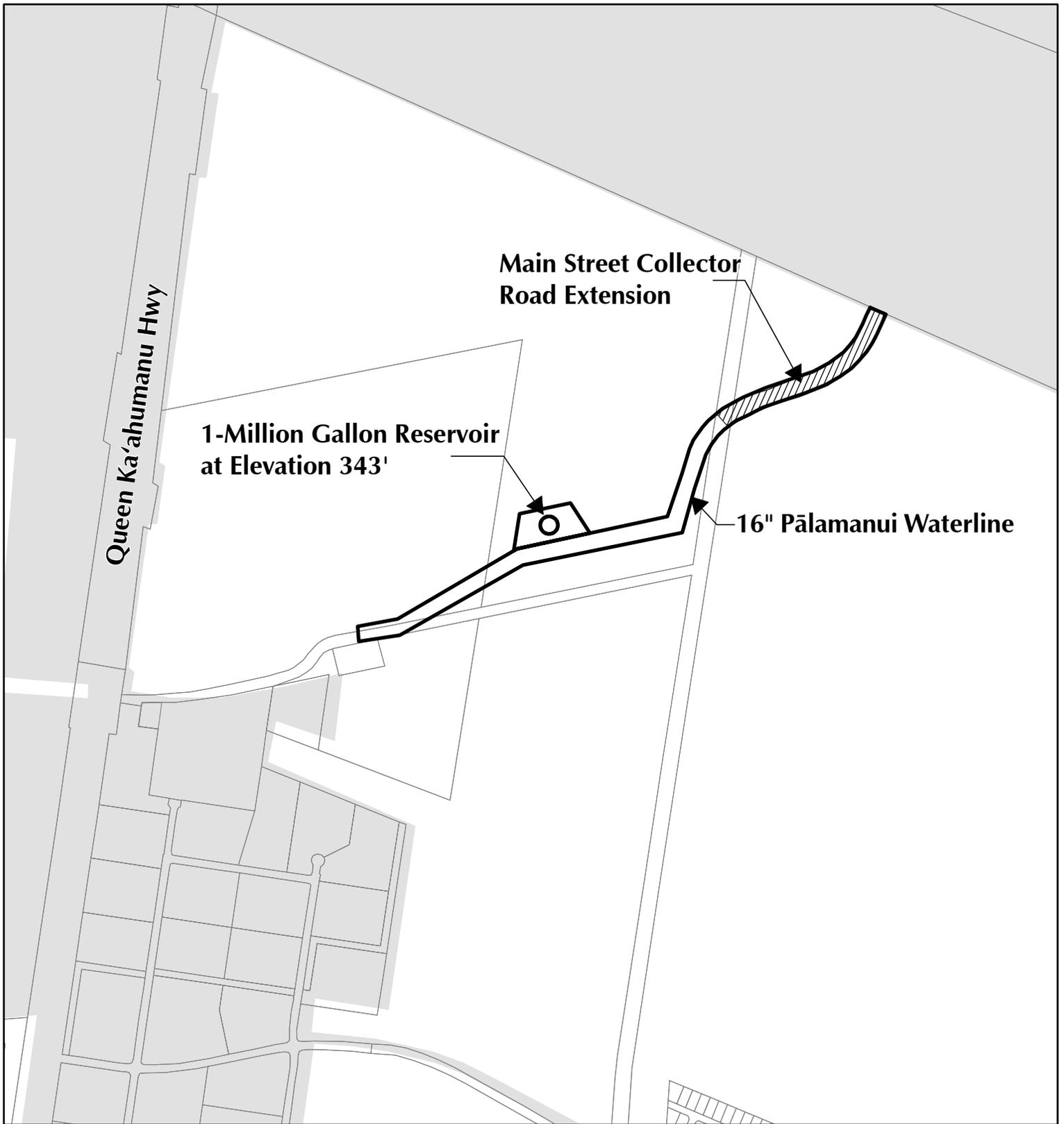
**Pālanui Waterline,
343-foot Elevation Reservoir, and
Main Street Collector Road Extension**

Pālanui, LLC

Island of Hawai'i



Source: U.S. Natural Resources Conservation Service (1997)
Disclaimer: This graphic has been prepared for general planning purposes only



LEGEND

-  Project Site Boundary
-  Type E (Very Poor)
-  Not Classified

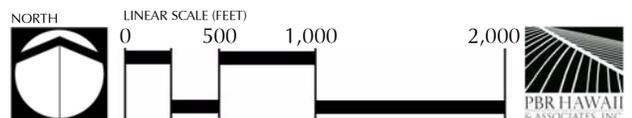
FIGURE 5

Detailed Land Classification

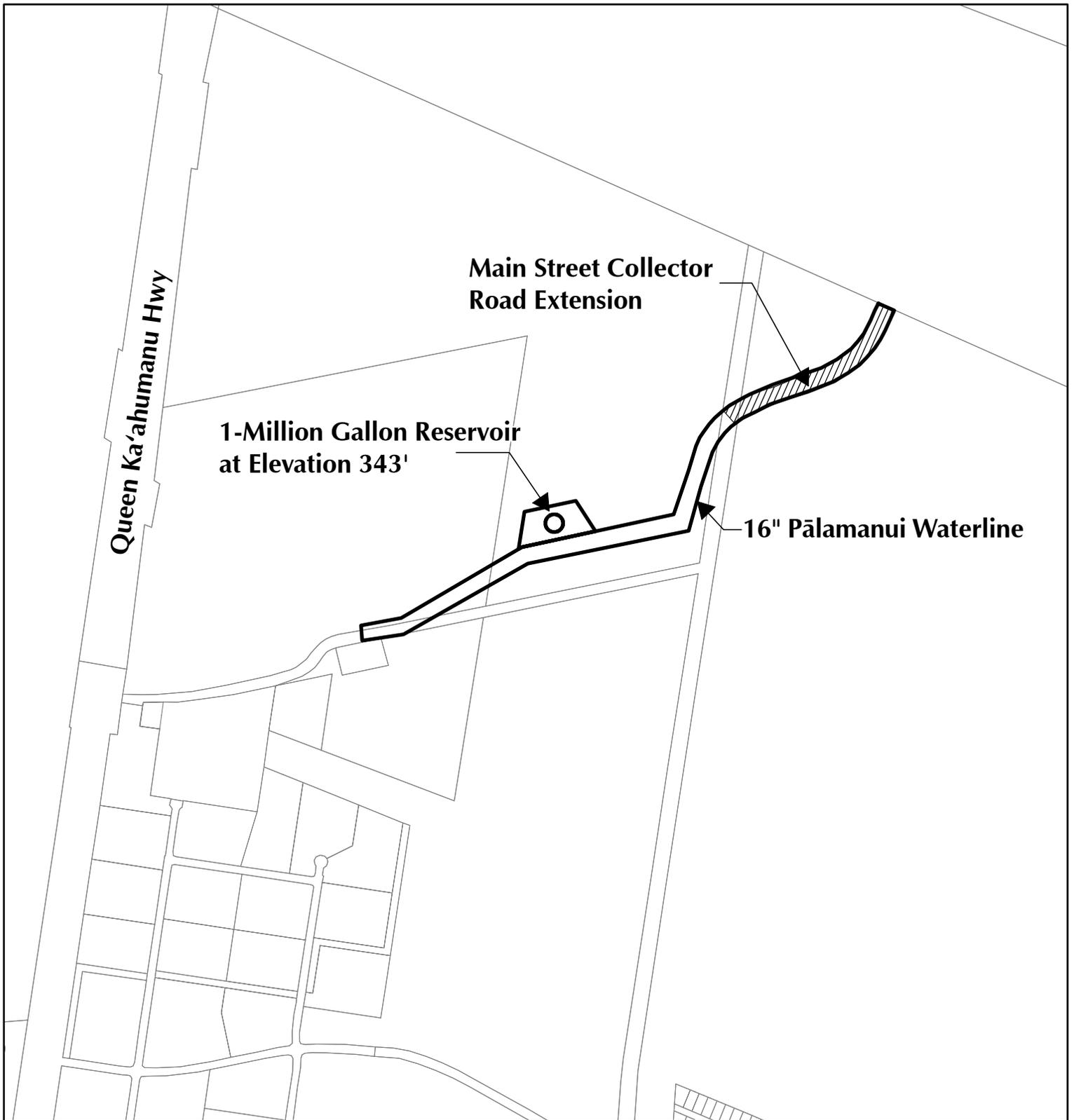
**Pālamanui Waterline,
343-foot Elevation Reservoir, and
Main Street Collector Road Extension**

Pālamanui, LLC

Island of Hawai'i



Source: Land Study Bureau (1967)
Disclaimer: This graphic has been prepared for general planning purposes only



LEGEND

-  Project Site Boundary
-  Unclassified ALISH Lands

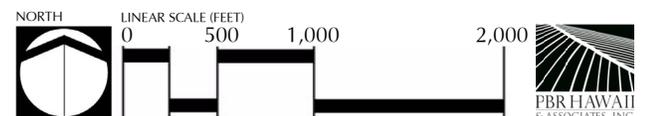
FIGURE 6

Agriculture Lands of Importance to the State of Hawai'i (ALISH)

**Pāalamanui Waterline,
343-foot Elevation Reservoir and
Main Street Collector Road Extension**

Pāalamanui, LLC

Island of Hawai'i



Source: U.S. Department of Agriculture (1977)
Disclaimer: This graphic has been prepared for general planning purposes only



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3.4 NATURAL HAZARDS

The Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension project site are at risk from hazardous events, such as flooding, tsunami inundation, hurricanes, earthquakes and volcanic eruptions.

Flooding

According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program, the project site is located in Zone X, an area determined to be out of the 500-year flood plain (Figure 7). The site is located in a dry and arid environment where the risks of flooding are low due to a combination of factors, including low rainfall, thin soil layer and high porosity of the bedrock. During periods of heavy rainfall ponding and some scouring by flowing surface water may occur, but it normally does not last long and rapidly percolates into the substrate.

Tsunami

Since the early 1800s, approximately 50 tsunamis were reported in Hawai'i. Seven caused major damage and two were generated locally. The proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will be located outside of the tsunami inundation area, according to maps issued by the Hawai'i County Civil Defense Agency.

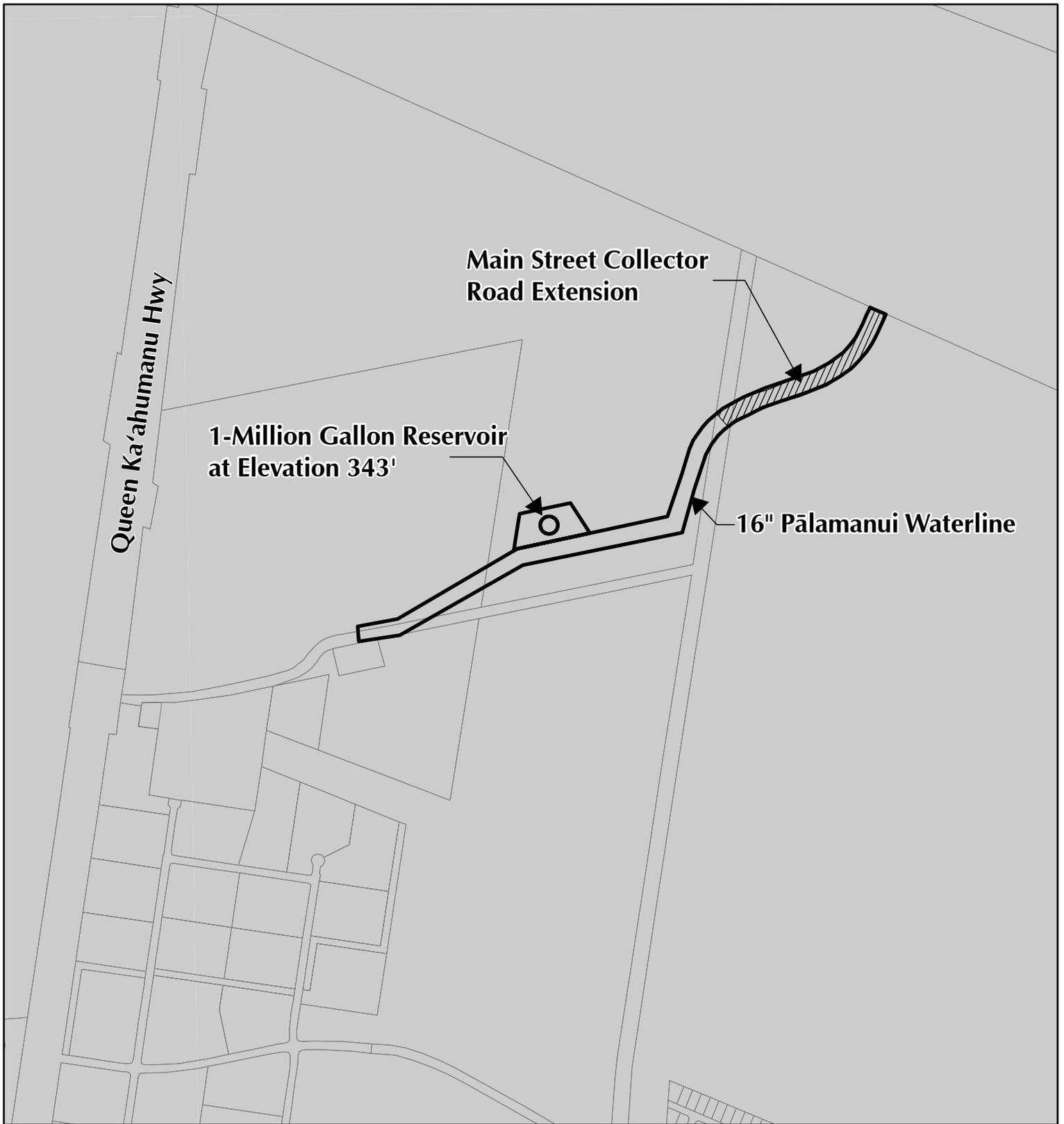
Hurricanes

Since 1980, two hurricanes have had a devastating effect on Hawai'i. They were Hurricane 'Iwa in 1982 and Hurricane 'Iniki in 1992. While it is difficult to predict such natural occurrences, past history reveals periodic events giving rise to the likelihood of future occurrences.

Seismic Hazards

In Hawai'i, volcanic activity produces most earthquakes in contrast to other areas sitting on tectonic plate margins. Thousands of earthquakes occur in Hawai'i each year. However, the vast majority of them are undetectable through normal human senses. A few historical earthquakes have reached moderate and even disastrous magnitudes.

The last earthquake reported with an epicenter near the project area, in Hualālai, occurred in 1929 with a magnitude of 6.5. This earthquake caused extensive damage to the Kona area. The most recent series of earthquakes, with magnitudes of 6.7 and 6.0, occurred at Kīholo Bay on October 15, 2006. These earthquakes resulted in more than \$100 million in damages to the northwest area of the island, and induced massive electrical blackouts statewide.



LEGEND

-  Project Site Boundary
-  Zone X: Outside of Floodplain/Minimal Flooding

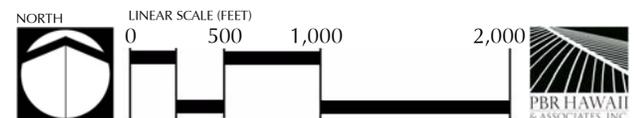
FIGURE 7

Flood Insurance Rate Map

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Pālanui, LLC

Island of Hawai'i



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Volcanic Hazards

The volcanic hazard zone map for the Island of Hawai'i divides the island into zones ranked from 1 through 9 (with 1 being the area of greatest hazard and 9 being the area of least hazard) based on probability of coverage by lava flows. The project site is within Zone 4, which includes all of Hualālai, where about 5 percent has been covered with lava since 1800 and less than 15 percent has been covered by lava in the last 750 years. Lava flows typically cover large areas but the frequency of eruptions is lower than other volcanoes, such as Kīlauea and Mauna Loa (USGS, 1997).

Potential Impacts and Mitigation Measures

The construction and use of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are not anticipated to have any impact on any natural hazard conditions and no mitigation measures are planned.

3.5 FLORA & FAUNA

3.5.1 Flora

A botanical survey was conducted by Patrick Hart, PhD for the proposed Pāalamanui Access Road on April 12, 2007 (see APPENDIX B). The purpose of the botanical survey was to determine if any federally listed, endangered, threatened, proposed, or candidate plants are located within the area proposed for the Pāalamanui Waterline within Main Street Collector Road. During the survey, plant species and vegetation types present were recorded and estimates of relative abundance (abundant, common, rare, etc.) of each species were made.

The proposed site consists of mixed shrub-grassland in the south and in grassland to the north. The only species of concern was *maiapilo* amidst the shrub-grassland areas. The amount of *maiapilo* and other generally rare native species, such as *maua*, is greater in the grassland area with the greatest density of native shrubs and trees within the corridor occurring near the northern boundary of the property.

Potential Impacts and Mitigation Measures

The proposed work will not impact any listed or important native trees. Although some destruction of a few *maiapilo* will occur, most in the area will not be disturbed. The Pāalamanui Waterline located within portions of the Main Street Collector Road is not expected to have a significant adverse impact on rare, threatened, or endangered plant species.

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The Biological Resources Survey conducted by AECOS Consultants in 2005 for the Main Street Collector Road Final Environmental Assessment reports that all plants in the area are vulnerable to fire and development (Wil Chee – Planning & Environmental, Inc., 2007). Mitigation measures that were suggested for the proposed Main Street Collector Road should also be considered in the construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension include:

- Flag and record locations of native trees to minimize any losses. Furthermore, this information should be transmitted to contractors to avoid inadvertent destruction during grading and construction activities, where the route passes close to a plant.
- New individuals of any native plants that were destroyed by construction activities could be cultivated in archaeological preserve areas expected to be established on the UHCWH site or replaced with additional natives.

3.5.2 Fauna

AECOS Consultants were contracted to conduct a Biological Resources Survey to assess conditions along the corridor for the routing of the Main Street Collector Road whose findings were included in the road's Final EA (Wil Chee – Planning & Environmental, Inc., 2007). Findings from AECOS Consultants' study are summarized in this section since portions of the Pāalamanui Waterline will be located within the Main Street Collector Road ROW.

AECOS Consultants performed investigations to determine if there were any species of concern. The assessment entailed a search for invertebrates and vertebrates. Surface and lava tube (cave) investigations for invertebrates were conducted during the day and again at night. Only one native snail, *Succinea*, was observed on a rotting log. It was determined that if the survey was conducted immediately after a period of rain, more would be found, since the genus is a prevalent native snail. No alien species of medical importance (centipedes, scorpions, widow spider, honey bee colonies and common paper wasp nests) were identified. No native invertebrates on the federal or state endangered, threatened, proposed, or candidate lists were observed. Five alien mammalian species were detected during the survey. There was evidence of dogs, cats, goats, pigs and cattle. No rodents or mongoose, which are threats to avian species, were detected during the course of the survey. However, it was deemed almost certain that such species depended on the resources in the area. The habitat was considered to be typical of the fountain grass dominated, xeric communities of the North Kona District, which are not conducive to supporting native bird species. In total, 121 birds of 10 distinct avifauna species alien to Hawai'i, representing 8 separate families, a majority of which were spotted within 100-meters of existing housing along Ka'iminani Drive, were recorded during the course of the survey. The endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) was not witnessed. However, it was stated in the report that they could be expected to fly over the project site.

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Potential Impacts and Mitigation Measures

The Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are not expected to have a significant adverse impact on rare, threatened, or endangered species.

The Biological Resources Survey conducted by AECOS Consultants in 2005 for the Main Street Collector Road reports that there are no expected adverse impacts on the Hawaiian Hoary Bat, the only listed terrestrial mammalian species in Hawai'i. Mitigation measures that were suggested during the construction of the proposed Main Street Collector Road should also be considered in the construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension, which include the shielding of any exterior lighting that would be used during construction phases of the project to minimize the disorientation and subsequent downing of Hawaiian Petrels and Newell's Shearwater. In this case, because trenching and installation associated with the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will occur during the day, there would be no possibility for lighting impact on Hawaiian Petrels and Newell's Shearwater because they are nocturnal species. Therefore, no mitigation is necessary.

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4.0 DESCRIPTION OF THE HUMAN ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

This section describes the existing conditions of the human environment, potential impacts of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension on the environment and mitigation measures to minimize impacts.

4.1 ARCHAEOLOGICAL AND CULTURAL RESOURCES

4.1.1 Archaeological Resources

Archeological studies conducted for nearby projects were reviewed for applicability to this project. They include studies done by Pacific Legacy for the Main Street Collector Road Final Environmental Assessment (Wil Chee – Planning & Environmental, Inc., 2007), and an archeological/cultural impacts study by Paul Rosendahl, Inc. (PHRI) for the Keahole Generating Station & Airport Substation Final Environmental Impact Statement (Belt Collins Hawaii, 2005).

Main Street Collector Road Final Environmental Assessment

An Archaeological Assessment for the area was conducted by archaeologists from Pacific Legacy in May 2005 and findings were included in the Main Street Collector Road Final EA. The proposed Pāalamanui Waterline will be located within portions of the Main Street Collector Road; therefore Pacific Legacy's Archaeological Assessment covers some of the same project area and is applicable to this environmental assessment.

Pacific Legacy's work entailed locating and assessing the condition of sites near the western boundary of the UH acreage. GPS coordinates were recorded for all of the sites and a total of ten sites were located during the field investigation. The sites that were investigated include:

Site 50-10-28-6418: A lava tube complex that consists of three tube sections. Two of the sections have some potential for excavation to provide important archaeological data.

Site 50-10-28-15262: Three *ahu* (cairns) with an associated terrace are located on a prominent knoll in the northern portion of the project area. Given the location it appears they were used for religious purposes and not habitation or agricultural sites.

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Site 50-10-28-15264: Two modified outcrops and a lava tube are at this location. The site is in good condition and parts are covered with fountain grass. No additional data appear to be present in these feature, but preservation is advised.

Site 50-10-28-15287: A *papamū*, or game board for the Hawaiian checker game of *kōnane*, is the major feature at this location. This game board appears to be associated with a habitation site that is close by (Site 50-10-28-15264).

Site 50-10-28-15288: This is the location of an *ahu* (cairn) that is in good condition and may have been square or circular in shape but it has since deteriorated into an amorphous shape. It may have been a marker along a mauka-makai trail. No additional data appear to be present in these feature, but preservation is advised.

Site 50-10-28-15298: This location consists of a habitation and refuge cave that is over 700 meters long and contains numerous features including human burials. It is in good condition and sealing is recommended to protect the integrity of the site.

Site 50-10-28-15302: This site is a large habitation cave that may have also provided a site for ceremonial functions. Although no human remains were observed within this site it is strongly recommended that this site be preserved due to its potential uses as a ceremonial area.

Site 50-10-28-15303: The features here consist of a modified lava tube and a modified outcrop or blister with an associated basalt alignment.

Site 50-10-28-15304: A single petroglyph is located here. The petroglyph resembles the letter "X" or a cross. It possibly was created after European contact in 1778 and may be an early surveyor's mark. This site appears to have low interpretive value and no further field work is recommended, but preservation of this site is advised.

Site 50-10-28-21361: This feature is identified as a stepping stone trail on the top of an a'a lava flow. It is in poor condition and appears to have been disturbed by grading activities. This site appears to have low interpretive value and no further field work is recommended, but preservation of this site is advised.

All of the sites are significant under criteria "d" of the National Historic Preservation Act and need to be treated appropriately. The significance level of "d" indicates that the sites have yielded, or may be likely to yield, information important in prehistory or history.

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The State of Hawai'i has an additional significance criterion that may be used in the evaluation process, which is "e", items that have an important value to the Native Hawaiian people or to another ethnic group of the State due to associations with cultural practices once carried out or still carried out at the property; or due to associations with traditional beliefs, events, or oral accounts, these associations being important to the group's history and cultural identity. In addition to the National Historic Preservation Act significance level of "d", seven of the above sites meet the "e" significance level (sites: 50-10-28-6418, 50-10-28-15262, 50-10-28-15287, 50-10-28-15288, 50-10-28-15298, 50-10-28-15302 and 50-10-28-15304).

In January 2007, Rechtman Consultants carried out an archeological field survey to identify a corridor for the waterline and access road that would avoid impacting the lava tube system (APPENDIX C). The tube system was field identified, and the proposed development corridor was re-aligned to the north of the extent of the tube system. In the course of identifying the subsurface extent of the tubes, one subsurface archaeological feature, a cache of four wooden *kāpa* beaters within a decaying gourd were encountered, but was not within the study area. The feature was documented and its discovery was reported to DLNR-SHPD, along with an expression of concern for the protection of this feature from potential impact resulting from on-going illegal activities (mechanical and hand rock harvesting, and marijuana cultivation) in the immediate vicinity of the finds. A second, surface feature, a single petroglyph, was also observed to be present outside of the study area.

A detailed culture-history from legendary times to the Historic Period revealed that the project area was not heavily occupied or used during Pre-contact times and became part of large granted lease holdings during historic times. There were no kuleana awarded in the study area during the *Mahele*. Archaeological studies for the region conducted between 1968 and 1993 indicate possible trails, petroglyphs, dry land agricultural features, temporary habitation sites, and lava tubes containing burial and habitation features.

The field investigators thoroughly examined the 200-foot wide study corridor. No archaeological resources were observed within the study area and the likelihood of encountering subsurface resources is extremely remote. On June 27, 2007, Rechtman Consultants requested DLNR-SHPD to issue a written determination of "no historic properties affected" in accordance with HAR 13-284-5(b)1. To date, SHPD has not responded.

Keahole Generating Station & Airport Substation Final Environmental Impact Statement

The archeological study done by PHRI for this 2005 Final EIS covered a half-acre area that is included in the makai portion of the proposed waterline alignment. This study found no resources of any significance and requested a "no-effect" determination from the SHPD of DLNR.

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Potential Impacts and Mitigation Measures

Because road-building activities could damage sites found along the proposed corridor at the western edge of the University of Hawai'i's 500-acre parcel, the corridor was realigned to the north, as described above, to mitigate damage to archeological sites found along the originally proposed alignment.

Additional mitigation measures were recommended by Pacific Legacy Inc. for construction of the Main Collector Road that included the following:

1. All sites in the area should be avoided if possible and attempts made to preserve them. The final road alignment will be designed to avoid sites. There is enough room to shift the alignments of the road.
2. If avoidance is not possible a bridge or causeway over the site will be constructed.
3. Since the archaeological sites are on land owned by the State of Hawai'i the State is responsible for the preservation of the sites.
4. In all aspects of the planning process, community involvement will continue to be encouraged and in the case of burial sites the Hawai'i Island Burial Council will be contacted for input.

If Pāalamanui, LLC and its contractor adhere to the mitigation measures listed above, impacts to historic and archaeological should remain at a minimum

4.1.2 Cultural Resources

In January 2007, the Rechtman study, which included a detailed culture-history from legendary times to the Historic Period, revealed that the project area was not heavily occupied or used during Pre-contact times and became part of large granted lease holdings during historic times. There were no *kuleana* awarded in the study area during the *Mahele*.

In addition, a Cultural Impact Assessment for the Main Collector Road was prepared by Pacific Legacy, Inc. in November 2005 and was included in the Final EA. Pacific Legacy, Inc. conducted interviews and background research and concluded that the area does not currently support any traditional cultural uses. The area is not frequented by spiritual or cultural practitioners and no other traditional activity is conducted there.

Also of interest is an archeological and cultural impacts assessment study that was conducted in 2005 by Paul Rosendahl (PHRI) for the Keahole Generating Station & Airport Substation Final EIS. The generation station area includes the makai portion of the waterline alignment. This study found no evidence of any potentially significant cultural resources (properties, features, natural resources, practices or beliefs) either within or

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directly related to the site; and no indication of any kind that the site is being used by cultural practitioners of any cultural affiliation for traditional cultural purposes.

Hunting and gathering activities continue to occur in the larger area. However the locations of these practices are not site specific. Hunting, in particular, would be limited in the vicinity of the proposed waterline. The proximity of Queen Ka'ahumanu Highway, DHHL lessees and the airport creates human disturbance limiting animal activity in the area. Moreover, a fauna survey was conducted on the UHCWH site in 2000. The investigators did not see or hear any goats, pigs, or donkeys, nor was there any recent evidence of their presence. In 1998, Derral Herbst conducted a flora survey of the UHCWH site. The flora survey found no plants commonly gathered in native Hawaiian practices like *ko'oko'olau* (*Bidens micrantha ssp.*), *hala* (*Pandanus tectorius*) and *noni* (*Morinda citrifolia*), which are plants commonly gathered. The lack of site identifications in both the fauna and flora studies support the conclusion that little or no known hunting or gathering activity occurs in the immediate area. During the pre-consultation period, the State Office of Hawaiian Affairs (OHA) was consulted, but OHA replied in writing that it had no comments at that time.

Potential Impacts and Mitigation Measures

Given the lack of evidence of any recent cultural or traditional practices, and the lack of recent hunting or gathering activities from the above-cited studies, impacts to cultural or traditional practices from this project are minimal to non-existent. Therefore, no mitigation measures appear warranted or are planned.

4.2 ROADWAYS AND TRAFFIC

Currently two major roads service traffic between Kailua-Kona and the alignment of Main Street Collector Road either on Ka'iminani Drive connecting to Queen Ka'ahumanu Highway or Māmalahoa Highway connecting Palani Road. The intersection of Queen Ka'ahumanu Highway and Palani Road creates one of the major highway bottlenecks on the island.

Queen Ka'ahumanu Highway (State Route 19) extends in a north-south direction makai of the site, and is currently being widened to four-lanes in two phases. Phase I of the expansion, which will involve road widening from Henry Street to Kealakehe Parkway, is currently underway (as of April 2008). Bids opened for Phase II of the expansion, involving road widening of the area from Kealakehe Parkway to Keāhole Airport in December 2007, with the contract award pending.

Ka'iminani Drive is a County two-lane, two-way roadway that provides mauka-makai access between Queen Ka'ahumanu Highway and Māmalahoa Highway.

Māmalahoa Highway (State Route 190) is a two-lanes highway that extending in a north-south direction east of the site, with one lane in either direction. Palani Road is a

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County, two-way, two-lane roadway that extends in a mauka-makai direction from Queen Ka'ahumanu Highway to Māmalahoa Highway.

The existing base conditions on the roadways adjacent to the project. Existing peak levels of traffic are in the morning and late afternoon that coincide with commuter traffic. All of the following discussions refer to peak levels of traffic.

At the intersection of Queen Ka'ahumanu Highway at Palani Road the northbound lane is severely congested with some standing lines on critical approaches. The intersection becomes blocked when the signal does not provide for turning. These conditions occur again in the late afternoon when commuters are returning from work. The intersection of Māmalahoa Highway at Ka'iminani Drive operates at the same level of service as the intersection of Queen Ka'ahumanu Highway and Palani Road during peak hours.

There is a service road off of Queen Ka'ahumanu Highway leading to the HELCO generation plant and the existing DWS water storage tanks. This road is on the mauka side of the highway's intersection with the Kona International Airport access road. This service road parcel intended to ensure access for maintenance of the HELCO generating plant, water tank and water line service road. The portion of the road past the HELCO station will be gated and locked, with access controlled by the County of Hawai'i Department of Water Supply.

Potential Impacts and Mitigation Measures

The construction and use of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are not anticipated to generate any impacts on roadways and traffic and no mitigation measures are planned.

4.3 NOISE

The main sources of noise in the area are aircraft operations at Kona International Airport, Keāhole Power Plant and traffic from Queen Ka'ahumanu Highway. Background ambient noise levels at the site reflect the natural setting and the absence of vehicular traffic and development.

Existing traffic and background ambient noise levels currently do not exceed the U.S. Federal Highway Administration (FHWA) and Hawai'i State Department of Transportation Highways Division (HDOT) noise abatement criteria (Y. Ebisu & Associates, 2005).

Potential Impacts and Mitigation Measures

Wil Chee – Planning & Environmental, Inc contracted Y. Ebisu & Associates to conduct an acoustic study for the Main Street Collector Road's 2007 EA. Y. Ebisu & Associates

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notes that potential short-term construction noise impacts are possible during the project construction period. As construction of the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension is of a similar activity, and in the same area as the Y. Ebisu study, noise generated can be minimized by using proper mitigating measures such as standard curfew periods, properly muffled equipment, administrative controls and construction barriers. All grading and construction operations shall be performed in conformance with the applicable provisions of the Hawai'i Administrative Rules, Title 11, Chapter 46, Community Noise Control.

4.4 AIR QUALITY

The project site is located within an area that is exposed to natural pollution from volcanic out-gassing (volcanic haze or vog), which is vented on the other side of a mountain barrier more than 50 miles east of the site. A source of industrial air pollution is Hawai'i Electric Light Company's (HELCO) Keāhole Power Plant, which is approximately 1.5 miles south. Other sources of pollution are vehicular traffic on Queen Ka'ahumanu Highway and Māmalahoa Highway.

Potential Impacts and Mitigation Measures

It is anticipated that no State or Federal air quality standards will be violated during or after the construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension. The only anticipated issues related to air quality would be during construction; however, construction activities would be temporary. Long-term negative impacts related to air quality are not expected.

An effective dust control plan will be implemented as necessary. All construction activities will comply with the provisions of Chapter 11-60.1, Hawai'i Administrative Rules, Section 11-60.1-33, Fugitive Dust. Measures to control dust during various phases of construction include:

- Providing an adequate water source at the site prior to start-up construction activities;
- Irrigating the construction site during periods of drought or high winds;
- Landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;
- Disturbing only the areas of construction that are in the immediate zone of construction to limit the amount of time that the areas will be subject to erosion;
- Providing adequate dust control measures during weekends, after hours and before daily start-up of construction activities; and
- Installing silt screening in the areas of disturbance.

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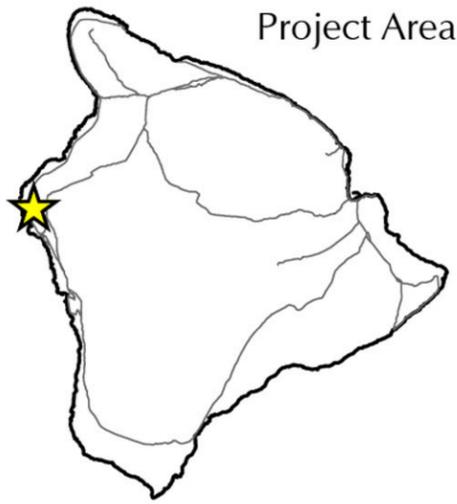
4.5 VISUAL RESOURCES

The site is on the lower slopes of Hualālai Volcano. The area is characterized by expanses of open lava lands covered with grass, shrubs and small trees. Views toward the sea look down on the Keāhole Power Plant, the Keāhole water tanks, Keāhole Agricultural Park and Kona International Airport at Keāhole (Figure 8).

The best views in the vicinity are from the area around the Kona International Airport at Keāhole. From there views encompass the western slopes of Hualālai, the project site and scattered pockets of development along Māmalahoa Highway and Ka'iminani Drive.

Potential Impacts and Mitigation Measures

The construction and use of the Pāalamanui Waterline within portions of the Main Street Collector Road is not anticipated to generate any visual impacts and no mitigation measures are planned. However, as the proposed Main Street Collector Road is on the lower slopes of Hualālai it will be visible from the area around the airport and Queen Ka'ahumanu Highway. Once the road is completed it will be visible from the Kona International Airport and Queen Ka'ahumanu Highway until the vegetation grows back along the road bed. At that point all that may be visible may be an occasional vehicle top moving along the road. The visual impact is anticipated be minimal and no mitigation measures will be required.



Approximate View of Photographs



FIGURE 8
 Site Photographs
**Palamanui Waterline,
 343-foot Elevation Reservoir and
 Main Street Collector Road Extension**
 Palamanui, LLC

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4.6 SOCIAL & ECONOMIC CHARACTERISTICS

According to the Census 2000, the population of Hawai'i County numbered 148,677 individuals. The most recent American Community Survey conducted for Hawai'i County in 2006 by the Census Bureau accounted for 171,191 residents, representing a 15% increase in population. Approximately 27% of County residents have obtained a bachelor's degree or higher. The County has 66.8% of its residents actively participating in the workforce, with each household earning a median income of \$55,390 per year.

The proposed project site is located within the County district of North Kona. The most populated region on the west side of the island, North Kona stretches from Keāhole to Waikoloa, and includes major commercial and tourist centers. As of the last census, North Kona had a population of approximately 41,600 residents. That figure is expected to nearly double at the time of the next census in 2010. The North Kona region is in the midst of a tight labor market, with approximately 1,000 vacancies reported at area resorts and hotels. The unemployment rate in West Hawai'i is lower than the rest of the State.

The primary industry in North Kona is tourism. Agriculture (coffee, ranching, etc.) also contributes to the regional economy. The Natural Energy Laboratory of Hawai'i Authority's facilities house biotechnology start-up corporations, creating a small industry in this field.

As North Kona is one of the fastest growing regions in the State of Hawai'i, population predictions for the West Hawai'i region indicate that there is sufficient population to justify the construction of a higher education center and permanent location for the UHCWH. This area proposed for the UHCWH is a logical location because the site is close to the Kona International Airport, high technology developments, residential communities and employment centers in Kailua-Kona and West Hawai'i resorts. The proposed Pāalamanui Waterline and 343-foot Elevation Reservoir will provide water service to ~~both~~ the Pāalamanui Development, and the new UHCWH, potentially DHHL, and any other users connected by DWS.

Potential Impacts and Mitigation Measures

The proposed Pāalamanui Waterline and 343-foot Elevation Reservoir will provide water service to ~~both~~ the Pāalamanui Development, and the UHCWH, potentially DHHL, and any other users connected by DWS. The proposed improvements will provide a needed link to the ~~County Department of Water Supply~~ DWS's regional water system near the Kona International Airport. Pāalamanui will provide the funds to construct both the Main Street Collector Road with the new waterline, water tank and temporary facilities to be leased by the UHCWH. This defers the cost that UH would have to absorb for constructing the road and building the temporary facilities.

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The construction of the new waterline within portions of the Main Street Collector Road and 343-foot elevation reservoir will provide jobs during the construction of the waterline and reservoir.

4.7 INFRASTRUCTURE AND UTILITIES

4.7.1 Water System

There is no source of potable water or any water on the site and there are no facilities for the transport, disposal and treatment of waste water along the proposed waterline, reservoir and road extension. The closest class AA water body is the Pacific Ocean which is approximately 2.5 miles from the proposed roadway. The project area has no streams, water courses, or ponds. The lack of streams is due to the porosity of the interbedded pāhoehoe and a'a flows that make up the Hualālai volcanic sequence. No surface water directly reaches the coast, or flows into drainage ways that reach the coast.

Precipitation on the slopes of Hualālai at an elevation around 2,000-feet above mean sea level is the source of groundwater for most of the Kona area. Over one third of the rain falls within the 4-5 mile wide belt and most of the annual 30 to 75 inches of rain percolates into the ground and recharges the aquifer (Waimea Water Services, Inc., 2003).

The proposed Pālamānuī Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will be located over a portion of the Keauhou Aquifer System. This consists of a lens of fresh water floating on a layer of salt water. Fresh water is found at an elevation of 1,800 feet above mean sea level. The fresh water layer becomes thinner and more saline (higher level of total chlorides) as it approaches sea level. Wells as much as 1.5 miles inland from the coast have been known to produce saline water. Under ideal conditions fresh groundwater flows down gradient from the recharge area at 2,000-feet to sea level.

Potential Impacts and Mitigation Measures

The construction of the Pālamānuī Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will provide water to both the proposed Pālamānuī Development and the UHCWH. The proposed improvements will provide a needed link to the County Department of Water Supply's regional water system above the Kona International Airport.

There is no source of potable water in the immediate area and none will be developed until the proposed Pālamānuī Development begins. During construction of the road, water will be hauled in to control fugitive dust emissions created by construction activities.

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As stated in the 2004 EIS section relating to “Coastal Waters,” Pāalamanui, LLC (formerly known as Hiluhilu Development, LLC) has stated its intentions to “develop a water quality monitoring program and install at least one groundwater monitoring well.”

4.7.2 Wastewater System

There are no wastewater collection or treatment systems in the area at present, as the area is undeveloped.

Potential Impacts and Mitigation Measures

The construction and use of the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will not use any wastewater systems.

4.7.3 Drainage System

There are no man-made drainage systems in the area, as the area is undeveloped.

Potential Impacts and Mitigation Measures

The construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will have minimal effect on any regional drainage system. Drainage along the Main Street Collector Road Extension will be in the forms of retention ponds and dry wells.

4.7.4 Electrical and Communications Systems

No electrical and communication systems service the undeveloped parcels along the proposed Main Street Collector Road. HELCO has an overhead 69 kilovolt transmission line in a utility easement that runs through the area from Keāhole Substation on Queen Ka’ahumanu Highway to Māmalahoa Highway.

Utility (electricity, cable TV, telephone) connections will be available in the near future for UHCWH and will connect to the project.

Potential Impacts and Mitigation Measures

The construction and use of the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will not use any electrical or communications systems.

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4.7.5 Solid Waste

As the sites for the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are currently vacant, there is minimal need for a solid waste disposal service. Pāalamanui LLC has submitted a solid waste disposal plan to the County to address the proposed action and adjacent development projects.

Potential Impacts and Mitigation Measures

The construction and use of the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will generate minimal solid waste and no mitigation measures are required.

4.8 PUBLIC SERVICES AND FACILITIES

Police Protection

The County of Hawai'i Police Department's Kealakehe Station is located just mauka of Queen Ka'ahumanu Highway. The station, which provides service to the North and South Kona Districts, has a force of 56 uniformed officers, with patrol units assigned to each of the three watches within a 24-hour period. There are also substations in Keauhou and Captain Cook for officers from the Kona Station working in those areas (Helber, Hastert & Fee, April 2003).

Fire Protection

Fire prevention, suppression and protection services for the region are provided by the Kailua-Kona Fire Station, approximately four miles south of the project site, near the intersection of Palani Avenue and Queen Ka'ahumanu Highway. The station, which serves areas within a 30-mile radius, from Keauhou to the Kona Village Resort, is quipped with a ladder truck, tanker, rescue boat and Emergency Medical Service ambulance. Back-up support to the station is provided by a volunteer-operated fire station located along Māmalahoa Highway. Other fire stations are located in Keauhou, Waikoloa and South Kohala (Helber, Hastert & Fee, April 2003). A nearby fire station at Makalei is proposed for construction in the near future.

Health Care Services

The nearest hospital to the project site is the Kona Community Hospital, located on Haukapila Street in Kealakekua, approximately 17 miles southeast of the project site. The 94-bed facility provides acute and long-term care services (Hawai'i Health Systems Corporation, 2006). Other private medical and dental service providers, which have regular hours, are located in the Kailua-Kona region, including a Kaiser Permanente Clinic.

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Recreational Facilities

Located near the project site is the Old Kona Airport State Park, which has a gymnasium, with a full-sized basketball court, five baseball fields, two soccer fields, two football fields and four tennis courts. Other parks include Kealakekua Bay Historic Park, Kekaha Kai State Park, Keolonāhihi State Historic Park and Nāpo'opo'o Beach Park (Helber, Hastert & Fee, April 2003). As part of the Pālamānui Development, the applicant plans to construct a 20-acre regional park nearby.

Schools

Presently, the State of Hawai'i Department of Education operates five (5) public schools in the Kealakehe Complex of the Honoka'a-Kealakehe-Kohala-Konawaena Complex Area. They are: Kealakehe High School (grades 9-12), Kealakehe Intermediate School (grades 6-8), Kealakehe Elementary School (grades K-5), Kahakai Elementary School (grades K-5) and Hōlualoa Elementary School (grades K-5) (State of Hawai'i Department of Education, 2006).

There are also three (3) public charter schools in the region: Innovations Public Charter School (PCS) (grades 1-6) located on Queen Ka'āhūmanu Highway in Kailua, Kanu o ka 'Āina New Century Public Charter School (NCPCS) (grades K-12), which operates out of the Lālāmilo Experiment Station in Waimea and West Hawai'i Explorations Academy Public Charter School (grades 7-12) operating at the Natural Energy Laboratory of Hawai'i, adjacent to the project site.

Potential Impacts and Mitigation Measures

The Pālamānui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are accessory facilities and will have only a minor impact any public services or facilities.

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5.0 LAND USE CONFORMANCE

Federal, State and County of Hawai'i land use plans and policies and required permits and approvals relevant to the Pālanuanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are described below.

5.1 FEDERAL

5.1.1 Endangered Species Act

The Endangered Species Act of 1973 provides measures used to identify and protect ecosystems that are necessary to sustain an endangered, or threatened species. Under this act, the U.S. Fish and Wildlife Service in the Department of the Interior is responsible for all terrestrial and freshwater species including migratory birds.

Discussion: No federally listed endangered, threatened proposed or candidate species or their habitats are found in the area.

5.1.2 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972 provides guidelines for development regulations within the coastal zone (CZ). The State of Hawai'i enacted HRS Chapter 205A in response to the Federal Coastal Act of 1972 and the State of Hawai'i now has delegated the authority to regulate land use in the CZ as Special Management Areas (SMA).

Discussion: CZMA program objectives and applicability to the proposed Pālanuanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension is discussed in Section 5.2.2.

5.2 STATE OF HAWAII

5.2.1 State Land Use Law, Chapter 205, Hawai'i Revised Statutes

The State Land Use Law (Chapter 205, HRS), establishes the State Land Use Commission (LUC) and authorizes this body to designate all lands in the State into one of four districts: Urban, Rural, Agricultural, or Conservation. These districts are defined and mapped by the State Land Use Commission in order to ensure compatibility with neighboring land uses and protection of public health. The project area lies entirely within the Urban District (Figure 9).



LEGEND

-  Project Site Boundary
-  Urban
-  Agriculture
-  Conservation

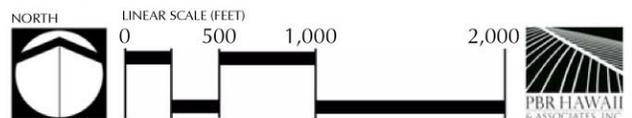
FIGURE 9

State Land Use Districts

**Pālamanui Waterline,
343-foot Elevation Reservoir, and
Main Street Collector Road Extension**

Pālamanui, LLC

Island of Hawai'i



Source: State Land Use Commission (2007)
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In December 1993, the LUC issued a decision that reclassified over 2,000 acres of state lands from Agricultural and Conservation to Urban district. Urbanization of the area was recommended for the purpose of allocating land for future urban growth in West Hawai'i. This includes the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension parcels and parcels on both the mauka and makai sides of the proposed waterline.

Land uses within the Urban District are governed by the ordinances or regulations of the County in which the Urban District is situated. The proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are consistent with the County of Hawai'i's zoning ordinances, which are discussed below in Section 5.3.2 (County of Hawai'i Zoning) and are therefore, permitted uses within the Urban District.

5.2.2 Coastal Zone Management Act, Chapter 205A, Hawai'i Revised Statutes

The Coastal Zone Management Area as defined in Chapter 205A, HRS, includes all the lands of the State. As such, the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will be installed within the Coastal Zone Management Area.

The objectives of the Coastal Zone Management (CZM) Program are to provide the public with recreational opportunities, protect historic resources, protect scenic and open space resources, protect coastal ecosystems, provide facilities for economic development, reduce hazards and manage development. Program objectives and applicability to the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are discussed below:

Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

- (A) Improve coordination and funding of coastal recreational planning and management; and*
- (B) Provide adequate, accessible and diverse recreational opportunities in the coastal zone management area by:
 - (i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas.*
 - (ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable**

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- monetary compensation to the state for recreation when replacement is not feasible or desirable;*
- (iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
 - (iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation.*
 - (v) Ensuring public recreational use of county, state and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
 - (vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect and where feasible, restore the recreational value of coastal waters;*
 - (vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches and artificial reefs for surfing and fishing; and*
 - (viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.*

Discussion: The proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will be located well inland, away from the shoreline; therefore, there will be no effect on existing coastal or inland recreational resources.

Historic Resources

Objective:

Protect, preserve and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

- (A) Identify and analyze significant archaeological resources;*
- (B) Maximize information retention through preservation of remains and artifacts or salvage operations; and*
- (C) Support state goals for protection, restoration, interpretation and display of historic resources.*

Discussion: The proposed waterline, reservoir and Main Street Collector Road Extension were sited to avoid archaeological sites. Should any unanticipated archaeological or cultural remains be encountered during construction, all work in the immediate vicinity of

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the find will cease and the State Historic Preservation Division will be contacted for establishment of appropriate mitigation in accordance with Chapter 6E, Hawai'i Revised Statutes.

5.2.3 Hawai'i State Plan

The Hawai'i State Plan, Chapter 226 HRS (1995) provides guidelines for the future growth of the State of Hawai'i. The Hawai'i State Plan identifies goals, objectives, policies and priorities for allocating the state's resources, including public funds, services, human resources, land, energy and water.

Discussion: The construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will provide water to the UHCWH (and the proposed Pāalamanui Development). The development of the UHCWH will enable more residents of West Hawaii opportunities and resources for higher education.

5.3 COUNTY OF HAWAII PLANS AND CONTROLS

5.3.1 County of Hawai'i General Plan

County of Hawai'i General Plan (February 2005) is the policy document for the long range comprehensive development of the Island of Hawai'i. It contains the land use maps referred to as "General Plan Land Use Pattern Allocation Guides" (Figure 10).

Discussion: The Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension project site is within the area designated as "Urban Expansion" and "University Use" and it provides a segment of the proposed Main Street Collector Road outlined in the General Plan. The General Plan also encourages and supports the development of educational facilities in West Hawai'i, including the UHCWH.

5.3.2 County of Hawai'i Zoning

The proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will pass through portions of land designated as Agricultural A-5a and Open (Figure 11).

Discussion: Since the proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are public facility-type uses, the proposed action would be consistent with the existing zoning.



LEGEND

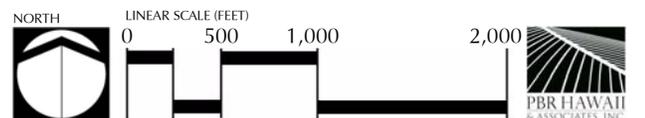
- Project Site Boundary
- Conservation
- Extensive Agriculture
- Important Agricultural Lands
- Low Density Urban
- Open
- Urban Expansion
- University Use

FIGURE 10

County of Hawai'i General Plan

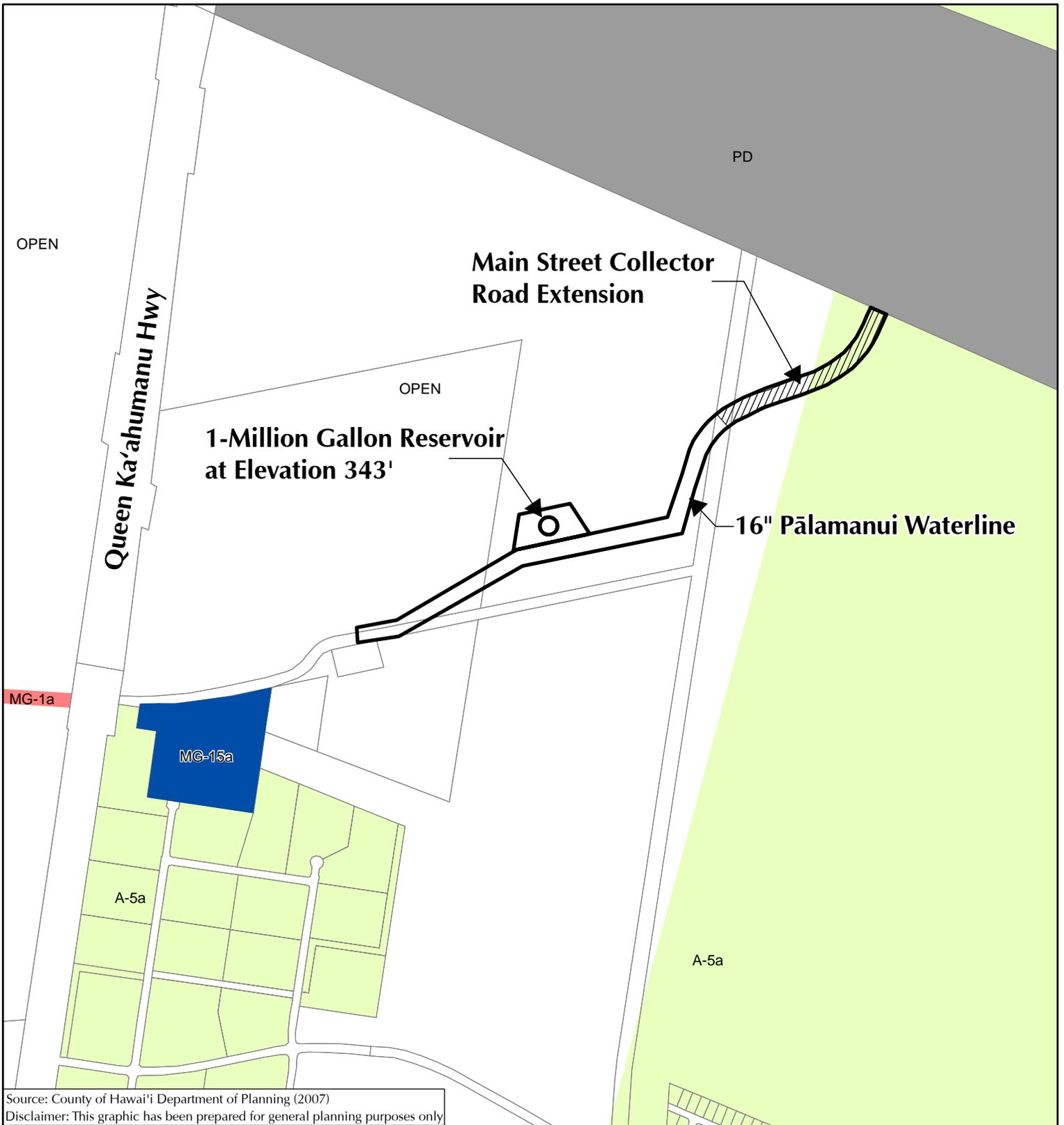
**Pālamanui Waterline,
343-foot Elevation Reservoir, and
Main Street Collector Road Extension**

Pālamanui, LLC Island of Hawai'i



Source: County of Hawai'i General Plan (2005)
Disclaimer: This graphic has been prepared for general planning purposes only





LEGEND

-  Project Site Boundary
-  OPEN
-  A-5a: Agricultural District
-  MG-1a: General Industrial
-  MG-15a: General Industrial
-  PD: Project District

FIGURE 11

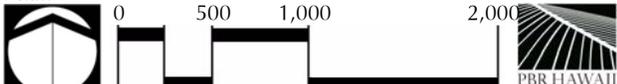
County of Hawai'i Zoning

**Pāalamanui Waterline,
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Pāalamanui, LLC Island of Hawai'i

NORTH LINEAR SCALE (FEET)

0 500 1,000 2,000





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5.3.3 Keāhole to Kailua Development Plan

The County of Hawai'i established an overall goal related to objectives for the Keāhole to Kailua Development Plan: "To develop during the next 10 years an efficient, safe and pleasing road network which operates at level of service C over the next 20 years and which interconnects the various land uses within the planning area and accommodates various modes of travel." A modified version of this long-range plan is in the County of Hawai'i General Plan completed in February 2005.

Discussion: The Main Street Collector Road Extension will be connected to the Main Street Collector Road, which will provide a crucial segment of the road network outlined in the Keāhole to Kailua Development Plan.

5.3.4 West Hawai'i Regional Plan

The West Hawai'i Regional Plan was developed by the Office of State Planning in 1989. It was intended to complement the County of Hawai'i's General Plan and Community Development Plan to address the regional issues arising from rapid development in the West Hawai'i area.

Discussion: The West Hawai'i Regional Plan includes the project area in the Kailua-Kona to Keāhole Urban Expansion Planning Area.

5.3.5 Kona Community Development Plan

The proposed project falls under the jurisdiction of the Kona Community Development Plan (KCDP). The plan is part of the overall County of Hawai'i General Plan. These CDPs help the county determine how the County distributes funds, passes laws, governs development, provides roads and public facilities, and generally makes decisions in the area until the year 2015. CDPs essentially translate the broad goals outlined in the County General Plan, into opportunities for implementation. The CDPs also serve as a forum for community input. Once drafted, the CDP will be adopted by the County Council as an ordinance, giving it the force of law.

Discussion: The proposed project is consistent with the current pre-final draft of the Kona Community Development Plan released on April 17, 2008. The construction of the Keohokalole Highway (a.k.a. Mid-Level Road) is included in Figure 4-3(a) of the report.

5.4 LIST OF REQUIRED PERMITS AND APPROVALS

The following permits will be required as part of the project:

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| <u>Permit or Approval</u> | <u>Administrating Agency</u> |
|---|--|
| Construction Permits (Building, Grading, Paving) | County of Hawai'i Department of Public Works |
| National Pollutant Discharge Elimination System (NPDES) | State of Hawai'i, Department of Health |
| Underground Injection Control (UIC) | State of Hawai'i, Department of Health |
| Water System Construction Plan Approval | County of Hawai'i Department of Water Supply |
| Consolidation and re-subdivision of rights-of-way | County of Hawai'i Planning Department |
| <u>Plan Approval</u> | <u>County of Hawai'i Planning Department</u> |

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6.0 ALTERNATIVES

In compliance with the provisions of Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-17(f), an environmental assessment must discuss potential alternatives to the proposed action.

Three alternatives were considered: 1) no action; 2) alternative waterline alignment; and 3) alternative waterline size. These alternatives are discussed below:

No Action

The no-action alternative involves no proposed activity and no change to the status quo. The proposed Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension would not be constructed. There would be no impacts and no mitigation measures. However, the The Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are being proposed to provide infrastructure support for the Pāalamanui Development and the UHCWH. The waterline will start at the existing County of Hawai'i's Keāhole water tanks (located at the 280-foot elevation). The Keāhole water tanks consist of one 0.5 million gallon tank and one 1 million gallon tank. From the Keāhole water tanks, the waterline will extend mauka through open land, where it will intersect and run within the future Main Street Collector Road right-of-way. The 16-inch waterline connects to existing mauka and makai waterlines and forms an important northern "loop" in the County of Hawai'i DWS' regional system.

Alternative Waterline Alignment

Originally, the proposed waterline alignment was planned to fall within two narrow subdivided lots: one leading mauka from the existing County of Hawai'i's Keāhole water tanks (located at the 280-foot elevation); and the other lot was subdivided to allow for a regional collector running parallel to and between Queen Ka'ahumanu Highway and Māmalahoa Highway. When archeological resources were later found in both lots, a new alignment for the waterline was identified (with the assistance of an archaeologist). The proposed alignment avoids impacting archaeological resources. The landowner of the affected lots is the State of Hawai'i.

Alternative Waterline Size

North Kona is one of the fastest growing regions in the State of Hawai'i. Population predictions for the West Hawai'i region indicate that there is sufficient population to justify the construction of a higher education center and permanent location for the UHCWH. The proposed Pāalamanui Waterline and 343-foot Elevation Reservoir will provide water service to both the Pāalamanui

**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
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FINAL ENVIRONMENTAL ASSESSMENT**

Development and the new UHCWH, and also providing a needed link to the County Department of Water Supply's regional water system near the Kona International Airport. A smaller water line was rejected as it would not provide sufficient transmission capacity to meet near-term and long-term water demands for the region.

**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
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FINAL ENVIRONMENTAL ASSESSMENT**

7.0 FINDINGS, SUPPORTING REASONS AND DETERMINATION

To determine whether the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension may have a significant impact on the physical and human environment, all phases and expected consequences of the proposed project have been evaluated, including potential primary, secondary, short-range, long-range and cumulative impacts. Based on this evaluation, the Approving Agency (State of Hawai'i Department of Land and Natural Resources) ~~is expected to~~ issues a Finding of No Significant Impact (FONSI) for the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension. The supporting rationale for this anticipated finding is presented in this chapter.

7.1 PROBABLE IMPACT, INCLUDING CUMULATIVE IMPACTS

Cumulative impacts are impacts on the environment that result from the action when added to other past, present and foreseeable future actions by other agencies or persons. These cumulative long-term impacts are the need for potable water, more electricity and regional infrastructure. However, these properties have had or will have an EIS prepared and the development of the projects includes appropriate mitigation measures to address any impacts. The following projects are planned for the immediate vicinity of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension (See Figure 12) and they are briefly discussed individually below:

University of Hawai'i Center at West Hawai'i (UHCWH)

The UHCWH plans a future expansion. This will be beneficial to the entire region by providing educational and employment opportunities. The 2000 EIS for the UHCWH addressed the cumulative impacts in the area (Wil Chee - Planning & Environmental, Inc., 2000).

Pāalamanui - A Hiluhilu Development Project

Pāalamanui Development, LLC plans to develop the parcel adjacent to the UHCWH property. The Pāalamanui Development includes residential uses, mixed uses, an 18-hole golf course and in conjunction with UHCWH, a University Village Center. A 2004 EIS was prepared that addresses cumulative growth in the area (Group 70 International, Inc., 2004).

Kona International Airport at Keāhole

The Kona International Airport has a list of long range improvements that are scheduled in phases to be completed by 2015. These projects include expansion of infrastructure to accommodate the growing needs of the airport as well as adding commercial and industrial uses that support airport activities.

**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
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Department of Hawaiian Home Lands (DHHL) Properties

DHHL has jurisdiction over a large amount of acreage in the surrounding area that they eventually plan to develop. Various types of uses are included that range from agricultural lots, industrial lots, commercial lots, a golf course and residential units.

Honokohau Boat Harbor

DHHL accepted the Kona Kai Ola Final EIS in 2007 for expansion of Honokohau Boat Harbor and a mixed-use development at a site mauka of the Harbor.

Queen Lili'uokalani Trust (QLT)

QLT owns 3,500-acres adjacent to Kailua-Kona that includes developed and undeveloped land. Developed areas include shopping centers, light industrial and residential low-rise condominiums. Undeveloped acreage is currently undergoing review for potential land uses and eventual development.

Supporting Infrastructure

To accommodate all the proposed growth additional infrastructure is required. Included are the following projects:

Hawai'i Electric Light Company, Inc. (HELCO) plans for the expansion and improvements to Keāhole Generating Station and the Airport Substation in order to provide for future demands. The EIS for HELCO that addresses the expansion of the HELCO facilities was finalized in January 2005.

Keāhole Reservoir was completed on February 1, 2000 and will provide storage for water. The Hina Lani Drive Water Transmission line and Reservoir was completed in 2001.

Lokahi Subdivision proposes to provide an access road for the Lokahi Subdivision. The proposed road will intersect with Ka'iminani Drive near the Kona Palisades Subdivision providing a north-south segment of the proposed road that will become the new Main Street.

Cumulative Impacts

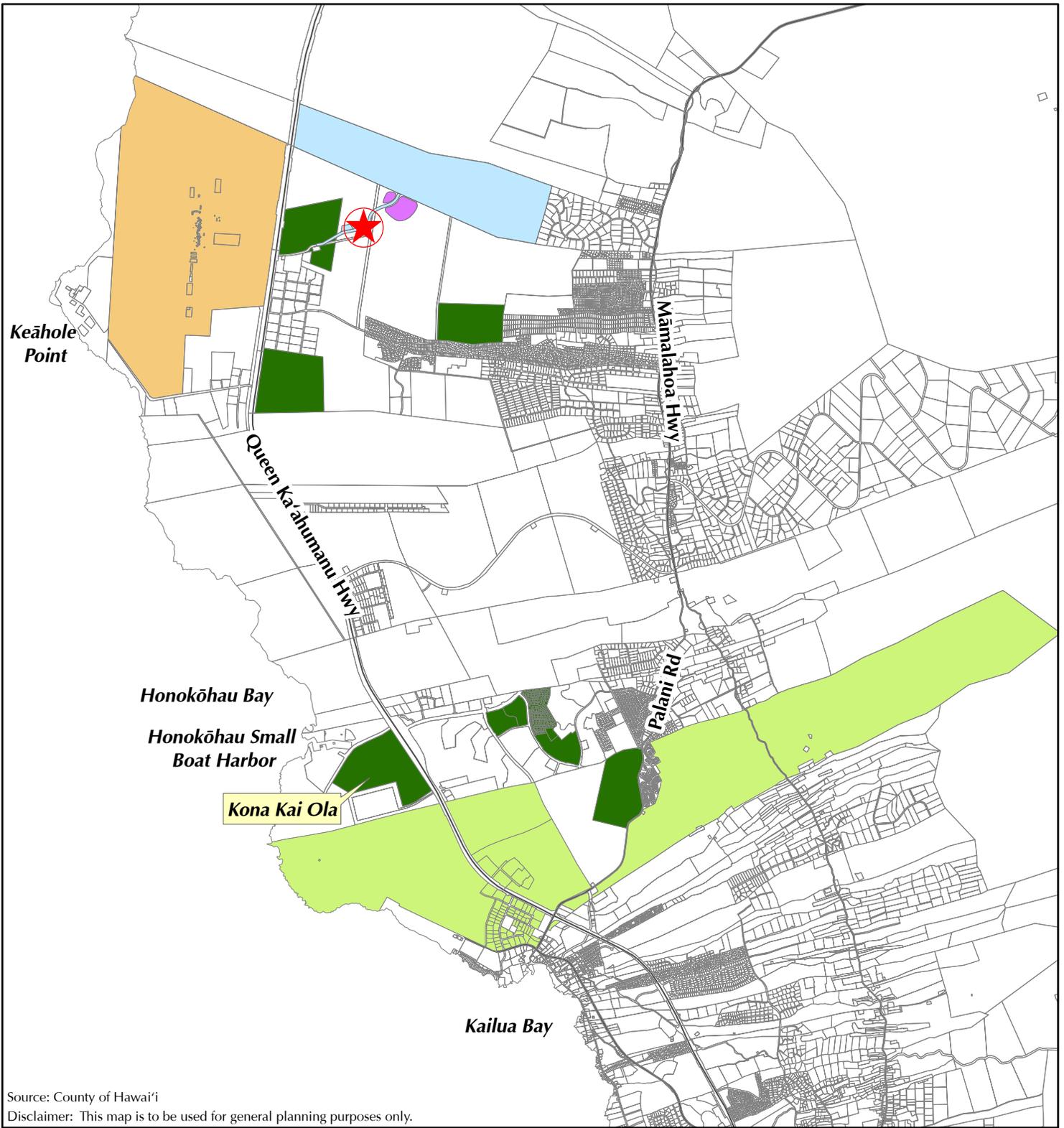
The previously mentioned projects will likely have an impact on the environment. However, established controls require developers to consider and manage or mitigate any negative long term impacts on the natural environment. Compliance and adherence with established controls are expected to decrease the impact on natural resources.

The man-made environment can also be stressed and severely impacted as all of the proposed projects in the region are implemented. Again, the developers must follow established controls and provide appropriate mitigation for project-generated impacts on

**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
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infrastructure. Many of the proposed developments in the area have already submitted EISs that address the cumulative impacts in the region.

Social-economic impacts resulting from the proposed projects are anticipated to be beneficial. Construction generates employment and economic opportunities. Additional residential areas provide housing, commercial development provides long term employment and the UHCWH provides a much needed higher education facility. All of the projects discussed will result in economic development that will expand employment opportunities for Kailua-Kona residents and provide additional tax revenue to the State and County governments to fund needed public services. Overall, the net cumulative impact is expected to have a positive effect on the Kailua-Kona community.



Source: County of Hawai'i
 Disclaimer: This map is to be used for general planning purposes only.

LEGEND

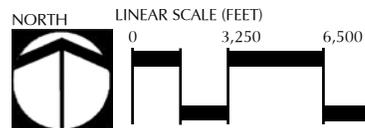
-  Project Location
-  Department of Hawaiian Home Lands
-  Queen Lili'uokalani Trust
-  Kona International Airport at Keāhole
-  Palamanui - A Hiluhilu Development Project
-  University of Hawai'i Center at West Hawai'i

FIGURE 12

Surrounding Projects

**Pālanui Waterline,
 343-foot Elevation Reservoir and
 Main Street Collector Road Extension**

Pālanui, LLC ISLAND OF HAWAII



**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
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7.2 SIGNIFICANCE CRITERIA

Based upon the previous information presented in this document the proposed permitting and construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will likely have no significant environmental impacts. This determination is based upon the Significance Criteria outlined in Chapter 343, HRS, and Title 11, Chapter 200, HAR.

- (1) *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;*

All sites located during the Archaeological Assessment conducted by Pacific Legacy in the area of this project site are significant under criteria "d" of the National Historic Preservation Act and will be treated appropriately. The proposed waterline, reservoir and Main Street Collector Road Extension were sited to avoid archaeological sites and lava tubes. There will be no loss or destruction of any other natural or cultural resources.

- (2) *Curtails the range of beneficial uses of the environment;*

The construction and use of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are anticipated to have a minimal effect on the environment. Currently, the project area is vacant land and is not serviced by a water system. The construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will provide water to both the proposed Pāalamanui Development and the UHCWH.

- (3) *Conflicts with the state's long term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;*

As proposed the project is in compliance with the State's long-term goals or guidelines as expressed in Chapter 344, HRS.

- (4) *Substantially affects the economic or social welfare of the community or state;*

As proposed the project will positively affect the economic and social welfare of the community and state. It will provide jobs during the construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension and it will open up the University's property for the development of a major educational center in North Kona. Jobs will be provided as the UHCWH site is developed and long term employment will increase when the UHCWH is operational. There will be no substantive negative effects from the project.

**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
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- (5) *Substantially affects public health;*

As proposed the construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will have no permanent negative effect on public health, but will result in a beneficial effect through the provision of an important northern “loop” in the County of Hawai‘i DWS regional potable water system.

- (6) *Involves substantial secondary impacts, such as population changes or effects on public facilities;*

The construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will provide accessory facilities and services to the UHCWH and Pāalamanui Development. There will be long range gradual changes as the UHCWH parcel and the adjacent parcels are developed. These changes are part of the County of Hawai‘i's long range development plans for West Hawai‘i. Impacts were disclosed in previous EISs.

- (7) *Involves a substantial degradation of environmental quality;*

The construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will not substantially degrade the environmental quality along the road corridor. Federal, State and County permit conditions will be adhered to that mitigate negative impacts.

- (8) *Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;*

The construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension are accessory facilities with limited effects on the environment. Both the UHCWH and Pāalamanui Development EISs previously disclosed cumulative effects and associated mitigation measures.

- (9) *Substantially affects a rare, threatened or endangered species or its habitat;*

No listed, threatened, proposed, or candidate species or their habitats were found in the project area.

- (10) *Detrimentially affects air or water quality or ambient noise levels;*

Air Quality:

The construction and use of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension should have no significant impact on the air

**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
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quality, since the construction required will not require large-scale earth movement, the underlying soils are mostly rock, and the winds in the area are relatively light.

Water Quality:

The construction and use of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension should have no significant impact on the water quality, since the construction required will not require large-scale earth movement, the underlying soils are mostly rock, and the climate is dry.

Ambient Noise Levels:

Potential short-term construction noise impacts are possible during the project construction period at the south end of the project corridor. However, minimizing these types of noise impacts is possible using standard curfew periods, properly muffled equipment, administrative controls and construction barriers as required. Long-term changes in ambient noise should not exceed County, State and Federal standards. The proposed project is not located near any residences or noise-sensitive uses such as schools or hospitals.

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

The entire Island of Hawai'i is subject to earthquake, so this location is at no greater risk than any other place on the island. Mitigation for seismic activity is included in the Uniform Building Code and the County of Hawai'i Structural Design Standards, including earthquake design provisions.

The Kailua-Kona Area is located in Zone 4 on volcanic hazard maps. Zone 4 includes all of Hualālai where the recurrence intervals of eruptions are in the centuries. There are no mitigation measures for volcanic eruptions.

The proposed facilities are not located in any other sensitive area.

(12) Substantially affects scenic vistas and view planes identified in county or state plans or studies; or,

As proposed the construction of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension will have no effect on the scenic vista or view planes as identified in county or state plans or studies. The waterline will be located within the road and will not be visible.

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(13) *Requires substantial energy consumption.*

Only a very small amount of energy will be consumed during the construction phase of the Pāalamanui Waterline, 343-foot Elevation Reservoir and Main Street Collector Road Extension to power equipment used to install and construct the waterline, reservoir and road.

7.3 DETERMINATION

Pursuant to Chapter 343, HRS, The State of Hawai'i Department of Land and Natural Resources issues a Finding of No Significant Impact as the accepting agency. This finding is founded on the basis of impacts and mitigation measures examined in this document, public comment received during the pre-consultation and public review phases, and analyzed under the above criteria.

**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
AND MAIN STREET COLLECTOR ROAD EXTENSION
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**PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR
AND MAIN STREET COLLECTOR ROAD EXTENSION
FINAL ENVIRONMENTAL ASSESSMENT**

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Appendix A

Preconsultation Comments & Responses



LINDA LINGLE
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
233 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: eqc@hawaii.state.hi.us

March 29, 2007

Mr. Vincent Shigekuni
PBR Hawaii & Associates, Inc.
1001 Bishop Street, ASB Tower, Suite 650
Honolulu, Hawaii 96815

Subject: Pre-Consultation For The Palamanui Waterline, 343-Foot Elevation Reservoir,
And Main Street Collector Road Extension, North Kona, Island of Hawaii

Dear Mr. Shigekuni,

We have received your letter dated March 28, 2007 for the Palamanui waterline and the
Main street collector road extension.

We have no comments at this time, but reserve the right to further comments when the
documents are reviewed.

If you have any questions, please feel free to call the office at 586-4185.

Sincerely,

Genevieve Salmonson
Genevieve Salmonson
Director



April 3, 2007

W. FRANK BRANDT, FASLA
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President

R. STAN MUNCAN, ASLA
Executive Vice-President

RUSSELL Y. L. CHUNG, FASLA
Executive Vice-President

VINCENT SHIGEKUNI
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GRANT T. MURAKAMI, AICP
Principal

TOM SCHIBEL, AICP
Senior Associate

RAYMOND L. RIGA, ASLA
Senior Associate

KEVIN K. NISHIKAWA, ASLA
Associate

KIMMIKAMU YUEN, LEED AP
Associate

SCOTT A. IKA, ABRIGO
Associate

SCOTT T. MURAKAMI, ASLA
Associate

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

SUBJECT: PRE-CONSULTATION FOR THE PALAMANUI
WATERLINE, 343-FOOT ELEVATION RESERVOIR, AND
MAIN STREET COLLECTOR ROAD EXTENSION,
NORTH KONA, ISLAND OF HAWAII DRAFT
ENVIRONMENTAL ASSESSMENT

Dear Ms. Salmonson,

Thank you for your letter dated March 29, 2007. We acknowledge that the
Office of Environmental Quality Control has no comments to offer at this time.

Thank you again for your participation in the preparation of the upcoming
Environmental Assessment. If you have any questions regarding this project,
please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent R. Shigekuni

Vincent R. Shigekuni
Vice President

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WAILUKU OFFICE
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Wailuku, Hawaii 96791-1271
Tel: (808) 242-2878

Cc: Roger Harris, HiloHilo Development, LLC

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UNDA LINGLE
GOVERNOR



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

April 11, 2007

Mr. Vincent R. Shigekuni, Vice-President
PBR Hawaii & Associates, Inc.
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Shigekuni:

Subject: Draft Environmental Assessment Pre-Consultation
Palamanui Waterline, 343-foot Elevation Reservoir and
Main Street Collector Road Extension

Thank you for your pre-consultation notification on the subject three infrastructure projects for the Palamanui land development project and adjacent University of Hawaii West Hawaii site.

Our Department is already on record as a concerned and interested party on the impacts both Palamanui and the University campus will have on our transportation facilities – Queen Kaahumanu Highway, Mamalahoa Highway and Kona International Airport at Keahole. We remain interested in being apprised of the construction and development projects that will form and make up these two planned-communities for our information and/or review.

At this time, based on the map and information provided in your pre-consultation, we anticipate no new direct impacts from the three projects over and above the issues we provided earlier the past two years.

We request that when the draft environmental assessment for the subject infrastructure projects are completed, we receive at least four (4) copies of the assessment report for our information and review, and distribution to our affected operating divisions.

We appreciate your courtesy in making the pre-consultation notice available to us and for the opportunity to provide our comments.

Very truly yours,

BARRY FUKUNAGA
Interim Director of Transportation

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEBENO
BREMON T. MURDOKA
BRUNN H. SENGUCHI

IN REPLY REFER TO:

STP 8.2452



PBR HAWAII
& ASSOCIATES, INC.

April 18, 2007

Mr. Barry Fukunaga, Interim Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
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W. FRANK BRANDT, FASLA
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Wailuku, Hawaii 96793-1271
Tel: (808) 242-2878

SUBJECT: PRE-CONSULTATION FOR THE PALAMANUI WATERLINE, 343-
FOOT ELEVATION RESERVOIR, AND MAIN STREET COLLECTOR
ROAD EXTENSION, NORTH KONA, ISLAND OF HAWAII DRAFT
ENVIRONMENTAL ASSESSMENT

Dear Mr. Fukunaga,

Thank you for your letter dated April 11, 2007 (reference: STP 8.2452). We offer the following responses to your comments:

- We acknowledge that the Department of Transportation is already on record as a concerned and interested party on the impacts both Palamanui and the University campus will have on transportation facilities, specifically, Queen Kaahumanu Highway, Mamalahoa Highway, and Kona International Airport at Keahole.
- We acknowledge that the Department of Transportation remains interested in being apprised of the construction and development projects that will form and make up Palamanui and the University campus for your information and/or review.
- We acknowledge that at this time, based on the map and information provided in the pre-consultation letter, the Department of Transportation anticipates no new direct impacts from the Palamanui Waterline, 343-foot Elevation Reservoir, and Main Street Collector Road Extension over and above the issues the Department of Transportation has provided over the past two years.
- We acknowledge that the Department of Transportation would like to receive at least four (4) copies of the draft environmental assessment.

Thank you again for your participation in the preparation of the upcoming Environmental Assessment. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent R. Shigekuni
Vice President

Cc: Roger Harris, Hiltuhilu Development, LLC

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Harry Kim
Mayor



County of Hawaii
PLANNING DEPARTMENT

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Christopher J. Xuen
Director

Brad Kurokawa, ASLA
LEED® AP
Deputy Director

Mr. Vincent Shigekuni, Vice President
PBR Hawaii
Page 2
April 16, 2007

April 16, 2007

Mr. Vincent Shigekuni, Vice President
PBR Hawaii
1001 Bishop Street
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Honolulu, HI 96813-3484

Dear Mr. Shigekuni:

Pre-Consultation for Draft Environmental Assessment (EA)
Proposed Palamanui Waterline, 343-foot Elevation Reservoir
and Main Street Collector Road Extension
Tax Map Key: 7-3-10:various parcels, Makaula-Kalaoa, North Kona, Hawaii

This is in response to your letter dated March 28, 2007, requesting our comments as part of the pre-consultation process for the Draft EA for the above-referenced proposed project. We provide you with the following comments:

1. The goals, policies, standards and courses of action of the General Plan and the applicability to the proposed project should be discussed in the Draft Environmental Assessment. The document should also include discussion on the project in relations to any regional and/or community plans for the Kona district.
2. The Draft EA should discuss the land use designations, including the General Plan, State Land Use District, and County Zoning District. For your information, the project site is designated as Urban Expansion and University Use by General Plan Land Use Pattern Allocation Guide (LUPAG) Map. It is situated within the State Land Use Urban District and County zoned Open and Agricultural (A-5a). The Draft EA should also include discussions on the surrounding land use designations and uses.

3. The project site is not located within the County's Special Management Area (SMA).
4. The Draft EA should clearly discuss the proposed project, the needs for the project, project construction timeline and include detailed maps of the proposed structures and improvements of the proposed project.

Thank you for the opportunity to provide comments for the Pre-Consultation. Should you have any questions, please feel free to contact Alice Kawaha of this department at 961-8288, Ext. 203.

Sincerely,


CHRISTOPHER J. XUEN
Planning Director

AK.cd

p:\wpwind0\alicewaha\LPBR\Shigekuni\Palamanui\Waterline

cc: Mr. Bennett Mark, Planning Department – Kona Office



April 19, 2007

Mr. Chris Yuen, Director
Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720

**SUBJECT: PRE-CONSULTATION FOR THE PALAMANUJ WATERLINE,
343-FOOT ELEVATION RESERVOIR, AND MAIN STREET
COLLECTOR ROAD EXTENSION, NORTH KONA, ISLAND OF
HAWAII DRAFT ENVIRONMENTAL ASSESSMENT**

Dear Mr. Yuen,

Thank you for your letter dated April 16, 2007. We offer the following responses to your comments:

1. We acknowledge that the goals, policies, standards and course of action of the General Plan and the applicability to the project should be discussed in the Draft Environmental Assessment. Also, the Draft Environmental Assessment will discuss any regional and/or community plans for the Kona district.
2. We acknowledge that the Draft EA should discuss land use designations, including the General Plan, State Land Use District, and County Zoning District. The Draft EA will also include discussions on the surrounding land use designations and uses.
3. Thank you for the information that the project site is not located within the County's Special Management Area.
4. We acknowledge that the Draft EA should clearly discuss the project, the needs for the project, construction timeline and include detailed maps of the proposed structures and improvements of the project.

Thank you again for your participation in the preparation of the upcoming Environmental Assessment. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent R. Shigekuni
Vincent R. Shigekuni, Vice President

cc: Roger Harris, Hiihiihii Development, LLC

O:\62626262\4-01 Palamanu Waterline EA\Pre-Consultation\Acknowledge Letters\Planning 4-19-2007.doc

W FRANK BRANDEY, ASLA
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Harry Kim
Mayor

Barbara Bell
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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http://co.hawaii.hi.us/directory/dir_cnmvmg.htm

April 18, 2007

Mr. Vincent R. Shigekuni
Vice President
PBR Hawaii
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, HI 96813-3484

**SUBJECT: PRE-CONSULTATION FOR THE PALAMANUJ WATERLINE, 343-
FOOT ELEVATION RESERVOIR, AND MAIN STREET COLLECTOR
ROAD EXTENSION, NORTH KONA, ISLAND OF HAWAII DRAFT
ENVIRONMENTAL ASSESSMENT**

Dear Mr. Shigekuni,

We have no comments to offer regarding the subject draft Environmental Assessment.
Thank you for allowing us the opportunity to review and comment on this project.

Sincerely,

Barbara Bell

Barbara Bell
DIRECTOR

Hawaii County is an equal opportunity provider and employer.

9-361A



W. FRANK BRANDT, FABLA
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LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 20, 2007

PBR Hawaii & Associates, Inc.
1001 Bishop Street
ASB Tower Suite 650
Honolulu, Hawaii 96813

Attention: Mr. Vincent R. Shigekuni

Gentlemen:

Subject: Pre-Consultation for the Palamanui Waterline, 343 foot Elevation Reservoir, Main Street Collector Road Extension, North Kona, Hawaii, Tax Map Key: (3) 7-3-10; portions of 33, 39, 40, 42, 43, 44, 45

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Division of Water Resource Management, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,
Russell Y. Tsuji
Administrator

Sincerely,

Vincent R. Shigekuni
Vice President

Cc: Roger Harris, Hiihiihii Development, LLC

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DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

Regulatory Branch

Vincent R. Shigekuni
PBR Hawaii & Associates, Inc.
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Shigekuni:

This is in response to your letter dated March 28, 2007 for comments for the proposed Palamanui Waterline, the 343-foot elevation reservoir, and the Main Street collector road extension in North Kona, Hawaii Island, Hawaii (TMKs: (3) 7-3-10-43; 7-3-10: 33 (por.), 3p (por.), 40 (por.), 42 (por.), 43, 44 (por.), and 45 (por.)). We have reviewed the information you provided under the Corps' authority to issue Department of the Army (DA) permits pursuant to Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 USC 403) and Section 404 of the Clean Water Act (CWA) (33 USC 1344).

Based on the information provided and available resources, we have determined the subject parcels and the surrounding vicinities are absent of waters of the U.S. subject to our jurisdiction. We also anticipate activities related to the proposed project will not involve the placement of dredged and/or fill material into waters of the U.S., including adjacent wetlands. Based on this understanding, a DA permit is not required.

If, however, it should be determined that work or activities related to the proposed project will involve the discharge or placement of dredged or fill material into the waters of the U.S., you are to contact the project manager assigned below for project re-evaluation and permit determination.

Should you have any questions regarding this jurisdictional determination, please contact Ms. Joy Anamizu by phone at 808-438-7023, or joy.n.anamizu@usace.army.mil and refer to the file number above regarding this project.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

File No. POH-2007-134

April 23, 2007



April 27, 2007

W. FRANK BIKANDU, PASLA
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Executive Vice-President

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Executive Vice-President

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Vice-President

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TOM SCHNELL, AICP
Senior Associate

RAYMOND T. HIGA, ASLA
Senior Associate

KEVIN S. NISHIKAWA, ASLA
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SCOTT MURAKAMI, ASLA
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Mr. George P. Young, P.E.
Chief, Regulatory Branch
U.S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858

**SUBJECT: PRE-CONSULTATION FOR THE PALAMANUI WATERLINE,
343-FOOT ELEVATION RESERVOIR, AND MAIN STREET
COLLECTOR ROAD EXTENSION, NORTH KONA, ISLAND OF
HAWAII DRAFT ENVIRONMENTAL ASSESSMENT**

Dear Mr. Young,

Thank you for your letter dated April 23, 2007 (File Number POH-2007-134). We acknowledge that a DA permit is not required; however, if work or activities related to the proposed project involves the discharge or placement of dredged or fill materials into the waters of the U.S., the project manager will be notified for project re-evaluation and permit determination.

Thank you again for your participation in the preparation of the upcoming Environmental Assessment. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent R. Shigekuni
Vice President

cc: Roger Harris, Hiliuhilu Development, LLC

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STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EPO-07-073

May 3, 2007

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

Dear Mr. Shigekuni:

SUBJECT: Pre-consultation for the Proposed Palamanui Waterline, 343-foot Elevation Reservoir, and Main Street Collector Road Extension, North Kona, Island of Hawaii, Hawaii
TMK: (3) 7-3-010: 43

Thank you for allowing us to review and comment on the subject documents. The documents were routed to the various branches of the Department of Health (DOH) Environmental Health Administration. We have the following Clean Water Branch and General comments.

Clean Water Branch

Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at <http://www.hawaii.gov/health/environmental/env-planning/landuse/cwb-standardcomment.pdf>.

1. Any project and its potential impacts to State waters must meet the following criteria:
 - a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
 - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
 - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. Please call the Army Corps of Engineers at (808) 438-9258 to see if this project requires a

Mr. Shigekuni
May 3, 2007
Page 2

3. Department of the Army (DA) permit. Permits may be required for work performed in, over, and under navigable waters of the United States. Projects requiring a DA permit also require a Section 401 Water Quality Certification (WQC) from our office.

4. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

a. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.

b. Hydro-testing water.

c. Construction dewatering effluent.

You must submit a separate NOI form for each type of discharge at least 30 days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 days before the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at: <http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.

5. You must also submit a copy of the NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the CWB that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD's determination letter for the project along with your NOI or NPDES permit application, as applicable.

6. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.



Mr. Shigekuni
May 3, 2007
Page 3

If you have any questions, please visit our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering Section, CWB, at 586-4309.

General

We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiakai Liu with the Environmental Planning Office at 586-4346.

Sincerely,

KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
CWB

May 18, 2007

Mr. Kelvin H. Sunada, Manager
Environmental Planning Office
State of Hawaii, Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801-3378
Attn: Mr. Jiakai Liu

W. FRANK BRANDT, FASIA
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Associate

KIM MUKAMI YUEN, LEED AP
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Associate

SCOTT MURAKAMI, ASIA
Associate

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Wailuku, Hawaii 96793-1271
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SUBJECT: PRE-CONSULTATION FOR THE PALAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR, AND MAIN STREET COLLECTOR ROAD EXTENSION, NORTH KONA, ISLAND OF HAWAII DRAFT ENVIRONMENTAL ASSESSMENT

Dear Mr. Sunada,

Thank you for your letter dated May 3, 2007 (your reference number: EPO-07-073). We have reviewed your letter and offer the following responses to your comments:

- All phases of the proposed project will comply with all State policies, including the anti-degradation policy (HAR, Section 11-54-1.1), designated uses (HAR, Section 11-54-3), and water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
- The Department of the Army was sent a pre-consultation letter and in their response they indicated that a DA permit would not be required.
- We acknowledge that a NPDES permit for discharges of wastewater, including storm water runoff, into State surface waters is required before the start of the construction activities.
- We acknowledge that a copy of the NOI or NPDES permit application must be submitted to SHPD. An archaeological Inventory Survey is being prepared and will be transmitted to SHPD for its review.
- We acknowledge that all discharges related to the project construction or operation activities must comply with the State's Water Quality Standards.
- As recommended, the Standard Comments on the Department of Health website (<http://www.state.hi.us/health/environmental/env-planning/landuse/landuse.html>) have been reviewed and will be adhered to as applicable.

Thank you again for your participation in the preparation of the upcoming Environmental Assessment. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

Vincent R. Shigekuni, Vice President

cc: Roger Harris, HiloHulu Development, LLC

Harry Kim
Mayor



Darryl J. Oliveira
Fire Chief
Glen P.I. Honda
Deputy Fire Chief

County of Hawai'i
HAWAII FIRE DEPARTMENT
25 Aupuni Street • Suite 103 • Hilo, Hawaii 96720
(808) 981-8394 • Fax: (808) 981-2037

May 7, 2007

Vincent Shigekuni
PBR Hawaii—Hilo Office
101 Aupuni Street, Suite 310
Hilo, Hawaii 96720

SUBJECT: PRE-ENVIRONMENTAL ASSESSMENT CONSULTATION
PALAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR, AND
MAIN STREET COLLECTOR ROAD EXTENSION
NORTH KONA

We have no comments to offer at this time in reference to the above-mentioned Pre-
Environmental Assessment Consultation.

DARRYL OLIVEIRA
Fire Chief

PBW:ipc



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May 16, 2007

W. FRANK BRANDT, FASIA
Chairman

THOMAS WITTEN, ASLA
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RUSSELL Y. CHUNG, FASIA
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Tel: (808) 242-2878

Mr. Darryl J. Oliveira, Fire Chief
County of Hawai'i
Hawai'i Fire Department
25 Aupuni Street, Room 103
Hilo, Hawai'i 96720

SUBJECT: PRE-CONSULTATION FOR THE PALAMANUI WATERLINE, 343-
FOOT ELEVATION RESERVOIR, AND MAIN STREET COLLECTOR
ROAD EXTENSION, NORTH KONA, ISLAND OF HAWAII DRAFT
ENVIRONMENTAL ASSESSMENT

Dear Chief Oliveira,

Thank you for your letter dated May 7, 2007. We acknowledge that the Fire
Department has no comments to offer at this time.

Thank you again for your participation in the preparation of the upcoming
Environmental Assessment. If you have any questions regarding this project,
please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent R. Shigekuni
Vice President

cc: Roger Harris, HiloHulu Development, LLC

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Appendix B

Biological Resources Survey



Botanical Survey for the proposed Palama Nui Access Road

Prepared by Patrick Hart, PhD
April 12, 2007

Introduction

This report describes the results of a botanical survey of an approximately 45 acre portion of land within TMK #'s 7-02-05:01, 7-03-10:33, 7-03-10:39, 7-03-10:42, 7-03-10:43, 7-03-10:44, and 7-03-10:45 within the district of North Kona, Hawai'i Island. This land is located on approximately 1500-3000 year old lava flows from Hualalai Volcano (Wolfe and Morris 1996) at elevations ranging from approximately 50-100 meters. The survey was undertaken at the request of Hiluhilu Development LLC to supply information for an Environmental Assessment for the development of an access road to an adjacent development.

Purpose and Methodology

The objectives of the survey were to 1) locate and map all threatened and endangered plant species present on the proposed project site; 2) list all plant species encountered; and 3) describe the vegetation.

Fieldwork was conducted on December 30, 2006. Transects were walked from the lower to upper boundaries of the project site at 25 meter intervals. Plant species were identified in the field and, as necessary, collected and keyed out in the laboratory. Nomenclature of flowering plants generally follows Wagner et al. (1990) and supplements, and nomenclature of ferns and fern allies follows Palmer (2003).

Results

Current Vegetation and Flora of the Area

A total of four endemic, four indigenous, and seven introduced plant species were detected in the survey area (Table 1). No State or Federally listed threatened or endangered species were detected, however, maiapilo (*Capparis sandwichiana*), a federally listed Species of Concern (SOC) was relatively common. In addition, two individuals of the rare but unlisted maua (*Xylosma hawaiiense*) were present, but these trees were previously noted and mapped during past surveys in an adjacent area (Hart 2003).

Most of the property consisted of nearly barren lava flows, grasslands of introduced fountain grass (*Pennisetum setaceum*), and scattered native and introduced shrubs and trees. The rather sparse herb layer in these grasslands primarily consisted of the indigenous uhaloa (*Waltheria indica*), and the introduced partridge pea (*Chamaecrista nictitans*). Other introduced plants included haole koa (*Leucaena leucocephala*), indigo (*Indigofera suffruticosa*), and *Pluchea carolinensis*, which were present as low growing shrubs. Native

shrubs included the locally abundant 'a'ali'i (*Dodonea viscosa*) and the previously mentioned maiapilo. Native trees such as lama (*Diospyros sandwicensis*), naio (*Myoporum sandwicense*), and alahe'e (*Psydrax odoratum*), were scattered in very low densities throughout the area.

Discussion and recommended mitigation measures

In recent centuries the project area was likely dominated by Pili grass (*Heteropogon contortus*) with only scattered native shrubs and trees due to the low annual rainfall. Humans have substantially altered the vegetation of much of the property, either directly (eg. clearing for farming and ranching) or indirectly (eg. introduction of cattle and goats, introduction of alien plants, and fire) and very little original vegetation remains. However, the project could easily improve the existing habitat through the outplanting of native plants along the proposed roadway. In particular, landowners should consider maiapilo and wiliwili trees (*Erythrina sandwicensis*), although any native plants that naturally occur in the area could be used. In addition, landowners should consider aligning the access road in a way that would minimize the destruction of any of the few remaining native trees in the area.

Table 1. List of Alien (A), Indigenous (I), and Endemic (E) plant species found during the survey.

| Scientific Name | Family | Common Name | Life Form | Status |
|--|------------------|----------------|-----------|--------|
| <i>Capparis sandwichiana</i> | Capparaceae | Maiapilo | Shrub | E |
| <i>Chamaecrista nictitans</i> | Fabaceae | Partridge pea | Herb | A |
| <i>Diospyros sandwicensis</i> | Ebenaceae | Lama | Tree | E |
| <i>Dodonea viscosa</i> | Sapindaceae | 'A'ali'i | Shrub | I |
| <i>Indigofera suffruticosa</i> | Fabaceae | Indigo | Shrub | A |
| <i>Lantana camara</i> | Verbenaceae | Lantana | Shrub | A |
| <i>Leucaena leucocephala</i> | Fabaceae | Haole koa | Tree | A |
| <i>Myoporum sandwicense</i> | Myoporaceae | Naio | Tree | I |
| <i>Nephrolepis exaltata</i> <i>subsp. hawaiiensis</i> | Nephrolepidaceae | Ni'ani'au | Fern | E |
| <i>Pennisetum setaceum</i> | Poaceae | Fountain grass | Grass | A |
| <i>Pluchea carolinensis</i> | Asteraceae | Sourbush | Shrub | A |
| <i>Psydrax odoratum</i> | Rubiaceae | Alahe'e | Tree | I |
| <i>Schinus terebinthifolius</i> | Anacardiaceae | Christmasberry | Tree | A |
| <i>Waltheria indica</i> | Sterculiaceae | Uhaloa | Herb | I |
| <i>Xylosma hawaiiense</i> | Flacourtiaceae | Maua | Tree | E |

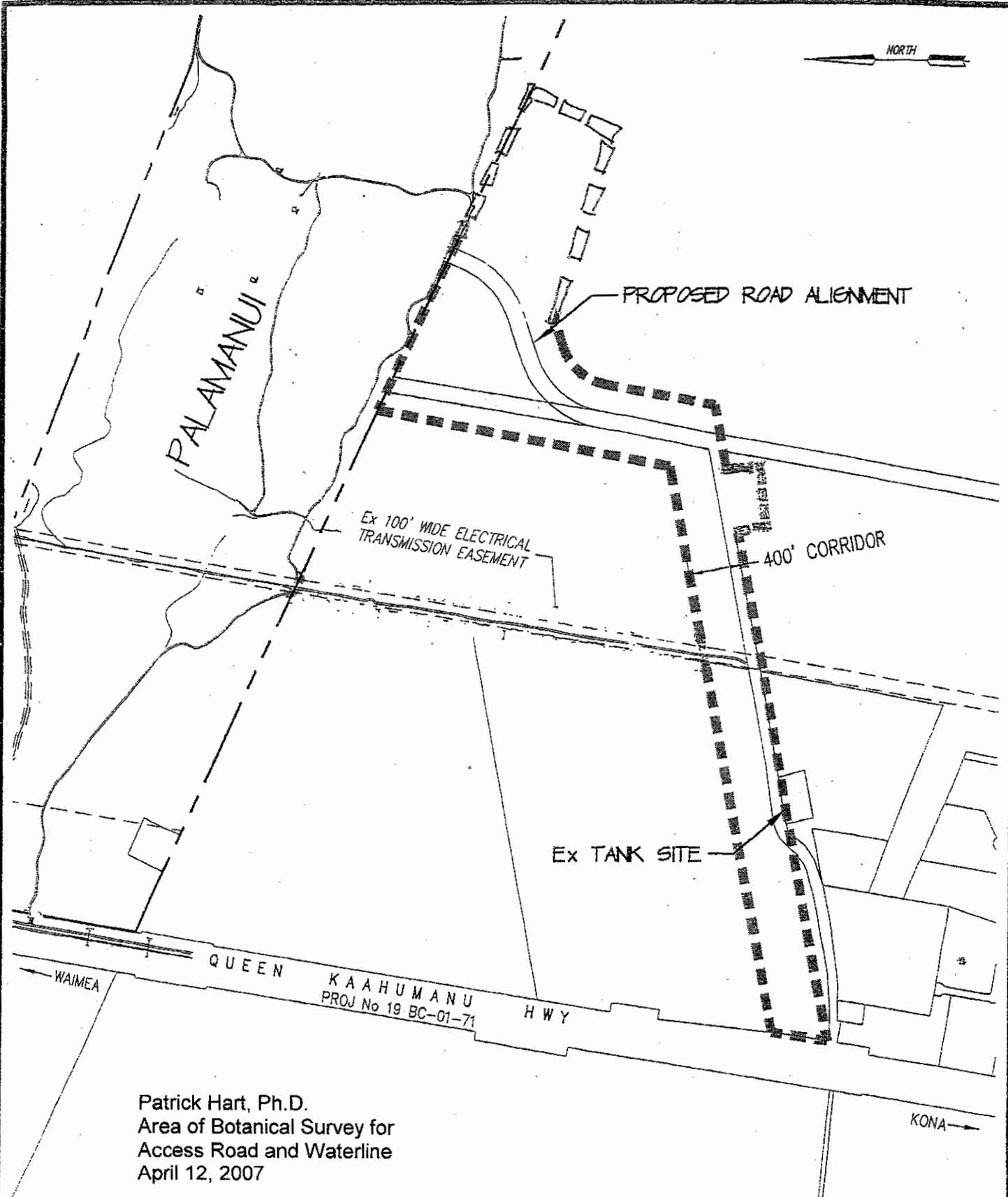
Literature Cited

Hart, Patrick J. 2003. Biological Reconnaissance; Lands of Ka'u, North Kona, Hawai'i. Consultation report for Hiluhilu Development LLC. October 2003.

Palmer, D.D. 2003. Hawaii's ferns and fern allies. University of Hawaii Press. Honolulu.

Wagner, W.L., D.R. Herbst, and S.H. Sohmer, eds., 1990. *Manual of the flowering plants of Hawaii*. 2 vols. Honolulu: University of Hawaii Press

Wolfe, E.W. and J. Morris. 1996. Geologic map of the island of Hawaii. U.S. Geological Survey. Miscellaneous Investigations Series. Washington D.C.



Patrick Hart, Ph.D.
 Area of Botanical Survey for
 Access Road and Waterline
 April 12, 2007

Right of Entry Map

Palamanui
 TMK: (3) 7-2-05: 1
 Kau, North Kona
 Island of Hawaii, Hawaii

SCALE: 1" = 1000'±



Appendix C

Archaeological Survey



RECHTMAN CONSULTING, LLC

HC 1 Box 4149 Kea'au, Hawai'i 96749-9710

phone: (808) 966-7636 fax: (808) 443-0065

e-mail: bob@rechtmanconsulting.com

ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL STUDIES

June 27, 2007

RC-0494

Melanie Chinen
Administrator
DLNR-SHPD
Kakuhewea Building, Room 555
601 Kamokila Blvd.
Kapolei, HI 96707

Dear Melanie:

At the request of Roger Harris, on behalf of Hiluhilu Development, Rechtman Consulting, LLC has prepared this request for determination of "no historic properties affected" associated with the establishment of a waterline, tank site, and access road to service the Palamanui/University of Hawaii development areas in Kaū, Maka'ula, and Hale'ōhi'u *ahupua'a*, North Kona District, Island of Hawai'i. The proposed waterline and access road will traverse Maka'ula, Hale'ōhi'u, Hamanamana, and Kalaoa *ahupua'a* on state-owned (DHHL and DLNR) land (TMKs: 3-7-3-10:33, 39, 42) (Figures 1, 2, and 3). The study area is situated *mauka* of Queen Ka'ahumanu Highway, north of Kaiminani Drive, and ranges in elevation from 260 feet (79 meters) to 440 (134 meters) feet above sea level. This general area is located on a Hualālai flow dating between 1,500 and 3,000 years old (Wolfe and Morris 1996). Vegetation within the project area consists almost entirely of fountain grass (*Pennisetum sectaceum*) and the terrain is broken *pāhoehoe* (Figures 4 and 5). A substantial lava tube system is known to exist in this area, a portion of which that is *mauka* of the present study area was recorded as SIHP Site 15298/15302 and contains burials and other culturally significant resources (Cleghorn 1998). One of the goals of the current archaeological fieldwork was to identify a corridor for the waterline and access road that avoids impacting this lava tube system. To that end, the surface and subsurface expressions of the tube system were field identified, and the proposed development corridor was situated to the north of the extent of the tube system. In the course of identifying the subsurface extent of the tubes, one subsurface archaeological feature was encountered. This is a cache of four wooden *kapa* beaters within a decaying gourd (Figures 6 and 7). This feature, being within the subsurface extension of SIHP Site 15298/15302, is not within the current study area. However, the feature was documented and its discovery was reported to DLNR-SHPD, along with an expression of concern for the protection of this feature from potential impact resulting from on-going illegal activities (mechanical and hand rock harvesting, and *pakalolo* cultivation) in the immediate vicinity of the finds. A second, surface feature, a single petroglyph (Figure 8), was also observed to be present outside of the current study area.

A detailed culture-history from legendary times to the Historic Period for this precise portion of Kekaha is presented by Maly and Kalima (1993), and indicates that the current project area was not heavily occupied or used during Precontact times and became part of large granted lease holdings during historic times. There were no *kuleana* awarded in the study area during the *Māhele*. There have been several archaeological studies (Ching 1970, 1971; Ching and Rosendahl 1968; Clark et al. 2004; Cleghorn 1998; Davis 1977; Head and Rosendahl 1993; Rosendahl 1973, 1990; Schilz et al. 1990) conducted in the general vicinity of the current project area location. Given the culture-historical background and the results of previous archaeological studies, the archaeological expectations for the current project area include possible trails, petroglyphs, dryland agricultural features, temporary habitation sites, and lava tubes containing burial and habitation features.

The fieldwork to define a study corridor was conducted January 9-12, 2007, and the field survey of the 200-foot wide study corridor was conducted on April 25-26, 2007. All fieldwork was done under the supervision of Robert B. Rechtman, Ph.D., and the field crew included J. David Nelson, B.A., Chris Hand, B.A., Ashton Dircks, B.A., and Johnny Dudoit, B.A. The field investigators thoroughly examined the 200-foot wide study corridor; ground visibility was excellent. No archaeological resources were observed within the study area and the likelihood of encountering subsurface resources is extremely remote. Based on these negative findings, on behalf of our client, we are requesting that DLNR-SHPD issue a written determination of "no historic properties affected" in accordance with HAR 13§13-284-5(b)1.

Should you require further information, or wish to visit the study area, please contact me directly.

Respectfully,



Bob Rechtman, Ph.D.
Principal Archaeologist

References Cited

Ching, F., Jr.

1970 Surface Survey and Limited Salvage of a Two-mile Portion (Keahole Point Area) of the Kailua-Kawaihae Road Corridor. Draft Report. Department of Land and Natural Resources, State Parks Division.

1971 The Archaeology of South Kohala and North Kona: From the Ahupua'a of Lalamilo to the Ahupua'a of Hamanamana. Surface Survey Kailua-Kawaihae Road Corridor (Section III). Hawaii State Archaeological Journal 71-1. Department of Land and Natural Resources.

Ching, F., Jr., and P. Rosendahl

1968 The Archaeology of North Kona: From the Ahupua'a of Kealakehe to the Ahupua'a of Puukala, Section I: Archaeological Surface Survey of the Kailua-Kawaihae Road (Section II, Honokohau to Keahole Point) and the Keahole Point Airport. Division of State Parks, Department of Land and Natural Resources. Prepared for the Department of Transportation, Airports and Highways Divisions.

Clark, M., D. Amerine, J. Nelson, C. Hand, M. Winburn, K. McCune, and R. Rechtman

2004 Addendum: Archaeological Inventory Survey of the Kaū Development Area (TMK:3-7-2-05:1 por.), Kaū Ahupua'a, North Kona District, Island of Hawai'i. Rechtman Consulting Report RC-0137. Prepared for Hiluhilu Development, LLC, Kamuela, Hawai'i.

Cleghorn, P.

1998 Archaeological Investigations for the Proposed University Center at West Hawai'i, North Kona, Hawai'i Island. Pacific Legacy, Inc. Report. Prepared for Wil Chee Planning, Inc. Honolulu.

Davis, B.

1977 Archaeological Survey of the Proposed Agricultural Park at Ke-ahole, North Kona, Hawaii Island. Report 14-122. Archaeological Research Center Hawaii, Inc. Prepared for Hawaii State Department of Agriculture.

Head, J., And P. Rosendahl

- 1993 Archaeological Inventory Survey, Kailua to Keahole Region State Lands, LUC Project—500 Acre University Site, Lands of Makaula, Hale‘ohi‘u, Hamanamana, and Kalaoa 1-4, North Kona District, Island of Hawaii. PHRI Report 1298-020893. Prepared for Helber, Hastert & Fee.

Maly, K., and L. Kalima

- 1993 “Historical Documentary Research” in Archaeological Assessment Study, Kailua to Keahole Region, State Lands, LUC Project. Lands of Makaula, Hale‘ohi‘u, Hamanamana, Kalaoa 1-4, Kalaoa-‘O‘oma, and ‘O‘oma 2, North Kona District, Island of Hawai‘i. PHRI Report 1275-062293.

Rosendahl, P.

- 1973 Archaeological Salvage of the Ke-ahole to ‘Anaeho‘omalua Section of the Kailua-Kawaihae Road (Queen Kaahumanu Highway), Island of Hawaii. Departmental Report Series 73-3. Department of Anthropology, B.P. Bishop Museum, Honolulu.
- 1990 Archaeological Inventory Survey, Phase I-Site Identification, Kau Waterline/Roadway Project Area, Land Of Kau, North Kona District, Island of Hawai‘i (TMK:3-7-2:Por.1). Paul H. Rosendahl, Ph.D. Inc., Letter Report 760-022290 to Nansay (Hawai‘i), Inc., Honolulu.

Schilz, A., K. Shun, S. Williams, and R. Nees

- 1990 Archaeological Survey and Evaluation, Lands of Kau, North Kona, Hawai‘I Island. Prepared for Nansay Hawai‘I, Inc., Kamuela, Hawai‘i.

Wolfe E., and J. Morris.

- 1996 Geologic Map of the Island of Hawai‘i. Geologic Investigations Series Map 1-2524-A. U.S. Department of the Interior, U.S. Geological Survey.

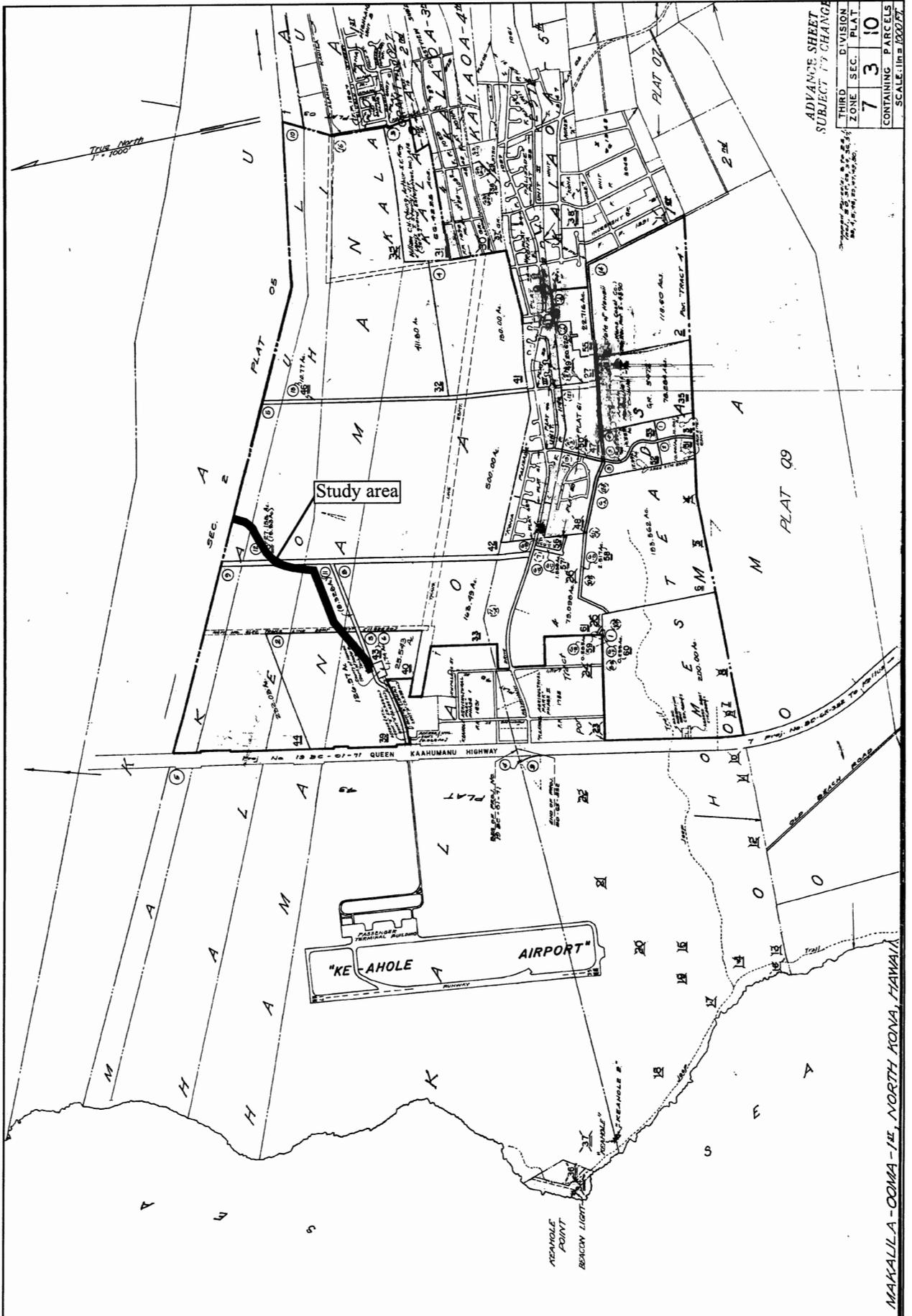


Figure 2. Tax Map Key (TMK):3-7-3-010 showing study area.

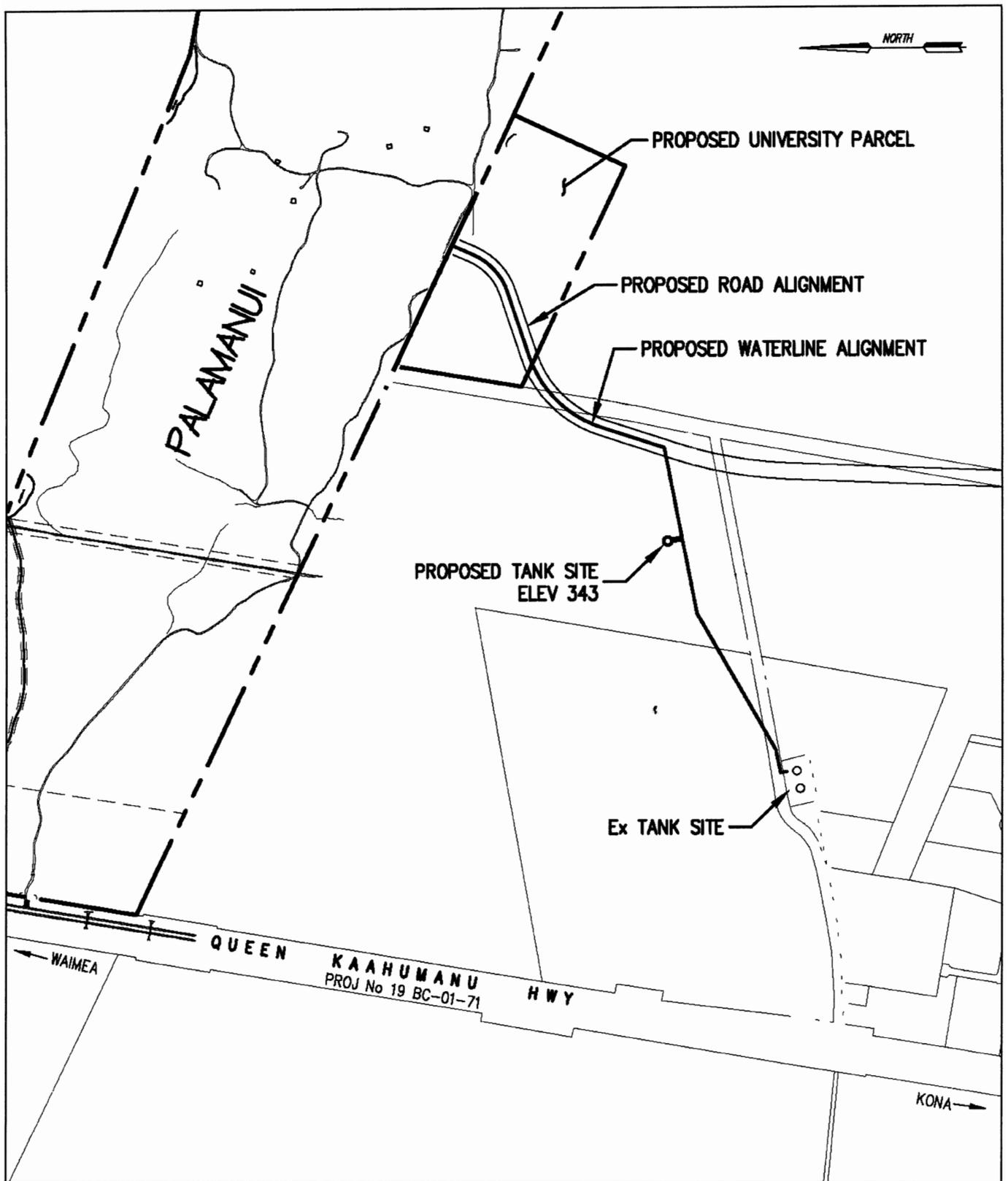


Figure 3. Detail map of study area.

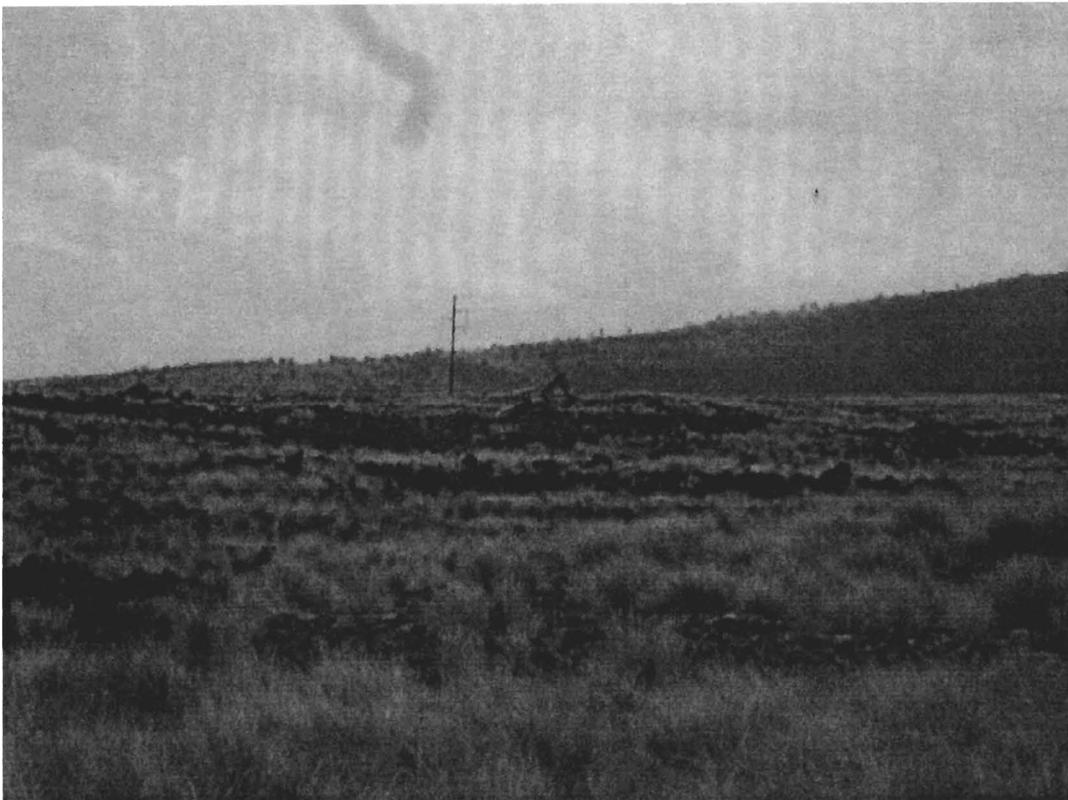


Figure 4. View of study area, note backhoe in center of photo, illegally “harvesting” rock.



Figure 5. Typical vegetation cover and *pāhoehoe* terrain.

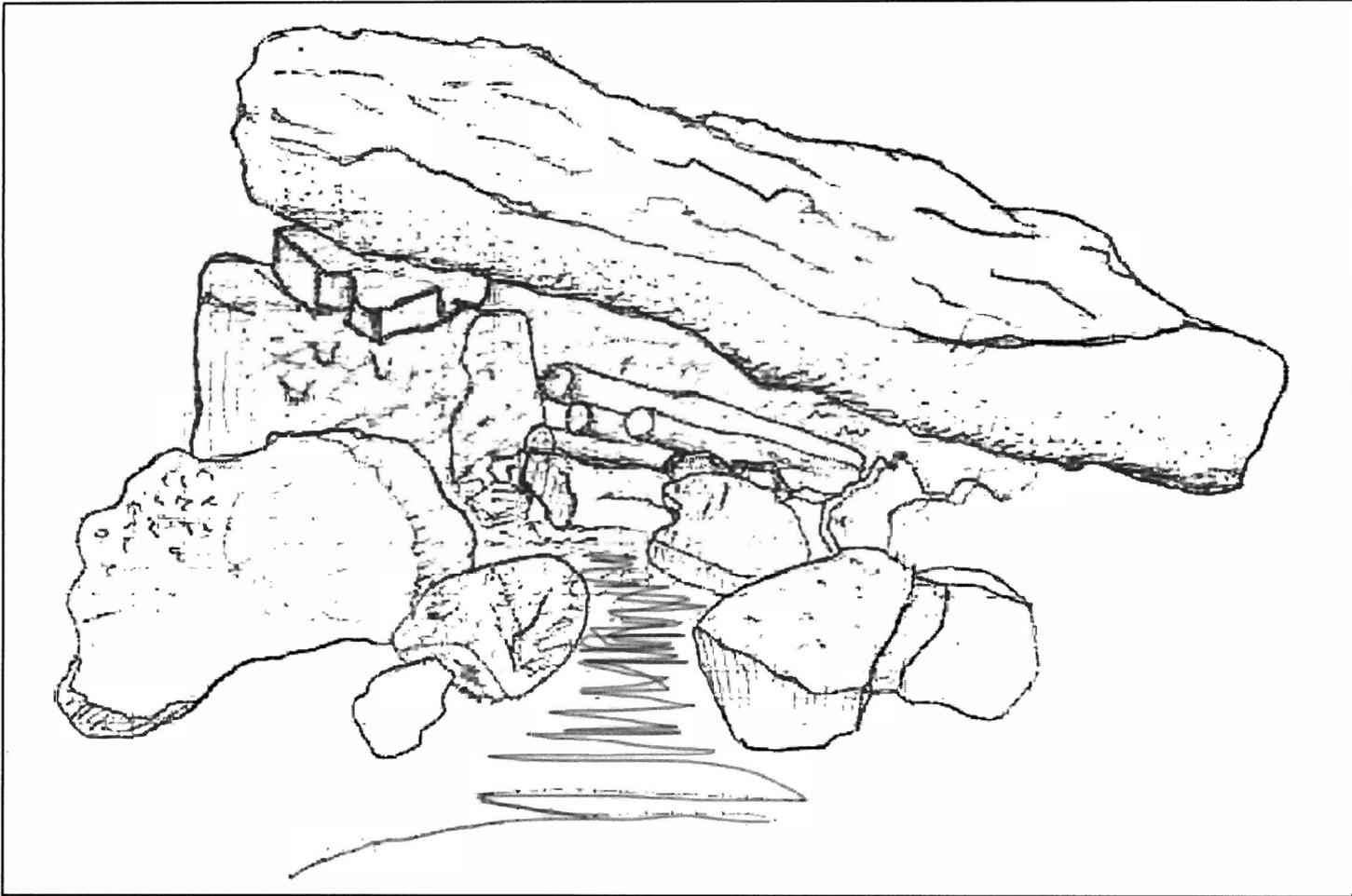


Figure 6. Sketch of *kapa* beater and gourd feature within lava tube SHIP Site 15298/15302.



Figure 7. *Kapa* beater and gourd feature within lava tube SHIP Site 15298/15302.



Figure 8. Petroglyph observed to the south of the current study area along the edge of a collapsed portion of the overall lava tube site SIHP 15298/15302.



Appendix D

Draft Environmental Assessment Public Review Comment Letters & Responses



Harry Kim
Mayor



County of Hawaii
PLANNING DEPARTMENT
101 Puuahi Street, Suite 3 • Hilo, Hawaii 96720-4224
(808) 961-8288 • FAX (808) 961-8742

Christopher J. Yuen
Director
Brad Kurokawa, ASLA
LEED® AP
Deputy Director

July 7, 2008

Mr. Vincent Shigekuni
PBR Hawaii
1001 Bishop Street, ASB Tower 650
Honolulu HI 96813

Dear Mr. Shigekuni:

SUBJECT: Draft Environmental Assessment
Applicant: Palamanui, LLC
Landowner: State of Hawaii Department of Land & Natural Resources and Department of Hawaiian Home Lands
Applicant: Palamanui, LLC
Project: Palamanui Waterline, 343-Foot Elevation Reservoir & Main Street Collector Road Extension
TMK: 7-3-10: For. of 39, 40 and 42-45 North Kona, Hawaii

This is in response to your May 28, 2008 letter requesting our comments on the above-referenced project.

Palamanui, LLC is proposing to construct a 16-inch underground waterline, 343-foot elevation reservoir and Main Street Collector Road Extension on portions of the subject parcels.

In reviewing the Draft Environmental Assessment, we have the following to offer:

1. We note that there were two Page 5. Missing were Pages 7 and 26 and Figure 11: County of Hawaii Zoning.
2. We concur with the County zonings and State Land Use classifications for the subject parcels.

Hawaii's County is an Equal Opportunity Provider and Employer.

JUL 08 2008

Mr. Vincent Shigekuni
PBR Hawaii
Page 2
July 7, 2008

3. Hawaii County Code, Chapter 25, Section 25-4-11(b) states that "Any substation used by a public utility for the purpose of furnishing telephone, gas, electricity, water, radio, or television shall be a permitted use in any district provided that the use is not hazardous or dangerous to the surrounding area and the director has issued plan approval for such use." Therefore, Permits/Required on Page 1 and §5.4 List of Required Permits and Approvals on Page 49 should include Plan Approval from the Planning Department.

If you have questions, please feel free to contact Esther Imamura of this office at 961-8288, extension 257.

Sincerely,

CHRISTOPHER YUEN
Planning Department

ETI:pk
P:\wp\ind0\ETHE\Admin\Pr-cons\Shigekuni Palamanui Waterline 7-3-10-39-40-42-45.dcf

xc: Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu HI 96813



July 10, 2008

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Mr. Christopher J. Yuen
Director
Planning Department
County of Hawai'i
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720

Attn: Esther Imamura

SUBJECT: PLANNING DEPARTMENT'S COMMENTS ON PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR, AND MAIN STREET COLLECTOR ROAD EXTENSION DRAFT ENVIRONMENTAL ASSESSMENT

Dear Director Yuen:

Mahalo for your comment letter on the Pālanuanui Waterline, 343-Foot Elevation Reservoir, and Main Street Collector Road Extension Draft Environmental Assessment dated July 7, 2008. We offer the following responses to your comments:

Comment 1: We note that there were two Page 5. Missing were Pages 7 and 26 and Figure 11: County of Hawai'i Zoning.

Response: These discrepancies were due to an assembly error in the draft document and will be corrected in the Final Environmental Assessment.

Comment 2: We concur with the County zonings and State Land Use classifications for the subject parcels.

Response: We acknowledge your department's concurrence.

Comment 3: Hawaii County Code, Chapter 25, Section 25-4-11 (b) states that "Any substation used by a public utility for the purpose of furnishing telephone, gas, electricity, water, radio or television shall be a permitted use in any district provided that the use is not hazardous or dangerous to the surrounding area and the director has issued plan approval for such use." Therefore, Permits/Required on Page 1 and §5.4 List of Required Permits and Approvals on Page 49 should include Plan Approval from the Planning Department.

Mr. Christopher Yuen
July 10, 2008
Page 2 of 2

Response: The Permits/Required section in the beginning of the document and Section 5.4 listing the Required Permits and Approvals will reflect a Plan Approval is necessary from the Planning Department.

We appreciate your participation in the review of this environmental assessment. If you have any further questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: Roger Harris, Pālanuanui, LLC
Charlene Unoki, Department of Land and Natural Resources

LINDA LINGLE
GOVERNOR OF HAWAII



LINDA LINGLE
GOVERNOR OF HAWAII

LINDA LINGLE
GOVERNOR OF HAWAII



LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 9, 2008

May 30, 2008

PBR Hawaii & Associates, Inc.
ASB Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813

Attention: Mr. Vincent Shigeokuni

Dear Mr. Shigeokuni:

SUBJECT: Draft Environmental Assessment for the Palamanui Waterline, 343-foot
Elevation Reservoir and Main Street Collector Road Extension; North
Kona, Island of Hawaii; TMK: (3) 7-3-010; por. 34, 40, 42, 43, 44, & 45

Thank you for the opportunity to review and comment on the subject matter. The
Department of Land and Natural Resources' (DLNR) Land Division distributed or made
available a copy of your report pertaining to the subject matter to DLNR Divisions for their
review and comments.

At this time, enclosed are comments from Hawaii District office of the Land Division on
the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at
587-0417. Thank you.

Sincerely,

Darlene Nakamura
Morris M. Atta
Administrator

Enclosure

MEMORANDUM

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division - Hawaii District *Gary Martin*

FROM:

Morris M. Atta
Morris M. Atta, Administrator

SUBJECT: Draft Environmental Assessment for the Palamanui Waterline, 343-foot Elevation
Reservoir and Main Street Collector Road Extension
LOCATION: North Kona, Hawaii; TMK: (3) 7-3-010; portions of 39, 40, 42, 43, 44 and 45
APPLICANT: PBR Hawaii & Associates, Inc.

Transmitted for your review and comment on the above referenced document. We would
appreciate your comments on this document. Please submit any comments by July 2, 2008.

Only one (1) CD is available for your review in Land Division office, Room 220.

If no response is received by this date, we will assume your agency has no comments. If
you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- () We have no objections.
- () We have no comments.
- () Comments are attached.

Signed: *Morris M. Atta*
Date: JUN 10 2008

cc: Central Files

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 12, 2008

PSF: 99ED-213
LD-GM

PBR Hawaii
1001 Bishop Street, ASB Tower 650
Honolulu, Hawaii 96813

Attention: Vincent Shigekuni

Subject: Draft Environmental Assessment (DEA), Palamanui Waterline, 343-foot
Elevation Reservoir, & Main Street Collector Road Extension, Dated May, 2008

We have the following comment on the above referenced DEA.

On page 11, last paragraph, it states that "The Main Street Collector Road will run from Kaiminani Drive to Palamanui and will be located in portions of TMK: (3) 7-3-10: 42, 45 and 49." Based on Figures 2 and 3 of the DEA, which shows the current alignment of the road right-of-way and the proposed alignment of same, respectively, portions of the Main Street Collector Road are located within parcels 42 and 45 as stated above. Figure 2, which identifies the parcels by TMK, does not show a parcel 49. However, based on the published TMK maps parcel 49 of TMK: (3) 7-3-10 is a dropped parcel. Also, based on the published TMK maps the Main Street Collector Road is located within parcels 33 and 44, in addition to 42 and 45. Accordingly, the above statement should read "The Main Street Collector Road will run from Kaiminani Drive to Palamanui and will be located in portions of TMK: (3) 7-3-10: 33, 42, 44 and 45."

If you have any questions, please call Gary Martin at phone number 587-0421. Thank you.

Sincerely,



MORRIS M. ATTA
Administrator

cc: Central Files
District Files



PBR HAWAII
& ASSOCIATES, INC.

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July 10, 2008

Mr. Morris M. Atta
Administrator, Land Division
State of Hawai'i Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809

SUBJECT: DEPARTMENT OF LAND AND NATURAL RESOURCES'
COMMENTS ON PALAMANUI WATERLINE, 343-FOOT ELEVATION
RESERVOIR, AND MAIN STREET COLLECTOR ROAD EXTENSION
DRAFT ENVIRONMENTAL ASSESSMENT

Dear Administrator Atta:

Mahalo for your comments on the Palamanui Waterline, 343-Foot
Elevation Reservoir, and Main Street Collector Road Extension Draft
Environmental Assessment dated June 12, 2008 and transmitted July 9,
2008. We offer the following responses to your comment:

Comment : On Page 11, last paragraph, it states that "The Main Street
Collector Road will run from Kaiminani Drive to Palamanui and will be
located in portions of TMK: (3) 7-3-10: 42, 46 and 49." Based and
figures 2 and 3 of the DEA, which shows the current alignment of the
road right-of-way and the proposed alignment of the same, respectively
portions of the Main Street Collector Road are located within parcels 42
and 45 above. Figure 2, which identifies the parcels by TMK, does not
show a parcel 49. However, based on the published TMK maps parcel 49
of TMK: (3) 7-3-10 is a dropped parcel. Also, based on the published
TMK maps the Main Street Collector Road is located within parcels 33
and 44, in addition to 42 and 45. Accordingly, the above statement
should read "The Main Street Collector Road will run from Kaiminani
Drive to Palamanui and will be located in portions of TMK: (3) 7-3-10:33,
42, 44, and 45."

Response: We concur with your comment as the reference in the DEA is
an errata. The relevant verbiage in Section 2.2 relating to Background
Information on Palamanui Development and University of Hawai'i at West
Hawai'i (UHCWH) will be revised to read:

The Main Street Collector Road will run from Kaiminani
Drive to Palamanui and will be located in portions of TMK:
(3) 7-3-10: 33, 42, 44, and 45.

Mr. Morris M. Atta
July 10, 2008
Page 2 of 2

We appreciate your participation in the review of this environmental assessment. If you have any further questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII



Vincent Shigekuni
Vice President

cc: Gary Martin, Land Division – Hawaii District
Roger Harris, Palamanui, LLC
Charlene Unoki, Department of Land and Natural Resources



LINDA LINGLE
GOVERNOR

BRENNON T. MORIOKA
DIRECTOR

DEPUTY DIRECTORS
MICHAEL D. FOMARY
FRANCIS PAULI KEENO
SUANN T. SAKIGUCHI

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION**

STATEWIDE TRANSPORTATION PLANNING OFFICE
869 Punchbowl Street, Room 404
Honolulu, Hawaii 96813
(Tel. 587-1845; Fax 587-2362)

FACSIMILE TRANSMITTAL

DATE: 7/08/08

NO. OF PAGES (Including Cover Sheet): 33

TO: PBR Hawaii **FAX No.:** 523-1402

(Attn: Mr. Vincent Shigekuni)

FROM: Cheryl Cantere **Phone No.:** 587-1845

SUBJECT: Palamanui Waterline, Reservoir & Main Street Collector Road Extension
Draft Environmental Assessment (Draft EA)

COMMENTS:

Forwarding advance copy of letter STP 8.2924 dated July 8, 2008. Original is forthcoming via mail.

LINDA LINGLE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5087

July 8, 2008

Mr. Vincent Shigekuni
PBR Hawaii & Associates, Inc.
ASB Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813

Dear Mr. Shigekuni:

Subject: Palamanui Waterline, Reservoir & Main Street Collector Road Extension
Draft Environmental Assessment (Draft EA)

The Department of Transportation (DOT) submits the following comments on the subject project as described in the Draft EA:

1. The Main Street Extension is of relatively short length and does not present a significant impact to DOT transportation facilities.
2. The DOT is concerned, however, that any roadway connection to the existing service road to the HELCO generation station and would generate additional traffic at the service road's intersection with Queen Kaahumanu Highway. Please note that this intersection also services Kona International Airport at Keahole. While the service road may be designated for infrastructure facility upkeep and maintenance, any conversion or expansion of use would impact the intersection, as well as DOT airport and highway facilities.
3. The DOT previously stated its concerns for new uses and traffic being added to this intersection from lands mauka of the highway. As the Draft EA does not disclose information regarding future traffic and ownership of the 10-foot wide service/access road, request that this information be provided to DOT, attention Statewide Transportation Planning Office.

Mr. Vincent Shigekuni
July 8, 2008
Page 2

DIR 0858
STP 8.2924

The DOT appreciates the opportunity to provide its comments.

Very truly yours,

BRENNON T. MORIOKA, PH.D., P.E.
Director of Transportation

c: Department of Health, Office of Environmental Quality Control
Department of Land & Natural Resources (C. Unoka)



July 10, 2008

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KENIN K. NISHIKAWA, ASLA
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The Honorable Brennon T. Morioka, Ph.D., P.E.

Director

State of Hawai'i Department of Transportation

869 Punchbowl Street

Honolulu, Hawai'i 96813

SUBJECT: STATE DEPARTMENT OF TRANSPORTATION'S COMMENTS ON PALAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR, AND MAIN STREET COLLECTOR ROAD EXTENSION DRAFT ENVIRONMENTAL ASSESSMENT

Dear Director Morioka:

Mahalo for your comment letter on the Palamanui Waterline, 343-Foot Elevation Reservoir, and Main Street Collector Road Extension Draft Environmental Assessment dated July 8, 2008 and received via facsimile. We have reviewed your letter and offer the following responses to your comments.

Comment 1: The Main Street Extension is of relatively short length and does not present a significant impact to DOT transportation facilities.

Response: We concur with DOT's assessment.

Comment 2: The DOT is concerned, however, that any roadway connection to the existing service road to the HELCO generation station and [sic?] would generate additional traffic at the service road's intersection with Queen Ka'ahumanu Highway. Please note that this intersection also services Kona International Airport at Keahole. While the service road may be designated for infrastructure facility upkeep and maintenance, any conversion or expansion of use would impact the intersection, as well as DOT airport and highway facilities.

Response: The subject service road will remain strictly a 10' wide service road for maintenance access to HELCO, water tank and water line facilities mauka of Queen Ka'ahumanu Highway. There are no future plans to convert the road in a manner that would impact the Kona International Airport intersection with Queen Ka'ahumanu Highway. The portion of the road past the HELCO station will be gated and locked, with access controlled by the County of Hawai'i Department of Water Supply.

Director Brennon T. Morioka, Ph.D., PE
July 10, 2008
Page 2 of 2

Comment 3: The DOT previously stated its concerns for new uses and traffic being added to this intersection from lands mauka of the highway. As the Draft EA does not disclose information regarding future traffic and ownership of the 10-foot wide service/access road, request that this information be provided to DOT, attention Statewide Transportation office.

Response: Please see response to Comment 2, above. Also, Section 4.2 relating to Roadways and Traffic will have the following verbiage added in the final version of the EA:

There is a service road off of Queen Ka'ahumanu Highway leading to the HELCO generation plant and the existing DWS water storage tanks. This road is on the mauka side of the highway's intersection with the Kona International Airport access road. This service road parcel intended to ensure access for maintenance of the HELCO generating plant, water tank and water line service road. The portion of the road past the HELCO station will be gated and locked, with access controlled by the County of Hawai'i Department of Water Supply.

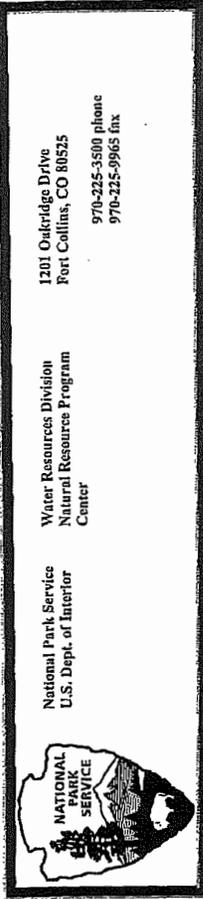
We appreciate your participation in the review of this environmental assessment. If you have any further questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: Roger Harris, Palamanui, LLC
Charlene Unoki, Department of Land and Natural Resources
Cheryl Cantere, DOT Statewide Transportation Planning Office



National Park Service
U.S. Dept. of Interior

Water Resources Division
Natural Resource Program
Center

1201 Oatridge Drive
Fort Collins, CO 80525
970-225-3500 phone
970-225-9965 fax

Water Resources Division Fax

To: MR. VINCENT SHIGEKUNI

Fax Number: (808) 523-1402

From: PANA CUTILLO NPS/WRD

Date: 7/3/08

Pages to Follow: 3

Comments:

Hard copy to follow in mail

Thank you!

From Brian

10/1/01



United States Department of the Interior

NATIONAL PARK SERVICE
Water Resources Division
1201 Oatridge Drive, Suite 290
Fort Collins, Colorado 80525-5596
July 3, 2008

IN REPLY PLEASE TO:
L54 (2380)
KAHO/Water Rights

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

RE: Review of Palamannui Waterline and Reservoir Draft Environmental Assessment

Dear Mr. Shigekuni:

On behalf of Kaloko-Honokohau National Historical Park, I would like to submit the following comments on the Draft Environmental Assessment (EA) for the Palamannui Waterline, 343-Foot Elevation Reservoir, and Main Street Collector Road Extension. The applicant, Palamannui LLC, is proposing to construct new waterlines and a new 1 million gallon reservoir and to extend the Main Street Collector Road to provide needed infrastructure for the proposed Palamannui Development and University of Hawaii Center in North Kona within three miles of the National Park. The Draft EA states that the water for the 1 million gallon reservoir will be withdrawn from two newly outfitted wells adjacent to Mamelahoa Highway and within the same ahupua'a (Page 12). Although the exact location and name of these two wells are not provided in the Draft EA, they appear to be within five miles of the National Park. The National Park Service is concerned that the indirect and cumulative long-term impacts of this project on ground-water dependent natural and cultural resources in the National Park have not been adequately addressed in this Draft EA or previous Environmental Impact Statements.

Kaloko-Honokohau National Historical Park was authorized in 1978 by Congress to preserve, interpret, and perpetuate traditional native Hawaiian activities and culture (Public Law 95-625). The authorization was based on a study and report by a congressional advisory commission recommending that the site that is the Honokohau Settlement National Historical Landmark (designated in 1962) and its adjacent waters be preserved for the benefit of the Hawaiian people and the nation as part of the national park system. Water quality and quantity are vital to the integrity of the Park's mission. The National Park contains two large (11 and 15-acre) ancient Hawaiian fishponds with large associated wetlands, more than 140 known anchialine pools, and 596 acres of marine waters. Each of these water bodies is a significant cultural resource fed by ground water. The anchialine pools support three known candidate endangered species: 'Almakapa Fishpond and wetland is a significant foraging and nesting habitat for the endangered Hawaiian stilt and the Hawaiian coot, and is an important habitat for migratory waterfowl. The Park boundaries also encompass 346 acres of class AA marine waters which include extensive coral reef habitat, and supports four federally protected marine species.



Cumulative Impacts

Cumulative impacts are defined in the Draft EA as impacts on the environment that result from the proposed action when added to other past, present and foreseeable future actions by other agencies or persons (Page 52). Palamanui Development will include residential and mixed commercial uses, and according to the 2004 Palamanui Development Final Environmental Impact Statement, will generate an increased demand for 0.80 Mgd of potable water, to be supplied by two wells in the Keaunohu aquifer system (Page 6-18). The Draft EA identifies the need for potable water as a cumulative long-term impact, but states that Palamanui Development, the University of Hawaii Center at West Hawaii, and many of the other proposed developments in the area already have or will prepare Environmental Impact Statements that address cumulative impacts (Page 52).

The National Park Service respectfully disagrees with the determination that cumulative impacts have been addressed in previous Environmental Impact Statements and remains concerned about the potential threat that increased ground-water development poses to the purposes and values for which Honokohau Settlement National Historic Landmark and Kaloko-Honokohau National Historical Park were established. The U.S. Geological Survey notes that arguably, there is no volume of ground-water use that can be truly free of any adverse consequence, especially when time is considered; the direct hydrologic effects will be equal to the volume of water removed, but those effects may require decades to centuries to be manifest (Anderson & Woosley, USGS Circular 1261, 2005). Likewise, if this project leads to increased pumping on the order of 0.80 Mgd in the Keaunohu aquifer system, then the Draft EA should clearly acknowledge that aquifer storage in combination with ground-water discharge to the basal aquifer and the nearshore environment will decrease by 0.80 Mgd in the vicinity of the supply wells.

The Draft EA should also report the estimated water needs of other projects planned within the vicinity of the Palamanui Waterline and Reservoir. According to recent reports, pumping in the Keaunohu aquifer system currently averages 9.69 Mgd and there are at least thirteen new developments planned in the vicinity of Kaloko-Honokohau National Historical Park. Available water-use information indicates that these developments will increase pumping in the Keaunohu aquifer system to almost three times the current level. This information should be considered in the Draft EA, so that potential cumulative impacts to ground-water dependent ecosystems and the nearshore marine environment can be adequately evaluated.

Mitigation Measures

The Draft EA states that although this project in combination with other proposed developments in the area will likely have an impact on the environment, established controls will require developers to consider and manage or mitigate any negative long-term impacts on the natural environment (Page 53). The Draft EA should provide more detail in regard to the specific controls that will protect ground-water resources in North Kona.

The ponds, pools, wetlands, and marine waters of Kaloko-Honokohau National Historical Park are fed by ground-water discharge from the basal aquifer, and the brackish-water ecosystems of the National Park are partly or in some cases solely dependent upon this ground water to

maintain their current composition and functioning. These resources are susceptible to pumping in both the high-level and basal aquifers and they will not be protected in the long-term by limiting ground-water pumping to the sustainable yield of the Keaunohu aquifer system.

To address and mitigate potential impacts from ground-water development, a network of observation wells to monitor ground-water levels and saltwater intrusion is needed in the Keaunohu aquifer system. Monitoring of well withdrawals and any changes in water levels and salinity is critical to understanding how the Keaunohu aquifer system responds to development and managing for sustainability into the future.

The National Park Service is developing a program to monitor water levels and water quality in three shallow wells within Kaloko-Honokohau National Historical Park and is committed to improving our understanding of the Park's ground-water needs. Similarly, to confirm the Draft EA's determination of no significant long-term cumulative impacts, Palamanui, LLC should identify or construct an observation well in the high-level aquifer near the wells that will supply water to the new 1 million gallon reservoir, so that water levels and fluid conductivity can be monitored on at least a monthly basis to measure changes in aquifer storage and salinity over time. This information is necessary to evaluate whether current and proposed water use in the Keaunohu aquifer system is sustainable.

Thank you for the opportunity to comment on this proposed project.

Sincerely,



Charles W. Pettee, Chief
Water Rights Branch

cc: KAHO – Superintendent
R. Harris, Palamanui, LLC
C. Unoki, Department of Land and Natural Resources
M. Pavao, County of Hawaii, Dept. of Water Supply
P. Leonard, U.S. Fish and Wildlife Service



July 10, 2008

Mr. Charles W. Pettee
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known as Ka'u (Kohana-Iki) Wells 1 & 2. The State of Hawai'i Commission on Water Resource Management (CWRM) (the agency responsible for determining sustainable aquifer yields and the monitoring and regulation of wells) has identified the sustainable yield of the Keauhou Aquifer system at 38 million gallons per day. Under Hawai'i Law, CWRM's decisions must make:

(A)adequate provision...for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Section 174C-2, Hawai'i Revised Statutes

The law requires CWRM to take into account the protection of traditional and customary Hawaiian rights and the protection and procreation of fish and wildlife when making determining the sustainable yield of an aquifer

This proposed action does not involve the construction of any new well sites nor an increase in groundwater usage beyond those approved by the CWRM. There is a concurrence that the critical problem for the Department of Water Supply system in this area is the distribution and storage capacity of its system and that this affects a number of State and privately-owned parcels. The proposed action does not include the development of new wells. Rather, it strictly involves the construction of a storage and distribution system to be transferred over to the County of Hawai'i for water from existing wells. The cumulative impacts of drawing water from the existing wells have been discussed in the 2004 EIS, and other previous environmental disclosure documents.

We understand CWRM has made efforts to undertake increased monitoring in North Kona and South Kohala. However, the Keauhou Aquifer is currently not classified as a "Water Management Area" indicating the commission's concern over the aquifer's health and need for enhanced regulation.

Regardless, for NPS' information, in the 2004 Pālananui Development EIS section relating to "Coastal Waters," Pālananui, LLC (formerly known as Hihululu Development, LLC) has stated its intentions to "develop a water quality monitoring program and install at least one groundwater monitoring well."

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Mr. Charles W. Pettee
Chief, Water Rights Branch, National Park Service
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National Park Service

Water Resources Division
1201 Oakridge Drive, Suite 250
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SUBJECT: NATIONAL PARK SERVICE COMMENTS ON PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR, AND MAIN STREET COLLECTOR ROAD EXTENSION DRAFT ENVIRONMENTAL ASSESSMENT

Dear Mr. Pettee:

Mahalo for your comment letter on the Pālananui Waterline, 343-Foot Elevation Reservoir, and Main Street Collector Road Extension Draft Environmental Assessment dated July 3, 2008 and received via facsimile. We have reviewed your letter and offer the following responses to your comments.

We respectfully disagree with the National Park Service's (NPS) assertion that cumulative long-term impacts of groundwater water usage from existing wells servicing the proposed have not been addressed through prior environmental disclosure documents. For instance, groundwater impacts were discussed in the 2004 Pālananui Environmental Impact Statement accepted by the Hawai'i State Land Use Commission. We note that a review of the 2004 EIS reveals that the National Park Service did not provide comments during the review process.

Besides the 2004 FEIS, the impacts of groundwater usage were discussed in other documents dating back to 1990. In 1990, the State Department of Land and Natural Resources (DLNR) was considering a Conservation District Use Permit (CDUP) application to allow offsite infrastructure improvements for the Kohanaiki Resort. The 1990 EA relating to the CDUP application discussed the drilling of Ka'u Well 1, and mitigation measures related to preventing groundwater contamination.

According to the accepted 2004 Pālananui EIS, water for the development and the University of Hawai'i Center at West Hawaii (UHCWH) would be drawn from two wells held under County of Hawai'i jurisdiction and

Mr. Charles W. Pettee
July 10, 2008
Page 3 of 3

This commitment to monitoring was again reaffirmed by the County of Hawai'i Planning Department before a meeting of the State Land Use Commission on April 20, 2005. On behalf of the department, Ms. Bobbie Jean Leithhead-Todd, Esq. stated that the, "Petitioner (Pāalamanui, LLC) has agreed to participate in coastal water monitoring and ground water monitoring and have undertaken mitigation measures with the Department of Health."

We are incorporating the following verbiage into Section 4.7.1 relating to the Water System in the final version of the EA:

As stated in the 2004 EIS section relating to "Coastal Waters," Pāalamanui, LLC (formerly known as Hihuluhu Development, LLC) has stated its intentions to "develop a water quality monitoring program and install at least one groundwater monitoring well."

Also, Pāalamanui is also aware that the State's CWRM also monitors other numerous wells throughout the Keauhou aquifer, and operates a deep well monitoring site at Keopu (which is currently under repair). NPS is also probably aware that CWRM is also conducting discussions relating to monitoring with area stakeholders as part of a North Kona water working group.

We appreciate your participation in the preparation of this environmental assessment. If you have any further questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII



Vincent Shigekuni
Vice President

cc: Geraldine Bell, Superintendent, Kaloko-Honokohau National Park
Roger Harris, Palamanui, LLC
Charlene Unoki, Department of Land and Natural Resources
Milton Pavao, County of Hawai'i Department of Water Supply
Patrick Leonard, U.S. Fish and Wildlife Service



UNIVERSITY
of HAWAII
SYSTEM

University of Hawai'i Community Colleges
Administrative Affairs

June 6, 2008

Mr. Vincent Shigekuni
PBR Hawaii & Associates, Inc.
1001 Bishop Street, ASB Tower, Suite 650
Honolulu, Hawaii 96815

Subject: Draft Environmental Assessment for The Palamanui Waterline, 343-Foot Elevation Reservoir, and Main Street Collector Road Extension, North Kona, Island of Hawaii

Dear Mr. Shigekuni,

We have received your letter dated May 28, 2008 for the Palamanui waterline, 343-Foot elevation reservoir, and the Main Street collector road extension.

We have no comments at this time. The subject project appears at this time to be beneficial to the future expansion of our Center at West Hawaii. Should there be new developments, we wish to reserve the right to further comment.

If you have any questions, please feel free to call me at (808) 956-6280.

Sincerely,



Michael T. Unebasami
Associate Vice President for Administrative Affairs

2127 Dale Street
Honolulu, Hawaii 96822
Telephone: (808) 956-6023
Fax: (808) 956-1763

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July 10, 2008

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Mr. Michael T. Unebasami
Associate Vice President for Administrative Affairs
University of Hawai'i System Community Colleges
2327 Dole Street
Honolulu, Hawai'i 96822

SUBJECT: UNIVERSITY OF HAWAII'S COMMENTS ON PĀLAMANUI WATERLINE, 343-FOOT ELEVATION RESERVOIR, AND MAIN STREET COLLECTOR ROAD EXTENSION DRAFT ENVIRONMENTAL ASSESSMENT

Dear Mr. Unebasami:

Mahalo for your comment letter on the Pālananui Waterline, 343-Foot Elevation Reservoir, and Main Street Collector Road Extension Draft Environmental Assessment dated June 6, 2008. We acknowledge the University of Hawai'i has no comments regarding the proposed project. We concur that the proposed project would be beneficial to the future expansion of UH's proposed Center at West Hawai'i.

We appreciate your participation in the review of this environmental assessment. If you have any further questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: Roger Harris, Pālananui, LLC
Charlene Uhoki, Department of Land and Natural Resources