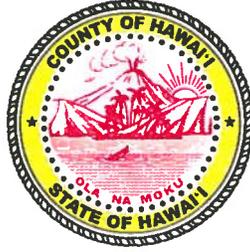


William P. Kenoi
Mayor

Walter K. M. Lau
Managing Director



Warren H. W. Lee
Director

Brandon A. K. Gonzalez
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630
www.co.hawaii.hi.us

November 25, 2014

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OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

Ms. Jessica Wooley, Director
Office of Environmental Quality Control
Department of Health, State of Hawai'i
235 S. Beretania Street, Suite 702
Honolulu, Hawai'i 96813

**Subject: HAIHAI FIRE STATION FINAL ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT (FEA-FONSI)**

Dear Ms. Wooley:

With this letter, the County of Hawai'i Department of Public Works hereby transmits the final environmental assessment and finding of no significant impact (FEA-FONSI) for the Haihai Fire Station situated at TMK 2-4-051:001 (portion), in the South Hilo District on the Island of Hawai'i for publication in the next available edition of the Environmental Notice, December 8, 2014.

Enclosed is a completed OEQC Publication Form, two copies of the FEA-FONSI, and an Adobe Acrobat PDF file of the same. Simultaneous with this letter, we have submitted the completed OEQC Publication Form in a text file by electronic mail to your office.

If there are any questions, please contact David Yamamoto at (808) 981-8356.

Sincerely,

Warren H. W. Lee, P.E.
Director

Enclosures

AGENCY ACTIONS
SECTION 343-5(B), HRS
PUBLICATION FORM (FEBRUARY 2013 REVISION)

Project Name: Haihai Fire Station
Island: Hawai'i
District: South Hilo
TMK: TMK 2-4-051:001 (portion)
Permits: Chapter 343, HRS Compliance; Plan Approval; National Pollutant Discharge Elimination System (NPDES) Permit; Subdivision Permit; Grading/Building Permits; Noise Permit

Proposing/Determination Agency:

County of Hawai'i Department of Public Works
Aupuni Center, 101 Pauahi Street, Suite 7
Hilo, HI 96720

Contact: David Yamamoto; Phone: (808) 981-8356; Fax (808) 981-2037

Accepting Authority:

(for EIS submittals only)

Consultant:

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

Contact: Vincent Shigekuni; Phone: (808) 521-5631; Fax (808) 523-1402

Status (check one only):

- _DEA-AFNSI Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.
- _X_FEA-FONSI Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
- __FEA-EISPN Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.
- __Act 172-12 EISPN Submit the proposing agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.
- __DEIS The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.
- __FEIS The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
- __ Section 11-200-23 Determination The accepting authority simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the proposing agency. No comment period ensues upon publication in the periodic bulletin.
- __Section 11-200-27

Determination

The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

___Withdrawal (explain)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

The County of Hawai‘i Department of Public Works is proposing to construct a new fire station near the Hilo Municipal Golf Course Driving Range. The proposed fire station would be located on State land on the southwest corner of Haihai Street and Laua Road.

The primary purpose for the Haihai Fire Station is to improve emergency services from Panaewa Makai to Waiākea Uka. The existing Kawaiāni Fire Station is limited in size (0.5 acre) and inadequate to meet the space requirements of the Fire Department. The Kawaiāni Fire Station is surrounded by residential homes, Kawaiāni Street and the Hilo Municipal Golf Course, and does not allow for future expansion. In addition, emergency services provided by the Hawai‘i Fire Department from Kawaiāni Street Station now include Emergency Medical Services (EMS), and the required EMS personnel, vehicles and equipment can no longer be accommodated at the current location.

The proposed Haihai Fire Station will: 1) replace the existing fire station located on Kawaiāni Street; and 2) provide additional space required for EMS. The proposed Haihai Fire Station would provide a much needed public safety facility for the South Hilo District.



HAIHAI FIRE STATION

FINAL ENVIRONMENTAL ASSESSMENT
FINDING OF NO SIGNIFICANT IMPACT

Applicant:
County of Hawai'i

Prepared by:



November 2014

SUMMARY

Project Name:	Haihai Fire Station
Location:	Waiākea Homesteads, Waiākea, South Hilo, Island and County of Hawai‘i
Judicial District:	South Hilo
Tax Map Key (TMK):	(3) 2-4-051: 001 (portion)
Land Area:	Approximately 2 acres
Proposing/Determining Agency:	County of Hawai‘i Department of Public Works
Landowner:	State of Hawai‘i
Existing Use:	Vacant pasture land
Proposed Action:	The Project consists of constructing a new fire station using State Land and County funds.
Current Land Use Designations:	<i>State Land Use:</i> Urban <i>County General Plan LUPAG:</i> Open Area and Low Density Urban <i>County Zoning:</i> Open <i>Special Management Area (SMA):</i> Not in SMA
Alternatives Considered:	Three alternatives were considered: <ul style="list-style-type: none">• No action• Alternative sites• Alternative designs

Potential Impacts and Mitigation Measures: Anticipated impacts during construction include construction equipment noise and the potential for dust generation. Both impacts can be mitigated by incorporating established mitigation measures, such as ensuring mufflers are in proper operating condition, limiting construction hours, and wetting down exposed surfaces. In the long term, the open space of a portion of pasture will be replaced with a new fire station building. According to a traffic assessment, emergency egress of emergency vehicles will not be a problem for the emergency vehicles, and the additional traffic by the emergency vehicles will not be significant. Drivers of the emergency vehicles are trained to turn on the sirens only when necessary to minimize noise impact.

Determination: Finding of No Significant Impact (FONSI)

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ACRONYMS

AFONSI	Anticipated Finding of No Significant Impact
AIS	Archaeological Inventory Survey
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
BMP	Best Management Practices
CIA	Cultural Impact Assessment
CWRM	State of Hawai‘i Commission on Water Resource Management
CZM	Coastal Zone Management
DBEDT	State of Hawai‘i Department of Business, Economic Development, and Tourism
DLNR	State of Hawai‘i Department of Land and Natural Resources
DOE	State of Hawai‘i Department of Education
DOH	State of Hawai‘i Department of Health
DOT	State of Hawai‘i Department of Transportation
DPR	County of Hawai‘i Department of Parks and Recreation
DWS	County of Hawai‘i Department of Water Supply
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
gpd	Gallons per day
HAR	Hawai‘i Administrative Rules
HELCO	Hawai‘i Electric Light Company, Inc.
HRS	Hawai‘i Revised Statutes
LOMR	Letter of Map Revision
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LSB	Land Study Bureau
LUC	State of Hawai‘i Land Use Commission
LUPAG	County of Hawai‘i General Plan Land Use Pattern Allocation Guide
MGD	Million gallons per day
NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination Systems
NRCS	Natural Resources Conservation Service
NPS	National Park Service
OEQC	State of Hawai‘i Office of Environmental Quality Control
ROW	Right-of-way

SCS	Scientific Consultant Services, Inc.
SHPD	State of Hawai‘i Historic Preservation Division
SMA	Special Management Area
TMK	Tax map key
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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1 INTRODUCTION

The County of Hawai‘i Department of Public Works is proposing to construct a new fire station near the Hilo Municipal Golf Course Driving Range (Figure 1). The proposed fire station would be located on State land on the southwest corner of Haihai Street and Laua Road intersection (Figure 2).

The proposed use of State lands and County funds triggers an environmental requirement for the preparation of an Environmental Assessment (EA) in compliance with Chapter 343, HRS.

1.1 LANDOWNER

The State of Hawai‘i is the landowner of record (Figure 2). The proposed Haihai Fire Station would be located on a portion of General Lease No. 5570 to Michael Tulang. At its meeting of September 13, 2013, the State of Hawai‘i Board of Land and Natural Resources approved in concept, the County of Hawai‘i’s request to withdraw a portion from the aforementioned General Lease and set aside by Executive Order to the County of Hawaii for the relocation of the Kawailani Fire Station. The Hawai‘i Department of Public Works is the applicant for the applicable entitlements.

1.2 PROPOSING/DETERMINING AGENCY

The County of Hawai‘i Department of Public Works is the proposing/determining agency.

Contact: County of Hawai‘i Department of Public Works
ATTN: David Yamamoto
Hilo, Hawai‘i 96720
Phone: (808) 981-8356
Fax: (808) 981-2037

1.3 ENVIRONMENTAL CONSULTANT

PBR HAWAI‘I is the environmental planning consultant.

Contact: PBR HAWAI‘I & Associates, Inc.
ATTN: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813
Telephone: (808) 521-5631
Fax: (808) 523-1402

1.4 COMPLIANCE WITH STATE OF HAWAI'I ENVIRONMENTAL LAWS

Preparation of this document is in accordance with the provisions of Chapter 343, HRS and Title 11, Chapter 200, Hawai'i Administrative Rules (HAR) pertaining to Environmental Impact Statements. Section 343-5, HRS established nine “triggers” that require either an EA or an Environmental Impact Statement (EIS). The use of State or County lands or funds is one of these “triggers.” Because the County of Hawai'i Fire Department will use State lands and County funds to build the new fire station, the preparation of an Environmental Assessment is required.

1.5 STUDIES CONTRIBUTING TO THIS EA

The information contained in this report has been developed from site visits, generally available information regarding the characteristics of the proposed Haihai Fire Station site and surrounding areas, and technical studies. Technical studies are provided as appendices to this EA. These studies include:

- Flora and Fauna Surveys
- Archaeological Inventory Survey
- Cultural Impact Assessment
- Transportation Assessment Report

2 PROJECT DESCRIPTION

2.1 BACKGROUND INFORMATION

2.1.1 Location and Property Description

The Haihai Fire Station is proposed to be located in Waiākea Homesteads, Waiākea *ahupua‘a*, South Hilo District, Island and County of Hawai‘i (Figure 1). The approximately 3-acre study area is identified as a portion of TMK (3) 2-4-051:001 (Figure 2). The entire parcel is 35.7 acres and is being leased for pasture use. The proposed project will be located in the northwestern portion of the parcel along Haihai Street and across from the Hilo Municipal Golf Course Driving Range. While the study area is comprised of approximately 3 acres, only 2 acres will be developed as a fire station.

The property is bound by Haihai Street to the north, Laua Road to the east, open undeveloped land to the south, and residential homes to the west.

Vegetation at the property is dominated by pasture grasses, reflecting the present use as pasture for horses and cattle (Figure 3). Figure 4 contains site photographs.

Elevations range from approximately 320 to 340 feet above mean sea level, with average slope of less than 5 percent in *mauka* to *makai*, west to east direction.

Current access to the Property is from Laua Road via a locked gate.

2.1.2 Existing Land Use Designations

Current land use designations for the Haihai Fire Station project area are:

- State Land Use: Urban (Figure 5);
- County General Plan LUPAG: Open Area and Low Density Urban (Figure 6);
- County Zoning: Open (Figure 7);
- Special Management Area (SMA): Not in SMA (Figure 8).

2.1.3 Surrounding Land Uses

North: Haihai Street is immediately north of the proposed fire station site. Hilo Municipal Golf Course is directly across Haihai Street to the north of the proposed fire station site.

East: Laua Road is immediately to the east of the proposed fire station site. The eastern side of Laua Road is bordered by single-family homes and the AJA Veterans’ Council facility on the corner of Laua Road and Haihai Street (Figure 3).

South: Lands immediately south of the proposed fire station site within the property are in pasture, and south of the property are agricultural lots.

West: Lands immediately west of the proposed fire station site within the property are in pasture, and west of the property are single-family residential homes.

2.2 PURPOSE AND NEED

The proposed Haihai Fire Station will: 1) replace the existing fire station located on Kawaiilani Street; and 2) provide additional space required for Emergency Medical Services. The planned widening of Kawaiilani Street together with the expanded services provided by the fire station triggered a search for alternative solutions.

The Hawai'i Fire Department is requesting approximately two acres of land be withdrawn from State General Lease No. S-5570 to be set aside to construct a new fire station in Waiākea Homesteads as the Department has outgrown the existing station located on Kawaiilani Street. In addition, emergency services provided by the Hawai'i Fire Department from Kawaiilani Street Station now include Emergency Medical Services, and the required personnel, vehicles and equipment can no longer be accommodated at the current location.

Alternatives were considered, but rejected as being too far out of the central part the city or too far at the edge of Fire Response Zone District 3 (refer to Figure 16: Fire Response Zone Map). The routes and distances to the State highways, Kanoelehua Avenue and Puainako Street, from the existing Kawaiilani Fire Station and the proposed Haihai Fire Station are shown on Figure 16.

See Section 6 on Alternatives for a full discussion. The proposed set aside location is most favorable due to it being centrally located and able to serve the population that the existing Kawaiilani Street Station serves, inclusive of the area from Panaewa Makai up to Waiākea Uka and will provide the additional space required for the Emergency Medical Services personnel.

2.3 PROJECT DESCRIPTION

The new building will be approximately 12,000 square feet in size and contain a total of 30 rooms for living quarters, offices, work rooms, classrooms, bathrooms, showers, an exercise room, locker rooms, a kitchen, storage, a training room, an apparatus bay and a hose tower.

Separate parking lots will be constructed for staff and for the public, with a total of 23 parking stalls, including 2 ADA stalls. New sidewalks will also be installed. New underground utility connections will be placed during the construction phase. A conceptual master plan is shown on Figure 9. The final configuration and dimensions will be determined during the design phase.

To the greatest extent possible the new facility will be designed to LEED Silver standard. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance

green buildings (sustainably designed). LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

2.4 PERMITS AND APPROVALS

A listing of anticipated permits and approvals required for Haihai Fire Station is presented below:

Table 1: Anticipated Approvals and Permits

Permit/Approval	Responsible Agency
Chapter 343, HRS Compliance	County of Hawai‘i Department of Public Works Office of Environmental Quality Control
Plan Approval	Hawai‘i County Planning Department
National Pollutant Discharge Elimination System (NPDES) Permit	State Department of Health
Subdivision	Hawai‘i County Planning Department
Grading/Building Permits	Hawai‘i Department of Public Works
Noise Permit	State Department of Health

2.5 DEVELOPMENT TIMETABLE AND PRELIMINARY COSTS

The County has appropriated Capital Improvement Program (CIP) funds for construction and expects to commence construction after plans and permit applications are approved. The proposed Haihai Fire Station is scheduled to be completed in one phase by the end of 2015 at an approximate cost of \$5.9 million.

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

This section describes existing conditions of the natural environment, potential impacts related to the creation of the Haihai Fire Station, and mitigation measures to minimize impacts.

3.1 CLIMATE

Hawai‘i Island’s geological features heavily influence its climate. Mauna Loa (13,679 foot summit elevation) and Mauna Kea (13,796 foot summit elevation) dominate ground-based atmospheric influences. Northeast trade winds typically occur during the day, while winds from the southwest typically occur during the night due to cold air drainage from the mountains. The mean annual wind speed at the airport is about 8 miles per hour (mph), and usually varies between about 4 and 12 mph during the day.

Regional temperatures are generally cool due to the approximately 330-foot elevation of Waiākea. Average annual temperatures range from 66-82 degrees Fahrenheit (County of Hawai‘i Data Book).

According to *The Rainfall Atlas of Hawai‘i*, the property receives an average annual rainfall of approximately 13 inches (Giambelluca, et al., 2012). Hilo’s rainfall pattern is characterized by windward-leeward differences due to Mauna Loa and Kohala Mountains.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The construction of the Haihai Fire Station will have no effect on the climate or the topography of the surrounding region, therefore no mitigation measures are planned or warranted.

3.2 GEOLOGY AND TOPOGRAPHY

Of the five volcanoes that formed the island of Hawai‘i—Kohala, Hualālai, Mauna Kea, Mauna Loa, and Kīlauea—only Mauna Loa and Kīlauea are presently considered active; the other three are considered dormant. Waiākea is located on the southeastern flank of Mauna Kea which is characterized by several distinctive geological features:

Mauna Kea – The summit of Mauna Kea rises approximately 13,800 feet above mean sea level and provides the backdrop for Hilo town toward the west. The western slope of Mauna Kea is dry and unscathed by erosion; whereas the northeastern slope is exposed to the trade-wind rains creating canyons a few hundred yards deep.

Elevations across the Site range from approximately 320 to 340 feet above mean sea level. The project area is generally flat with an average slope of one percent in a *mauka* to *makai*, west to east direction.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The project area offers generally flat land which is optimal for development. The proposed project will not adversely impact the topographic nature of the project relative to the remainder of the property or surrounding properties. Due to the generally flat surface, minimal grading will be required. Any grading will be in conformance with the Hawai‘i County Grading Ordinance. To minimize potential impacts, grading will be segmented and exposed areas will be immediately grassed or landscaped before commencement of grading in the next phase, in compliance with Chapter 10 (Erosion and Sedimentation Control) of the Hawai‘i County Code.

3.3 SOILS

Three soil suitability studies prepared for lands in Hawai‘i 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 Services (NRCS) Soil Survey; 2) the University of Hawai‘i Land Study Bureau (LSB) Detailed Land Classification; and 3) the State Department of Agriculture’s Agricultural Lands of Importance to the State of Hawai‘i (ALISH) system.

Natural Resource Conservation Service Soil Survey

The soil at the project site is classified by the U.S. Department of Agriculture Natural Resources Conservation Service as mostly Panaewa very rocky silty clay loam (PeC), with the soils of the northeast portion of the project site classified as Keaukaha Extremely Rocky Muck (rKFD). Please refer to Figure 10.

Panaewa very rocky silty clay loam, 0 to 10 percent slopes – This soil type consist of shallow, moderately well-drained silty clay loams that formed in volcanic ash near Keaau. These soils are nearly level to gently sloping in the uplands underlain by pāhoehoe lava bedrock. Permeability is rapid, runoff is slow, and the erosion hazard is slight. The agricultural capability classification is VIs (Soil Survey of the Island of Hawai‘i, State of Hawai‘i, 1973). Soils in this class have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife.

Keaukaha Extremely Rocky Muck (rKFD), 6 to 20 percent slopes – This soil type occurs in Hilo and is undulating to rolling and follows the topography of the underlying pāhoehoe lava. Rock outcrops occupy about 25 percent of the area. The soil above the lava is rapidly permeable, and the pāhoehoe lava is very slowly permeable, with water moving rapidly through the cracks. Runoff is medium and erosion hazard is slight. Keaukaha Extremely Rocky Muck lies in Soil Capability class VII. Soils in this class have very severe limitations that make them unsuited to cultivation, and their use is restricted to pasture or range, woodland, or wildlife. (Soil Survey of the Island of Hawai‘i, State of Hawai‘i, 1973).

LSB Detailed Land Classification

The University of Hawai‘i LSB document, Detailed Land Classification, Island of Hawai‘i, classifies soils based on a productivity rating. Letters indicate class of productivity with A representing the highest class and E the lowest. The soils of the project site are not classified (Figure 11).

Agricultural Lands of Importance to the State of Hawai‘i

The ALISH system classifies agricultural lands as Prime, Unique, or Other Agricultural Land. The soils of the project site are not classified under the ALISH system (Figure 12).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Construction of the proposed Haihai Fire Station will not reduce the inventory of agriculturally significant land. The project site has an agricultural capability classification of VIs and VII, meaning it has very severe limitations that make them generally unsuited for cultivation. The project site is not classified under the LSB or under the ALISH system, meaning agricultural suitability of the project site is low.

Impacts to the soils include the potential for soil erosion and the generation of dust during grading and construction. All construction activities will comply with all applicable Federal, State, and County regulations and rules for erosion control. As typically required for projects on land greater than one acre in size, a National Pollutant Discharge Elimination System (NPDES) Notice of General Permit Coverage (NGPC) for Storm Water Associated with Construction Activity will be necessary.

To minimize potential impacts, necessary grading will be segmented and exposed areas will be immediately grassed or landscaped before commencement of grading in the next phase, in compliance with the Chapter 10 (Erosion and Sedimentation Control) of the Hawai‘i County Code. Measures to control erosion during the site development period will include:

- Minimizing the time of construction;
- Retaining existing ground cover as long as possible;
- Constructing drainage control features early;
- Using temporary area sprinklers in non-active construction areas when ground cover is removed;
- Providing a water truck on-site during the construction period to provide for immediate sprinkling, as needed;
- Using temporary berms and cut-off ditches, where needed, for control of erosion;
- Watering graded areas when construction activity for each day has ceased;
- Grassing or planting all cut and fill slopes immediately after grading work has been completed; and
- Installing silt screens, where appropriate.

To the extent practicable, the project civil engineer will design the proposed fire station site to reduce post-development loadings of total suspended solids (TSS) so that the average annual TSS loadings are no greater than predevelopment loadings.

3.4 HYDROLOGY

The project site is located within the Hilo Watershed, which measures 470 square miles and encompasses seven sub-watershed areas including two large (Wailuku, Wailoa), one medium (Honoli‘i), and four small (Mali‘i, Pauka, Pukihae, Wainaku) sub-watersheds. A watershed area captures rainfall and atmospheric moisture from the air and allows the water to drip slowly into underground aquifers or enter stream channels and eventually to the ocean. The Hilo watershed includes the combined eastern slopes of Mauna Kea and Mauna Loa reaching maximum elevations of 13,796 and 13,679 feet, respectively. The saddle between the two mountains drains mostly through Hilo into Hilo Bay.

Surface Water

The project site is located between (but away from) tributaries of the perennial Kaahakini Stream. Please refer to Figure 13. The headwaters of the tributaries of this stream are located to the west of the project site and both tributaries converge east of the project site where most of the southern tributary feeds into a flood channel and the northern tributary ends 0.6 miles away. The nearest reach of Kaahakini Stream is located to the north of the project site, approximately 0.3 miles away.

There are no wetlands or intermittent streams in the property. Waiākea Pond is located approximately 3.0 miles away.

Ground Water

Due to the relatively young and porous geology of Hawai‘i island, most of the rainfall infiltrates to groundwater. Groundwater has been classified under an aquifer coding system to identify and describe these aquifers. The Project Area overlies the Hilo Aquifer System, a subset of the N.E. Mauna Loa Aquifer Sector. The geology of the Hilo Aquifer System is dominated by the Ka‘ū volcanic series of Mauna Loa volcano, and extends from the coast to the inland boundary at the crest of Mauna Loa. Groundwater within this aquifer exists primarily as basal groundwater followed by high level dike and perched water. Cap rock, although thick and extensive, does not play an important role in the coastal regions of the aquifer.

Sustainable yield is the amount of groundwater that can be pumped without depleting the source. The sustainable yield of the Hilo Aquifer System is 349 MGD, and existing water use is 42.228 MGD (Wilson Okamoto Corporation, 2008).

Marine Waters

The Site is approximately 3.5 miles inland from the nearest coastline at Hilo Bay. Near shore marine waters off the coast of Hilo Bay are classified as class “A” by the State Department of Health (2012).

According to DOH Water Quality Standards, “It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters” (HAR §11-54-03).

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Project is not anticipated to have any significant adverse impact on groundwater or surface water resources.

Potable water will be supplied by the County Department of Water Supply’s (DWS) Water System, which draws water from a series of surface water sources and groundwater wells. Coordination with DWS is ongoing. Section 4.7.1 (Water System) of this EA provides further information regarding anticipated water demands.

Creation of the Project will result in a slight increase in the amount of impermeable surface area. However, the remainder of the Property will remain a permeable, pasture. Direct discharge of storm water runoff into marine waters is not anticipated due to the inland location of the Site. Similarly, due to distance from existing streams, it is highly unlikely that any storm runoff from the proposed fire station will impact either of the Kaahakini Stream tributaries.

All grading operations will be conducted in compliance with dust and erosion control requirements of Chapter 10 (Erosion and Sedimentation Control) of the Hawai‘i County Code and applicable provisions of Chapter 11-60.1, HAR, Section 11-60.1-33 regarding Fugitive Dust. A watering program will be implemented during construction to minimize soil loss through fugitive dust emission. Other pollution control measures include cleaning job-site construction equipment and establishing groundcover as quickly as possible after grading. Permanent landscaping will also help to retain soil throughout the project. In addition to construction watering programs and landscaping, other mitigation measures generally associated with best management practices include:

- Early construction of drainage control features;
- Construction of temporary sediment basins to trap silt;
- Use of temporary berms and cut-off ditches where needed; and
- Use of temporary silt fences or straw bale barriers to trap silt.

All NPDES permit requirements will be implemented. In the long-term, to minimize/eliminate the Project's contribution to the region's cumulative nonpoint source pollution, detention basins and grass paved parking will ensure storm water quality/quantity is not increased or degraded.

To the extent practicable, the project will be designed to maintain post-development peak runoff rate and average volume at levels that are similar to pre-development levels. Any net increase of runoff from such impermeable surfaces as roads, driveways, parking lots and rooftops will be addressed by using drywells and/or one or more of the following Low Impact Design (LID) site design measures, such as vegetated filter strips, open vegetated swales, bio-retention and rain gardens, infiltration trenches, and rain harvesting from rooftops. The aforementioned best management practices (BMPs) are intended to accomplish the following: (1) decrease the erosive potential of increased runoff volumes and velocities associated with development-induced changes in hydrology; (2) remove suspended solids and associated pollutants entrained in runoff that result from activities occurring during and after development; and (3) retain hydrological conditions to closely resemble those of the pre-disturbance condition.

3.5 NATURAL HAZARDS

Hawai'i island is susceptible to potential natural hazards, such as flooding, hurricanes, volcanic hazards, earthquakes, and wildfires. This section provides an analysis of the Site's vulnerability to such hazards.

The State of Hawai'i Department of Defense, Office of Civil Defense operates a system of civil defense sirens throughout the State to alert the public of emergencies and natural hazards, particularly tsunamis and hurricanes. The closest siren to the Site is Kawaiilani Street Siren (HA105) located approximately 0.7 miles north of the project area.

Impacts from natural hazards can be further mitigated by adherence to appropriate civil defense measures as determined by the State and County of Hawai'i civil defense agencies.

Flood

The Federal Emergency Management Agency (FEMA) publishes flood information in the form of Flood Insurance Rate Maps (FIRM) used by government and insurance agencies to determine the relative potential for damage during flood events. During the pre-assessment consultation process, the Department of Land and Natural Resources Engineering Division wrote:

Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The National Flood Insurance Program (NFIP) does not regulate developments with Zone X. (Figure 14)

According to the recently announced preliminary revisions to the FIRMs, no changes are proposed to the current effective FIRMs in the vicinity of the Site.

Inaba Engineering, a Hilo-based civil engineering firm, provided the following information. The major source of flood waters that flow into the pasture appears to be a culvert at Palua Loop. The water flows across and ponds within the pasture at a low point mauka of the Site. When the ponding capacity is exceeded, it overflows in two directions—toward the golf course and toward Laula Road in the Puna direction. A berm is located on the mauka side of the Laula Road lots that deflects the flow along the backside of the lots flowing in the Puna direction. The overflow flowing towards Haihai Street presently collects at the low point at the corner of Laula Road and Haihai Street, which is the proposed Site. The ponded water then either flows under Haihai Street through a culvert to the golf course, or sheet flows across Haihai Street.

Since the Project is downstream of the split in the flow toward the Puna direction and toward Haihai Street, the Project would not increase the overflow flowing toward the Puna direction. For the overflow flowing toward Haihai Street, the Project would divert the flood waters around the Project where it would end up in the same low point at the Haihai Street and Laula Road corner. Any increase in runoff from the Project's roof and pavement would flow into drywells within the Project boundaries and recharge the groundwater.

Tsunami

Twenty-five of the tsunamis recorded in Hawai'i since 1812 had an adverse impact on the Island of Hawai'i; seven caused major damage and three were generated locally. The most recent tsunami to impact Hawai'i Island, which occurred on March 11, 2011, caused property damage at several locations on the Kona coast.

The current tsunami evacuation zone is in the process of being updated by the Hawai'i County Civil Defense Agency. The property is well outside of the current tsunami evacuation zone (Figure 15).

Hurricane

Since 1980, two hurricanes have had a devastating effect on Hawai'i. They were Hurricane 'Iwa in 1982 and Hurricane 'Iniki in 1992. In 2007, Hurricane Flossie threatened to reach Hawai'i, putting Hawai'i on a hurricane watch. The hurricane, however, was downgraded from a hurricane to a tropical storm after passing Hawai'i island, 95 miles south of South Point (Associated Press, 2007). While it is difficult to predict such natural occurrences, it is reasonable to assume that future incidents are likely, given historical events. Several studies sponsored by the NASA Office of Earth Science have developed new models for estimating the probability of hurricanes in the Pacific. While the island of Hawai'i has not been in the direct path of a hurricane since recordation began in 1950, the models indicate that the island has a long-term hurricane hazard higher than any of the other islands.

Earthquake

In Hawai‘i, most earthquakes are linked to volcanic activity, unlike other areas where a shift in tectonic plates is the cause of an earthquake. Each year, thousands of earthquakes occur in Hawai‘i, the vast majority of which are so small they are detectable only with highly sensitive instruments. However, moderate and disastrous earthquakes have occurred in the islands.

Since 1868, nine disastrous earthquakes have occurred in Hawai‘i County. The largest earthquake series occurred between March 27 and April 2, 1868 with an epicenter a few miles north of Pāhala in the district of Ka‘ū. It is estimated that the magnitude of these earthquakes were 7.1 and 7.9. These earthquakes resulted in 77 deaths (46 from tsunami and 31 from landslides triggered by the earthquake). In 1929, an earthquake with an epicenter in Hualālai and a magnitude of 6.5 resulted in extensive damage. Another earthquake in 1951, with its epicenter in the Kona area and a magnitude of 6.9 also resulted in extensive damage. A 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 (USGS, 2006).

Volcanic Hazards

Volcanic hazards include lava flows and emission of volcanic gases (vog).

Lava Flows

The volcanic hazard zone map for Hawai‘i Island divides the island into zones ranked from one through nine, with one being the area of greatest hazard and nine being the area of least hazard. The zones are based chiefly on the location of active vents, frequency of past lava coverage, and topography. According to this map, the project area is within Zone 3, meaning only one to five percent of the area has been covered by lava since 1800 and 15-75 percent within the last 750 years (USGS, 1997). The Site is approximately 26 miles from Kīlauea, the nearest active vent.

Vog

Volcanic gases, which are visible as fog called vog, are emitted during all types of eruptions. Halema‘uma‘u, the crater located at the summit of Kīlauea is erupting large amounts of volcanic gas. Any hazard posed by volcanic gases is greatest immediately downwind from active vents; the concentration of the gases quickly diminishes as the gases mix with air and are carried by winds away from the source (USGS, 1997).

The Site is located 26 miles northeast of Kīlauea Volcano. The prevailing northeasterly trade wind flow tends to push vog and any airborne particulates away from the property. However, the amount of vog and other airborne particulates can significantly increase during periods when the winds are from the southwest.

Wildfires

Approximately 70 to 80 wildfires occur annually in Hawai‘i County. Humans are the number one cause of fires in Hawai‘i.

Currently, the vegetation within the property is typically dominated by pasture grasses and has the potential to be the site of a wildfire. The proposed project is a fire station, and once in operation, will provide greater fire protection to the current lessee and his cattle, as well to the surrounding single-family residences.

POTENTIAL IMPACTS AND MITIGATION MEASURES

To mitigate the potential hazard from earthquakes, structural elements in the proposed Haihai Fire Station will be designed in accordance with the latest building code which is the 2006 International Building Code (IBC) as amended by State of Hawai‘i Building Code. The 2006 IBC provides minimum design criteria to address the potential for damage due to seismic disturbances.

Construction of the Haihai Fire Station will not exacerbate any tsunami hazard conditions. The property is not in a designated tsunami evacuation zone and is not expected to be adversely impacted by a tsunami.

In the event of a hurricane, the potential impact of destructive winds and torrential rainfall will be mitigated through compliance with the 2006 International Building Code (IBC).

The project site is approximately 26 miles away from the nearest active volcano. Hazard and risk potential of volcanoes can be localized reasonably well, unlike some other types of natural disasters (earthquakes and hurricanes). The development of methods to predict volcanic eruptions is extremely important to provide for early evacuation of densely populated regions.

The construction of the Haihai Fire Station will mitigate the potential for wildfires through its landscape design and plant palette. But the greatest benefit will be the project itself, a fire station. Once in operation, the Haihai Fire Station will provide greater fire protection to the current lessee and his cattle, as well to the surrounding single-family residences. During the pre-assessment consultation process, the State Civil Defense (SCD) recommended the installation of one omni-directional 121 db(c) siren mounted on a 45-foot high, H2-rated composite pole. SCD also wrote that it will advise on the placement of the pole.

3.6 FLORA AND FAUNA

The property, which includes the proposed Haihai Fire Station site, has been used for pasture use since 1998. In January 2014, Robert Hobdy conducted a flora and fauna survey of the proposed fire station site (Appendix C).

Flora - In summary, Mr. Hobdy found that the vegetation throughout the project area is dominated by non-native grasses, vines, ferns, shrubs and trees. In addition, Mr. Hobdy found that area has been heavily altered by historical land uses and continues to be invaded by aggressive weed species. The only native species found, the indigenous moa fern, is widespread in Hawai‘i and common.

No Federally listed Threatened or Endangered plant species were found in the study area, nor were any found that are candidates for such status. According to Mr. Hobdy, no special native habitats were found here either.

Fauna – According to Mr. Hobdy, the fauna on the study area are almost exclusively made up of non-native species that are accidental or purposeful introductions to Hawai‘i. Just one native insect, the indigenous globe skimmer dragonfly was recorded. The globe skimmer is native throughout the tropics worldwide and is of no conservation concern.

No federally protected animal species were found and no important or critical habitats occur on or near the project area. During the Draft EA public review period, the U.S. Fish and Wildlife Service commented:

Based on information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program, three species protected by the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.), may occur within, or transit through, the proposed action area and could be impacted by the proposed action: the endangered Hawaiian goose (Branta sandvicensis), Hawaiian petrel (Pterodroma sandwichensis), and the threatened Newell’s shearwater (Puffinus auricularis newelli).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Because of the above existing conditions, Mr. Hobdy determined that the future development of the Haihai Street Fire Station site will not have a significant negative impact on the botanical resources in this part of Hawai‘i Island. According to Mr. Hobdy, no recommendations regarding the botanical resources are deemed appropriate or necessary. As result, no mitigation measures are planned, other than landscaping immediately after the construction phase. To the greatest extent possible, native Hawaiian flora will be used in the selection of plant materials.

During the Draft EA public review period, the U.S. Fish and Wildlife Service provided the following avoidance and minimization measures for the three avifaunal species that **may** occur within, or transit through, the proposed action area and could be impacted by the proposed action:

Due to its range and foraging behavior, the Hawaiian goose may be present in the vicinity of the proposed action at any time of the year. If a Hawaiian goose appears within 100 feet of ongoing construction work, all activity shall be temporarily suspended until the bird moves off to a safe distance of its own volition. Moreover, if any number of Hawaiian geese are observed loafing or foraging within the area

of the proposed project during the Hawaiian goose breeding season (October through May), a biologist familiar with the nesting behavior of the Hawaiian goose should survey in and around the proposed construction footprint prior to the resumption of any work, or after any subsequent delay of work of three or more days (during which the birds may attempt to nest). If a nest is discovered within a radius of 150 feet of proposed construction work, or a previously undiscovered nest is found within said radius after work begins, all work must cease immediately and the Service contacted for further guidance.

The Hawaiian petrel and Newell's shearwater, collectively referred to as seabirds, may transit through the proposed action area while flying between the ocean and nesting sites in the mountains during their respective breeding seasons (typically March through December). Seabird fatalities resulting from collisions with artificial structures that extend above the surrounding vegetation have been documented in Hawaii where high densities of transiting seabirds occur. Additionally, outdoor artificial lighting such as flood lighting for construction work, security, and outdoor illumination can adversely affect seabirds by causing disorientation which may result in collision with utility lines, buildings, fences, and vehicles. Fledging seabirds are especially affected by artificial lighting and have a tendency to exhaust themselves while circling the light sources and become grounded. Too weak to fly, these birds become vulnerable to depredation by feral predators such as dogs, cats, and mongoose. Accordingly, all project-related overhead lighting should be shielded so that the bulb is not visible at or above bulb-height.

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

This section describes the existing conditions of the human environment, preliminary potential impacts of Haihai Fire Station, and preliminary mitigation measures to minimize any impacts.

4.1 ARCHAEOLOGICAL AND HISTORIC RESOURCES

During the pre-assessment consultation process, the DLNR State Historic Preservation Division (SHPD) requested "...a site inspection by a qualified archaeologist to identify the presence or absence of any undocumented historic properties." Scientific Consultant Services (SCS) conducted an archaeological inventory survey (AIS) for the proposed Haihai Fire Station site. A draft of the AIS was submitted to SHPD and was approved on April 9, 2014. Findings of the AIS are summarized below. Appendix D contains the Final AIS report as well as a copy of a letter from SHPD.

Historic Background

The project area is located in the *ahupua'a* of Waiākea, Hilo Hanakāhi 'Okana, in the *moku-o-loko* (district) of Hilo. The *ahupua'a* of Waiākea is large, consists of roughly 95,000 acres, and according to the AIS was regarded as a region of abundant natural resources and numerous fishponds. Waiākea was also an early important political center, notably under chief Kulukulu'a. Kamehameha lived and often returned to his *'ili kūpono* (independent land division where all tributes were paid to the chief of the *'ili* and not the *ahupua'a*) lands of Pi'opi'o in the *ahupua'a* of Waiākea. The *'ili kūpono* lands and its royal fishpond were passed on to his son Liholiho after his death.

Between 1845 and 1865, traditional land-use and residential patterns underwent a change. In particular, the regular use of Hilo Bay by foreign vessels, the whaling industry, the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugarcane cultivation all brought about changes in settlement patterns and long-established land-use patterns. Hilo became the center of population and traditional settlements along the shoreline in outlying regions declined or disappeared. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugarcane plantations and industrial facilities were established in areas that were once upland agricultural areas and coastal settlements, respectively.

In 1911, the Waiākea Mill Company applied for a title to several portions of its leased land, but was rejected by the Board of Public Lands. Rather than renew the lease with the Waiākea Mill Company, the government decided to sell some of the land as homestead lots and to lease a portion of the land to small cultivators as cane lots. These became known as the Waiākea Homestead and Cane Lots. By 1919, more than 2,000 acres of land were purchased as house lots and 5,300 acres

was leased to private growers for cane production. Sugarcane grown on these lots was, by terms of contract, to be processed by the Waiākea Mill Company for a share of the profits. The current site for the proposed Haihai Fire Station is located within the northeast corner of what was designated as “Lot 907” (of the Waiākea Homestead and Cane Lots).

However, a lack of cooperation and coordination by the mill company, as well as a lack of proficiency on the part of some cultivators to grow cane, created substantial losses for those that entered into the cane lot agreements. In the period between 1920 and 1923, it became apparent that many who had entered into contracts to pay off their cane lot agreements through the sale of cane to the mill company, would not be able to meet their obligation to do so. In 1925, after an investigation, a settlement was reached, whereby homesteaders were given a sixteen year extension to purchase their land.

By 1938, many homesteaders who had paid off their land began to subdivide their property into residential lots. The process only increased after the Waiākea Mill Company ceased operations in 1946. Over the years, many of the cane lots have been subdivided into residential house lots. The property in which the fire station is proposed is currently used to pasture cattle. The land surrounding the current project area is now primarily residential neighborhoods.

Identified Sites

A pedestrian survey and recording and testing of features on the 2.0-acre project area was conducted by SCS on December 30, 2013, and February 3 and 7, 2014. The area surveyed was larger than the proposed fire station boundaries. The pedestrian survey consisted a series of east/west transects spaced 5.0 meters apart across the survey area. The ground surface was grazed grass, and ground visibility was excellent. Two archaeological sites (Site 50-10-35-30039 and Site 50-10-35-30040) consisting of four rock mound features were identified within the area surveyed. The rock mounds are interpreted as sugarcane field clearing mounds based on archival research of previous land use, based on the style of feature construction, and based on excavation results.

Sites identified during this project were assessed in accordance with Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered under Sections 6E-7 and 6E-8 contained in draft Hawai‘i Administrative Rules 13§13-275. To be assessed as significant a site must possess integrity of location, design, setting, materials, workmanship, feeling, and association and must be characterized by one or more of five criteria. According to the AIS, Site 30039 and Site 30040, recorded during the current AIS study, are significant under Criterion D, as they contain information important to the history of Hawai‘i. Work conducted during AIS provided sufficient data to determine the function and timing of the features at the two sites. The AIS recommends that no further work or mitigation is required at the sites.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Given the findings of the AIS, no archaeological or historical properties are anticipated to be affected. During the Draft EA public review period, the State Historic Preservation Division wrote: “Based on the information obtained from the survey, SHPD believes that **no historic properties will be affected** by this project; we concur with the EA finding of no significant impact regarding historic properties.” During the Draft EA public review period, the Office of Hawaiian Affairs (OHA) wrote: “Our agency recognizes the findings of SHPD and does not have any information on file that raises additional concerns for this site.”

The County of Hawai‘i Department of Public Works and its contractors will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. The construction documents will include a provision that should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentrations of shell or charcoal or artifacts be inadvertently encountered during construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The contractor will immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

4.2 CULTURAL RESOURCES

Scientific Consultant Services Inc. prepared a cultural impact assessment (CIA) for the proposed project to identify traditional customary practices within the project site and in the vicinity of the area. The CIA was conducted in accordance with the OEQC Guidelines for Assessing Cultural Impacts and includes archival research of Waiākea and the surrounding area. Findings of the cultural impact assessment and other relevant information are summarized below. Appendix E contains the complete CIA. During the pre-assessment consultation process, the State Department of Hawaiian Home Lands (DHHL) wrote:

The Department of Hawaiian Home Lands supports public facilities that provide services to our lands and beneficiaries. We recommend that your office also consult with the homestead communities/associations that include Pana‘ewa Hawaiian Home lands Community Association, President William "Bill" Brown and the Keaukaha-Pana‘ewa Farmers Association, President Patrick L. Hahawaiolaa to ensure the proposed Haihai Fire Station project does not have any impact on either of the Hawaiian homestead’s future projects, plans or programs.

In the case of the present parcel, letters of inquiry were sent to organizations whose expertise would include the project area. Consultation was sought from Kai Markell, the Director of Native Rights, Land and Culture, Office of Hawaiian Affairs; Robert K. Lindsey, Jr., Office of Hawaiian Affairs Hawai‘i Island Trustee; Kauanoë Hoomanawanui, SHPD Burial Sites Specialist; Kino Lee, Jr. Chairman of the Hawai‘i Island Burial Council; Rick Gmirkin, Ala Kahakai National Historic Trail, NPS Archaeologist; Patrick L. Hahawaiolaa; Keaukaha-Pana‘ewa Farmers Association;

William "Bill" Brown, Pana'ewa Hawaiian Home Lands Community Association; and Mike Tulang, property lessee and cattle rancher. Inquiries were also made to members of the community who are familiar with the project area lands through cultural, professional, or historical work, or are long-time residents of the area. Of the eight contacted, six responded. None of the respondents were aware of past or ongoing cultural activities conducted on the subject parcels.

Public notices were published in the Office of Hawaiian Affairs Ka Wai Ola Newspaper, and were published in the Honolulu Star Advertiser and the Tribune Herald.

Historical and cultural source materials were extensively used and can be found listed in the References Cited portion of the CIA (contained in its entirety in Appendix E of this EA). The works of scholars such as I'i, Kamakau, Chinen, Kame'eleihiwa, Fornander, Kuykendall, Kelly, Handy and Handy, Puku'i and Elbert, Thrum, and Cordy were consulted and incorporated in the CIA where appropriate. Land use document research was supplied by the Waihona 'Aina 2007 Data Base.

POTENTIAL IMPACTS AND MITIGATION MEASURES

According to the CIA, the project area has not been used for traditional cultural purposes within recent times. Based on historical research and the responses from the above listed contacts, it is reasonable to conclude that Hawaiian rights related to gathering, access or other customary activities within the project area will not be affected and there will be no direct adverse effect upon cultural practices or beliefs.

4.3 ROADWAYS AND TRAFFIC

Fehr & Peers prepared a transportation assessment to evaluate potential circulation or mobility issues immediately adjacent to the project site. Findings of the study are summarized below. Appendix F contains the complete traffic assessment report.

Roadways

Regional access to the project site is provided by Kanoelehua Avenue (Route 11), while local access is provided by both Haihai Street and Laua Road. The following describes the key roadways in the project vicinity:

Kanoelehua Avenue (Route 11) is a four-lane divided highway, also designated as Mamalahoa Highway, which extends through Hilo and is part of a network of roadways that encircles the island of Hawai'i. This highway is located approximately one mile *makai* of the project site. Access to Mamalahoa Highway from the project site is provided via two un-signalized side-street stop intersections: 1) on Kilauea Avenue south of Haihai Street; and 2) via E Palai Street and Kilauea Avenue (north of Haihai Street). It has a posted speed limit of 55 miles per hour (mph) south of

Kilauea Avenue and transitions to a reduced speed of 35 mph approximately half a mile north of Kilauea Avenue.

Haihai Street is a two-lane roadway that extends westerly from Kilauea Avenue to Kupulau Road. Haihai Street provides direct access to the Hilo Municipal Golf Course and surrounding neighborhoods. Most intersections on Haihai Street are un-signalized, side-street stop intersections; the nearest signalized intersection is a little less than a mile *mauka* of the project site, at Ainaola Drive. In the immediate vicinity of the site, Haihai Street has a posted speed limit of 35 mph and lane widths of approximately 10 feet. This roadway currently does not provide a paved sidewalk in either direction, however an eight- to nine-foot shoulder is provided on the north side of the street along most of the golf course frontage. On either side of the golf course, the shoulder on the north side is three feet or less. A driveway serving the golf course is located approximately 320 feet *mauka* of Laua Road.

Laula Road is a two-lane, undivided, north-south cul-de-sac that forms the eastern boundary of the project site and terminates about 2,215 feet south of Haihai Street. Similar to other streets in the area, this roadway does not include any formal sidewalks or shoulders and it has homes that front on its *makai* and *mauka* side. The northern end of Laua Road intersects Haihai Street opposite the golf course's exit driveway and both the Laua Road and golf course driveway approaches are stop controlled.

Iwalani Street is a north-south street located approximately 450 feet west of the western edge of the site. This street is planned to be extended south of its existing terminus at Haihai Street and then west to connect to Komohana Street (approximately a one-mile extension in total). While this extension will increase neighborhood connectivity and will affect turning movement volumes at the Iwalani Street/Haihai Street intersection, it is not expected to substantially affect volumes and traffic operations on Haihai Street in front of the project site.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The major site access issue for a fire station is the exiting of vehicles from the station during an emergency response. Responses can range from a single paramedic unit or ambulance to multiple engines and trucks departing the site at one time. When fire/emergency vehicles leave the station, it is important that vehicles on the adjacent street (in this case Haihai Street) stop so that emergency response is not impeded. During the pre-assessment consultation and Draft EA public review processes, the Police Department wrote: "Staff, upon reviewing the provided documents, does not anticipate any significant impact to traffic and/or public safety concerns." During the public review period, a question was raised "If people are travelling Makai on Haihai St. and an emergency vehicle is approaching from the back, there is no room or not enough shoulder area to pull over for the emergency vehicle to pass. How safe is this? What will be done??" The Fire Department provided the following answer: "The fire trucks can maneuver most streets in Hilo. Emergency

vehicle drivers are trained to sound just a quick burst siren to attempt to get through the traffic. They do not keep blaring the siren until a path clears. If a clear path cannot happen, they must wait. Alternative routes are taken during known traffic congestion periods.”

Fire stations are typically expected to generate a negligible number of vehicle trips at any one time, which are intermittently distributed throughout the day in response to emergency calls. Vehicle trips are generated by emergency personnel traveling to and from the site in their personal vehicles during shift changes, by emergency vehicles responding to calls, and by visitors to the station. All of these trips do not occur at one time, and the maximum total trip generation during any single hour of the day is estimated to be less than 20 one-way trips for all trip types, and in most cases, only a minimal number of trips would occur during peak commute periods (between 6:00am and 9:00am and 2:30 pm and 5:30pm). Consequently, given the project’s substantially low trip generation, the project is not anticipated to trigger a significant traffic impact at any of the adjacent roadways or intersections. During the pre-assessment consultation period, the State Department of Transportation wrote:

“...The nearest road under State jurisdiction, Kanoelehua Avenue (Route 11), is more than a mile from the proposed project.

Based on its location, we do not anticipate any significant impacts to the existing or proposed State Highway System from the proposed fire station.”

Based on the traffic assessment, the proposed fire station is not expected to result in any significant traffic impacts to the adjacent roadway system. The planned extension of Iwalani Street will be located approximately 450 feet west of the project site and is not expected to be affected by project implementation. The on-site circulation layout and the low peak hour trip generation indicate that there will be negligible vehicle queuing and delays at the parking lot driveways on both Haihai Street and Laula Road, and no street modifications are recommended. During the public review period, a question was raised whether the entrance of Laula Road would be widened. For Laula Road, the trucks are returning from a call, so they are not in a rush and would slowly turn into Laula Road. As part of the design, the Project will reinforce the entry portion of Laula Road to withstand the weight of the fire trucks.

The width of Laula Road does not safely accommodate on-street parking on one nor two sides of the street. Instead of allowing this potentially unsafe practice to continue, the County is considering an amendment to the Traffic Code to prohibit parking along Laula Road. The County would allow AJA Hall users to park at the golf course, and install a crosswalk.

4.4 NOISE

The project site is located in an existing residential neighborhood near a golf course. Existing background noise sources generally consist of those generated by vehicular traffic, wind, occasional distant aircraft flybys, and activities occurring at residences and golf courses, such as conversations. There are no other atypical noise-producing activities or facilities present (e.g., auto body shops, factories, foundries, etc.). The proposed Haihai Fire Station will be surrounded on two sides by an existing pasture, so is, in some respects, quieter than most residential neighborhoods.

POTENTIAL IMPACTS AND MITIGATION MEASURES

During construction, temporary noise impacts will occur that are unavoidable. During the pre-assessment consultation, the State of Hawai‘i Department of Health, District Environmental Health Program Chief wrote that:

Construction activities must comply with the provisions of Hawai‘i Administrative Rules, Chapter 11-46, “Community Noise Control.”

- 1. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules.*
- 2. Construction equipment and on-site vehicles requiring an exhaust of gas or air must be equipped with mufflers.*
- 3. The contractor must comply with the requirements pertaining to construction activities as specified in the rules and conditions issued with the permit.*

During the operational phase, temporary noise impacts will be generated during the course of responding to fire alarms and other emergencies. The testing of the sirens is done on a daily basis when personnel are assigned to check the working condition of the vehicles. Testing usually consists of short bursts from the siren. Sirens will be used when responding to emergency incidents. Personnel, however, are advised and trained to be prudent in the use of sirens. For example, the use of the sirens may not be necessary at night; in and around light traffic residential areas with good visibility; and during times of light traffic in other areas.

The area of the proposed fire station is lightly trafficked, so the use of the siren when exiting the station may not be necessary in all cases. Nonetheless, sirens are used when deemed essential because they are a necessary warning device for responding to emergencies. These types of noise disturbances are unavoidable but will be intermittent and of short duration. To mitigate other potential noise impacts, operational practices of the proposed fire station will include: keeping the apparatus doors closed at night to contain the internal noises, and to minimize reverse beeping of the vehicles with the drive-through design of the new station by entering from Laula Road and exiting onto Haihai Street.

4.5 AIR QUALITY

Air quality in the Hilo area is believed to be relatively good, except for occasional impacts from localized traffic congestion. The prevailing northeasterly trade wind flow tends to push any human-made or natural pollutants away. However, the amount of particulates and other air pollutants can significantly increase during periods when the winds shift to a southwesterly direction. Air flow from this direction carrying volcanic smog (more commonly referred to as vog), can lead to an increase in pollution and a decrease in visibility.

The State Department of Health (DOH) maintains a limited network of air monitoring stations around the State to gather data on certain regulated pollutants. Currently, no routine ambient air monitoring is conducted by DOH in the Hilo area. Historical monitoring during the 1970's and 1980's indicated very low pollutant levels in Hilo. The entire state has been an attainment area for the last several decades. There is little reason to believe this has changed significantly.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Construction activity will be the principal source of short-term air quality impact. Construction vehicle activity will temporarily increase automotive pollutant concentrations along the existing roadways as well as on the project site. Site preparation, earth moving, and building construction will create particulate emissions during the short term. Movement of construction vehicles on unpaved surfaces can also generate particulate emissions.

Short-term impacts that could result from the project would be the emission of fugitive dust during site preparation and construction. During the pre-assessment consultation, the State of Hawai'i Department of Health, District Environmental Health Program Chief wrote that: "The applicant would need to meet the requirements of our Department of Health Air Pollution Rules, Chapter 60.1, Title 11, State of Hawai'i for fugitive dust control."

Although the potential for fugitive dust is low due to the wet climate and low wind speeds of Hilo, adequate dust control measures will be employed, particularly during construction during low-rainfall periods. Dust control will be accomplished by frequent watering of unpaved roads within the project site and areas of exposed soil surfaces. As soon as it is feasible, landscaping of completed areas will also be employed. Dust control measures will comply with applicable provisions of HAR section 11-60.1-33 and Chapter 10 of the Hawai'i County Code ("Erosion and Sedimentation Control"). Measures to control dust during 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 and all dry conditions;
- 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.

Long-term negative impacts related to air quality are not expected.

4.6 VISUAL RESOURCES

The property is covered with vegetation typical of a pastoral lot in the area, with much of it covered in grasses. Much of the site is visible from Haihai Street, where canopy trees are absent. The only portion of the property visible from passing cars driving along Laua Road is the northeastern portion of the site. Man-made structures include fencing, cattle gates and miscellaneous structures related to ranching.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed fire station buildings will be designed to be compatible with the character of the surrounding area and will be landscaped in keeping with this character and that of Hilo Town. The structure will be approximately 32 feet high.

In addition, the project site is not listed by the County as being in a scenic view plane or as a site of natural beauty, nor is it home to any of the exceptional trees listed in the County of Hawai'i's General Plan. Construction of the proposed fire station will not block any identified scenic view planes or impact any areas of natural beauty. During the construction phase, landscaping will include native Hawaiian plants and trees, wherever possible. Other than landscaping no mitigation measures are planned.

4.7 INFRASTRUCTURE AND UTILITIES

4.7.1 Water System

According the County Department of Water Supply (DWS) in its pre-assessment consultation comments, "Water can be made available from the existing 10-inch County waterline within Haihai Street, fronting the proposed project site." During the Draft EA public review period, the DWS provided information that there is an existing 6-inch waterline along Laua Road fronting the project site.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Prior to issuing a water commitment for the proposed Haihai Fire Station, DWS requests estimated maximum daily water usage calculations prepared by a professional engineer licensed in the State of Hawai'i for review and approval. According to the project mechanical engineer, the future staff and visitors are expected to generate a demand of 1,000 to 2,000 gallons per day from the existing water line. Additionally, according to DWS, "...the existing 10-inch waterline fronting the project

site is adequate to provide the required 2,000 gallons per minute flow for fire protection, as per the Department's Water System Standards." DWS noted that any meter(s) serving the proposed project will require the installation of a reduced pressure type backflow prevention assembly within five feet of the meter on private property. DWS must inspect and approve the installation before water service can be activated.

4.7.2 Wastewater System

There are no sewer lines within Haihai Street that connects to the project site.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The future staff and visitors are expected to generate a demand of between 1,000 to 2,000 gallons per day of wastewater. Treatment and disposal of wastewater from the proposed fire station will be treated by an on-site septic system and leach field.

4.7.3 Drainage System

The subject site is located in an area described as "outside floodplain/minimal flooding area" on the Flood Insurance Rate Map (FIRM) (Figure 14).

Inaba Engineering, a Hilo-based civil engineering firm, provided the following information. The major source of flood waters that flow into the pasture appears to be a culvert at Palua Loop. The water flows across and ponds within the pasture at a low point mauka of the Site. When the ponding capacity is exceeded, it overflows in two directions—toward the golf course and toward Laula Road in the Puna direction. A berm is located on the mauka side of the Laula Road lots that deflects the flow along the backside of the lots flowing in the Puna direction. The overflow flowing towards Haihai Street presently collects at the low point at the corner of Laula Road and Haihai Street, which is the proposed Site. The ponded water then either flows under Haihai Street through a culvert to the golf course, or sheet flows across Haihai Street.

Since the Project is downstream of the split in the flow toward the Puna direction and toward Haihai Street, the Project would not increase the overflow flowing toward the Puna direction. For the overflow flowing toward Haihai Street, the Project would divert the flood waters around the Project where it would end up in the same low point at the Haihai Street and Laula Road corner. Any increase in runoff from the Project's roof and pavement would flow into drywells within the Project boundaries and recharge the groundwater. By meeting all drainage standards, the Project would not be liable for flood damages that would have occurred even if the Project had not been built.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed fire station with its buildings, walkways, and parking area will increase the amount of impervious surfaces. To the extent practicable, the project will be designed to maintain post-development peak runoff rate and average volume at levels that are similar to pre-development

levels. Any net increase of runoff from such impermeable surfaces as roads, driveways, parking lots and rooftops will be addressed by using drywells and/or one or more of the following Low Impact Design (LID) site design measures, such as vegetated filter strips, open vegetated swales, bio-retention and rain gardens, infiltration trenches, and rain harvesting from rooftops. The aforementioned best management practices (BMPs) are intended to accomplish the following: (1) decrease the erosive potential of increased runoff volumes and velocities associated with development-induced changes in hydrology; (2) remove suspended solids and associated pollutants entrained in runoff that result from activities occurring during and after development; and (3) retain hydrological conditions to closely resemble those of the pre-disturbance condition.

4.7.4 Solid Waste

The County of Hawai‘i Solid Waste Division operates and maintains, either by County personnel or by contracted services, all solid waste collection and disposal facilities on the island. This includes two landfills, twenty-one transfer stations and island wide hauling operations in accordance with local, state and federal guidelines and regulations.

The nearest solid waste facility to the project site is the South Hilo Sanitary Landfill, located approximately 4 miles away.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Waste generated by site preparation will primarily consist of green waste from grading, and solid waste during construction. Soil and rocks displaced from grading and clearing will be used as fill within the site as needed. To reduce waste during construction, recycled materials and locally produced products will be used where possible.

After construction, the Haihai Fire Station will generate solid waste related to daily use and operation. To minimize waste, recycling bins will be provided for at the fire station. Waste that cannot be recycled will be disposed of at the South Hilo Sanitary Landfill.

4.7.5 Utilities

The Hawai‘i Electric Light Company, Inc. (HELCO), a privately-owned utility company regulated by the State Public Utilities Commission, provides electrical power to the island of Hawai‘i. The HELCO network of power plants serving Hilo includes the Kanoelehua Power Plant, Puna Power Plant, Wailuku Hydro Power Plant, Hilo Coast Power Plant, and Shipman Power Plant. Currently, HELCO provides electrical power to the site.

Telecommunication services are provided by Verizon Hawai‘i via overhead lines.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Electrical and telephone services are currently sized, adequate, and available to supply the area and parcel. The Project will include backup generators to maintain operations when grid power goes down temporarily or during disaster events.

4.8 SOCIO-ECONOMIC CHARACTERISTICS

The overall population of Hawai‘i County has exhibited relatively stable growth over the past decade. The County of Hawai‘i Department of Research and Development reported that the population of Hawai‘i County was 186,738 people in 2011, a 25.6 percent increase from the 2000 population of 148,677 people.

The South Hilo district had a population of 48,786 in 2010 which represented approximately 26 percent of the total population for Hawai‘i Island. The City of Hilo contains the main offices of the County government, branch offices of federal and state agencies. The island’s major deep draft harbor and international airport are also located in Hilo. In addition to industrial, commercial and social service activities, the University of Hawai‘i at Hilo and Hawai‘i Community College and affiliated research programs play an important role in Hilo’s economy. In the immediate vicinity of the project site is the Hilo Municipal Golf Course, which not only provides employment, but recreational opportunities as well. The subject property is utilized for ranching, and will remain in such use even when a portion is set aside for a fire station.

As of February 2014, Hawai‘i County’s unemployment rate was 6.1 percent, compared to the State’s overall rate of 4.6 percent, and it was decreased by .9 percent from February 2013 from the Hawai‘i County’s unemployment rate of 7.0 percent (State of Hawai‘i Department of Labor and Industrial Relations, 2014).

POTENTIAL IMPACTS AND MITIGATION MEASURES

During the pre-assessment consultation process, the State Department of Human Services (DHS) noted that: “There are several DHS licensed family child care homes located in the vicinity that may be impacted by the construction of the new fire station.” The proposed Haihai Fire Station project will have a beneficial socioeconomic impact by providing reliable emergency services (fire protection and emergency medical services) to the needs of the surrounding community, including DHS-licensed family child care homes.

Construction of the facility will not require the relocation of residents, as the site is currently vacant.

Short-term employment benefits will be generated throughout the construction period as well as long-term employment benefits for the estimated 18 additional personnel when the fire station is fully staffed. The benefits however will not be significant relative to the overall economy of the island. No changes are expected to the overall economy and no mitigation measures are planned.

The proposed Haihai Fire Station will not affect area population and will not create additional strain on other area facilities. The construction of the proposed fire station will provide greater health and safety protection for residents of the area.

Subsequent to the publication and distribution of the Draft EA, a community meeting was held on August 14, 2014. A notice was mailed to residents within 300 feet of the proposed project site and along Haihai Street approximately two weeks prior to the meeting. A handout was available at the meeting summarizing the project need, site location, site plan, and environmental assessment contact and extension of the Draft Environmental Assessment comment deadline to September 8, 2014. Approximately 16 members of the public, Councilman Onishi and staff, Assistant Fire Chief Glen Honda and staff attended the meeting (see Appendix G for a documentation of the meeting).

4.8.1 Environmental Justice

On February 11, 1994, President Clinton signed Executive Order (E.O.) 12898. This E.O. directs federal agencies to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health or environmental effects of its activities on minority and low-income populations.

Each Federal agency must make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health, environmental, economic, and social effects of its programs, policies, and activities on minority and low-income populations. While this EA is not subject to the Federal review process, the notion of environmental justice has been evaluated.

The project site is located in a predominantly mixed-race neighborhood typical of many in the State. No single cultural or ethnic group in the vicinity of the project site is disproportionately impacted relative to the Waiākea community.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed Haihai Fire Station would provide a much needed public safety facility for the South Hilo District. The availability of a fire station in the immediate vicinity of the project site and neighboring properties is a positive and reassuring public service.

Although several sites were initially evaluated, this site was not selected on the basis of the neighborhood's "economic status." The project site was chosen as the preferred site because the land is vacant, publically-owned, and located next to a major thoroughfare.

As such, the notion of environmental justice has been evaluated, and there would be no activity performed that would in any way create discrimination or isolation of any group of people based on the siting or purpose of the Haihai Fire Station.

4.9 PUBLIC SERVICES AND FACILITIES

4.9.1 Schools

The closest State Department of Education (DOE) public schools are: Waiākeawaena Elementary School, Waiākea Elementary School, Waiākea Intermediate School, and Waiākea High School.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Haihai Fire Station will not generate new residents or introduce new school-aged children to the area. Therefore, no additional demands will be placed on DOE facilities. While the construction of the proposed project will generate noise and may generate dust, the closest public school, Waiākeawaena Elementary School, is located over 0.9 miles away. The distance and the presence of vegetation (from the Hilo Municipal Golf Course) and homes will block construction noise from the proposed fire station site. In addition, the Waiākeawaena Elementary School, is upwind of the proposed fire station site during predominant trade wind conditions, so even if airborne dust was generated, it would be unlikely to impact children attending classes at Waiākeawaena Elementary School.

4.9.2 Police, Fire and Medical Services

Police Protection

The project site is located in South Hilo, Patrol District 1. The district extends from Hakalau in the north, to the mid-point of Kanoelehua Avenue between Hilo and Kea‘au in the south, to the Saddle Road in the west. The district includes the main police station, located at 349 Kapi‘olani Street, approximately 4 miles from the project site.

Fire Protection

The Hawai‘i County Fire Department Kawaihāni Fire Station provides fire protection and suppression services in Waiākea. The Kawaihāni Fire Station is an Engine Company with one engine, a tanker and a medic unit. Backup support is provided by 1) Central Fire Station, located 4.1 miles away in Hilo, with an Engine Company and an ALS medic unit; 2) Kaumana Fire Station, located 4.9 miles away, with an Engine Company and HAZMAT Response capabilities; and 3) Waiakea Fire Station, located 4.8 miles away in Keaukaha. Waiakea Fire Station is a Rescue Company providing firefighting response with an Engine, Light and Heavy Rescue, including helicopter response and ocean rescue response capabilities. By November of 2014, Waiakea will be receiving a new 79’ Ladder Truck. At this time, no tanker vehicles are assigned to the Hilo area due to the adequate hydrant system and all of the Engines (also referred to as Pumpers) each carry 1,000 gallons of water. At any one time, there are five to six firefighters on duty at the Kawaihāni Fire Station.

Medical Services

Hilo Medical Center (HMC) is the primary health care facility serving the South Hilo district. HMC is located approximately 4.9 miles from the project site at 1190 Waiānue Avenue. Ambulance service in Hilo is provided by the Hawai‘i Fire Department, which can serve the project site area (during construction) from the current Kawailani Fire Station in two minutes. Once the proposed Haihai Fire Station is operational, the site will have 24 hour trained Emergency Medical Service personnel on site. As mentioned above, Central Fire Station also provides ALS medic response to the Hilo area.

POTENTIAL IMPACTS AND MITIGATION MEASURES

During the Draft EA Public Review period, the State Department of Transportation wrote: “We are concerned that additional improvements may be requested to expedite the emergency responders, such as the opticon signal system for the existing traffic signals or the installation of new traffic signals.” According to the Fire Department, the design of the Haihai Fire Station will include the appropriate warning signaling on Haihai Street both east and west of the planned fire apparatus driveway. The Fire Department installed similar signaling for the Makalei Fire Station on Mamalahoa Highway.

During the pre-assessment consultation and Draft EA public review processes, the Police Department wrote: “Staff, upon reviewing the provided documents, does not anticipate any significant impact to traffic and/or public safety concerns.” There may be an occasional and unavoidable demand for police, and medical services associated with the proposed Haihai Fire Station, however, it is anticipated that existing County services will not be adversely affected by the proposed fire station. No mitigation measures are proposed. During the pre-assessment consultation period, the Department of Land and Natural Resources, Land Division, Hawai‘i District Land Agent wrote about the positive impacts of the proposed project on the Fire Department and emergency medical services:

The County of Hawai‘i is requesting approximately two (2) acres of land be withdrawn from General Lease No. S-5570 to be set aside for the Waiākea Uka fire station as the Hawai‘i Fire Department has outgrown the existing station located on Kawailani Street. In addition, emergency services provided by the Hawai‘i Fire Department from the Kawailani Street Station now include Emergency Medical Services and the required personnel, vehicles and equipment can no longer be accommodated at the current location. Furthermore, an ongoing Kawailani Street widening project will bring the working area of the station driveway and building closer to the active roadway which may lead to a dangerous situation.

The proposed set aside location is most favorable due to it being centrally located and able to serve the same population that the existing Kawailani Street Station serves, inclusive of

the area from Panaewa makai up to Waiākea Uka and will provide the additional space required for the Emergency Medical Services personnel.

4.9.3 Recreational Facilities

The entire South Hilo District contains 54 parks totaling 590 acres. The immediate area of the project site is served by the Hilo Municipal Golf Course, Ainaola Park, Ahualani Park, Lokahi Park, Waiākea Uka Park, and Panaewa Park and Malama Park. Other recreational facilities, parks, and open spaces in the Hilo area include Kūhiō-Kalanianaʻole Park, Honoliʻi Beach Park, Liliʻuokalani Gardens, Reeds Bay, Onekahakaha Beach Park, Kealoha Beach Park, Carlsmith Beach Park and Richardson Ocean Park.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The project itself is not a direct generator of new residents requiring recreational facilities. Fire stations typically have on-site recreational equipment, as on-duty firemen need to be close to their fire trucks at all times. No significant impacts to recreational facilities are anticipated as a result of the proposed development and therefore no mitigation measures are proposed.

5 LAND USE CONFORMANCE

State of Hawai‘i and Hawai‘i County land use plans, policies, and ordinances relevant to the proposed Haihai Fire Station are described below.

5.1 STATE OF HAWAI‘I

5.1.1 Chapter 343, Hawai‘i Revised Statutes

Compliance with Chapter 343, HRS is required as described in Section 1.4.

5.1.2 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.

The proposed Haihai Fire Station site is located within the State Urban District (Figure 5). By Chapter 205, HRS, the County has jurisdiction of zoning for lands designated within the State Urban District.

5.1.3 Coastal Zone Management Act, Chapter 205A, Hawai‘i Revised Statutes

During the pre-assessment consultation, the State Office of Planning noted that: “The entire state is defined to be within the Coastal Zone Management Area, pursuant to Hawai‘i Revised Statutes (HRS) 205A-1, (definition of “coastal zone management area”).” As such, the proposed Haihai Fire Station lies within the Coastal Zone Management Area.

As requested by the State Office of Planning, a discussion of the proposed Haihai Fire Station project’s ability to meet the objectives and policies set forth in HRS 205A-2, is provided 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 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 uses 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 nonpoint 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, and County authorities; and crediting such dedication against the requirements of section 46-6;*

Discussion: The proposed Haihai Fire Station is not a coastal development, is not located on the coastline, and is not in the SMA; therefore, policies regarding shoreline recreation resources are not applicable; however to protect marine resources for purposes including recreation, the State of Hawai‘i has adopted water quality standards. Generally, these standards will require the submittal and adherence to a National Pollution Discharge Elimination System (NPDES) permit. This permit requires compliance with best management practices during construction to minimize soil erosion into adjacent waterways. The NPDES permit will also include requirements to maintain water quality during operation. A NPDES permit will be required for the proposed Haihai Fire Station.

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: During the Draft EA public review period, the State Historic Preservation Division wrote: “Based on the information obtained from the survey, SHPD believes that **no historic properties will be affected** by this project; we concur with the EA finding of no significant impact regarding historic properties.” During the Draft EA public review period, the Office of Hawaiian Affairs (OHA) wrote: “Our agency recognizes the findings of SHPD and does not have any information on file that raises additional concerns for this site.” The County of Hawai‘i DPW and its contractors will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. The construction documents will include a provision that should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentrations of shell or charcoal or artifacts be inadvertently encountered during construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The contractor will immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

Scenic and Open Space Resources

Objective: Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies

- (A) *Identify valued scenic resources in the coastal zone management area;*
- (B) *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- (C) *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- (D) *Encourage those developments that are not coastal dependent to locate in inland areas;*

Discussion: The proposed Haihai Fire Station site will be located inland, away from the shoreline; therefore, it is anticipated that there will be no effect on the quality of the coastal scenic resources.

Coastal Ecosystems

Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policy A: Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

Policy B: Improve the technical basis for natural resource management;

Policy C: Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

Policy D: Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

Policy E: Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Discussion: The proposed Haihai Fire Station will be located far inland from the coastline. Therefore, it is anticipated that there will be no effect on the quality of the coastal ecosystems.

Economic Uses

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policy A: Concentrate coastal dependent development in appropriate areas;

Policy B: Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

Policy C: Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

(iii) The development is important to the State's economy.

Discussion: The proposed Haihai Fire Station is not a coastal dependent development, is not located on the coastline, and is not in the SMA; therefore, these policies are not applicable.

Coastal Hazards

Objective: Reduce hazard to life and property from tsunamis, storm waves, stream flooding, erosion, subsidence, and pollution.

Policy A: Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;

Policy B: Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and non-point source pollution hazards;

Policy C: Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

Policy D: Prevent coastal flooding from inland projects.

Discussion: The proposed Haihai Fire Station site sits far inland from the coastline and will not exacerbate any coastal hazards.

Managing Development

Objective: Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policy A: Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

Policy B: Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

Policy C: Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Discussion: The proposed Haihai Fire Station is not a coastal development, is not located on the coastline, and is not in the SMA; however, this EA, provided opportunity for public input during the Draft EA Public Comment period (refer to Exhibit H).

Pre-consultation comments were obtained and are reproduced in Appendix B. In addition, this EA discusses potential impacts and mitigation measures of the proposed Haihai Fire Station and provided an opportunity for input during the Draft EA Public Comment period (refer to Exhibit H).

Public Participation

Objective: Stimulate public awareness, education, and participation in coastal management.

Policy A: Promote public involvement in coastal zone management processes;

Policy B: Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

Policy C: Organize workshops, policy dialogues, and site- specific mediations to respond to coastal issues and conflicts.

Discussion: The proposed Haihai Fire Station is not a coastal development, is not located on the coastline, and is not in the SMA; however, this EA, provided opportunity for public input during the Draft EA Public Comment period (refer to Exhibit H).

Pre-consultation comments were obtained and are reproduced in Appendix B. In addition, this EA discusses potential impacts and mitigation measures of the proposed Haihai Fire Station and provided an opportunity for input during the Draft EA Public Comment period (refer to Exhibit H).

Beach Protection

Objective: Protect beaches for public use and recreation.

Policy A: Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

Policy B: Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

Policy C: Minimize the construction of public erosion-protection structures seaward of the shoreline.

Discussion: The proposed Haihai Fire Station is not a coastal dependent development, is not located on the coastline, and is not in the SMA; therefore, these policies are not applicable.

Marine Resources

Objective: Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policy A: Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

Policy B: Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

Policy C: Assert and articulate the interests of the State as a partner with Federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

Policy D: Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

Policy E: Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Discussion: The proposed Haihai Fire Station is not a coastal development, is not located on the coastline, and is not in the SMA; therefore, policies regarding shoreline recreation resources are not applicable; however to protect marine water quality the Project will be designed and built in compliance with all applicable Federal, State, and County regulations pertaining to storm water management including Chapter 10 (Erosion and Sedimentation Control) of the Hawai‘i County Code and the DOH NPDES permit program.

5.1.4 Hawai‘i State Plan

The Hawai‘i State Plan (Chapter 226, HRS), establishes a set of goals, objectives and policies that serve as long-range guidelines for the growth and development of the State. Objectives and policies pertinent to the proposed project are as follows:

HRS § 226-26: Objectives and policies for socio-cultural advancement – public safety.

Objectives: *Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:*

- (1) Assurance of public safety and adequate protection of life and property for all people.*
- (2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.*
- (3) Promotion of a sense of community responsibility for the welfare and safety of Hawai‘i's people.*

Policies related to public safety:

- (1) Ensure that public safety programs are effective and responsive to community needs.*
- (2) Encourage increased community awareness and participation in public safety programs*

Policies related to emergency management:

- (1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.*

- (2) *Enhance the coordination between emergency management programs throughout the State.*

Discussion: All design and construction will conform to all applicable codes, rules, and regulations to ensure life safety of public uses is not jeopardized. The proposed facility, a fire station, is an integral component of public safety.

5.2 COUNTY OF HAWAI‘I

County-specific land use plans and ordinances pertaining to the proposed Haihai Fire Station include the General Plan of the County of Hawai‘i, and the Hawai‘i County Code.

5.2.1 County of Hawai‘i General Plan

The County of Hawai‘i General Plan is the policy document for the long-range comprehensive development of the Island of Hawai‘i. Among the purposes of the General Plan are to guide the pattern of development in Hawai‘i County and to provide the framework for regulatory decisions and capital improvement projects. The General Plan undergoes a comprehensive review every ten years, with the last review being completed in 2005.

The policy land use map, referred to as the Land Use Pattern Allocation Guide (LUPAG) Map, is intended to guide the direction and quality of future developments in a coordinated and rational manner. The site for the proposed Haihai Fire Station is designated as “Open Area” and “Low Density Urban” (Figure 6).

Specific General Plan goals, policies, and courses of action most applicable to the proposed Haihai Fire Station are discussed below.

Flooding and Other Natural Hazards

5.2 GOALS

- (a) *Protect human life.*
- (b) *Prevent damage to man-made improvements.*

5.3 POLICIES

- (l) *Continue to promote public education programs on tsunami, hurricane, storm surge, and flood hazards.*
- (q) *Consider natural hazards in all land use planning and permitting.*

Discussion: The proposed Haihai Fire Station is located outside of the 100-year floodplain. All proposed buildings will be located outside any floodplains.

Historic Sites

6.2 GOALS

(a) Protect, restore, and enhance the sites, buildings, and objects of significant historical and cultural importance to Hawai‘i.

6.3 POLICIES

(a) Agencies and organizations, either public or private, pursuing knowledge about historic sites should keep the public apprised of projects.

(c) Require both public and private developers of land to provide historical and archaeological surveys and cultural assessments, where appropriate, prior to the clearing or development of land when there are indications that the land under consideration has historical significance.

(o) Recognize the importance of certain natural features in Hawaiian culture by incorporating the concept of “cultural landscapes” in land use planning.

Discussion: During the Draft EA public review period, the State Historic Preservation Division wrote: “Based on the information obtained from the survey, SHPD believes that **no historic properties will be affected** by this project; we concur with the EA finding of no significant impact regarding historic properties.” During the Draft EA public review period, the Office of Hawaiian Affairs (OHA) wrote: “Our agency recognizes the findings of SHPD and does not have any information on file that raises additional concerns for this site.” The County of Hawai‘i DPW and its contractors will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. The construction documents will include a provision that should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentrations of shell or charcoal or artifacts be inadvertently encountered during construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The contractor will immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

Natural Beauty

7.2 GOALS

(b) Protect scenic vistas and view planes from becoming obstructed.

(c) Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.

7.3 POLICIES

(a) *Increase public pedestrian access opportunities to scenic places and vistas.*

(h) *Protect the views of areas endowed with natural beauty by carefully considering the effects of proposed construction during all land use reviews.*

(i) *Do not allow incompatible construction in areas of natural beauty.*

Discussion: The proposed Haihai Fire Station will be visible from Haihai Street and Laua Road and will change the appearance of a portion of the existing pasture on the property from open grassland to a new fire station. The placement and height of the fire station buildings will not obstruct any view planes towards any natural landmarks.

Public Facilities

10.1.2 Goal

(a) *Encourage the provision of public facilities that effectively service community and visitor needs and seek ways of improving public service through better and more functional facilities in keeping with the environmental and aesthetic concerns of the community.*

Discussion: The proposed Haihai Fire Station will replace the Kawailani Fire Station and result in improving the County's response to community's emergency needs.

5.2.2 County of Hawai'i Zoning

Similar to the State Land Use Districts, the Hawai'i County Code regulates the type and location of development permitted on the island. Hawai'i County zoning designations, Chapter 25 HCC, are more specific in terms of describing permitted land uses. The portion of the property proposed for the location of the Haihai Fire Station is zoned Open (Figure 7). According to Section 25-5-160 of the Hawai'i County Code:

The O (open) district applies to areas that contribute to the general welfare, the full enjoyment, or the economic well-being of open land type use which has been established, or is proposed. The object of this district is to encourage development around it such as a golf course and park, and to protect investments which have been or shall be made in reliance upon the retention of such open type use, to buffer an otherwise incompatible land use or district, to preserve a valuable scenic vista or an area of special historical significance, or to protect and preserve submerged land, fishing ponds, and lakes (natural or artificial tide lands).

Uses permitted in the Open District include "Public Uses and Structures", such as the proposed fire station, with a Plan Approval. There is no height limit, minimum building site area, minimum building site average width, nor minimum yards in the Open District (except as specified as a

condition of approval attached to any Use Permit or Plan Approval). A Plan Approval is required for the proposed project.

5.2.3 Special Management Area

The property is not located within the Special Management Area (SMA).

5.3 APPROVALS AND PERMITS

A listing of anticipated permits and approvals required for Haihai Fire Station is presented below:

Table 2: Anticipated Approvals and Permits

Permit/Approval	Responsible Agency
Chapter 343, HRS Compliance	County of Hawai‘i Department of Public Works Office of Environmental Quality Control
Plan Approval	Hawai‘i County Planning Department
National Pollutant Discharge Elimination System (NPDES) Permit	State Department of Health
Subdivision	Hawai‘i County Planning Department
Grading/Building Permits	Hawai‘i Department of Public Works
Noise Permit	State Department of Health

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6 ALTERNATIVES

This section identifies and evaluates a range of alternatives that could meet the purpose and need and possibly avoid, reduce, or minimize adverse environmental effects. The reference point to compare alternatives is the “no action” alternative.

6.1 NO ACTION ALTERNATIVE

The primary purpose for the Haihai Fire Station, as discussed in Section 2.2, is to improve emergency services from Panaewa Makai to Waiākea Uka. Under the “no action” alternative, no fire station would be built and the district population would have to rely on the existing facilities. The area would not benefit from improved emergency services and response times.

During the Draft EA Public Review period, the State Department of Transportation (SDOT) wrote: “The existing Kawaiāni fire station has slightly better direct access to the State highways than the proposed Haihai fire station...” While we may concur with DOT’s assessment that the existing Kawaiāni Fire Station has slightly better access to the State highways than the proposed Haihai Fire Station, the expansion of the existing Kawaiāni site is not a viable option—it would require expensive adjustments to the Hilo Municipal Golf Course and inadequate land area due to the planned widening of Kawaiāni Street.

The existing Kawaiāni Fire Station is limited in size and inadequate to meet the space requirements for the Fire Department. The half-acre parcel is surrounded by residential homes, Kawaiāni Street and the Hilo Municipal Golf Course, and does not allow for future expansion.

The planned widening of Kawaiāni Street together with the expanded services provided by the fire station triggered a search for alternative solutions. The proposed Haihai Fire Station would provide a much needed public safety facility for the South Hilo District. The availability of a fire station in the immediate vicinity of the project site and neighboring properties is a positive and reassuring public service. The proposed Haihai Fire Station will provide more space for the growing needs of the Fire Department.

With the “no action” alternative, the district needs for emergency services and response times would not be met, therefore this alternative has been eliminated.

6.2 ALTERNATIVE SITES

The planned widening of Kawaiāni Street together with the expanded services provided by the fire station triggered a search for alternative solutions. Alternative sites were considered for the relocation of the existing Kawaiāni Fire Station (please refer to Figure 17: Alternative Sites for the Kawaiāni Fire Station Relocation).

Panaewa was not considered since it is not reasonably located with the response zone assigned to this fire station. The factors considered in identifying alternative sites included:

- 1) Adequate land area to accommodate present and future needs.
- 2) Centered within its assigned response zone with optimum overlap to respond as backup if Central or Waiakea Fire Stations could not respond to calls within their respective response zones.
- 3) Convenient and safe access to alternative routes.
- 4) Buffered from residential neighbors.
- 5) Maximum coverage of homes and businesses within a 5 mile radius for potential insurance discounts.
- 6) Owned by the State, County, or no-cost arrangement with a private or nonprofit owner.

Besides the proposed Site, the pros and cons of other alternative sites considered in relation to the above criteria included:

- *Expansion of the existing Kawaihau Fire Station site.* This alternative would have required an expensive redesign of the golf course with limited additional capacity to accommodate future needs.
- *Shifting the Kawaihau widening toward the HELCO site.* The HELCO site could not accommodate any reduction and the resulting design of the road widening fronting the fire station would not have been acceptable.
- *Joint use of Machado Acres Park off of Keone Street.* The concept was for Parks and Recreation and the Fire Department to share costs to build the fire station together with a neighborhood park. However, the density and proximity of residences did not provide an optimum buffer to minimize impact to surrounding residences.
- *State land at the corner of Haihai and Ainaola Streets.* This site has the most flexible access to alternative routes via Ainaola to Haihai, Komohana, upper Waiakea, and Komohana Streets. However, the concern of this alternative site is its distance from commercial establishments along and across Kanoelehua Avenue.

6.3 PREFERRED ALTERNATIVE

Based on the analysis above, the Haihai Street site, the site subject to this environmental assessment, was chosen as the preferred site for the proposed Haihai Fire Station. Reasons to why this site was preferred include:

- Adjacent to residential area.
- Nearby existing Kawaihau Fire Station.
- Less site constraints.
- Good parcel configuration and adequate suitable area for future expansion.

During the pre-assessment consultation period, the Department of Land and Natural Resources, Land Division, Hawai‘i District Land Agent wrote about the positive impacts of the proposed project on the Fire Department and emergency medical services:

The County of Hawai‘i is requesting approximately two (2) acres of land be withdrawn from General Lease No. S-5570 to be set aside for the Waiākea Uka fire station as the Hawai‘i Fire Department has outgrown the existing station located on Kawaihāni Street. In addition, emergency services provided by the Hawai‘i Fire Department from the Kawaihāni Street Station now include Emergency Medical Services and the required personnel, vehicles and equipment can no longer be accommodated at the current location. Furthermore, an ongoing Kawaihāni Street widening project will bring the working area of the station driveway and building closer to the active roadway which may lead to a dangerous situation.

The proposed set aside location is most favorable due to it being centrally located and able to serve the same population that the existing Kawaihāni Street Station serves, inclusive of the area from Panaewa makai up to Waiākea Uka and will provide the additional space required for the Emergency Medical Services personnel.

For the above reasons, the proposed action (and specific location) is deemed the preferred alternative. Although the Haihai Street property is the preferred site, a final decision will be made by the County administration (i.e., Fire Chief and Mayor) with concurrence by the County Council after reviewing the Final Environmental Assessment.

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7 FINDINGS AND DETERMINATION

To determine whether the construction of the Haihai Fire Station 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 Proposing Agency (County of Hawai‘i Department of Public Works) anticipates issuing a Finding of No Significant Impact (FONSI). The supporting rationale for this finding is presented in this chapter.

7.1 SIGNIFICANCE CRITERIA

The discussion below evaluates the significance of the Project’s impacts based upon the Significance Criteria set forth in Hawai‘i Administrative Rules section 11-200-12. An action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

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

Discussion: The proposed project is not anticipated to involve any construction activity that may lead to a loss or destruction of any natural or cultural resource. The project site has been the subject of flora/fauna, archaeological and cultural studies conducted in and around the site. All of the studies reveal the absence of any resource potentially subject to irrevocable loss as a result of construction.

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

Discussion: The 35.696-acre property has been leased for pasture since 1998. Less than 6% of the leased property will be relinquished by the development of a fire station on this parcel. The current lessee will be able to continue using the remainder of the property for pasture use, even after the fire station is operational.

- (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;**

Discussion: The proposed project is not in conflict with the long-term environmental policies, goals, and guidelines of the State of Hawai‘i. As presented earlier in this EA, the project’s potential adverse impacts are associated only with the short-term construction-related activities, and such impacts can be mitigated through adherence to standard construction mitigation practices.

(4) Substantially affects the economic or social welfare of the community or State;

Discussion: The proposed project will have no adverse effects on the economy or social welfare of Hilo town or the County of Hawai‘i. The social welfare of the residents of Hilo could possibly benefit from the more efficient operations and siting of the Haihai Fire Station.

(5) Substantially affects public health;

Discussion: There will be temporary impacts to noise and air quality levels during the construction phase of the project; however, these potential impacts will be short-term and are not expected to substantially affect public health. All construction activities will comply with applicable regulations and will implement appropriate mitigation measures. After construction, the development should have minimal impact on ambient noise levels or air and water quality.

The proposed fire station may have a positive impact on public health by reducing mortality and morbidity from fire-related causes in the area.

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

Discussion: The proposed fire station development will serve the existing residents of Hilo and its visitors. It will not induce any increases or shifts in population, and will not have a significant effect on any other public facilities.

(7) Involves a substantial degradation of environmental quality;

Discussion: Construction activities associated with the proposed project are anticipated to result in negligible short-term impacts to noise, air-quality, and traffic in the immediate vicinity. With the incorporation of the recommended mitigation measures during the construction period, the project will not result in degradation of environmental quality. No long term negative impacts are expected from project implementation.

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

Discussion: As documented throughout this EA, this project will have no serious negative effects. It is a stand-alone project which does not involve a commitment for larger actions.

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

Discussion: There are no known, threatened, or endangered species of flora, fauna, or associated habitats located on the project site that could be adversely affected by the construction and operation of the proposed project.

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

Discussion: Construction activities for development of the proposed fire station could potentially impact noise and air and water quality levels on the project site. However, these impacts will be short-term and are not expected to be detrimental. All construction activities will comply with applicable regulations and will implement appropriate mitigation measures as necessary. After construction, the development is not expected to adversely impact ambient noise levels or water and air quality. There will be a slight increase in impervious surfaces over the site's former pastoral use; however, any increase in runoff will be accommodated by proposed drainage improvements and will not detrimentally affect water quality.

- (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;**

Discussion: The development will not affect any environmentally sensitive area. The project is located outside a FIRM-designated flood plain and inland from the coast. The proposed project's facilities will be constructed in compliance with County of Hawai'i building codes, and the drainage improvements will be designed to minimize any potential for localized flooding.

- (12) Substantially affects scenic vistas and view planes identified in County or State plans or studies; or,**

Discussion: The proposed project will not alter the visual setting of the area, nor will it block any scenic vistas. The area is not listed as a scenic view plane or area of natural beauty by the County.

- (13) Requires substantial energy consumption.**

Discussion: Construction and operation of the project will not require substantial increases in energy consumption.

7.2 DETERMINATION

Pursuant to Chapter 343, HRS, the determining agency, the County of Hawai'i Department of Public Works has issued a Finding of No Significant Impact (FONSI) for this environmental assessment. This finding is founded on the basis of impacts and mitigation measures examined in this document, public comments received during the pre-assessment consultation and public comment phases, and analyzed under the above criteria.

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8 CONSULTATION

8.1 PRE-ASSESSMENT CONSULTATION

A pre-assessment consultation was conducted from January 14, 2014 through April 7, 2014 prior to preparation of the Draft EA. The purpose of the pre-assessment consultation was to consult with agencies, organizations and individuals with technical expertise, or an interest or will be affected by the proposed project. This process is part of the scoping process for the Draft EA. Comments and input received during this period were used to identify environmental issues and concerns to be addressed in the Draft EA, which in turn will undergo a 30-day public comment period.

As part of the early consultation process, the following agencies, organizations and individuals were sent pre-assessment consultation letters. Those that provided written comments (either by hardcopy or email) are highlighted in *italics*. Copies of the written comments and responses are reproduced in Appendix B.

State of Hawai‘i

- Department of Agriculture
- *Department of Accounting and General Services*
- Department of Business, Economic Development & Tourism (DBEDT)
- DBEDT – Energy Division
- DBEDT – Hawai‘i Housing Finance and Development Corporation
- *DBEDT – Office of Planning*
- *Department of Defense*
- *Department of Hawaiian Homelands*
- *Department of Health - Environmental Planning Office*
- *Department of Health - Hawai‘i District*
- *Department of Human Services*
- *Department of Labor and Industrial Relations*
- *Department of Land and Natural Resources (DLNR)*
- *DLNR - State Historic Preservation Division*
- *Department of Transportation*
- Office of Environmental Quality Control
- Office of Hawaiian Affairs
- University of Hawai‘i Water Resources Research Center
- State Representative R. Onishi
- State Senator Kauhale

Federal

- U.S. Army Corps of Engineers – Regulatory Branch
- *U.S. Federal Emergency Management Agency*
- U.S. Fish and Wildlife Service

- U.S. Geological Survey – Hawaiian Volcano Observatory

County of Hawai'i

- *Department of Environmental Management*
- Department of Parks & Recreation
- Department of Research & Development
- *Department of Water Supply*
- Fire Department
- Office of Housing and Community Development
- *Planning Department*
- *Police Department*
- *County Councilmember D. Onishi*

Private Organizations & Individuals

- AJA Veteran's Council
- *Hawaiian Electric Light Co.*
- Michael Tulang

8.2 PUBLIC MEETING

A public meeting was held on August 14, 2014. Approximately 178 invitations were mailed out on August 1 to landowners within 300 feet of the property or along Haihai Street between Iwalani and Kilauea Street. State parcels were not included in the mail out, because both the geographical inventory survey (GIS) database and the online tax property website did not specify the property's user. Also, a few privately-owned parcels were not listed on the tax property website (maybe vacant or on sale), so invitations were not mailed to them. In addition, a few privately-owned parcels were missing mailing addresses, so we identified the physical location addresses and mailed the letters to the physical locations. Four mailings were returned.

In the invitation and at the public meeting, attendees were informed that the 30-day public review period would be extended from original August 7, 2014 deadline to September 8, 2014. Refer to Appendix G for a copy of the presentation, and a summary of the major comments received at the public meeting. A written response to the comments and questions were mailed to the meeting attendees.

8.3 PUBLIC REVIEW

The Draft EA was published in the OEQC Environmental Notice on July 8, 2014 initiating a 30-day public comment period that was scheduled to end on August 7, 2014. However, at the public meeting held on August 14, 2014, attendees were informed that the 30-day public review period would be extended from original August 7, 2014 deadline to September 8, 2014.

As part Draft EA public review process, the following agencies, organizations and individuals were sent copies of the Draft EA. Those that provided written comments (either by hardcopy or email) are highlighted in *italics*. Copies of the written comments and responses are reproduced in Appendix H.

State of Hawai‘i

- Department of Agriculture
- *Department of Accounting and General Services*
- Department of Business, Economic Development & Tourism (DBEDT)
- DBEDT – Energy Division
- DBEDT – Hawai‘i Housing Finance and Development Corporation
- *DBEDT – Office of Planning*
- *Department of Defense*
- *Department of Hawaiian Home Lands*
- *Department of Health - Environmental Planning Office*
- Department of Health
- *Department of Human Services*
- *Department of Labor and Industrial Relations*
- *Department of Land and Natural Resources (DLNR)*
- *DLNR - State Historic Preservation Division*
- *Department of Transportation*
- *Office of Environmental Quality Control*
- *Office of Hawaiian Affairs*
- State Representative R. Onishi
- State Senator Kauhale

Federal

- U.S. Army Corps of Engineers – Regulatory Branch
- *U.S. Federal Emergency Management Agency*
- *U.S. Fish and Wildlife Service*
- U.S. Geological Survey – Hawaiian Volcano Observatory

County of Hawai‘i

- *Department of Environmental Management*
- Department of Parks & Recreation
- Department of Research & Development
- *Department of Water Supply*
- Fire Department
- Office of Housing and Community Development
- *Planning Department*
- *Police Department*

- *County Councilmember D. Onishi*

Private Organizations & Individuals

- AJA Veteran's Council
- Hawaiian Electric Light Co.
- Michael Tulang
- *Lois Shimizu*

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Appendix **A**

FIGURES

Figure 1: Regional Location

Figure 2: Tax Map Key

Figure 3: Aerial Photo

Figure 4: Site Photos

Figure 5: State Land Use Districts

Figure 6: County General Plan LUPAG

Figure 7: County Zoning

Figure 8: Special Management Area

Figure 9: Conceptual Master Plan

Figure 10: Soil Survey

Figure 11: Detailed Land Classification

Figure 12: Agricultural Lands of Importance to the State of Hawai'i

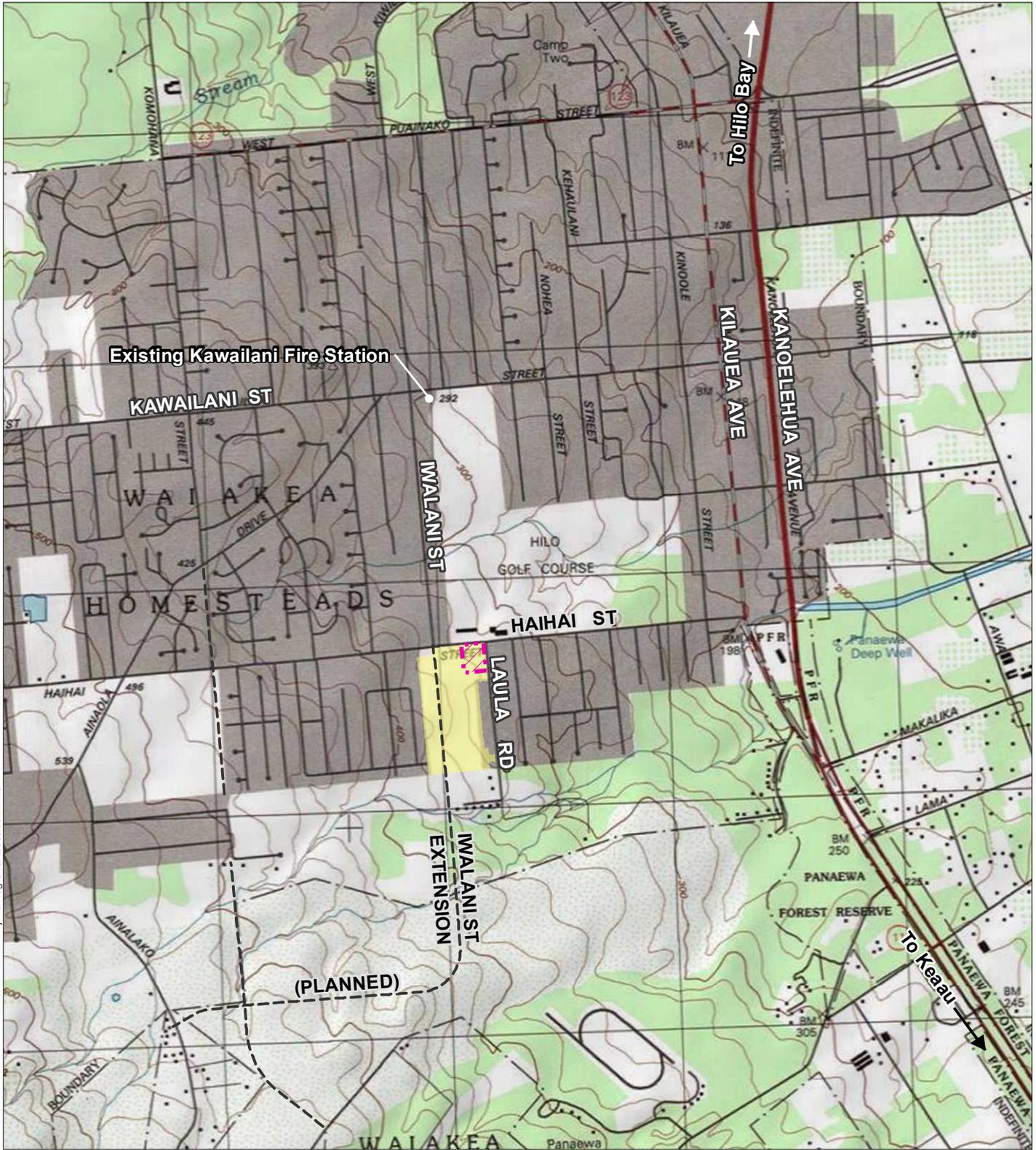
Figure 13: Surface Waters

Figure 14: Flood Insurance Rate Map

Figure 15: Tsunami Evacuation Zone

Figure 16: Fire Response Zone Map

Figure 17: Alternative Sites for the Kawaiiani Fire Station Relocation



DATE: 4/9/2014

LEGEND

-  Project Area
-  TMK (3) 2-4-051:001



Figure 1
Regional Location

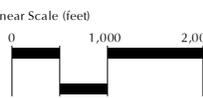
**HAIHAI STREET
FIRE STATION**

County of Hawai'i Department of Public Works Island of Hawai'i

North



Linear Scale (feet)





Source: U.S. Geological Survey (2013), Hawai'i County TMK 2013
 Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Path: Q:\Hawaii\Hahihi Fire Station\GIS\Project\Regional Location.mxd



DEPARTMENT OF TAXATION TAXATION MAPS BUREAU STATE OF HAWAII		
TAX MAP		
THIRD TAXATION DIVISION		PLAT
ZONE	SEC.	PLAT
2	4	51

NOTE: Parcels 1, 92 to 109 incl. owned by State of Hawaii unless otherwise noted.

NOTE: All lots owned by Anale, Inc. unless otherwise noted.

DROPPED PARCELS: 01

Path: Q:\Hawaii\Haihahi Street Fire Station\Photoshop

DATE: 4/4/2014

LEGEND

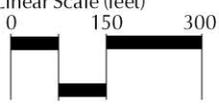
Project Area

Figure 2
Tax Map Key

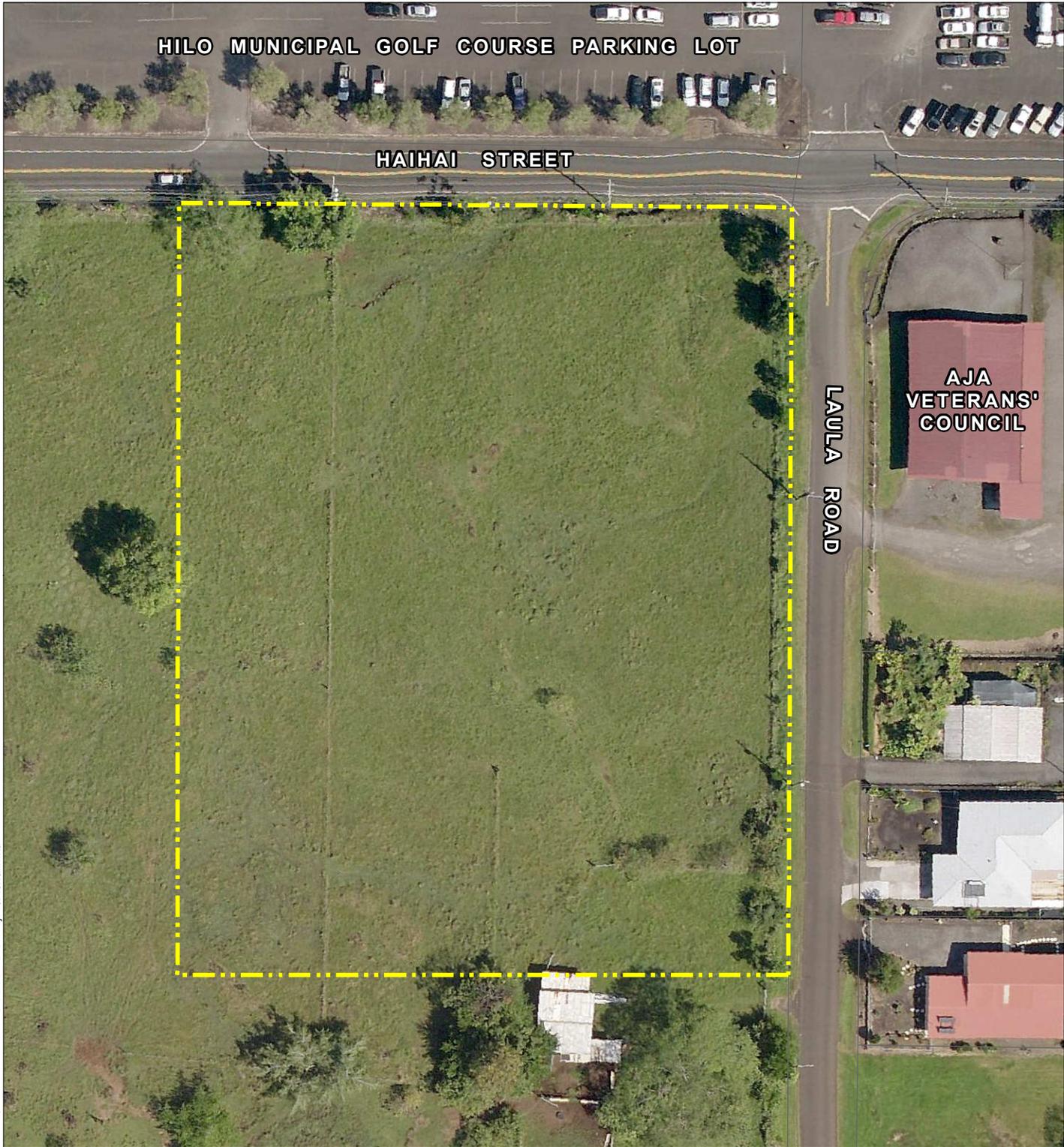
**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i

North Linear Scale (feet)



Source: County of Hawai'i Tax Map, Zone 2 Section 4 Plat 51
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: C:\Hawaii\Haihai Fire Station\GIS\Project\Aerial.mxd

DATE: 4/9/2014

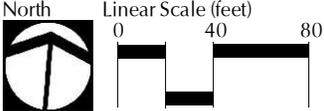
LEGEND

 Project Area

Figure 3
Aerial Photo

**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i



Source: Pictometry Online (2012)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.



1 Panoramic View of the Project Area from AJA Veterans' Council on Laua Road Showing the Relatively Flat Terrain



2 The Haihai Street Intersection at Laua Road



3 The Project Area from the Haihai Street Intersection Showing the Existing Pasture Use



4 Existing Residences along Laua Road



5 Haihai Street (westbound) near Hilo Municipal Golf Course Parking Entry Showing the Adequate Sight Distance



Figure 4
Site Photos

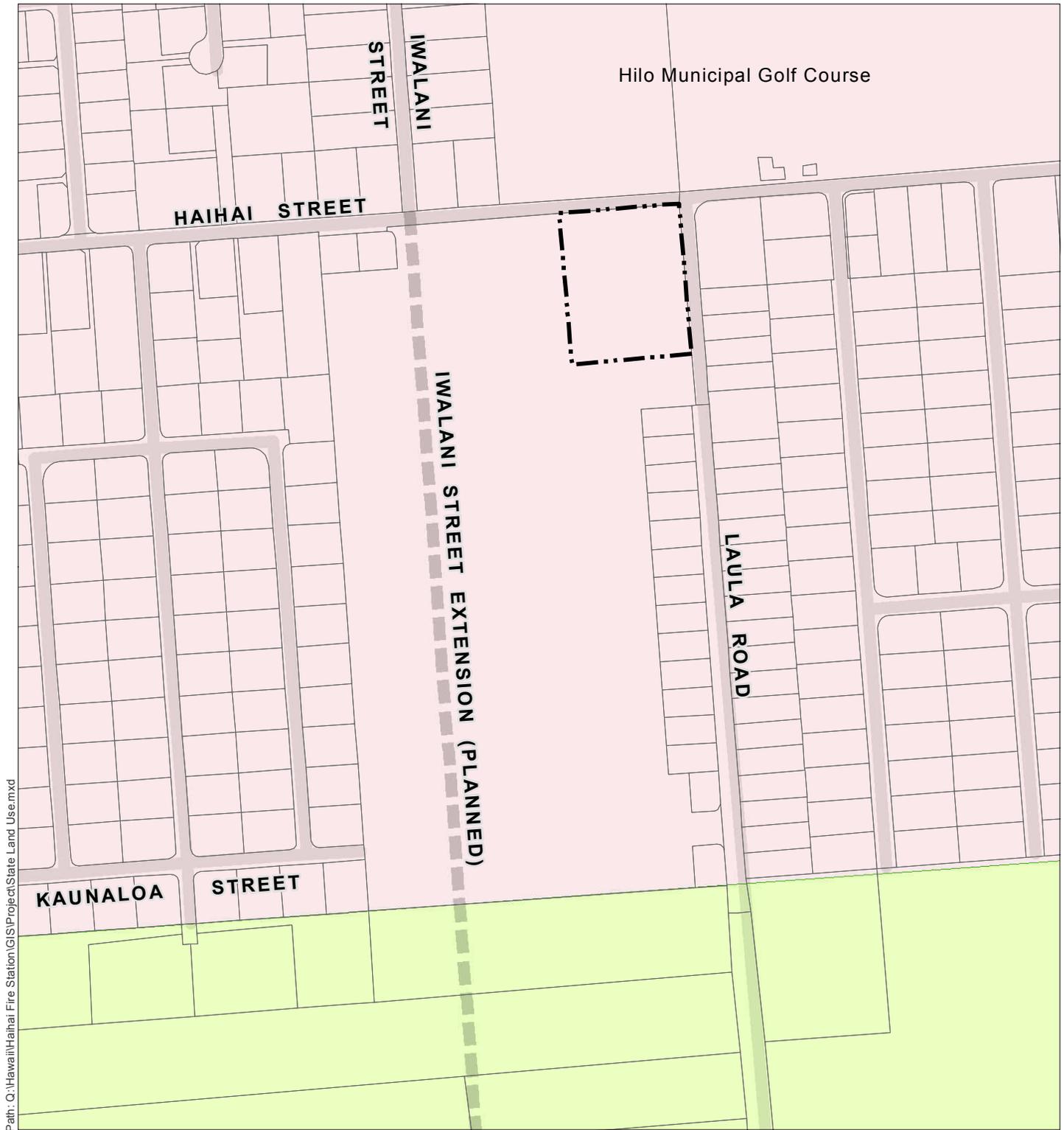
HAIHAI STREET FIRE STATION

County of Hawai'i Fire Department Island of Hawai'i

Source: PBR Hawaii and Associates, Inc. (2014), Google Earth (2013)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

DATE: 4/17/2014





Path: C:\Hawaii\Hail Fire Station\GIS\Project\State Land Use.mxd

DATE: 4/9/2014

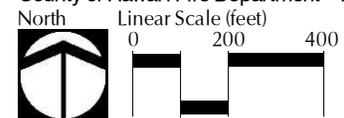
LEGEND

-  Project Area
-  Agricultural District
-  Urban District

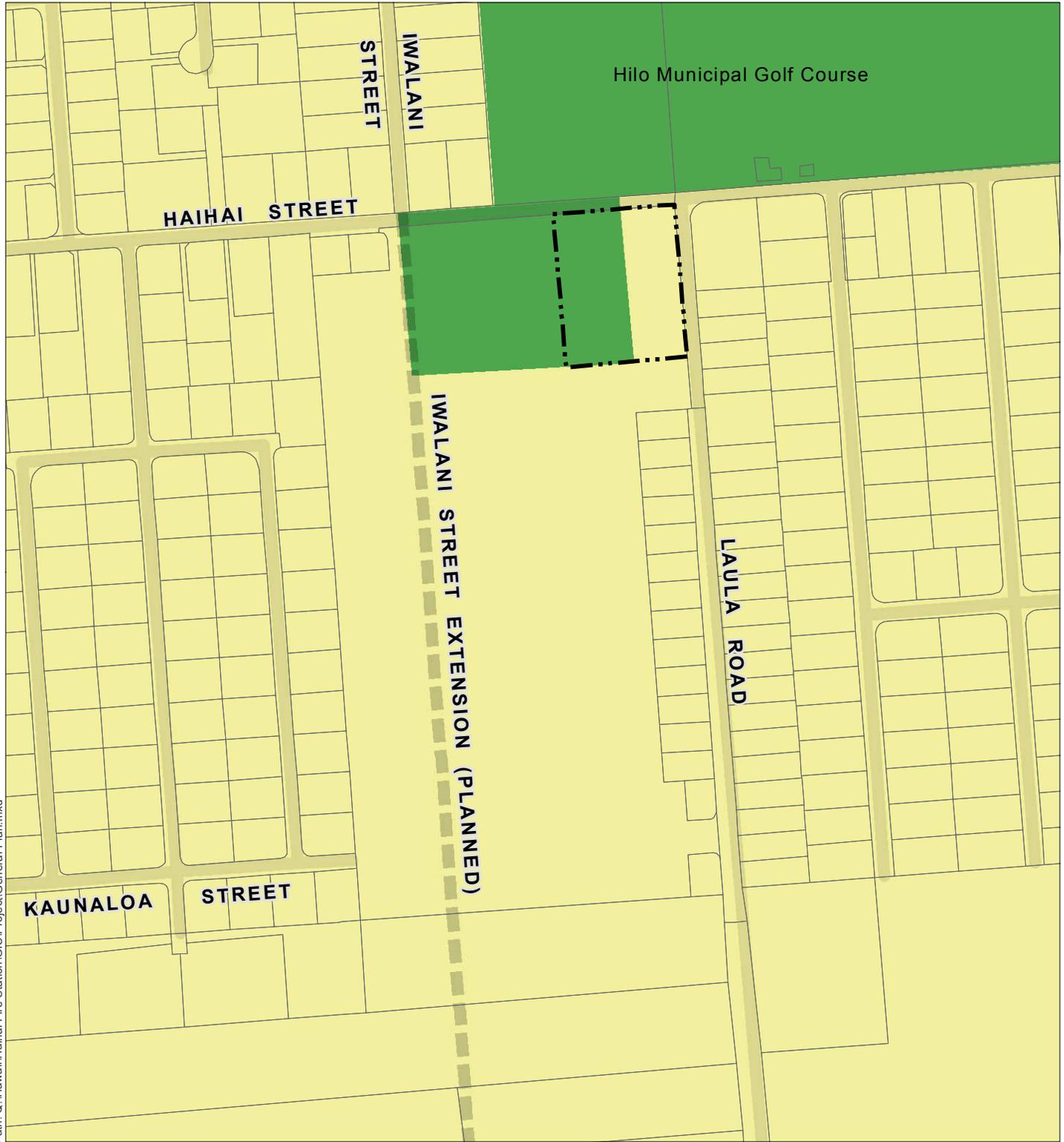
Figure 5
State Land Use Districts

**HAIL STREET
FIRE STATION**

County of Hawai'i Fire Department | Island of Hawai'i



Source: State Land Use Commission (2014), County of Hawai'i (2012)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: Q:\Hawaii\Haihahi Fire Station\GIS\Project\General Plan.mxd

DATE: 4/9/2014

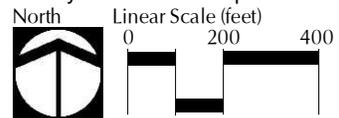
LEGEND

-  Project Area
-  Low Density Urban
-  Open Area

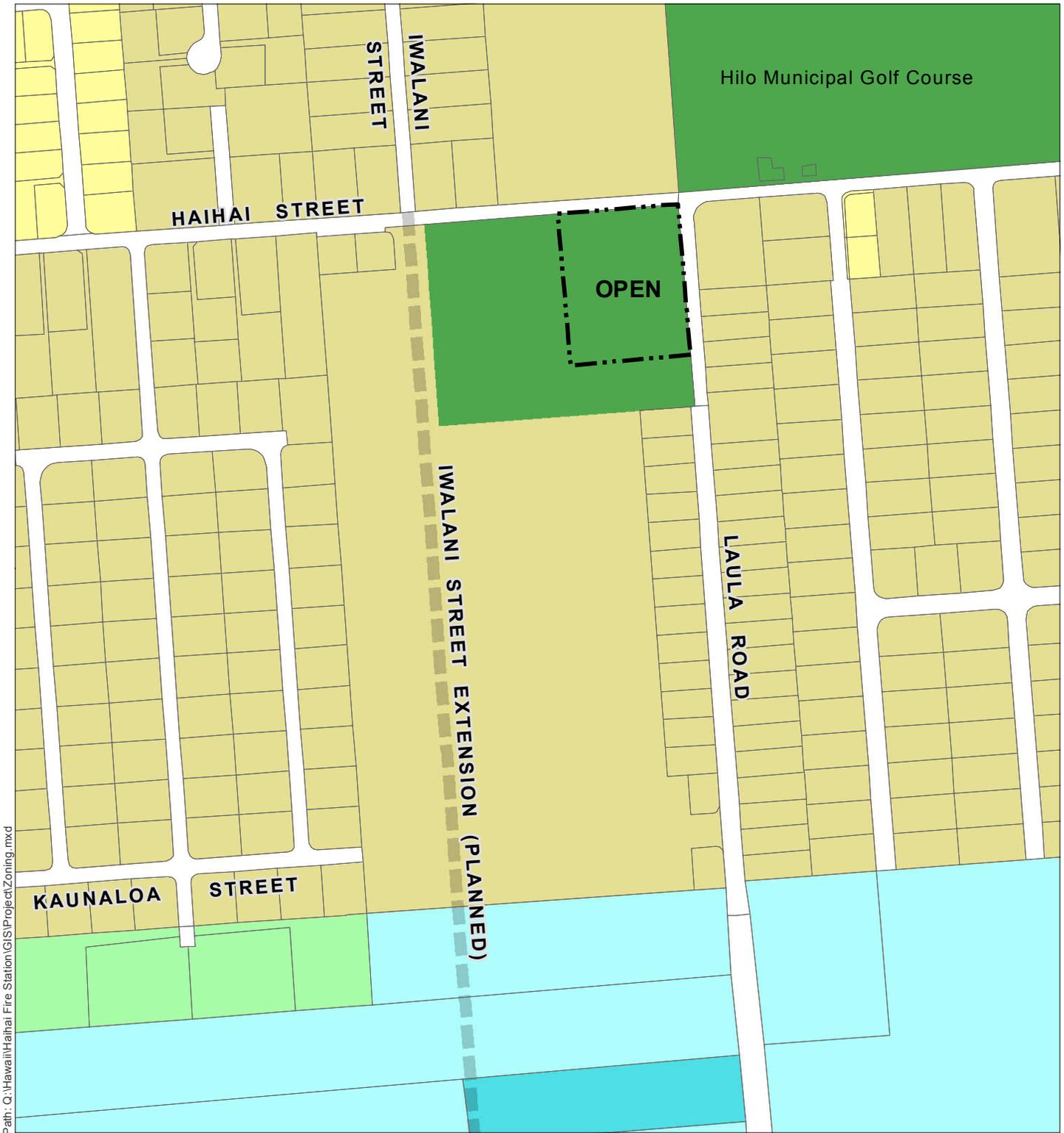
Figure 6
County General Plan LUPAG

**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department | Island of Hawai'i



Source: County of Hawai'i (2012)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: Q:\Hawaii\Hail Street\GIS\Project\Zoning.mxd

DATE: 4/9/2014

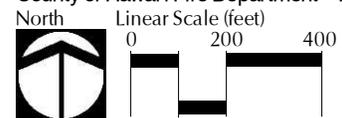
LEGEND

-  Project Area
-  A-1a Agricultural
-  A-3a Agricultural
-  FA-1a Agricultural
-  OPEN
-  RS-10 Residential
-  RS-15 Residential

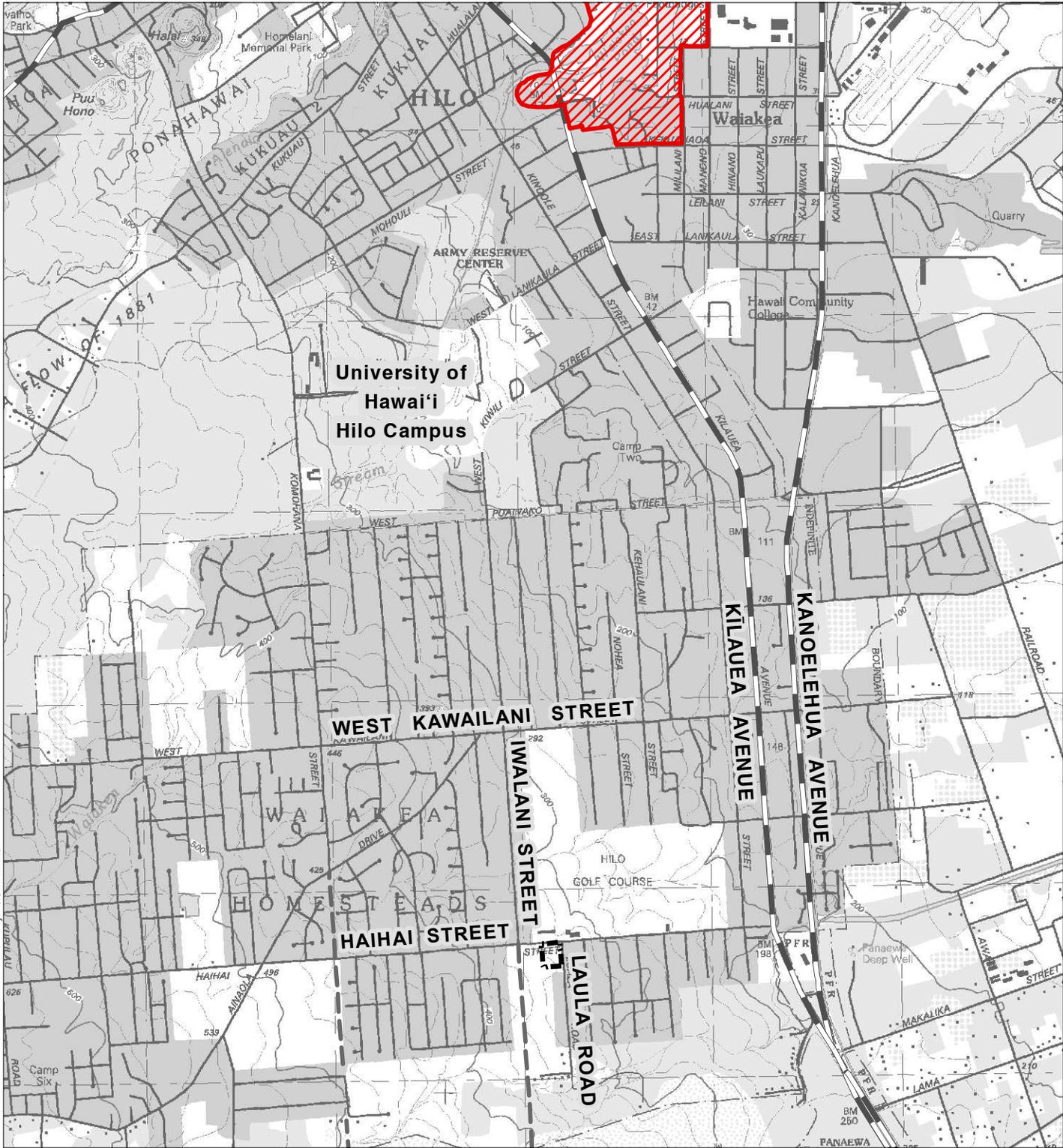
Figure 7
County Zoning

**HAIL STREET
FIRE STATION**

County of Hawaii Fire Department Island of Hawaii



Source: County of Hawaii (2012)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: C:\Hawaii\Hailani Fire Station\GIS\Project\SMA.mxd

DATE: 4/9/2014

LEGEND

-  Project Area
-  Special Management Areas

Figure 8
Special Management Area

**HAIHAI STREET
FIRE STATION**

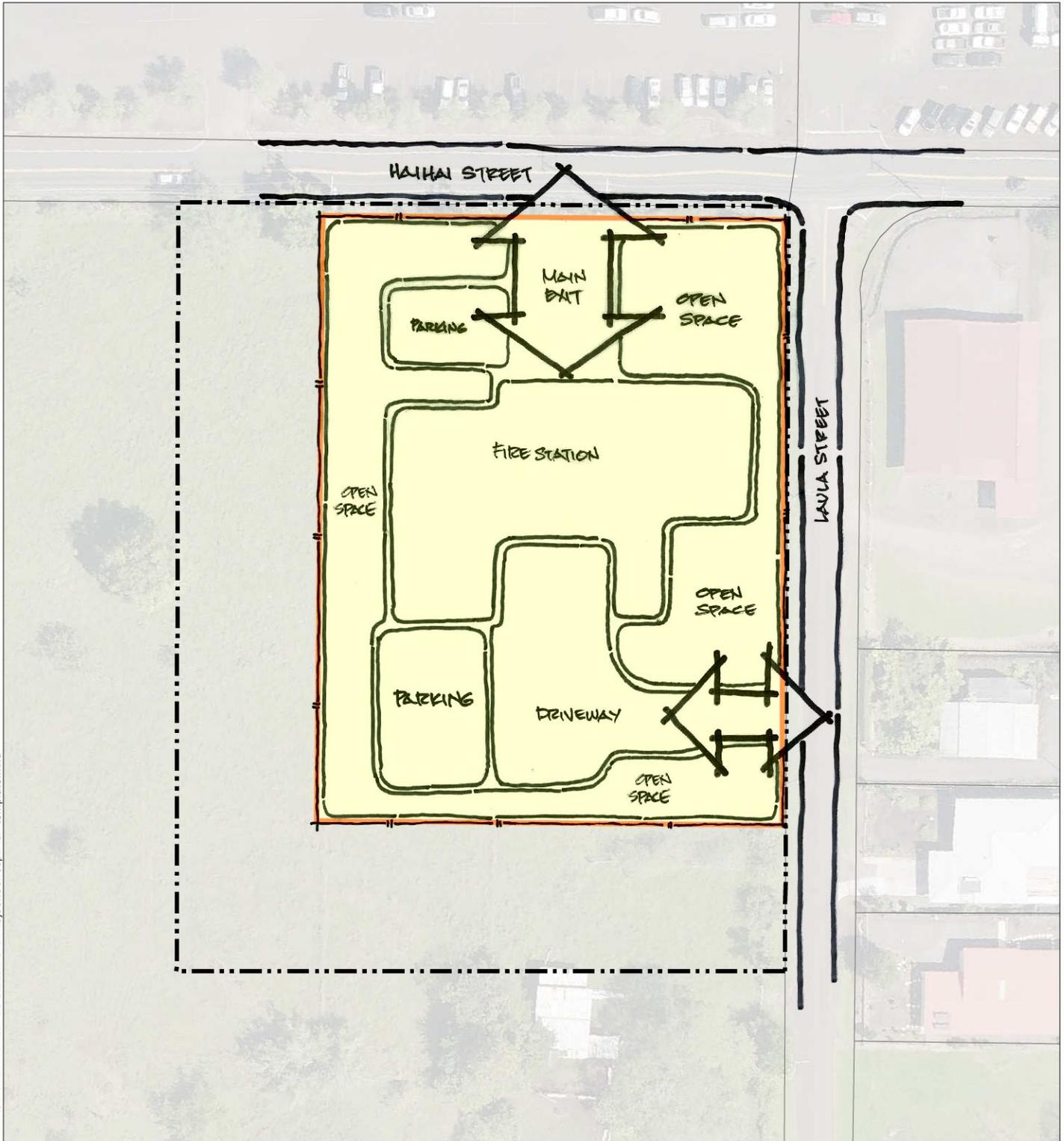
County of Hawai'i Fire Department Island of Hawai'i

North Linear Scale (miles)



Source: County of Hawai'i (2013)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

Path: Q:\Hawaii\Haihahi Fire Station\GIS\Project\ConceptPlan template.mxd



DATE: 4/9/2014

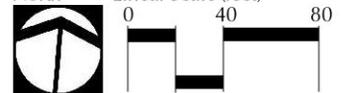
LEGEND

-  Project Area
-  Conceptual Master Plan Area

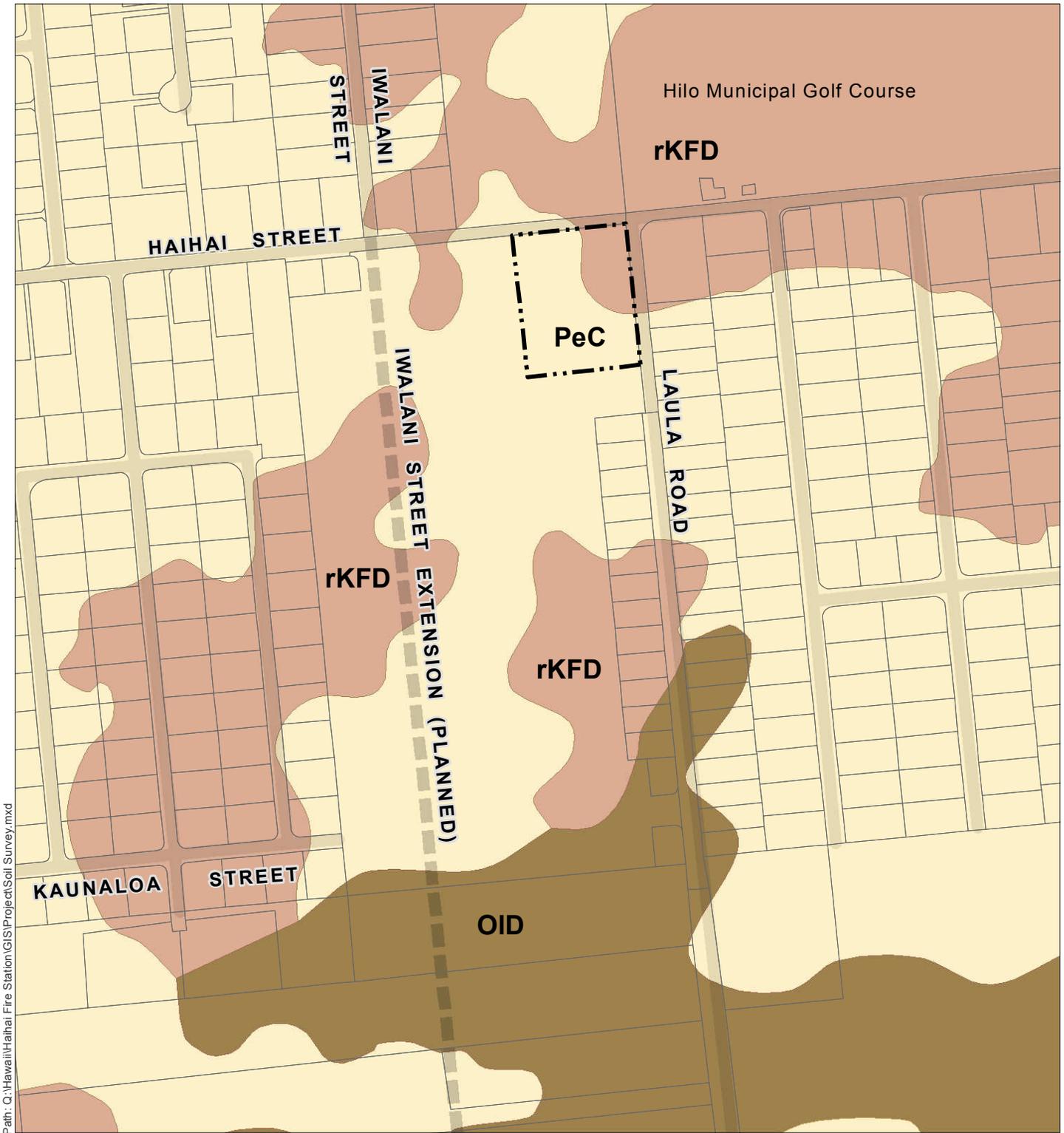
Figure 9
Conceptual Master Plan

HAIHAI STREET FIRE STATION

County of Hawai'i Fire Department Island of Hawai'i
North



Source: KYA Design Group (2014)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



DATE: 4/9/2014

LEGEND

-  Project Area
-  PeC: Panaewa very rocky silty clay loam, 0-10% slopes
-  rKFD: Keaukaha extremely rocky muck, 6-20% slopes
-  OID: Olaa extremely stony silty clay loam, 0-20% slopes

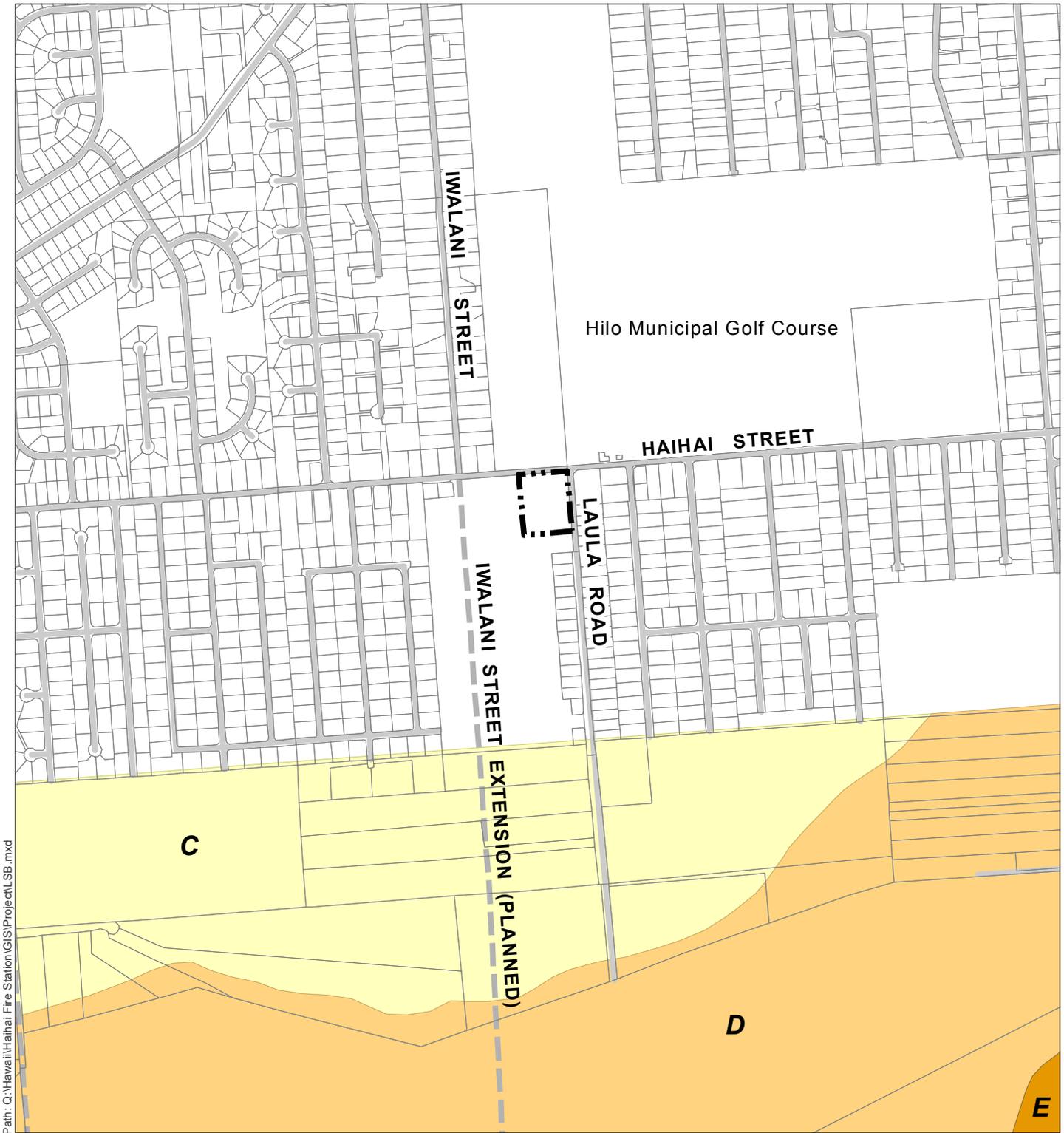
Figure 10
Soil Survey

**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i
North



Source: U.S. Department of Agriculture Natural Resources Conservation Service (1995)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: C:\Hawaii\Haihahi Fire Station\GIS\Project\LSB.mxd

DATE: 4/9/2014

LEGEND



Project Area



A: Excellent



B: Good



C: Fair



D: Poor



E: Very Poor

Figure 11
Detailed Land Classification

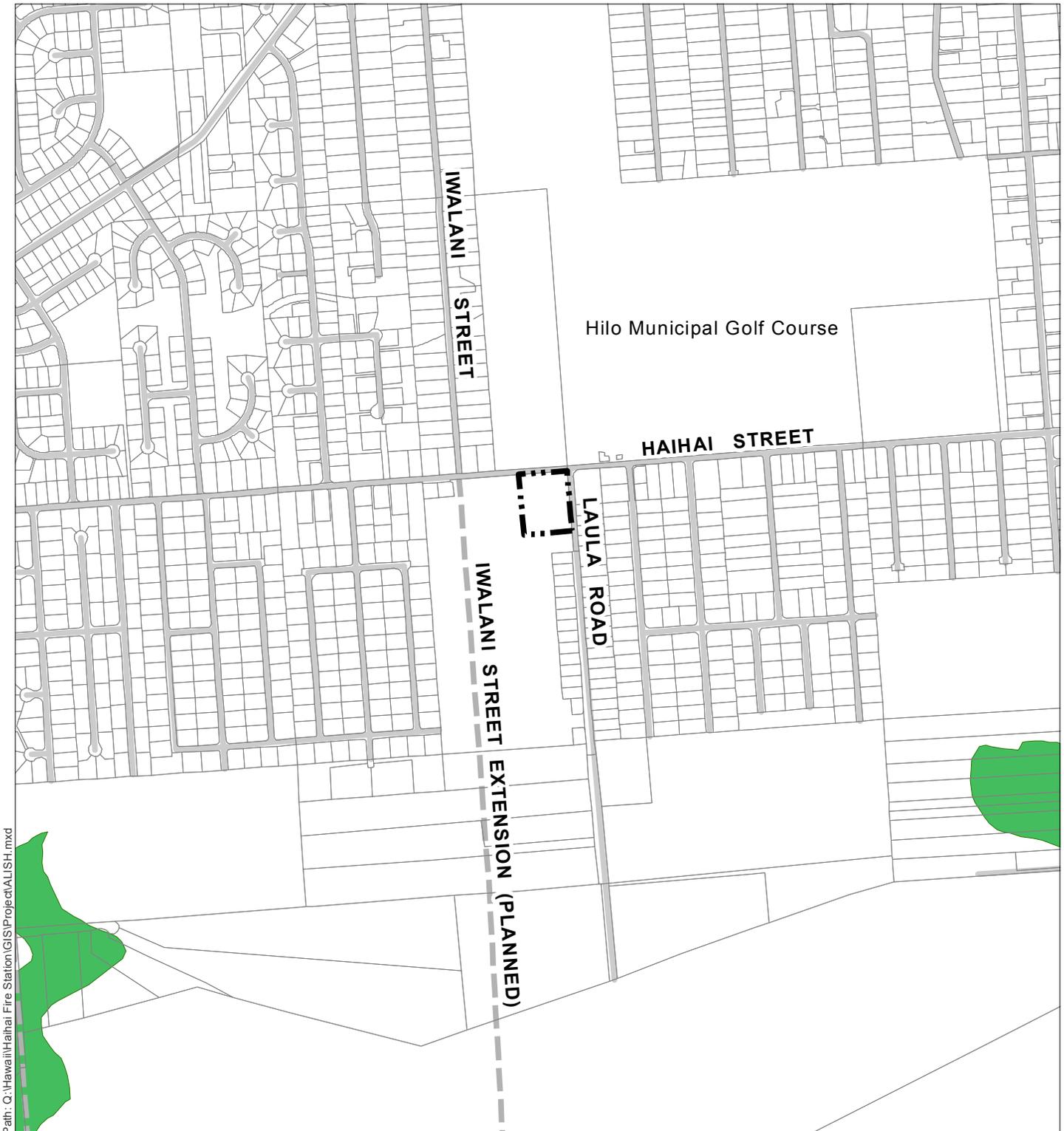
**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i

North Linear Scale (feet)



Source: Land Study Bureau (1965)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



DATE: 4/9/2014

LEGEND

-  Project Area
-  Prime ALISH
-  Unique ALISH
-  Other ALISH

Figure 12
Agricultural Lands of Importance to the State of Hawai'i

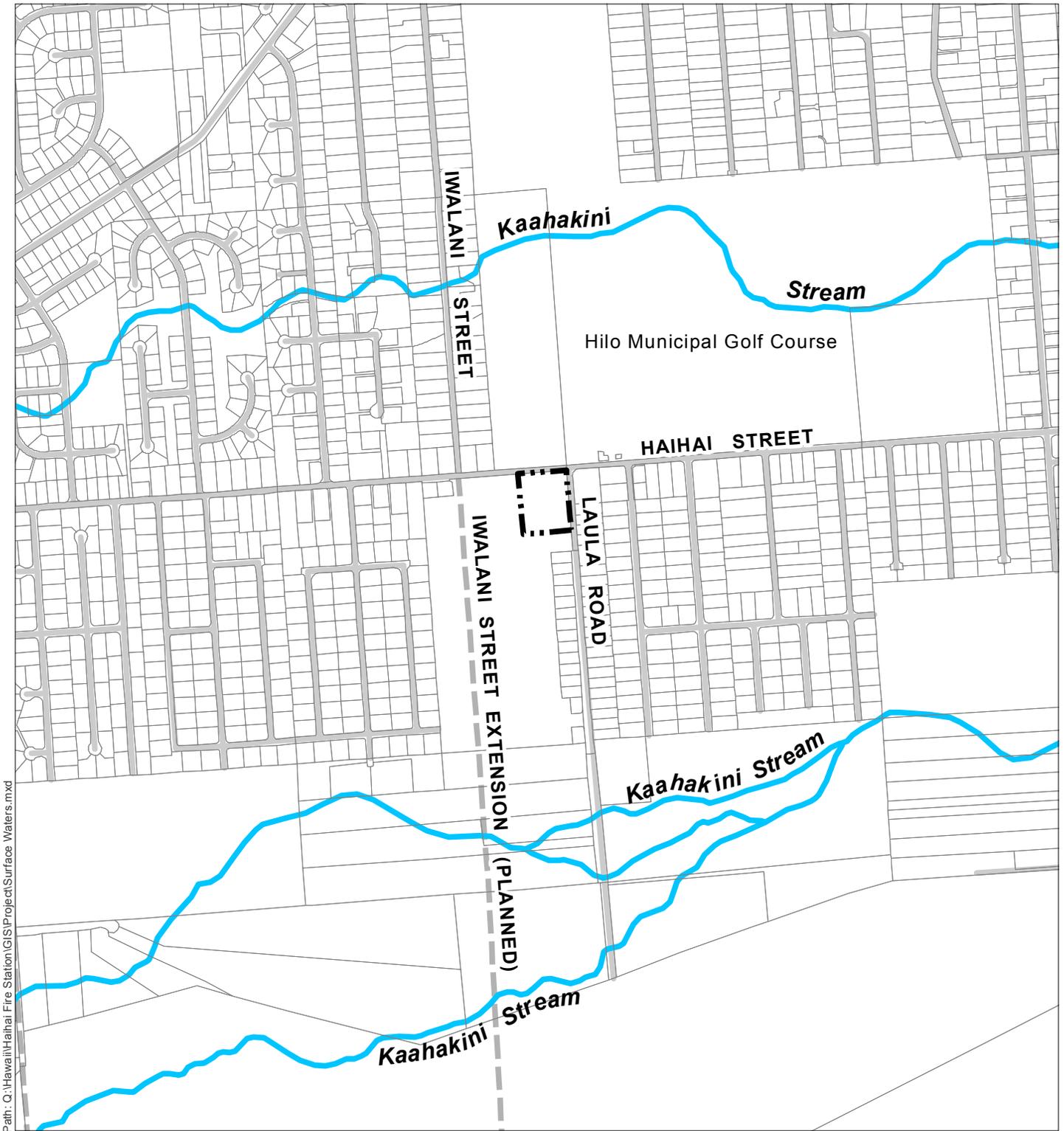
**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i

North Linear Scale (feet)



Source: State Department of Agriculture (1977)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: C:\Hawaii\Hahaione Fire Station\GIS\Project\Surface Waters.mxd

DATE: 4/9/2014

LEGEND

 Project Area

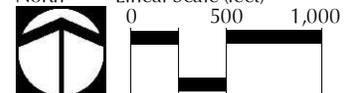
 Streams

Figure 13
Surface Waters

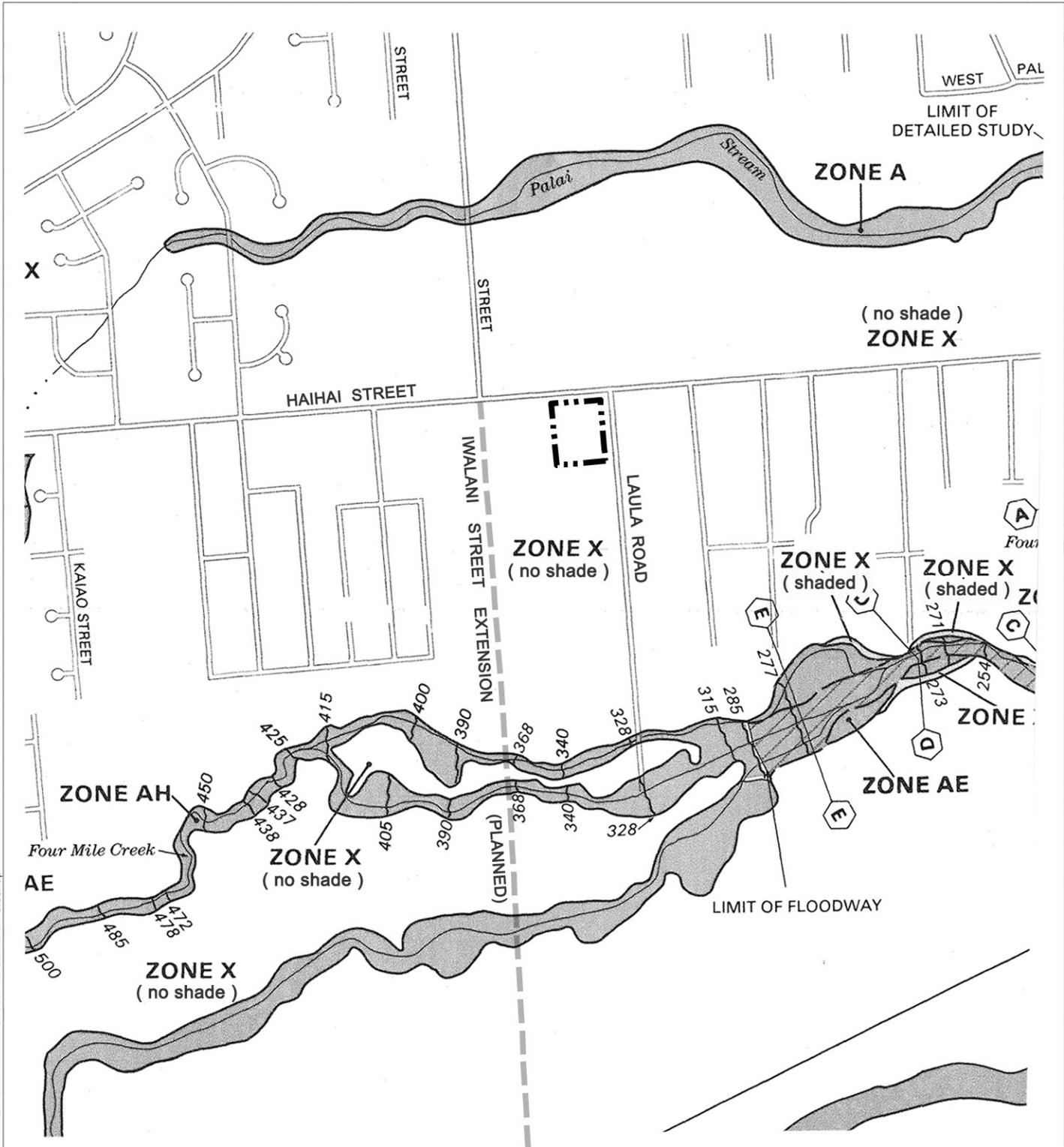
**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i

North Linear Scale (feet)



Source: Hawai'i Division of Aquatic Resources (2008)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: Q:\Hawaii\Haihahi Street Fire Station\Photoshop

DATE: 1/10/2014

LEGEND

- Project Area
- Zone X (no shade): Outside 500-year Flood Plains
- Zone X (shaded): 500-year Flood Plains
- Zone A, AE, AH: 100-year Flood Plains
- Floodway Areas in Zone AE

Figure 14
Flood Insurance Rate Map

**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i

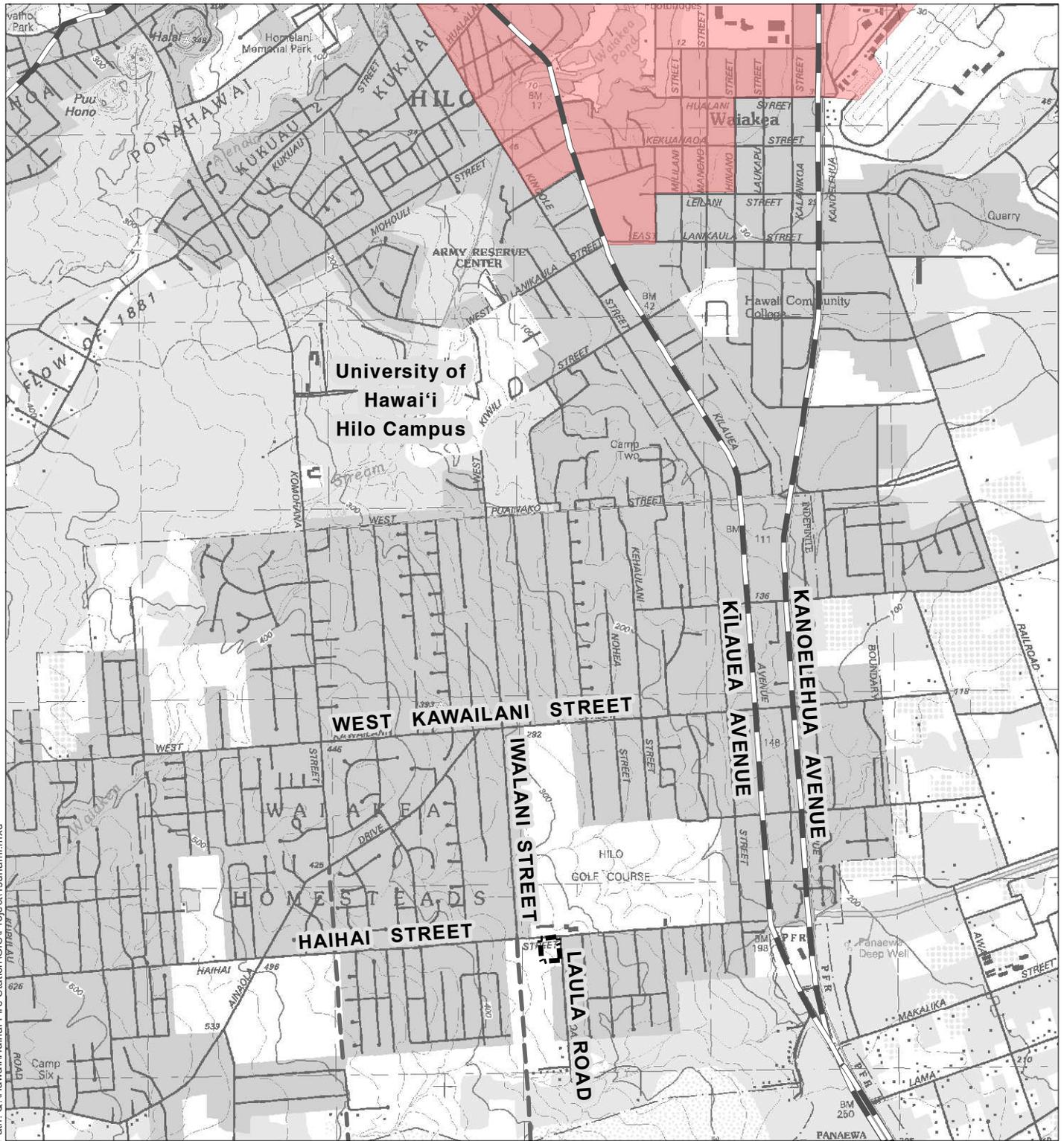
North Linear Scale (feet)

0 500 1,000



Source: Federal Emergency Management Agency
Flood Insurance Rate Map Panel 890 of 1900 (1988)
LOMR (1999-2013)

Disclaimer: This Graphic has been prepared for general planning purposes only
and should not be used for boundary interpretations or other spatial analysis.



Path: C:\Hawaii\Hailai Fire Station\GIS\Project\Tsunami.mxd

DATE: 4/9/2014

LEGEND

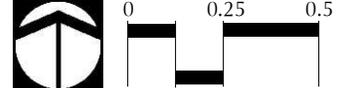
-  Project Area
-  Tsunami Evacuation Zone

Figure 15
Tsunami Evacuation Zone

**HAIHAI STREET
FIRE STATION**

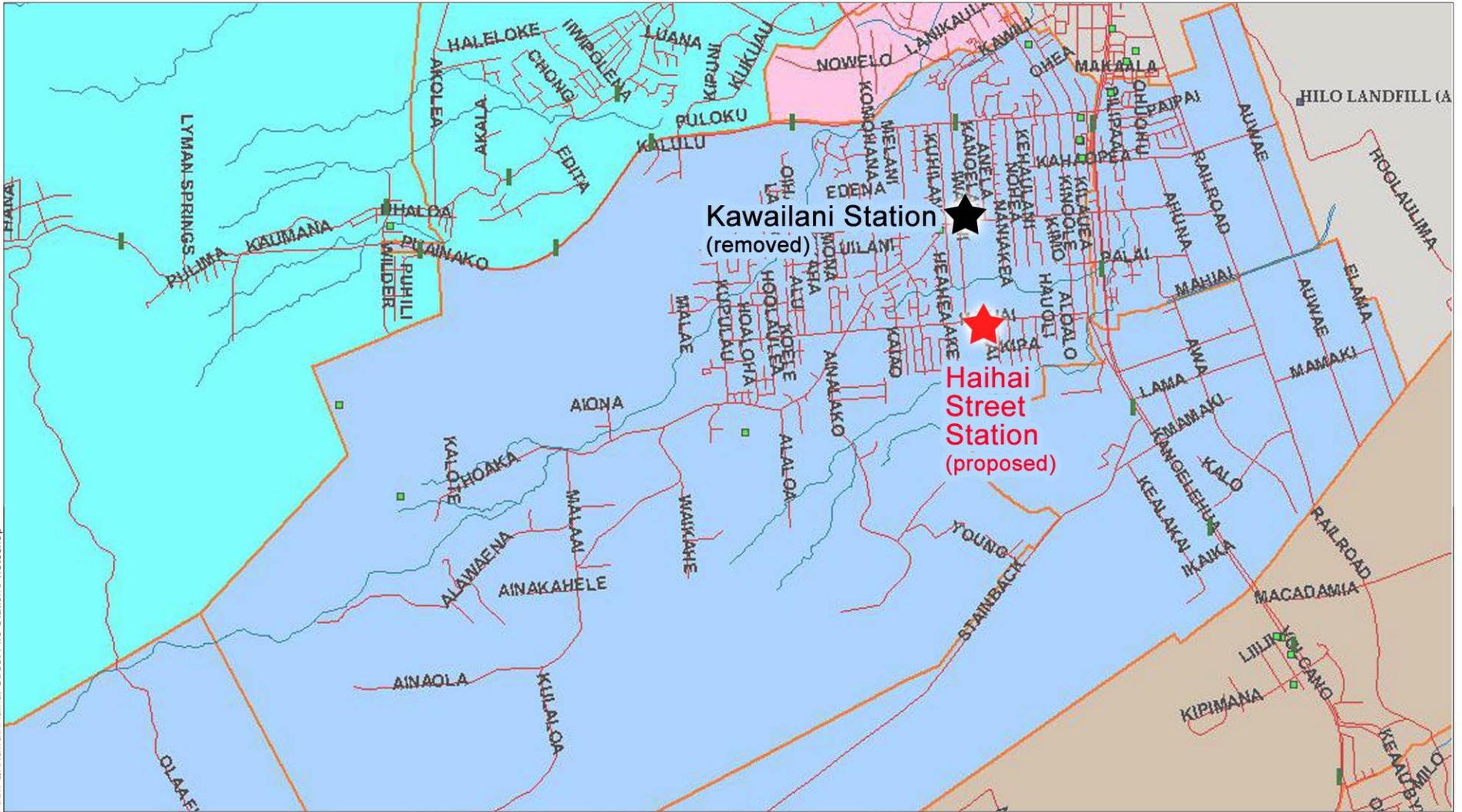
County of Hawai'i Fire Department Island of Hawai'i

North Linear Scale (miles)



Source: Pacific Disaster Center (1998)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: Q:\Hawaii\Haihai Street Fire Station\Photoshop

DATE: 8/5/2014

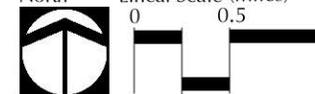
LEGEND

-  Project Site
-  Fire Response Zone District 3

Figure 16
Fire Response Zone Map

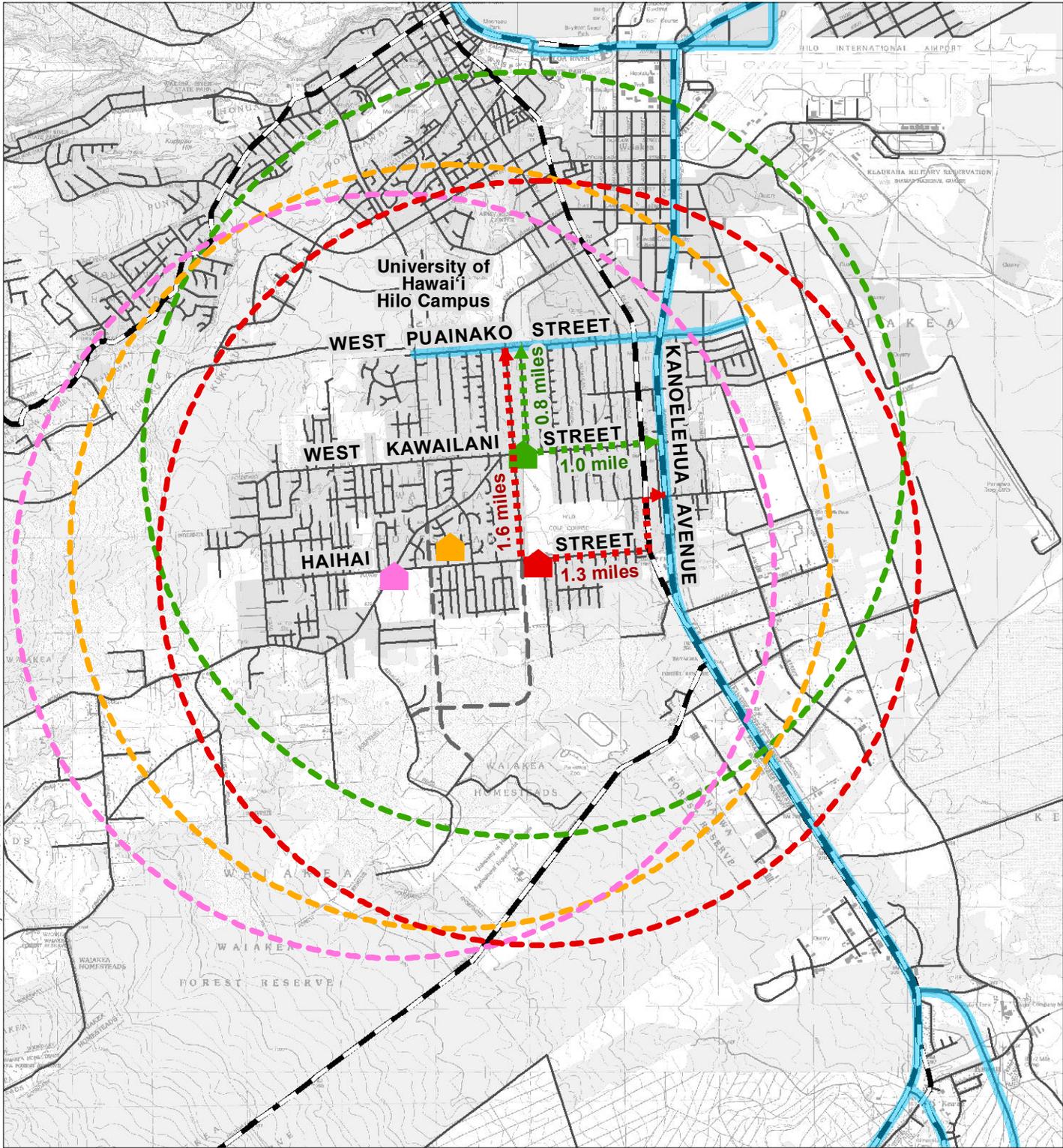
**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i
North Linear Scale (miles)



Source: County of Hawai'i Fire Department (2014)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Path: C:\Hawaii\Haihai Fire Station\GIS\Project\Alternative Sites.mxd

DATE: 9/16/2014

LEGEND

- | | |
|--------------------------|-----------------------|
| Alternative Sites | 2.5-mile Radius from: |
| Haihai Street Station | Haihai Street Station |
| Ainaola Station | Ainaola Station |
| Kawailani Station | Kawailani Station |
| Machado Acres Station | Machado Acres Station |
| State Roads and Highways | |

Figure 17
Alternative Sites for
Kawailani Fire Station Relocation

**HAIHAI STREET
FIRE STATION**

County of Hawai'i Fire Department Island of Hawai'i

North Linear Scale (miles)



Source: County of Hawaii (2014)
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Appendix **B**

PRE-ASSESSMENT CONSULTATION

NEIL ABERCROMBIE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

FEB 26 2014

Dean H. Seki
Comptroller
Maria E. Zielinski
Deputy Comptroller

(P)1072.4

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

Dear Mr. Shigekuni:

Subject: Pre-Assessment Consultation
Proposed Haihai Fire Station
Waiakea Homesteads, South Hilo District, Island of Hawaii
TMK: (3) 2-4-051:001 (portion)

This is in response to your letter, dated January 14, 2014 regarding the subject project. The proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, your staff may call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,

JAMES K. KURATA
Public Works Administrator

DD:mo
c: Mr. Jerry Watanabe, DAGS Hawaii District



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Senior Associate

SCOTT ALJKA ABRIGO, LEED® AP BD-C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

KAPOLEI OFFICE
1031 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Hakioke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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June 16, 2014

Mr. James K. Kurata, Public Works Administrator
State of Hawai'i
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawai'i 96810-0119

Attn: Mr. David DePonte, Planning Branch

SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAI'AKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)

Dear Mr. Kurata,

Thank you for your letter dated February 26, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We acknowledge that proposed Haihai Fire Station does not impact any of the Department of Accounting and General Services' (DAGS) projects or existing facilities and that DAGS has no comments to offer at this time.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

O:\Job\30\3056\01 Haihai St. Fire Station EA\EA\Pre-Assessment Consultation\Responses\DAGS.docx



**OFFICE OF PLANNING
STATE OF HAWAII**

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2646
Fax: (808) 587-2624
Web: <http://planning.hawaii.gov>

NEIL ABERCROMBIE
GOVERNOR

JESSE K. SOUKI
DIRECTOR
OFFICE OF PLANNING

Ref. No. P-14262

January 24, 2014

Mr. Vincent Shigekuni, Vice President
PBR HAWAII
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Shigekuni:

Subject: Pre-Assessment Consultation for the Proposed Haihai Street Fire Station at Waiakea Homesteads, South Hilo District, Hawaii Island. TMK: (3) 2-4-051:001 (portion)

Thank you for the opportunity to provide comments on the Pre-Assessment Consultation for the proposed Haihai Street Fire Station, South Hilo. We have reviewed the documents you submitted by letter dated January 14, 2014, and have the following comments to offer:

1. The entire state is defined to be within the Coastal Zone Management Area, pursuant to Hawaii Revised Statutes (HRS) §205A-1 (definition of "coastal zone management area"). The Draft Environmental Assessment (Draft EA) should include a discussion of the proposed project's ability to meet the objectives and policies set forth in HRS §205A-2.
2. The Draft EA should include the Coastal Zone Management Act, HRS Chapter 205A, in a list of the proposed projects "relationship to land use plans, policies, and controls."
3. Because of the frequent rainy weather patterns in East Hawaii County and the close proximity of nearby streambeds (south of the parcel), this project may have nonpoint pollution impacts on coastal waters. Please review the [Hawaii Watershed Guidance](http://files.hawaii.gov/dbedt/op/czm/initiative/nonpoint/HI_Watershed_Guidance_Final.pdf), which provides a summary and links to management measures that may be implemented to minimize coastal nonpoint pollution impact. Specifically, please examine page 120 (management measure for new development). The Watershed Guidance can be viewed or downloaded from the Office of Planning website at [http://files.hawaii.gov/dbedt/op/czm/initiative/nonpoint/HI Watershed Guidance Final.pdf](http://files.hawaii.gov/dbedt/op/czm/initiative/nonpoint/HI_Watershed_Guidance_Final.pdf).

Mr. Vincent Shigekuni
Page 2
January 27, 2014

4. In the development of the main structure and basic infrastructure of the proposed fire station, please consider utilizing the Office of Planning's [Stormwater Impact Assessment](#), to identify and evaluate Best Management Practices that can be employed to manage stormwater; please see pages 13 - 20 of the [Stormwater Impact Assessment](#). This guidance document will assist in integrating stormwater impact assessment within your review process. The Appendices include a list of Data Resources, Best Management Practice Techniques, and a Reviewer's Checklist. The [Stormwater Impact Assessment](#) guidance document can be found at http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_impact/final_stormwater_impact_assessments_guidance.pdf.

If you have any questions regarding this comment letter, please contact Josh Hekekia of our Hawaii CZM Program at 587-2845.

Sincerely,



Jesse K. Souki
Director



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SCOTT ALIKA ABRIGO, LEED AP BD-C
Managing Director - Kapolei

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SCOTT MURAKAMI, ASLA, LEED AP
Associate

DACHENG DONG, LEED AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamole Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
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June 16, 2014

Mr. Leo Asuncion, Acting Director
State of Hawai'i
Office of Planning
P.O. Box 2359
Honolulu, Hawai'i 96804

Attn: Mr. Josh Hekeka, Hawaii CZM Program

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIĀKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (PORTION)**

Dear Mr. Asuncion,

Thank you for your department's letter dated January 24, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

1. We acknowledge that the entire State of Hawai'i is located within the Coastal Zone Management Area. As such, the Draft Environmental Assessment (EA) will include a discussion of the proposed project's ability to meet the Coastal Zone Management objectives and policies found in Hawai'i Revised Statutes (HRS) §205A-2.
2. The Draft EA will include a section on the Coastal Zone Management Act, HRS §205A which discusses the proposed project's "relationship to land use plans, policies, and controls."
3. We reviewed the *Hawaii Watershed Guidance* document and management measures to minimize coastal nonpoint source pollution. The Haihai Fire Station will incorporate the following measures regarding urban runoff:
 - Maintain post-development peak runoff rate and average volume at levels that are similar to pre-development levels.
 - During site development, disturb only the smallest area necessary to perform current activities to reduce erosion and off-site transport of sediment.
 - Avoid disturbances of unstable soils or soils particularly susceptible to erosion and sediment loss.
 - Revegetate the site as soon as possible after disturbance, preferably with native vegetation.
 - Minimize imperviousness to the extent practicable.
 - Use pervious pavements for areas of infrequent use.
 - Limit land disturbance of natural drainage features and vegetation.
4. We reviewed the Office of Planning's *Stormwater Impact Assessment* to help provide a thorough assessment of the area's hydrology, stressors, sensitivity of resources, and management considerations in the Draft EA. The Low Impact Development measures

Mr. Leo Asuncion, Acting Director
SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION, WAIĀKEA
HOMESTEADS, SOUTH HILO DISTRICT, HAWAII ISLAND TMK: 2-4-051:002 (PORTION)
June 16, 2014
Page 2 of 2

described previously will mitigate for primary, secondary, and cumulative storm water impacts.

We appreciate your participation in the environmental review process. Your letter will be included in the Draft EA. We will send you a copy of the Draft EA when it is available.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

NEIL ABERCROMBIE
GOVERNOR

MAJOR GENERAL DARRYLL D. M. WONG
DIRECTOR OF CIVIL DEFENSE

DOUG MAYNE
VICE DIRECTOR OF CIVIL DEFENSE



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

February 3, 2014



PHONE (808) 733-4300
FAX (808) 733-4287



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Associate

DACHENG DONG, LEED^{AP}
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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June 16, 2014

Mr. Doug Mayne, Vice Director
State of Hawai'i
Department of Defense
Office of the Director of Civil Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816-4495

Attn: Mr. Ian Duncan, State Hazard Mitigation Officer

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAI'AKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Mayne,

Thank you for your letter dated February 3, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

Our research indicates that the closest siren to the proposed fire station site is Kawaiiani Street Siren (HA105) located approximately 0.7 miles north of the site. We acknowledge the State Civil Defense's recommendation that a new omni-directional siren mounted on a 45-foot pole be installed at the proposed Haihai Fire Station site. We also acknowledge that the State of Hawai'i Department of Defense, Office of Civil Defense, will advise the County Department of Public Works on the placement of the pole for a new siren.

In regards to your comments, please be advised that an archaeological inventory survey (addressing any cultural, historical and archaeological elements) was prepared and submitted to the State Historic Preservation Division for its review and approval.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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GOVERNOR
STATE OF HAWAII



JOHIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

DARRELL T. YOUNG
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAII 96805

January 21, 2014

PBR HAWAII & ASSOCIATES, INC.
Attn: Mr. Vincent Shigekuni, Vice President
Honolulu Office
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Shigekuni:

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED
HAIHAI FIRE STATION LOCATED AT WAIKEA HOMESTEADS,
SOUTH HILO DISTRICT, HAWAII ISLAND
TMK: (3) 2-4-051:001 (portion)

Thank you for the opportunity to review the subject Pre-Assessment Consultation.

The Department of Hawaiian Home Lands supports public facilities that provide services to our lands and beneficiaries. We recommend that your office also consult with the homestead communities/associations that include Pana'ewa Hawaiian Home Lands Community Association, President William "Bill" Brown and the Keaukaha Pana'ewa Farmers Association, President Patrick L. Kahawaiola'a to ensure the proposed Haihai Fire Station project does not have any impact on either of the Hawaiian homestead's future projects, plans or programs.

If you have any questions, please contact our Planning Office at (808) 620-9480.

Aloha,

A handwritten signature in black ink, appearing to read "Marvin Kaleo Manuel".

Marvin Kaleo Manuel
Acting Planning Program Office

Attachment

PBR HAWAII & ASSOCIATES, INC.
Mr. Vincent Shigekuni, Vice President
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

page 2

Attachment

Keaukaha Pana'ewa Farmers Association
Mr. Patrick L. Kahawaiola'a, President
c/o Department of Hawaii Home Lands
Hilo District Office
160 Baker Avenue
Hilo, Hawaii 96720

Pana'ewa Hawaiian Home Lands Community Association
Mr. William "Bill" Brown, President
c/o Department of Hawaii Home Lands
Hilo District Office
160 Baker Avenue
Hilo, Hawaii 96720



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Senior Associate

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Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATHY CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1031 Kamehale Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Hakioke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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June 16, 2014

Mr. Marvin Kaleo Manuel
State of Hawai'i
Department of Hawaiian Homelands
P.O. Box 1879
Honolulu, Hawai'i 96805

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAI'I
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Manuel,

Thank you for your letter dated January 21, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

As requested, we sent pre-consultation letters to the Pana'ewa Hawaiian Home Lands Community Association and Keaukaha Pana'ewa Farmers Association to review programs that may be directly affected by the proposed fire station. We have not received a response to date. We will send copies of the Draft EA to these organizations with a request for comments.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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

January 30, 2014

GARY L. GILL
ACTING DIRECTOR OF HEALTH

In reply, please refer to:
File: 14-013
Haihai Fire Station

PBR HAWAII & Associates, Inc.
Attn: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Shigekuni:

SUBJECT: Pre-Assessment Consultation for the Proposed Haihai Fire Station Located at Waiakea Homesteads, South Hilo, Hawaii, TMK: (1) 2-4-051: 001 (portion)

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated January 14, 2014. Thank you for allowing us to review and comment on the subject document. The document was routed to our District Health Office on the island of Hawaii. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments at: <http://health.hawaii.gov/epo/home/landuse-planning-review-program/>. You are required to adhere to all standard comments specifically applicable to this application.

EPO suggests that you examine the many sources available on strategies to support the sustainable and healthy design of communities and buildings, including the:
State of Hawaii, Office of Planning: www.planning.hawaii.gov and the new 2013 ORMP;
U.H., School of Ocean and Earth Science and Technology: www.soest.hawaii.edu;
U.S. Health and Human Services: www.hhs.gov/about/sustainability;
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability;
U.S. Green Building Council's LEED program: www.usgbc.org/leed; and
International Well Building Standard: <http://delosliving.com>

The DOH encourages everyone to apply these sustainability strategies and principles early in the planning and review of projects. We also request that for future projects you consider conducting a Health Impact Assessment (HIA). More information is available at: www.cdc.gov/healthyplaces/hia.htm. We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

We request electronic response confirming receipt of this letter and any other letters you receive from DOH in regards to this project. Please email: epo@doh.hawaii.gov. We anticipate that our letter(s) and your electronic response(s) will be included in the final document. If you have any questions, please contact me at (808) 586-4337 or laura.mcintyre@doh.hawaii.gov

Mahalo,

FOR 
Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office



June 16, 2014

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Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: svyadming@pbrhawaii.com

KAPOLEI OFFICE
1001 Kanihōhō Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Hakalohe Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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Ms. Laura Leialoha Phillips McIntyre, Program Manager
State of Hawai'i
Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, HI 96801-3378

SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION, WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII ISLAND TMK: 2-4-051:002 (POR)

Dear Ms. McIntyre,

Thank you for your letter (your reference no. 14-013 Haihai Fire Station) dated January 30, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We reviewed the Environmental Planning Office's (EPO) standard comments relating to Environmental Health programs. We understand that all standard comments specifically applicable to Haihai Fire Station must be adhered to. The organization of this letter follows the list of standard comments on your website.

Clean Air Branch

We acknowledge that there is a significant potential for fugitive dust emissions during all phases of construction and operations. The Draft EA will address construction-related impacts related to fugitive dust. All construction activities will comply with the provisions of Section 11-60.1-33, Hawaii Administrative Rules (HAR) related to Fugitive Dust. Adequate measures to control dust during various phases of construction will be required to be implemented by whatever contractor is employed by the County to effect the fire station's development.

Clean Water Branch

We reviewed and understand the standard comments provided by the Clean Water Branch (CWB).

- Potential Impacts to State Waters.** The Draft EA identifies the type and class of State waters off the coast of Hilo as "A". Any potential impacts to these waters caused by the construction and/or operation of the fire station will meet the provisions of the: a) antidegradation policy (Chapter 11-54-1.1, HAR); b) designated uses (Chapter 11-54-3, HAR); and c) water quality criteria (Chapter 11.54-4 through 11-54-8, HAR). However, direct discharges of stormwater runoff into marine waters are not expected to occur due to the fire station's distance to the coast and high permeability of lavas in the vicinity of the site.
- National Pollutant Discharge Elimination System permit coverage.** A National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (Chapter 11-55, HAR) will be obtained. All NPDES permit requirements will be implemented.

Ms. McIntyre

SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION, WAIĀKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAI'I ISLAND TMK: 2-4-051:002 (POR)

June 16, 2014

Page 2 of 3

3. **Clean Water Act.** Pursuant to the "Clean Water Act," a Section 401 Water Quality Certification from the State Department of Health, Clean Water Branch will be obtained if it is determined that the project may result in any discharge into navigable waters or as otherwise triggered.
4. **State Water Quality Standards (Chapter 11-54 and 11-55, HAR).** All discharges related to the construction and operation of the fire station will comply with the State's Water Quality requirements contained in Chapters 11-54 and 11-55, HAR.

Hazard Evaluation and Emergency Response Office

We understand that the Hazard Evaluation and Emergency Response (HEER) Office provides leadership, support, and partnership in preventing, planning for, responding to, and enforcing environmental laws relating to releases or threats of releases of hazardous substances. We do not expect hazardous substances, pollutants, or contaminants to be present at the park site. However, if any of these are found at the project site, HEER will be contacted to determine the appropriate actions to comply with the relevant environmental laws.

Noise, Radiation, & Indoor Air Quality Branch

Fire Station activities will comply with the following Hawaii Administrative Rules:

- Chapter 11-39 Air conditioning and Ventilation
- Chapter 11-45 Radiation Control
- Chapter 11-46 Community Noise Control

In addition, Fire Station operations will comply with HAR Chapters 11-501 through 11-504 regarding asbestos. However, since there are no existing structures or buildings within the project area, the presence of asbestos is not expected.

Safe Drinking Water Branch

We note that the Safe Drinking Water Branch administers programs to protect drinking water sources from contamination.

1. **Public Water System.** A public water system will not be developed as part of the fire station. Potable water will be supplied by the County Department of Water Supply, which draws water from a series of surface water sources and groundwater wells.
2. **Underground Injection Control.** Wastewater generated by the fire station will be collected by the County wastewater system.

Solid and Hazardous Waste Branch

Solid waste that cannot be recycled will be disposed of at the Hilo Transfer Station. Waste contractors will be asked to submit disposal receipts and invoices to ensure proper disposal of waste. The Fire Station will also comply with the provisions of Section 11-260 to 11-280, Hawaii Administrative Rules, relating to hazardous waste.

Wastewater Branch

The fire station will connect to the County wastewater system. Wastewater generated onsite will be collected by the County wastewater system. No cesspool is being proposed.

Ms. McIntyre

SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION, WAIĀKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAI'I ISLAND TMK: 2-4-051:002 (POR)

June 16, 2014

Page 3 of 3

Sustainable and Healthy Design

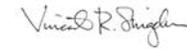
We have examined the available resources on strategies to support the sustainable and healthy design of communities and buildings. As such, the following concepts will be incorporated into the development of Haihai Fire Station.

- Implement best management practices to reduce pollutant loads (ORMP)
- Incorporate green building specifications into all new construction and major renovation projects (US HHS)
- Develop and deploy operational controls for leak detection including a distribution system audit, leak detection, and repair programs. (US HHS)
- Design, install, and maintain landscape to reduce water use (US HHS).

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII



Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

NEIL ABERCROMBIE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 916
HILO, HAWAII 96721-0916

Gary L. Gill
ACTING DIRECTOR OF HEALTH

MEMORANDUM

DATE: February 4, 2014
TO: Vincent Shigekumi
PBR HAWAII & Associates, Inc.
FROM: Newton Inouye
District Environmental Health Program Chief
SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION LOCATED AT WAIAKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII ISLAND
TMK: (3) 2-4-051:001 (portion)

The use of individual wastewater systems is allowed. The type and number of individual wastewater systems to be used on each lot will be determined by the wastewater rules in effect at the time of building permit application.

The applicant would need to meet the requirements of our Department of Health Air Pollution Rules, Chapter 60.1, Title 11, State of Hawaii for fugitive dust control. If there is need to discuss these requirements, please contact our Clean Air Branch staff at Ph. 933-0401.

Construction activities must comply with the provisions of Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control."

1. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules.
2. Construction equipment and on-site vehicles requiring an exhaust of gas or air must be equipped with mufflers.
3. The contractor must comply with the requirements pertaining to construction activities as specified in the rules and the conditions issued with the permit.

Should there be any questions on this matter, please contact the Department of Health at 933-0917.

Vincent Shigekumi
February 4, 2014
Page 2 of 2

We recommend that you review all of the Standard Comments on our website: <http://hawaii.gov/health/environmental/env-planning/landuse/landuse.html>. Any comments specifically applicable to this project should be adhered to.

The same website also features a Healthy Community Design Smart Growth Checklist (Checklist) created by Built Environment Working Group (BEWG) of the Hawaii State Department of Health. The BEWG recommends that state and county planning departments, developers, planners, engineers and other interested parties apply the healthy built environment principles in the Checklist whenever they plan or review new developments or redevelopments projects. We also ask you to share this list with others to increase community awareness on healthy community design.

WORD: PRE-ASSESSMENT HAIHAI FIRE STATION.ni



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Managing Director - Kapolei

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SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 933-6878

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June 16, 2014

Mr. Newton Inouye, Chief
District Environmental Health Program
State of Hawaii
Department of Health
P.O. Box 916
Hilo, Hawaii 96721-0916

SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION, WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII ISLAND TMK: 2-4-051:002 (POR)

Dear Mr. Inouye,

Thank you for your memo dated February 4, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawaii's Department of Public Works, we are responding to your comments.

We reviewed the Environmental Planning Office's standard comments relating to Environmental Health programs. We understand that all standard comments specifically applicable to Haihai Fire Station must be adhered to. In addition we have addressed your specific comments below.

Individual Wastewater System

Thank you for confirming that individual wastewater systems are allowed. The Department of Public Works will refer to the wastewater rules in effect at the time of building permit application to determine the type and number of individual wastewater systems to be used.

Air Quality

We acknowledge that there is a potential for fugitive dust emissions during all phases of construction and operations. The soil at the project site is classified by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) as Panaewa very rocky silty clay loam and Keaukaha Extremely Rocky Muck. According to the NRCS, the erosion hazard of both soil types is "slight." The Draft EA will address the potential for construction-related impacts related to fugitive dust. All construction activities will comply with the provisions of Section 11-60.1-33, Hawaii Administrative Rules (HAR) related to Fugitive Dust. Adequate measures to control dust during various phases of construction will be required to be implemented by whatever contractor is employed by the County to effect the fire station's development.

Mr. Newton Inouye
SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION, WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII ISLAND TMK: 2-4-051:002 (POR)
June 16, 2014
Page 2 of 2

Community Noise Control

Construction activities will comply with the provisions of Chapter 11-46, "Community Noise Control," Hawaii Administrative Rules.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawaii's Department of Public Works
Glenn Yokotake, KYA Design Group

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STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawaii 96813

January 28, 2014

PATRICIA McMANAMAN
DIRECTOR
BARBARA A. YAMASHITA
DEPUTY DIRECTOR

Refer to 14-0042

PBR HAWAII & Associates, Inc.
Attn: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Shigekuni:

Subject: Pre-Assessment Consultation for the Proposed Haihai Fire Station located at Waiakea Homesteads, South Hilo District, Hawaii Island
TMK: (3) 2-4-051:001 (portion)

Thank you for your letter dated January 14, 2014 that requests the Department of Human Services (DHS) comment on the proposed project which is the construction of a new fire station to be located on Haihai Street, across from the Hilo Municipal Golf Course.

The DHS has reviewed the location map and new site plan of the proposed project. There are several DHS licensed family child care homes located in the vicinity that may be impacted by the construction of the new fire station.

If you have any questions or need further information, please contact Ms. Jill Arizumi, Child Care Program Specialist, at (808) 586-5240.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Patricia McManaman, Director



June 16, 2014

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Tel: (808) 521-5631
Fax: (808) 523-1402
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Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
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1719 Hakioke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

Mr. Scott Nakasone, Assistant Division Administrator
State of Hawai'i
Department of Human Services
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawai'i 96813

Attn: Ms. Jill Arizumi, Child Care Program Specialist

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAI'AKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Nakasone,

Thank you for your letter (your reference number 14-0042) dated January 28, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to the Department of Human Services (DHS) comments.

We appreciate the information provided in your letter that there are several DHS licensed family child care homes located in the vicinity of the proposed fire station that may be impacted by construction. We acknowledge that while there will be temporary construction-related impacts to air quality, noise, solid waste generation, and storm water quality/quantity, the fire station as a permanent public safety facility provides a significant beneficial impact for public health and social welfare, to area residents, not only for fire protection, but also first response in medical emergencies. The project will address any short-term, construction-related impacts through compliance with County, State and Federal rules, regulations, permit and variance requirements regarding fugitive dust, community noise control, and non-point source discharges. In addition, best management practices that include structural and non-structural controls designed to inhibit run-off, erosion, fugitive dust will be implemented.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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STATE OF HAWAII
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
830 PUNCHBOWL STREET, ROOM 321
HONOLULU, HAWAII 96813
www.hawaii.gov/labor
Phone: (808) 586-8844/Fax: (808) 586-9099

DWIGHT TAKAMINE
DIRECTOR

JADE T. BUTAY
DEPUTY DIRECTOR

January 29, 2013

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

Dear Mr. Vincent Shigekuni:

This is in response to your request for comments dated January 14, 2014 on the Pre-assessment consultation for the proposed Haihai Fire Station located at Waiakea Homesteads in the South Hilo District on Hawaii island.

The Department of Labor and Industrial Relations has no comments, and we foresee no impact on our existing or proposed programs. Should you have any questions, please call me at (808) 586-8844.

Sincerely,

DWIGHT TAKAMINE
Director



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President

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Associate

CATHIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

KAPOLEI OFFICE
1011 Kamohala Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
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HILO OFFICE
1719 Hakioke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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June 16, 2014

Mr. Dwight Takamine, Director
State of Hawai'i
Department of Labor and Industrial Relations
830 Punchbowl Street, Room 321
Honolulu, Hawai'i 96813

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Takamine,

Thank you for your letter dated January 29, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We acknowledge that the Haihai Fire Station will not impact any of the Department of Labor and Industrial Relations' existing or proposed programs and that the department has no comments to offer at this time.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

O:\Job303056.01 Haihai St. Fire Station EA\EA\Pre-Assessment Consultation\Responses\DLIR.docx

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSIONER OF WATER RESOURCES MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

February 18, 2014

PBR Hawaii & Associates, Inc.
Attn: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

via email: vshigekuni@pbrhawaii.com

Dear Mr. Shigekuni:

SUBJECT: Pre-Assessment Consultation for the Proposed Haihai Fire Station, PBR Hawaii & Associates, Inc. for County of Hawaii Department of Public Works, Applicant, Waiakea Homesteads, South Hilo, Hawaii; TMK: (3) 2-4-051:001

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 the (i) Engineering Division; and (ii) Hawaii District Land Office on the subject matter. Should you have any questions, please feel free to call Kevin Moore at 587-0426. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSIONER OF WATER RESOURCES MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 24, 2014

MEMORANDUM

TO: PR:

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
- Historic Preservation

FROM: TO:

Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Assessment Consultation for the Proposed Haihai Fire Station
LOCATION: Waiakea Homesteads, South Hilo, Hawaii; TMK: (3) 2-4-051:001
APPLICANT: PBR Hawaii & Associates, Inc. for County of Hawaii Department of Public Works

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by February 7, 2014.

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 Kevin Moore at 587-0426. Thank you.

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

Signed:

Print name: Cary S. Chang, Chief Engineer

Date: 1/28/14

cc: Central Files

RECEIVED
LAND DIVISION
2014 JAN 29 AM 10:52
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

14 JAN 24 PM 2:46 ENGINEERING

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
Ref.: Pre-Assessment Consultation for the Proposed Haihai Fire Station, Waiakea Homesteads,
South Hilo District
Hawaii.003

COMMENTS

- () We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ____.
- (X) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X.
- () * Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ____.
- () Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- () Mr. Mario Siu Li at (808) 768-8098 or Ms. Ardis Shaw-Kim at (808) 768-8296 of the City and County of Honolulu, Department of Planning and Permitting.
- () Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
- () Mr. Carolyn Cortez at (808) 270-7813 of the County of Maui, Department of Planning.
- () Mr. Stanford Iwamoto at (808) 241-4884 of the County of Kauai, Department of Public Works.

- () The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- () The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

() Additional Comments: _____

() Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 1/28/14 _____

NEEL A BERG ROMBERG
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 24, 2014

MEMORANDUM

TO:

DLNR Agencies:

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

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Pre-Assessment Consultation for the Proposed Haihai Fire Station

LOCATION:

Waiakea Homesteads, South Hilo, Hawaii; TMK: (3) 2-4-051:001

APPLICANT:

PBR Hawaii & Associates, Inc. for County of Hawaii Department of Public Works

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by February 7, 2014.

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 Kevin Moore at 587-0426. Thank you.

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

Signed: _____

Print name: GEORSON C. HET

Date: 1/31/14 _____

cc: Central Files

WILLIAM J. AILA, JR.
COMMISSIONER
BOARD OF LAND AND NATURAL RESOURCES
COMMISSIONER OF WATER RESOURCE MANAGEMENT

2014 JAN 27 P 2:13

RECEIVED
LAND DIVISION
HILO, HAWAII

RECEIVED
LAND DIVISION
2014 FEB -3 AM 10:15
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

75 Aupuni Street, Room 204
Hilo, Hawaii 96720
PHONE: (808) 961-9590
FAX: (808) 961-9599

January 31, 2014

WILLIAM J. AILA, JR.
CHAIRPERSON
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COMMISSION ON WATER RESOURCES MANAGEMENT



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Associate

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HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamohala Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
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1719 Haleloke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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June 16, 2014

Mr. Russell Y. Tsuji, Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawai'i 96809

Attn: Mr. Kevin Moore

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Tsuji,

Thank you for your letter dated February 18, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to the comments from the Engineering Division and the Hawaii District Land Office of the Department of Land and Natural Resources.

1. We acknowledge, as stated by the Engineering Division, that the site, located in Zone X, is not regulated by the National Flood Insurance Program (NFIP).
2. The Draft EA will include a section that addresses that the proposed set aside location is most favorable due to it being centrally located and able to serve the same population that the existing Kawaiilani Street Station serves. Also, according to the Hawaii District Land Office, the future Haihai Street Fire Station site will provide the additional space required for Emergency Medical Services personnel.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

O:\Job\30\3056.01 Haihai St. Fire Station EA\EA\Pre-Assessment Consultation\Responses\DLNR Land Division.docx

MEMORANDUM

TO: Russell Y. Tsuji, Administrator

FROM: Gordon C. Heit, Hawaii District Land Agent

SUBJECT: Draft Environmental Assessment, Pre-Assessment Consultation for the Proposed Haihai Fire Station

LOCATION: Waiakea Homesteads, South Hilo, Hawaii, TMK: (3) 2-4-051:001 (portion)

APPLICANT: PBR Hawaii & Associates, Inc. on behalf of County of Hawaii, department of Public Works

Pursuant to your request for comments on the above matter, we offer the following:

The County of Hawaii is requesting approximately two (2) acres of land be withdrawn from General Lease No. S-5570 to be set aside for the Waiakea Uka fire station as the Hawaii Fire Department has outgrown the existing station located on Kawaiilani Street. In addition, emergency services provided by the Hawaii Fire Department from the Kawaiilani Street Station now include Emergency Medical Services and the required personnel, vehicles and equipment can no longer be accommodated at the current location. Furthermore, an ongoing Kawaiilani Street widening project will bring the working area of the station driveway and building closer to the active roadway which may lead to a dangerous situation.

The proposed set aside location is most favorable due to it being centrally located and able to serve the same population that the existing Kawaiilani Street Station serves, inclusive of the area from Panaewa makai up to Waiakea Uka and will provide the additional space required for the Emergency Medical Services personnel.

Please contact me should you have any questions.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



**HISTORIC PRESERVATION DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES**

601 Kamokila Boulevard, Suite 555
Kapolei, HI 96806

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FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

ASSOCIATE RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF DIVERTWAYS
CONSERVATION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND GEOTECHNICAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING

FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAOLOAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

February 10, 2014

Mr. Vincent Shigekuni
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484

LOG NO: 2014.00189
DOC NO: 1401SN18
Archaeology

Dear Mr. Bell:

**SUBJECT: Chapter 6E-42 Historic Preservation Review –
Pre-Assessment Consultation for the Proposed Haihai Fire Station at Waiākea Homesteads
Waiākea Ahupua'a, South Hilo District, Island of Hawai'i
TMK: (3) 2-4-051-001 (portion)**

Thank you for the letter requesting our comments regarding the proposed new facility to be constructed on State land under a direct lease agreement, that was received in our office on January 15, 2014. An environmental assessment is being prepared for the facility, which will consist of a new fire station on a portion of a 35.6-acre parcel. Although the facility will be located on 2-acres of the parcel, the area of potential effect (APE) for the environmental assessment (EA) has been determined to be 12-acres.

We have no records indicating that an archaeological inventory survey (AIS) was conducted of the project area. The area has been identified as a part of the Waiākea Mill Company lands. A 1922 Waiākea Mill Company map indicates the current project area is in a portion of field 907 which was probably cultivated in sugarcane. According to the map two small gauge railroad lines ran east/west in the northern and southern portions of the parcel.

Based on our current information, SHPD requests a site inspection by a qualified archaeologist to identify the presence or absence of any undocumented historic properties. If undocumented historic properties are identified, we recommend that an archaeological inventory survey be conducted of the project area as part of the EA for the project. We request that a report of findings and recommendations be submitted to our office for review, pursuant to Hawaii Administrative Rule 13-276. Following approval of the report, we will be able to provide recommendations for appropriate mitigation measures as needed. We look forward to the opportunity to review the results of the identification process.

Please contact Sean Nāleimaile at (808) 933-7651 or Sean.P.Naleimaile@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,

Theresa K. Donham
Archaeology Branch Chief



June 16, 2014

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HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
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Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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Ms. Theresa K. Donham, Archaeology Branch Chief
State of Hawai'i Department of Land and Natural Resources
Historic Preservation Division
601 Kamokila Boulevard, Suite 555
Kapolei, HI 96806

Attn: Mr. Sean Nāleimaile

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIĀKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII'I
ISLAND TMK: 2-4-051-002 (POR)**

Dear Ms. Donham,

Thank you for your letter dated February 10, 2014 (your reference number LOG NO: 2014.00189; DOC NO: 1401SN18 Archaeology) regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We note that the project area has been identified as a part of the Waiākea Mill Company lands. We understand that according to a 1922 Waiākea Mill Company map, two small gauge railroad lines used to run east/west in the vicinity of the project area. Scientific Consultant Services Inc. (SCS) conducted an Archaeological Inventory Survey for the project area. No evidence or remains of the railroad tracks were identified within the project area. SCS concludes that the tracks would have been located to the west, outside of the project area. In addition, the railroad tracks were likely portable tracks laid in the fields during times of cane harvest.

SCS located two archaeological sites (Site 50-10-35-30039, and Site 50-10-35-30040) within the project area consisting of four rock mounds. The rock mounds are sugarcane field clearing mounds associated with the Waiākea Sugar Mill company cane lots. There were no remnants of pre-contact era sites. No other archaeological sites or features were present within the project area. The complete report of findings and recommendations will be/has been submitted to your office for review, pursuant to Hawaii Administrative Rule 13-276.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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NEIL ABERCROMBIE
GOVERNOR



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

February 12, 2014

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

Dear Mr. Shigekuni:

Subject: Pre-Assessment Consultation for the Proposed Haihai Fire Station Located at
Waiakea Homesteads, Hilo, South Hilo District, Hawaii,
TMK: (3) 2-4-051:001 por.

We received your request for comments as to whether the subject proposed fire station may have an impact on any of our existing or proposed projects, plans, policies or programs that should be considered during preparation of an Environmental Assessment. The proposed project would be located on approximately two acres of land bordered by two streets under the County of Hawaii jurisdiction, i.e., Haihai Street to the north and Laua Road to the east. The nearest road under State jurisdiction, Kanoelehua Avenue (Route 11), is more than a mile from the proposed project.

Based on its location, we do not anticipate any significant impacts to the existing or proposed State Highway System from the proposed fire station. We recommend one correction to the Regional Location map, which mistakenly identifies State Route 11 as Hawaii Belt Road. The official name of Route 11 between Kamehameha Avenue (Route 19) and Makalika Street is Kanoelehua Avenue. Route 11 from Makalika Street to the Volcanoes National Park access road is named Volcano Road.

If you have any questions, please contact Gary Ashikawa, Systems Planning Engineer, Highways Division, Planning Branch, at 587-6336.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
AUDREY HIDANO
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

IN REPLY REFER TO:
DIR 0091

HWY-PS 2.6526



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R. STAN DUNCAN, ASLA
President

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Executive Vice-President

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Vice-President

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Senior Associate

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Senior Associate

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Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehameha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Hakioke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

printed on recycled paper

June 16, 2014

Mr. Glenn M. Okimoto, Ph.D.
Director of Transportation
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813-5097

Attn: Mr. Gary Ashikawa, Systems Planning Engineer

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII'I
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Okimoto,

Thank you for your letter dated February 12, 2014 (DIR 0091 HWY-PS 2.6526) regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We acknowledge that the Department of Transportation does not anticipate any significant impacts to the existing or proposed State Highway System from the proposed fire station.

We note that the nearest road under State jurisdiction is Kanoelua Avenue (Route 11) which is more than a mile away from the project area. The Draft EA will include a revised Regional Location Map identifying Route 11 as Kanoelua Avenue. We future note that Route 11 from Makalika Street to the Volcanoes National Park access road is named Volcano Road.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052



January 28, 2014

Vincent Shigekuni
PBR Hawaii and Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Shigekuni:

This is in response to your request for comments regarding the Pre-Assessment Consultation for the Proposed Haihai Fire Station located at Waiakea Homesteads, South Hilo District, Hawai'i Island TMK (3) 2-4-051:001 (portion).

Please review the current effective countywide Flood Insurance Rate Maps (FIRMs) for the County of Hawaii (Community Number 155166), Maps revised April 2, 2004. Please note that the County of Hawaii, State of Hawaii is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.
- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any **development** must not increase base flood elevation levels. **The term development means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

www.fema.gov

Vincent Shigekuni
Page 2
January 28, 2014

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at <http://www.fema.gov/business/nfip/forms.shtm>.

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Hawaii County floodplain manager can be reached by calling Carter Romero, Director and Floodplain Administrator, Department of Public Works, at (808) 961-8943.

If you have any questions or concerns, please do not hesitate to call Sarah Owen of the Mitigation staff at (510) 627-7050.

Sincerely,

Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:

Carter Romero, Director and Floodplain Administrator, County of Hawaii, Hawaii
Carol Tyau-Beam, Hawaii Department of Land and Natural Resources
Sarah Owen, NFIP Planner, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

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HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1031 Kamehale Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
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June 16, 2014

Mr. Gregor Blackburn, CFM, Branch Chief
U.S. Department of Homeland Security
FEMA Region IX
Floodplain Management and Insurance Branch
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Attn: Ms. Sarah Owen, NFIP Planner

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAI'I
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Blackburn,

Thank you for your letter dated January 28, 2014 regarding the pre-consultation for the Haihai Fire Station. As a planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We have reviewed the current effective countywide Flood Insurance Rate Maps (FIRMs) for the County of Hawai'i (Community Number 155166). The proposed Haihai Fire Station is located within Flood Zone X, or an area determined to be located outside of the 500-year flood plain. The project will comply with all requirements as described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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William P. Kenoi
Mayor



County of Hawai'i
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
345 Kekūānaʻō St., Suite 41 • Hilo, Hawai'i 96720
(808) 961-8083 • Fax (808) 961-8086
<http://www.hawaiicounty.gov/environmental-management/>

BJ Leithead Todd
Director

John A. Medeiros
Deputy Director

January 23, 2014

PBR Hawai'i & Associates
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, HI 96813

Attention: Mr. Vincent Shigekuni

RE: Pre-Assessment Consultation for the Proposed Haihai Fire Station located at Waiākea Homesteads, South Hilo District, Hawai'i Island
TMK: 2-4-051:002 (portion)

We have no comments to offer on the subject project.

Thank you for allowing us to review and comment.

Sincerely,

BJ Leithead Todd
DIRECTOR



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Associate

MARC SHIMATSU, ASLA
Associate

CATHY CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kaemokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
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June 16, 2014

Ms. BJ Leithead Todd, Director
County of Hawai'i
Department of Environmental Management
345 Kekūānaʻō Street, Suite 41
Hilo, Hawai'i 96720

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIĀKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)**

Dear Ms. Leithead Todd,

Thank you for your letter dated January 23, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we acknowledge that the Department of Environmental Management has no comments to offer.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAII 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

February 19, 2014

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

PRE-ENVIRONMENTAL ASSESSMENT CONSULTATION
PROPOSED HAIHAI FIRE STATION
TAX MAP KEY 2-4-051:001(PORION)

This is in response to your Pre-Environmental Assessment letter dated January 14, 2014.

Water can be made available from the existing 10-inch waterline within Haihai Street, fronting the proposed project site.

Prior to issuing a water commitment for the proposed project, the Department requests estimated maximum daily water usage calculations prepared by a professional engineer licensed in the State of Hawaii for review and approval. After review of the calculations, the Department will determine if water is available, a water commitment deposit amount, facilities charges due, and any water system improvements required for final approval.

Please be informed that the existing 10-inch waterline fronting the project site is adequate to provide the required 2,000 gallons per minute flow for fire protection, as per the Department's Water System Standards.

Please also be informed that any meter(s) serving the proposed project will require the installation of a reduced pressure type backflow prevention assembly within five feet of the meter on private property. The Department must inspect and approve the installation before water service can be activated.

Should there be any questions, please contact Mr. Ryan Quitoriano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,

Quirino Antonio, Jr., P.E.
Manager-Chief Engineer

RQ:dfg

copy – County of Hawaii, Department of Public Works
County of Hawaii, Fire Department



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HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

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1031 Kamehale Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

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1719 Hakalohe Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

June 16, 2014

Mr. Quirino Antonio, Jr., P.E.
Manager-Chief Engineer
County of Hawaii
Department of Water Supply
345 Kekūanaō'a Street, Suite 20
Hilo, HI 96720

Attn: Mr. Ryan Quitoriano

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIĀKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Antonio,

Thank you for your letter dated February 19, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawaii Department of Public Works, we are responding to your comments.

Thank you for confirming that water can be made available to the proposed fire station via the existing 10-inch waterline within Haihai Street. We understand that the existing 10-inch waterline is adequate to provide the required 2,000 gallons per minute flow for fire protection, as per the Department of Water System Standards.

Estimated maximum daily water usage calculations for the fire station will be submitted to the Department of Water Supply (DWS) for review and approval prior to receiving a water commitment. Before activating water service, a reduced pressure type backflow prevention assembly will be installed within five feet of the meter for inspection and approval by DWS.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawaii Department of Public Works
Glenn Yokotake, KYA Design Group

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William P. Kenoi
Mayor



West Hawaii's Office
74-5044 Ane Keohokalole Hwy
Kailua-Kona, Hawaii 96740
Phone (808) 323-4770
Fax (808) 327-3563

County of Hawai'i
PLANNING DEPARTMENT

Duane Kanuha
Director

Bobby Command
Deputy Director

East Hawaii's Office
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720
Phone (808) 961-8288
Fax (808) 961-8742

February 6, 2014

Mr. Vincent Shigekuni
PBR Hawai'i & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Shigekuni:

Subject: Pre-Environmental Assessment Consultation
Applicant: County of Hawai'i, Department of Public Works
Land Owner: State of Hawai'i
Project: Haihai Fire Station
TMK: 2-4-051:Por. of 001, South Hilo, Hawai'i

This is in response to your request for comments on the above-referenced project.

According to your submittal, the County of Hawai'i Department of Public Works is proposing to replace the existing fire station on Kawailani Street with a new station at Haihai Street.

We have the following to offer for the entire parcel:

1. The subject parcel consists of 35.696 acres. The project area is approximately 2.0 acres.
2. The State Land Use designation is Urban.
3. The General Plan designation is Low Density Urban and Open. Low Density Urban is characterized as "Residential, with ancillary community and public uses, and neighborhood and convenience-type commercial uses; overall residential density may be up to six units per acre". Open is characterized as "Parks and other recreational areas, historic sites, and open shoreline areas".
4. The County zoning is Single-Family Residential (RS-15) and Open (O). According to Chapter 25, Zoning Code, Section 25-5-3(a),(12) and 25-5-162(a)(12), "Public uses and structures, as permitted under section 25-4-1" are permitted uses in both the RS and O

Mr. Vincent Shigekuni
PBR Hawai'i & Associates, Inc.
February 6, 2014
Page 2

districts, respectively. Section 25-4-11(c) states that "Public uses, structures and buildings and community buildings are permitted uses in any district, provided that the director has issued plan approval for such use".

5. The project area is not located within the County's Special Management Area.
6. Although the project area is approximately 2 acres, the area subject to environmental review will encompass approximately 12 acres. Please disclose all proposed and future activities (i.e. classroom training, outdoor hands-on training, recreational area, building expansion, helipad, etc.) for the project area and any subsequent expansion area.
7. According to the City of Hilo, Road Alignments, Rights-of-Way and Zoning Map, there is a proposed secondary arterial, noted as 80' wide, through this parcel. It appears to be along the west side of the project area, a continuance of 'Iwalani Street. The location of this future road should be included on all site plans.
8. Provide details on the traffic impacts (assessment of existing traffic conditions, anticipated increase in traffic and traffic impacts from proposed use). Haihai Street is 40' wide within a 60' right-of-way. The existing roadway width and site distance issues during ingress/egress of emergency vehicles must be addressed.
9. Will there be a subdivision to separate the project area from the existing parcel?

We appreciate the opportunity to provide these comments. If you have questions, please feel free to contact Esther Imamura at (808) 961-8139.

Sincerely,


DUANE KANUHA
Planning Department

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June 16, 2014

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Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

KAPOLEI OFFICE
1031 Kamehale Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
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Duane Kanuha, Director
County of Hawai'i
Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720

Attn: Ms. Esther Imamura

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIĀKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)**

Dear Mr. Kanuha,

Thank you for your letter dated February 6, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

Thank you for confirming the various zoning and land use designations for the entire parcel. The proposed fire station will encompass approximately 2 acres. Please note that the project area under review and assessment will encompass approximately 3 acres to allow for flexibility in terms of additional siting and layout options should any site constraints be identified during the various site surveys. The project area will be used for a typical fire station and not a training center (i.e. classrooms training, outdoor training, building expansion, helipad, etc.).

A traffic assessment has been prepared to assess the existing traffic conditions and any anticipated future traffic conditions as a result of the proposed fire station. The existing roadway width and any site distance issues during ingress/egress of emergency vehicles on Haihai Street will be addressed in the Draft EA. We acknowledge that an 80-foot wide secondary arterial is proposed to be located along the western border of the parcel, a continuance of 'Iwalani Street. The location of this future road will be referenced in the traffic assessment and included in the regional location map in the Draft EA.

A subdivision is necessary to separate the proposed fire station from the existing parcel. As a result, subdivision approval will be sought following the EA process.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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William P. Kenoi
Mayor



Harry S. Kubojiri
Police Chief

Paul K. Ferreira
Deputy Police Chief

County of Hawai`i

POLICE DEPARTMENT
349 Kapi`olani Street • Hilo, Hawai`i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

January 22, 2014

Mr. Vincent Shigekuni
Vice President
PBR Hawaii & Associates, Inc.
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, HI 96813-3184

Dear Mr. Shigekuni:

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED HAIHAI
FIRE STATION LOCATED AT WAIKEA HOMESTEADS, SOUTH HILO
DISTRICT, HAWAII ISLAND; TMK: (3) 2-4-051:001(PORION)

Staff, upon reviewing the provided documents, does not anticipate any significant
impact to traffic and/or public safety concerns.

Thank you for allowing us the opportunity to comment.

If you have any questions, please contact Captain Richard Sherlock, Commander of the
S. Hilo District, at 961-2214.

Sincerely

HENRY J. TAVARES, JR.
ASSISTANT POLICE CHIEF
AREA I OPERATIONS BUREAU

RS:lli
140039



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Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai`i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: syadming@pbrhawaii.com

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June 16, 2014

Henry J. Tavares, Jr., Assistant Police Chief
County of Hawai`i
Police Department
349 Kapi`olani Street
Hilo, Hawai`i 96720-3998

Attn: Captain Richard Sherlock

SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAI`AKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII
ISLAND TMK: 2-4-051:002 (POR)

Dear Chief Tavares,

Thank you for your letter dated January 22, 2014 regarding the pre-consultation for the Haihai
Fire Station. As the planning consultant for the County of Hawai`i Department of Public Works,
we are responding to your comments.

We acknowledge that the Police Department does not anticipate any significant impact to traffic
and/or public safety concerns.

Thank you for participating in the environmental review process. Your letter will be included in
the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai`i Department of Public Works
Glenn Yokotake, KYA Design Group

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DENNIS "FRESH" ONISHI
Council Member
District 3



PHONE: (808) 961-8396
FAX: (808) 961-8912
EMAIL: donishi@co.hawaii.hi.us

HAWAI'I COUNTY COUNCIL
25 Aupuni Street, Hilo, Hawai'i 96720

January 28, 2014

PBR Hawai'i & Associates, Inc.
Attn: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Re: Proposed Haihai Fire Station located at Waiākea Homesteads,
South Hilo District, Hawai'i Island, TMK:(3) 2-4-051:001 (portion)

Dear Mr. Shigekuni,

As the council member for this district, I would like to express my total support for this proposed fire station.

I have been involved in relocating the Kawaiiani Fire Station for more than 4 years and I am very happy to see this project moving forward.

Thank you for the opportunity to provide my comments. Should you have any questions, please do not hesitate to contact me.

Sincerely,

Dennis "Fresh" Onishi
Council Member, District 3

DO/dc

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DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATHY CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1081 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Hakioke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL STUDIES • ENTITLEMENTS / PERMITTING • GRAPHIC DESIGN

June 16, 2014

Councilmember Dennis "Fresh" Onishi
Hawai'i County Council
25 Aupuni Street
Hilo, Hawai'i 96720

**SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION,
WAIĀKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAI'I
ISLAND TMK: 2-4-051:002 (POR)**

Dear Councilmember Onishi,

Thank you for your letter dated January 28, 2014 regarding the pre-consultation for the Haihai Fire Station. PBR Hawaii and the County of Hawai'i Department of Public Works appreciate your supportive comments. We look forward to your continued support.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

O:\Job\30\3056.01 Haihai St. Fire Station EA\EA\Pre-Assessment Consultation\Responses\Council Onishi.docx

From: Liu, Rouen
Sent: Friday, January 31, 2014 3:30 PM
To: sysadmin
Cc: Elders, Barney
Subject: Pre-Assessment consultation for the proposed Haihai Fire Stn, Waiakea Homesteads, south Hilo District

PBR Hawaii & Associates, Inc.
1001 Bishop Street , Suite 650
Honolulu, HI 96813-3484

Attention: Vincent Shigekuni

Thank you for the opportunity to comment on the subject project. Hawaiian Electric Light Company has no objections to the project. Should HELCO have existing easements and facilities on the subject property, we will need continued access for maintenance of our facilities.

We appreciate your efforts to keep us apprised of the subject project in the planning process. As the Haihai Fire Station project come to fruition, please continue to keep us informed. Further along in the design, we will be better able to evaluate the effects on our system facilities.

If you have any questions, please call me at 543-7245.

Rouen Liu
Permits Engineer
Hawaiian Electric Company

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Senior Associate

RAYMOND L. HIGA, ASLA
Senior Associate

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Senior Associate

SCOTT ALIKA ABRIGO, LEED® AP BD+C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATHY CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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1031 Kamehale Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Hakioke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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June 16, 2014

Mr. Rouen Liu, Permits Engineer
Hawaiian Electric Company
820 Ward Ave
Honolulu, HI 96814

SUBJECT: PRE-CONSULTATION FOR THE PROPOSED HAIHAI FIRE STATION, WAIÁKEA HOMESTEADS, SOUTH HILO DISTRICT, HAWAII ISLAND TMK: 2-4-051:002 (POR)

Dear Mr. Liu,

Thank you for your email sent on January 31, 2014 regarding the pre-consultation for the Haihai Fire Station. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We acknowledge that Hawaiian Electric Light Company (HELCO) has no objections to the project. We acknowledge that HELCO will need continued access to the property should any HELCO easements or facilities be located on the property. To our knowledge, there are no HELCO access easements or facilities currently onsite. A copy of the Draft Environmental Assessment will be sent to you as soon as it is available.

Thank you for participating in the environmental review process. Your letter will be included in the Draft EA.

Sincerely,

PBR HAWAII

A handwritten signature in black ink that reads "Vincent R. Shigekuni".

Vincent Shigekuni
Vice President

cc: David Yamamoto, County of Hawai'i Department of Public Works
Glenn Yokotake, KYA Design Group

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Appendix **C**

FLORA AND FAUNA SURVEY AND ASSESSMENT

FLORA AND FAUNA SURVEY AND ASSESSMENT

FOR THE
HAIHAI STREET FIRE STATION
WAIAKEA, SOUTH HILO, HAWAII

by

ROBERT W. HOBDY
ENVIRONMENTAL CONSULTANT
Kokomo, Maui
February 2014

Prepared for:
KYA DESIGN GROUP

FLORA AND FAUNA SURVEY AND ASSESSMENT
HAIHAI STREET FIRE STATION
WAIAKEA, SOUTH HILO, HAWAII

INTRODUCTION

The Haihai Street Fire Station lies on 2.029 acres of undeveloped land in Hilo, Hawaii. The northern boundary is adjacent to Haihai Street. The eastern boundary is adjacent to Laua Street. The southern and western boundaries are pasture lands (see Figures 1 and 2) TMK (3) 2-4-51:1 portion. An 80 foot buffer area was included in the survey along the southern and western boundaries. This biological survey and assessment was initiated in fulfillment of environmental requirements of the planning process.

SITE DESCRIPTION

The project area is currently being used as a pasture for grazing livestock. Vegetation consists primarily of a variety of low-cropped grasses with a scattering of shrubs and trees. Soils are moist to wet loam to clay loams over a substrate of pahoehoe lavas which occasionally come to the surface as low outcrops. Annual rainfall averages 160 – 170 inches, and is well distributed throughout the year (Armstrong, 1983).

BIOLOGICAL HISTORY

The relatively recent lava flows of the Hilo area were once covered with dense native tropical rainforest consisting primarily of 'ōhi'a (*Metrosideros polymorpha*), 'ōkukupupu (*Nephrolepis exaltata*), hāpu'u (*Cibotium* spp.) and 'ie'ie (*Freycinetia arborea*). This native species composition began to change in the early 1900s as the project area was cleared for sugar cane production. When sugar cane production declined, the fields were converted to pastures and later to some rural housing. Native plant species have been nearly eliminated and replaced by non-native grasses and weeds.

SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna survey of the Haihai Street Fire Station project which was conducted on February 2014. The objectives of the survey were to:

1. Document what plant, and animal species occur on the property or may likely occur in the existing habitat.
2. Document the status and abundance of each species.
3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.
4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the flora and fauna in this part of the island.

BOTANICAL SURVEY REPORT

SURVEY METHODS

A walk-through botanical survey method was used following routes to ensure that all parts of this large property were covered. Areas most likely to harbor native or rare plants such as the rocky outcrops and gullies were more intensively examined. Notes were made on plant species, distribution and abundance as well as on terrain and substrate.

DESCRIPTION OF THE VEGETATION

The vegetation in the project area is dominated by non-native grasses and a few vines, ferns, shrubs and trees. A total of 47 plant species were recorded during two site visits. Seven species were common throughout the area: narrow-leaved carpet grass (*Axonopus fissifolius*), Hilo grass (*Paspalum conjugatum*), (*Rhynchospora caduca*) no common name, (*Christella parasitica*) no common name, maile pilau (*Paederia foetida*), Spanish clover (*Desmodium incanum*) and hilahila (*Mimosa pudica*). Just one native plant species the indigenous native, fern moa (*Psilotum nudum*), was found growing on a lava outcrop. The remaining 46 species were all non-native in Hawaii.

DISCUSSION AND RECOMMENDATIONS

The vegetation throughout the project area is dominated by non-native grasses, vines, ferns, shrubs and trees. The area has been heavily altered by historical land uses and continues to be invaded by aggressive weed species. The only native species found the indigenous moa fern is widespread in Hawaii and common.

No Federally listed Threatened or Endangered plant species (USFWS, 2014) were found on the property, nor were any found that are candidates for such status. No special native habitats were found here either.

Because of the above existing conditions, it is determined that the future development of this 2 acre parcel will not have a significant negative impact on the botanical resources in this part of Hawaii island. No recommendations regarding the botanical resources are deemed appropriate or necessary.

PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within three groups: Ferns, Monocots and Dicots. Taxonomy and nomenclature of the ferns follow Palmer (2003), while the Monocots and Dicots are in accordance with Wagner et al. (1999) and Staples and Herbst (2005).

For each species, the following information is provided:

1. Scientific name with author citation
2. Common English or Hawaiian name.
3. Bio-geographical status. The following symbols are used:

endemic = native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

Polynesian = all those plants brought to Hawaii during the course of Polynesian migrations.

non-native = all those plants brought to the islands intentionally or accidentally after western contact.

4. Abundance of each species within the project area:

abundant = forming a major part of the vegetation within the project area.

common = widely scattered throughout the area or locally abundant within a portion of it.

uncommon = scattered sparsely throughout the area or occurring in a few small patches.

rare = only a few isolated individuals within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
FERNS			
CYATHEACEAE (Tree Fern Family)			
<i>Sphaeropteris cooperi</i> (Hook. ex F. Mueller) Tryon	Australian tree fern	non-native	rare
NEPHROLEPIDACEAE (Sword Fern Family)			
<i>Nephrolepis brownii</i> (Desv.) Hovencamp & Miyamoto	Asian sword fern	non-native	rare
POLYPODIACEAE (Polypody Fern Family)			
<i>Phlebodium aureum</i> (L.) J. Sm.	rabbit's foot fern	non-native	rare
PSILOTAACEAE (Whisk Fern Family)			
<i>Psilotum nudum</i> (L.) P. Beauv.	moa	indigenous	rare
LYGODIACEAE (Climbing Fern Family)			
<i>Lygodium japonicum</i> (Thunb.) Sw.	Japanese climbing fern	non-native	rare
THELYPTERIDACEAE (Marsh Fern Family)			
<i>Christella dentata</i> (Forssk.) Brownlie & Jermy	-----	non-native	rare
<i>Christella parasitica</i> (L.) H. Lev.	-----	non-native	common
MONOCOTS			
ARACEAE (Aroid Family)			
<i>Dieffenbachia maculata</i> (Loddiges) G. Don	spotted dumb cane	non-native	rare
COMMELINACEAE (Spiderwort Family)			
<i>Commelina diffusa</i> N.L. Burm.	honohono	non-native	rare
CYPERACEAE (Sedge Family)			
<i>Cyperus haspan</i> L.	-----	non-native	uncommon
<i>Rhynchospora caduca</i> Elliott	-----	non-native	common
POACEAE (Grass Family)			
<i>Andropogon virginicus</i> L.	broomsedge	non-native	rare
<i>Axonopus compressus</i> (Sw.) P. Beauv.	broad-leaved carpet grass	non-native	uncommon
<i>Axonopus fissifolius</i> (Raddi) Kuhlmann	narrow leaved carpet grass	non-native	common
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	non-native	uncommon
<i>Digitaria eriantha</i> Steud.	pangola grass	non-native	uncommon
<i>Panicum repens</i> L.	torpedo grass	non-native	rare
<i>Paspalum conjugatum</i> Bergius	Hilo grass	non-native	common
<i>Paspalum paniculatum</i> L.	arocillo	non-native	uncommon
<i>Sacciolepis indica</i> (L.) Chase	Glenwood grass	non-native	rare
<i>Sporobolus indicus</i> (L.) R. Br.	West Indian dropseed	non-native	uncommon
DICOTS			
ANACARDIACEAE (Mango Family)			
<i>Mangifera indica</i> L.	mango	non-native	rare
<i>Schinus terebinthifolius</i> Raddi	Christmas berry	non-native	rare
ARALIACEAE (Ginseng Family)			
<i>Schefflera actinophylla</i> (Endl.) Harms	octopus tree	non-native	rare
ASTERACEAE (Sunflower Family)			
<i>Emilia fosbergii</i> Nicolson	red pualele	non-native	rare
BIGNONIACEAE (Bignonia Family)			
<i>Spathodea campanulata</i> P. Beauv.	African tulip tree	non-native	uncommon

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<i>Tabebuia heterophylla</i> (A.P. de Candolle) Britton	pink tecoma	non-native	rare
CAMPANULACEAE (Bellflower Family)			
<i>Hippobroma longiflora</i> (L.) G. Don	star-of-Bethlehem	non-native	uncommon
CANNABACEAE (Hemp Family)			
<i>Trema orientalis</i> (L.) Blume	gunpowder tree	non-native	uncommon
CLUSIACEAE (Mangosteen Family)			
<i>Clusia rosea</i> Jacq.	autograph tree	non-native	uncommon
FABACEAE (Pea Family)			
<i>Desmodium incanum</i> DC.	Spanish clover	non-native	common
<i>Mimosa pudica</i> L.	hilahila	non-native	common
LAMIACEAE (Mint Family)			
<i>Hyptis pectinata</i> (L.) Poit.	comb hyptis	non-native	rare
LYTHRACEAE (Loosestrife Family)			
<i>Cuphea carthagenensis</i> (Jacq.) Macbr.	tar weed	non-native	rare
MELASTOMACEAE (Melastoma Family)			
<i>Clidemia hirta</i> (L.) D. Don	Koster's curse	non-native	uncommon
<i>Melastoma candidum</i> D. Don	melastoma	non-native	uncommon
MORACEAE (Fig Family)			
<i>Ficus microcarpa</i> L.f.	Chinese banyan	non-native	uncommon
MYRTACEAE (Myrtle Family)			
<i>Psidium cattleianum</i> Sabine	strawberry guava	non-native	rare
<i>Psidium guajava</i> L.	common guava	non-native	uncommon
<i>Syzygium cumini</i> (L.) Skeels	Java plum	non-native	uncommon
PLANTAGINACEAE (Plantain Family)			
<i>Torenia asiatica</i> L.	Ola'a beauty	non-native	uncommon
POLYGALACEAE (Milkwort Family)			
<i>Polygala paniculata</i> L.	polygala	non-native	rare
ROSACEAE (Rose Family)			
<i>Rubus rosifolius</i> Sm.	thimbleberry	non-native	rare
RUBIACEAE (Coffee Family)			
<i>Paederia foetida</i> L.	maile pilau	non-native	common
SAPINDACEAE (Soapberry Family)			
<i>Filicium decipiens</i> (Wight & Arnott) Thwaites ex J.D.Hook	fern tree	non-native	rare
VERBENACEAE (Verbena Family)			
<i>Citharexylum caudatum</i> L.	fiddlewood	non-native	uncommon
<i>Stachytarpheta australis</i> Moldenke	ōwī	non-native	uncommon

FAUNA SURVEY REPORT

SURVEY METHODS

A walk-through fauna survey method was conducted in conjunction with the botanical survey. All parts of the project area including all habitat types were covered. Field observations were made with the aid of binoculars and by listening to vocalizations. Notes were made on species, abundance, activities and location as well as observations of trails, tracks, scat and signs of feeding. In addition an evening visit was made to the area to record crepuscular activities and vocalizations and to see if there was any evidence of occurrence of the Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the area.

RESULTS

MAMMALS

Just one mammal species, domestic cattle (*Bos Taurus*) was recorded in the project area during two site visits. Taxonomy and nomenclature follow Tomich (1986).

An evening survey was conducted at two locations in the project area in order to ascertain the presence of the endemic and Endangered 'ōpe'ape'a or Hawaiian hoary bat. A bat detecting device (Batbox IIID) was employed, set to the frequency of 27,000 Hertz which these bats are known to use for echolocation. No bats were detected at either location with the device.

Other non-native mammals would be expected to be present in this habitat. These include mice (*Mus domesticus*), rats (*Rattus* spp.), mongoose (*Herpestes auro-punctatus*) and cats (*Felis catus*). Mice and rats feed on seeds, fruits and herbaceous vegetation, while the mongoose and cats would prey on these rodents and birds.

BIRDS

Birdlife was moderate both in species diversity and in total numbers seen. Nine species of non-native birds were observed during two site visits to the project area. Taxonomy and nomenclature follow American Ornithologists' Union (2011). One bird species was common: The zebra dove (*Geopelia striata*). Less common were nutmeg mannikin (*Lonchura punctulata*), northern cardinal (*Cardinalis cardinalis*) and Java sparrow (*Padda oryzivora*). Five other species were of rare occurrence (see Animal Species List).

A few other non-native birds would be occasional users of this site, but the habitat is unsuitable for Hawaii's native forest birds which presently occupy native forest uplands beyond the elevational range of mosquitoes and the avian diseases they carry and transmit. This open pasture also does not provide habitat for the other native Endangered birds like the ae'ō or Hawaiian stilt (*Himantopus mexicanus knudseni*), the alae ke'oke'o or Hawaii coot (*Fulica alai*) and the nēnē or Hawaiian goose (*Branta sandvicensis*). None of these native birds were seen.

INSECTS

There were moderate amounts of insect life observed in the project area. Six insect species were recorded during two site visits. Taxonomy and nomenclature follow Nishida (1992). Just one species was common, the dung fly (*Musca sorbens*). One indigenous dragonfly, the globe skimmer (*Pantala falvescens*) was seen.

AMPHIBIANS

Just one non-native amphibian was found during the survey, the Puerto Rican coqui frog (*Eleutherodactylus coqui*). This frog was found to be common across the entire property, and indeed has become widespread across the entire wet windward side of the Big Island. It is considered to be a pest because of its extremely loud nocturnal calls.

DISCUSSION AND RECOMMENDATIONS

The fauna on this property are almost exclusively made up of non-native species that are accidental or purposeful introductions to Hawaii. Just one native insect, the indigenous globe skimmer dragonfly was recorded. The globe skimmer is native throughout the tropics worldwide and is of no conservation concern.

No federally protected animal species were found and no important or critical habitats occur on or near the project area.

The development of this Fire Station project here will not have a significant negative impact on the fauna resources in this part of the Big island.

ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within four groups: Mammals, Birds, Insects and Amphibians. For each species the following information is provided:

1. Common name
2. Scientific name
3. Bio-geographical status. The following symbols are used:
 - endemic = native only to Hawaii; not naturally occurring anywhere else in the world.
 - indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).
 - non-native = all those animals brought to Hawaii intentionally or accidentally after western contact.
 - migratory = spending a portion of the year in Hawaii and a portion elsewhere. In Hawaii the migratory birds are usually in the overwintering/non-breeding phase of their life cycle.
4. Abundance of each species within the project area:
 - abundant = many flocks or individuals seen throughout the area at all times of day.
 - common = a few flocks or well scattered individuals throughout the area.
 - uncommon = only one flock or several individuals seen within the project area.
 - rare = only one or two seen within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
MAMMALS			
<i>Bos taurus</i> L.	cattle	non-native	common
BIRDS			
<i>Geopelia striata</i> L.	zebra dove	non-native	common
<i>Lonchura punctulata</i> L.	nutmeg mannikin	non-native	uncommon
<i>Cardinalis cardinalis</i> L.	northern cardinal	non-native	uncommon
<i>Padda oryzivora</i> L.	Java sparrow	non-native	uncommon
<i>Zosterops japonicus</i> Temminck & Schlegel	Japanese white-eye	non-native	rare
<i>Streptopelia chinensis</i> Scopoli	spotted dove	non-native	rare
<i>Acridotheres tristis</i> L.	common myna	non-native	rare
<i>Carpodacus mexicanus</i> Muller	house finch	non-native	rare
<i>Sicalis flaveola</i> L.	Saffron finch	non-native	rare
AMPHIBIANS			
<i>Eleutherodactylus coqui</i> Dummer's & Bibron	coqui frog	non-native	common

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
INSECTS			
Order DIPTERA - flies			
MUSCIDAE (Housefly Family)			
<i>Musca sorbens</i> Wiedemann	dung fly	non-native	common
Order LEPIDOPTERA - butterflies & moths			
CRAMBIDAE (Grass Moth Family)			
<i>Spoladea recurvalis</i> Fabricius	beet webworm moth	non-native	rare
LYCAENIDAE (Gossamer-winged Butterfly Family)			
<i>Lampides boeticus</i> L.	long-tailed blue	non-native	uncommon
NYMPHALIDAE (Brush-footed Butterfly Family)			
<i>Vanessa agraulis</i> L.	Passion flower butterfly	non-native	common
Order ODONATA - dragonflies & damselflies			
LIBELLULIDAE (Skimmer Dragonfly Family)			
<i>Pantala flavescens</i> Fabricius	globe skimmer	indigenous	rare
Order ORTHOPTERA - grasshoppers & crickets			
ACRIDIDAE (Grasshopper Family)			
<i>Oxya japonica</i> Thunberg	small rice grasshopper	non-native	uncommon



Figure 1 Project Map



Figure 2 - Survey Area

Literature Cited

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- Nishida, G.M. & G.A. Samuelson, J.S. Strazanac & K.S. Kami. 1992. Hawaiian Terrestrial Arthropod Checklist. Hawaiian Biological Survey.
- Staples, G.W. and D.R. Herbst. 2005. A Tropical Garden Flora – Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu.
- Tomich, P.Q. 1986. Mammals in Hawaii. Bishop Museum Press, Honolulu.
- U.S. Fish and Wildlife Service. 2014. Endangered and threatened wildlife and Plants. Listings and Occurrences for Hawaii. www.fws.gov/endangered.
- Wagner, W. L., D.R. Herbst, and S. H. Sohmer. 1999. Manual of the Flowering Plants of Hawai'i. Univ. of Hawai'i Press and Bishop Museum Press. Honolulu.

Appendix **D**

ARCHAEOLOGICAL INVENTORY SURVEY AND STATE HISTORIC PRESERVATION DIVISION APPROVAL LETTER

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



**HISTORIC PRESERVATION DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES**

601 Kamokila Boulevard, Suite 555
Kapolei, HI 96806

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAIHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

April 9, 2014

Glenn Escott c/o Robert Spear
Scientific Consulting Services
711 Kapiolani Blvd. Suite 975
Honolulu, Hawai'i 96813

LOG NO: 2014.00662
DOC NO: 1404SN15
Archaeology

Dear Mr. Escott:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –
Archaeological Inventory Survey for the Proposed Haihai Street Fire Station
Waiākea Ahupua'a, South Hilo District, Island of Hawai'i
TMK: (3) 2-4-051:001 (portion)**

Thank you for submitting the report titled *An Archaeological Inventory Survey of Approximately 2.0-Acres of Land for a Proposed Fire Station on Haihai Street, Waiākea Ahupua'a, South Hilo District, Island of Hawai'i TMK (3)2-4-051:001 POR*. (G. Escott, September, 2013). We received your submittal on February 25, 2014.

The survey area described in the report is consists of two-acres of a 35.696-acre parcel. The fieldwork portion of this survey included a 100% pedestrian survey. Two historic properties were identified (SIHP 50-10-35-30039 and 30040) as a result of this survey work. The sites consisted of four rock mounds determined to be rock clearing mounds associated with sugarcane field clearing within the Waiākea Sugar Mill Company's cane lots. SHPD agrees with the significance assessments (criterion "d") and treatment recommendations (no further work) for these sites.

With a few minor editorial revisions, this report meets the requirements of HAR13-276 and is accepted by SHPD. Please send one hardcopy of the document, clearly marked FINAL, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office, attention SHPD Library.

Please make the following revisions to the final document:

1. Page 17; please include Kelly and Athens 1982 in the reference section.
2. Page 23, paragraph 5; please revise the sentence, "CSH conducted as archaeological on a 163-acre..."
3. Figure 10 on page 25 is duplicated on page 27. Please revise.

Please contact Sean Nāleimaile at (808) 933-7651 or Sean.P.Naleimaile@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,

A handwritten signature in black ink, appearing to read "Theresa Donham".

Theresa Donham,
Archaeology Branch Chief

**AN ARCHAEOLOGICAL INVENTORY SURVEY
OF APPROXIMATELY 3.0 ACRES OF LAND FOR A
PROPOSED FIRE STATION ON HAIHAI STREET,
WAIĀKEA AHUPUA‘A, SOUTH HILO DISTRICT,
ISLAND OF HAWAI‘I, HAWAI‘I
[TMK: (3) 2-4-051:001 (POR.)]**

Prepared by:
Glenn Escott, M.A.

April 2014
FINAL

Prepared for:
KYA Design Group
934 Pūmehana Street
Honolulu, Hawai‘i 96826

ABSTRACT

At the request of KYA Design Group, Scientific Consultant Services (SCS), Inc. conducted an Archaeological Inventory Survey (AIS) of 3.0 acres [TMK: (3) 2-4-051:001 (por.)] located on Haihai Street, in the *ahupua‘a* of Waiākea, South Hilo District, Island of Hawai‘i. The project area is located approximately 5.0 kilometers south of Hilo Bay and is bounded by Haihai Street to the north, Laula Street to the east, by agricultural land to the south, and by a residential subdivision to the west. The State of Hawai‘i is considering an option to use a 2.0-acre portion of the parcel, currently leased as cattle pasture by the State of Hawai‘i Department of Land and Natural Resources (DLNR), for the proposed construction of a fire station. Two archaeological sites (Site 50-10-35-30039 and Site 50-10-35-30040) were located in the project area. The two archaeological consist of a total of four rock mounds. The rock mounds are sugarcane field clearing mounds associated with the Waiākea Sugar Mill company cane lots.

SCIENTIFIC CONSULTANT SERVICES Inc.

1347 Kapi‘olani Boulevard, Suite 408 Honolulu, HI 96814

Hawai‘i Island Office: PO Box 155 Kea‘au, HI 96749

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INTRODUCTION

PROJECT AREA DESCRIPTION

At the request of KYA Design Group, Inc., Scientific Consultant Services (SCS), Inc. conducted an Archaeological Inventory Survey (AIS) of 3.0 acres [TMK: (3) 2-4-051:001 por.] located on Haihai Street, in the *ahupua'a* of Waiākea, South Hilo District, Island of Hawai'i (Figures 1, 2, 3, and 4). The project area is located approximately 5.0 kilometers south of Hilo Bay and is bounded by Haihai Street to the north, Laula Street to the east, by agricultural land to the south, and by a residential subdivision to the west. The State of Hawai'i is considering an option to use a 2.0-acre portion of the parcel, currently leased as cattle pasture by the State of Hawai'i Department of Land and Natural Resources (DLNR), for the proposed construction of a fire station.

SCOPE OF WORK

The Archaeological Assessment was undertaken in accordance with Hawai'i Administrative Rules 13§13-284 and 13§13-275, and was performed in compliance with the Rules Governing Standards for Archaeological Inventory Surveys and Reports contained in Hawai'i Administrative Rules 13§13-276. The investigation included the following procedures:

1. Historical and archaeological archival research was conducted including a search of historic maps, aerial photos, written records, Land Commission Award documents, and State and County Planning Division documents, and previous archaeological reports. The research was aimed at determining past land-use in the project area parcel.
2. An oral interview was conducted with Mr. Mike Tulang, the current property lessee. Mr. Tulang has been pasturing cattle on the property for the last 15 years.
3. A 100 percent pedestrian survey of the project area. All sites and features were located, mapped (GIS), described, drawn at appropriate scales, and photographed. Sites were assigned temporary numbers pending State Historic Preservation Division (SHPD) assignment of SIHP site numbers.
4. Limited subsurface testing was conducted at sites, where warranted, to determine depth, quantity, and context of cultural materials and to obtain samples for radiocarbon dating.

METHODS

Prior to fieldwork, a search of geological maps, aerial photos, historical maps, historical documents, and previous archaeological reports was conducted. The project area was found to exist entirely within Lot 907 of the former Waiākea Sugar Mill Cane Lots. Documents and maps were studied to determine if pre-Contact or Historic era sites or features were ever present on the project area or in the surrounding area.

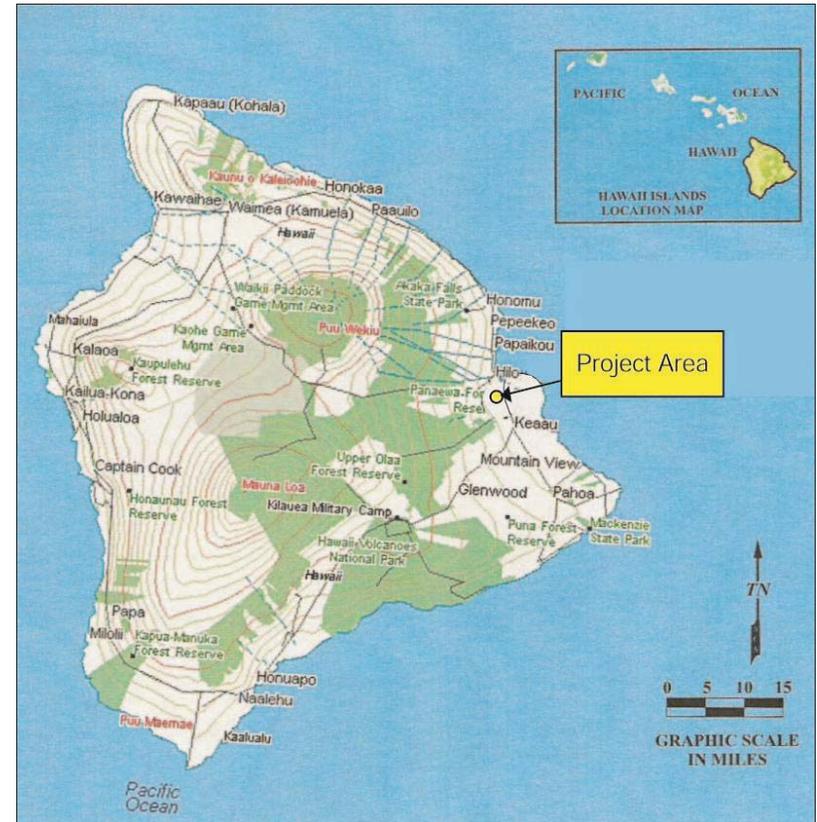


Figure 1: Map of Hawai'i Island Showing Project Location.

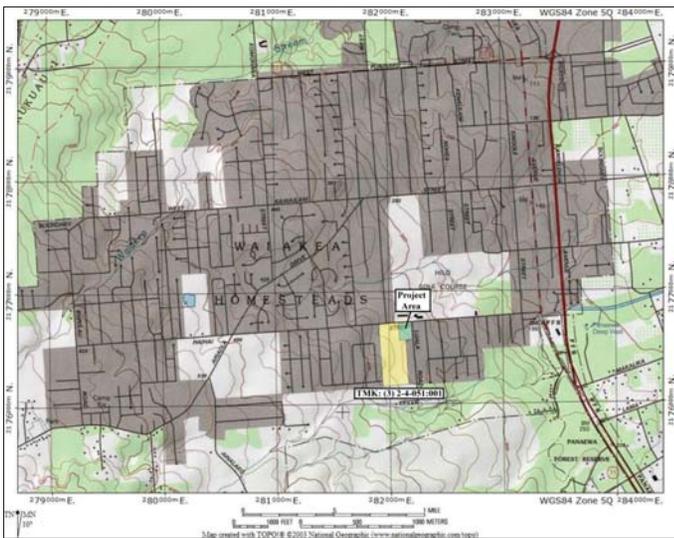


Figure 2: 7.5-Minute Series USGS Topographic Map Showing Location of Parcel 051 (Yellow) and Proposed Fire Station Project Area (Blue) (Hilo, Quad, National Geographic Topo, 2003).



Figure 3: TMK: (3) 2-4-051 Map Showing Location of Project Area (Hawai'i County Planning Department 2013).

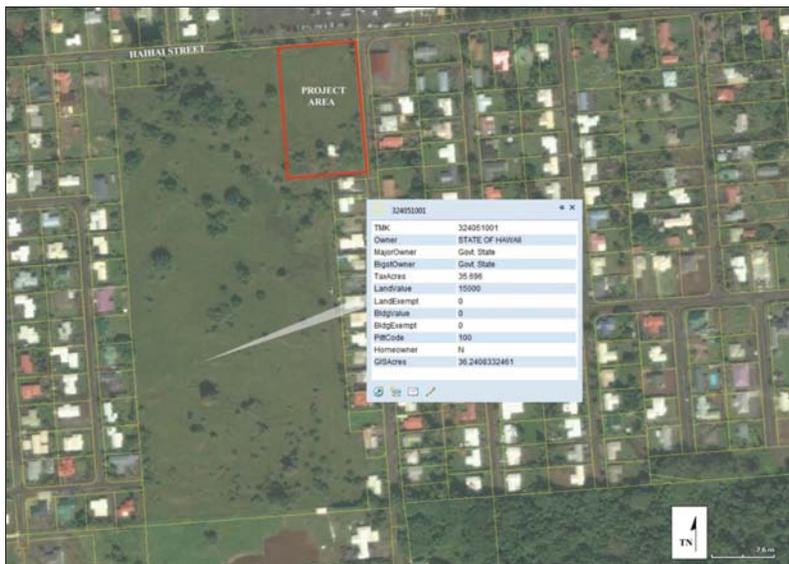


Figure 4: Aerial Photograph Showing Proposed Fire Station Project Area Location (Red) on TMK: (3) 2-4-051:001 (ESRI, 2012).

A search of the surrounding area was made for historic properties listed on the National Register of Historic Places or on the Hawai'i Register of Historic Places. There are no historic properties on either list close to the project area.

A pedestrian survey and recording and testing of features on the 3.0-acre project area was conducted by Glenn Escott, M.A. on December 30, 2013, and February 3 and 7, 2014. The field effort totaled 20 man-hours. The surveyed 3.0-acre project area is larger than the proposed fire station facilities. The pedestrian survey consisted a series of east/west transects spaced 5.0 meters apart across the entire 3.0 acre project area. The ground surface was grazed grass, and ground visibility was excellent. Glenn Escott is the principal investigator for the project.

The integrity of archaeological sites was assessed during the current study by observing alterations to the original construction of the features. During the current study, the primary impact to archaeological features was noted to be slight alterations caused by cattle, weathering, and vegetation.

Determination of Site Boundaries

Site boundaries were determined by grouping features that are in close proximity into sites. The primary features are rock mounds created while clearing sugarcane fields. The site boundaries do not represent the entirety of the sugarcane fields for which the rock mounds were created. They are a small portion of the rock mounds present throughout the Waiākea Sugar Mill Cane Lots. The actual sugarcane field boundaries are documented in numerous maps reproduced in numerous studies (Escott 2004, Escott 2014, Maly 1996, and Maly et al. 1994).

Stratigraphic Trenches

A single stratigraphic trench (ST) was excavated within one rock mound feature. The ST was excavated by hand to bedrock. Soil and sediment removed from the ST was not screened. Artifacts (modern bottle glass fragments) identified within the ST were removed and photographed. The base of excavation and all profiles were photographed. The west profile of the ST was drawn to scale and layers were labeled using Munsell soil color designations and the U.S. Department of Agriculture Soil Survey Manual.

This report contains background information outlining the environmental and cultural contexts of the project area, a section on methods, a presentation of previous archaeological work within the study area and in the immediate vicinity, current survey expectations based on that previous work, and the results of the survey.

ENVIRONMENTAL SETTING

LAVA FLOWS

The project area consists of a portion of an undeveloped parcel [TMK: (3) 2-4-051:001] situated on gently sloping to level land between 100 m (330 feet) to 116 m (380 feet) above mean sea level (amsl). The project area substrate is a single Mauna Loa lava flow dated to between 5,000 and 10,000 years before present (ybp) (Wolfe and Morris 1996). Soils in the project area belong to the Pana'ewa very rocky silty clay loam (Sato 1973:45). Sugarcane was cultivated in the area of the current project. The property is currently used as cattle pasture.

RAINFALL AND DRAINAGE

Rainfall in the project area is high, ranging between 330 and 440 centimeters (150 and 200 inches) per year (Kelly *et al.* 1981). Natural drainage in the area runs from southwest to northeast and from west to east. There are no seasonal gulches or drainage spillways in the immediate area. The Haihai Street side of the project area is low and holds standing water during the rainy season. Rainwater runoff is high along the boundary between Haihai Street and the northern edge of parcel 051.

VEGETATION

Plant communities in the project area are dominated by a small range of grasses. The grasses are cropped low by cattle grazing. There are a small number of bushes and trees along the edges of the project area, including *waivi* (*Psidium cattleianum*) and common guava (*Psidium guajava*), and African tulip trees (*Spathodea campanulata*) (Starr Environmental 2013).

MODERN STRUCTURES

There is a modern shed within the southern portion of the property (see Figure 4). The shed is less than 50 years old. It was constructed by the last property lessee and has been improved by the current lessee (Mike Tulang interview). The shed is constructed of four by four posts and has a corrugated fiberglass roof.

The shed is used for storage of ranching supplies, storage of building material, and has a squeeze chute for restraining cattle during veterinary procedures and during artificial insemination. Galvanized metal feed and watering basins are located in a small pen built onto the south side of the shed.

HISTORICAL AND CULTURAL CONTEXTS

Hilo was, by most estimates, one of the first settlements on the Island of Hawai'i and was settled between A.D. 300 and 600. The rich marine resources of Hilo Bay and the gently sloping forests of Mauna Loa and Mauna Kea provided abundant resources. Fresh water was available from the Wailoa and Wailuku rivers and smaller streams such as Waiākea, Waiolama, Pukihāe, and 'Alenaio.

The project area is located in the *ahupua'a* of Waiākea, Hilo Hanakāhi 'Okana, in the *moku-o-loko* (district) of Hilo (Maly 1996:4–5) (Figure 5). The *ahupua'a* of Waiākea is large, consists of roughly 95,000 acres, and was regarded as a region of abundant natural resources and numerous fishponds. Waiākea was also an early important political center, notably under chief Kulukulu'a (Kelly *et al.* 1981:3). Kamehameha lived and often returned to his *'ili kūpono* (independent land division where all tributes were paid to the chief of the *'ili* and not the *ahupua'a*) lands of Pi'opi'o in the *ahupua'a* of Waiākea (Figure 6). The *'ili kūpono* lands and its royal fishpond were passed on to his son Liholiho after his death.

TRADITIONAL SETTLEMENT PATTERNS, SUBSISTENCE, AND LAND-USE

Historical accounts and archaeological/cultural studies pertaining to the *ahupua'a* of Waiākea (Ellis 1963; Bingham 1969; Handy and Handy 1972; Bird 1974; McEldowney 1979; Kelly *et al.* 1981; and Maly 1996) provide a wealth of information on traditional settlement patterns, land-use, and subsistence horticulture of the area. These are synthesized below as they allude to the types of sites that may be encountered in the project area.

Historical accounts of residence patterns, land-use, and subsistence horticulture are believed to be indicative of traditional practices developed long before contact with Europeans (McEldowney 1979). Early accounts describe several distinct environmental regions in Waiākea.

From the coast inland five or six miles, scattered subsistence agriculture was evident, followed by a region of tall fern and bracken, flanked at higher elevations by a forest region between 10 and 20 miles wide, beyond which was an expanse of grass and lava (Ellis 1969:403). The American Missionary C.S. Stewart wrote, "the first four miles of the country is open and uneven, and beautifully sprinkled with clumps, groves, and single trees of the bread-fruit, pandanus, and candle tree" (Stewart 1970:361–363).

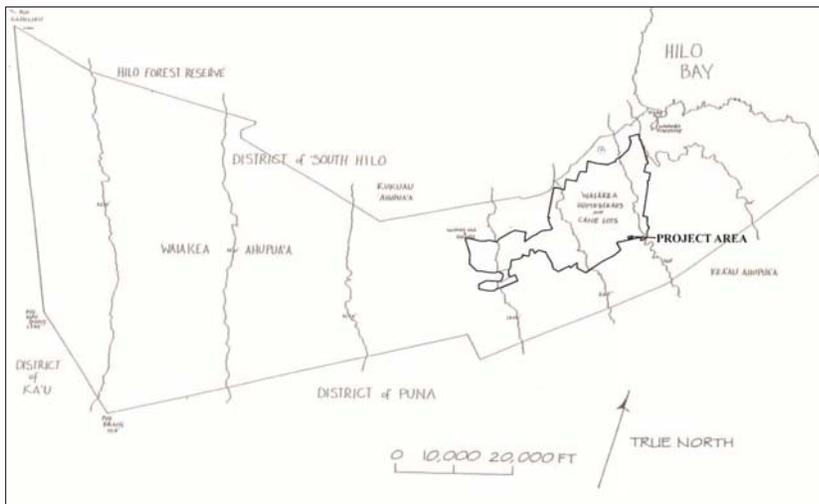


Figure 5: Map of Waiākea Ahupua'a Showing Project Area and Waiākea Cane and Homestead Lots (adapted from Bush *et al.* 2000).

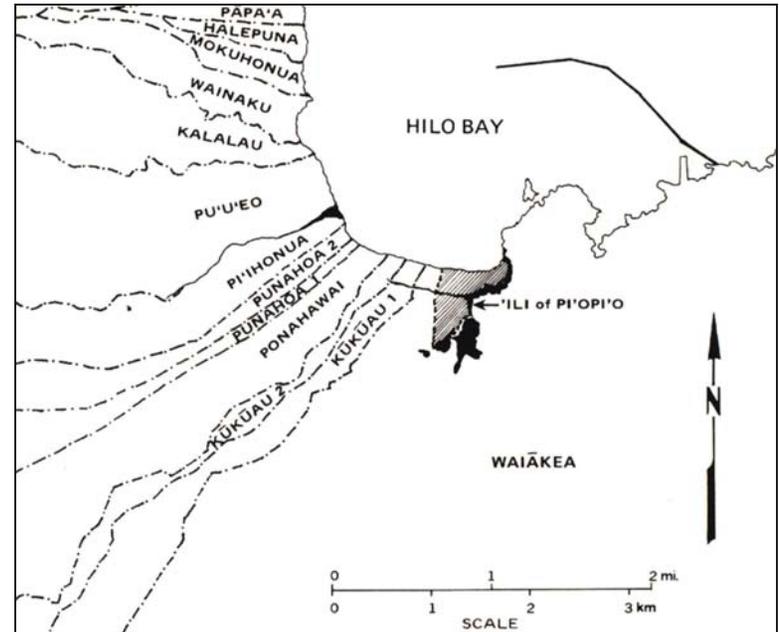


Figure 6: 'Ili Kūpono Lands of Pi'opi'o (Kelly *et al.* 1981).

The majority of Waiākea's estimated 2,000 inhabitants (in 1825) lived within this coastal region (Ellis 1969:253). Taro, plantains, bananas, coconuts, sweet potatoes, and breadfruit were grown individually or in small garden plots. Fish, pig, dog, and birds were also raised and captured for consumption.

The present study area is located along the upper reaches of the open coastal region and the lower reaches of the tall fern and bracken zone. It is located in McEldowney's "upland agricultural zone" (see Previous Archaeology section) consisting of "scattered huts" amidst "garden plots" created through "shifting agriculture" (McEldowney 1979:18-19).

Wood, such as *ohi'a* and *koa* for house construction, canoe building, and fires was obtained from this upland agricultural zone, and from the dense forests above (Ellis 1963:236). *Hala* for thatching was also known to be plentiful along the lava flows of eastern Waiākea (Ellis 1917, cited in Kelly *et al.* 1981:20). Of particular interest is a description of bird snaring and mention of banana growing in upland areas similar to the present study (Maly 1996:6–8).

THE MĀHELE OF 1848 AND LAND COMMISSION AWARDS

The *ahupua'a* of Waiākea became Crown Lands during the *Māhele* of 1848 and in the following years, twenty-five Land Claims were awarded within the *ahupua'a* of Waiākea (Table 2). The awards were small in area, 24 of which went to native claimants. No Land Commission awards were made near the project area, and all but two were located near the coast.

Table 1: Land Commission Awards in Waiākea Ahupua'a.

Grantee	LCA	Acreage
Barenaba	2327	12.25
Halai, L.K.	1279	0.60
Hale	40004	4.25
Kahue	2663	3.75
Kaiana, J.B.	2281	10.25
Kaihenui	11050-B	5.19
Kalolo	1333	2.25
Kalua	8854	3.40
Kaluhikaua	1738	2.98
Kamamalu, V.	7713	'Ili 'aina
Kamanuhaka	8803	1.02
Kapu	1-F	1.60
Kealiko	11174	1.00
Keaniho	2402	5.00
Keawe	5018	0.24
	10505	—
Kuaio	4344	1.22
Leoi	9982	0.80
Lolo	4738-B	1.27
Mahoe	1-E	4.46
Moealoha	4737	1.03
Nakai	4785	1.05
Napeahi	2603	1.30
Wahine	4737-B	1.01
Wahinealua	11173	2.50
Wahinohoihilo	10004	1.69

CHANGING RESIDENTIAL AND LAND-USE PATTERNS (1845–1865)

Between 1845 and 1865, traditional land-use and residential patterns underwent a change. In particular, the regular use of Hilo Bay by foreign vessels, the whaling industry, the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugarcane cultivation all brought about changes in settlement patterns and long-established land-use patterns (Kelly *et al.* 1981). Hilo became the center of population and traditional settlements along the shoreline in outlying regions declined or disappeared. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugarcane plantations and industrial facilities were established in areas that were once upland agricultural areas and coastal settlements, respectively.

WAIĀKEA MILL COMPANY

On July 15, 1861, S. Kipi leased the Crown Land of Waiākea from Kamehameha IV to be used as pastureland for an annual amount of \$600 (Kelly *et al.* 1981:89). In 1874, Rufus A. Lyman was granted a 25-year property lease (General Lease 124-A) within Waiākea, encompassing the government pastureland (Maly 1996:26). The lease granted him all privileges of land use including the cutting of firewood and the use of fishponds. The newly established Waiākea Mill Company, founded by Alexander Young and Theo H. Davies, acquired Rufus A. Lyman's General Lease 124-A in 1879 (with an extension of terms until June 1, 1918 [Maly 1996:27]). By the early 1900s, Waiākea plantation was cultivating sugarcane on over 6,000 acres of government land in Hilo (Kelly *et al.* 1981:89,120).

In 1911, the Waiākea Mill Company applied for a title to several portions of its leased land, but was rejected by the Board of Public Lands. Rather than renew the lease with the Waiākea Mill Company, the government decided to sell some of the land as homestead lots and to lease a portion of the land to small cultivators as cane lots. These became known as the Waiākea Homestead and Cane Lots (see Figure 5 and Figure 7). By 1919, more than 2000 acres of land were purchased as house lots and 5,300 acres was leased to private growers for cane production (Maly 1996:27–28). Sugarcane grown on these lots was, by terms of contract, to be processed by the Waiākea Mill Company for a share of the profits. The current project area is located within the northeast corner of Lot 907 (see Figure 7 and Figure 8).



Figure 7: Waiakēa Mill Company Cane and Homestead Lots Map Showing Location of Project Area (Blue) (Williams 1933).

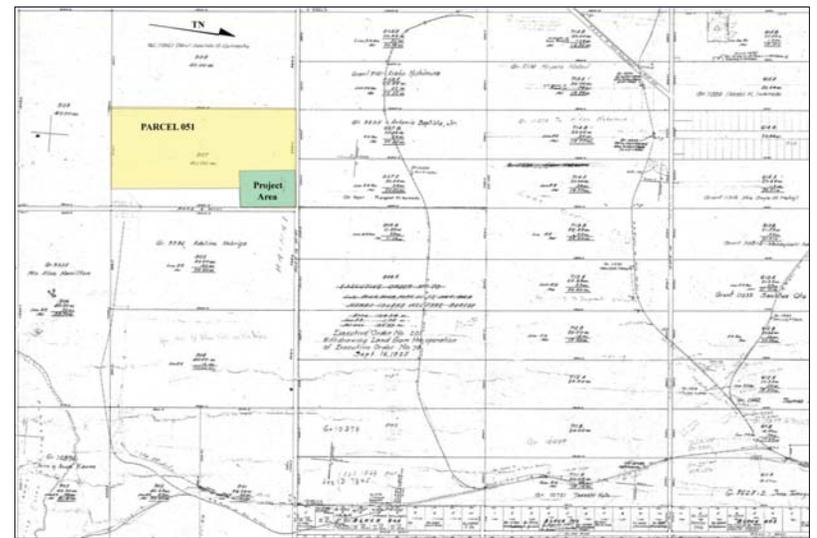


Figure 8: Portion of Waiakēa Cane Lots Map Showing Lot 907 (Parcel 051 Shaded Yellow) and Proposed fire Station (Blue) (Cook and Arioli 1918).

The Waiākea Homestead house lots were surveyed as one-acre parcels. The majority of the lots are along Kīlauea and Kino'olo Street. The cane lot parcels were surveyed *mauka* (west) of the house lots, and were approximately twenty to forty acres in area. Rainfall in the area was ample for sugarcane cultivation, and the soils were deep and fertile enough for good yields.

However, a lack of cooperation and coordination by the mill company, as well as a lack of proficiency on the part of some cultivators to grow cane, created substantial losses for those that entered into the cane lot agreements (*ibid*:28). In period between 1920 and 1923, it became apparent that many who had entered into contracts to pay off their cane lot agreements through the sale of cane to the mill company, would not be able to meet their obligation. In 1925, after an investigation, a settlement was reached, whereby homesteaders were given a sixteen year extension to purchase their land.

The current project area is in the northeast corner of Cane Lot 907, a 40.0 acre parcel of land. A 1918 map of the area shows a Waiākea Mill company railroad track extending just south of Lot 907 (see Figure 8). A 1933 shows spurs of the railroad track passing through the southern and central portions of the project area. It is possible these are temporary portable tracks. There is no railroad bed or track remains within the project area.

By 1938, many homesteaders who had paid off their land began to subdivide their property into residential lots (*ibid*:29). They built roads to connect the lots and brought in water, gas, and electricity to each lot. The process only increased after the Waiākea Mill Company ceased operations in 1946. Over the years, many of the cane lots have been subdivided into residential house lots. The project area is currently used to pasture cattle. The land surrounding the current project area is now primarily residential neighborhoods. The property across Haihai Street from the project area is the Municipal Golf Course. The property across Luala Road from the project area is AJA Veterans Council.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Numerous archaeological investigations have been carried out within Waiākea Ahupua'a, in both the Hilo Bay Front area and within the former Waiākea Mill Company Cane Lots (see Figure 7) southwest of Hilo Town. Many of the previous archaeology projects are located in the vicinity of the University of Hawai'i at Hilo, at an elevation both above and below Komohana Street. Only one project has been conducted in the Waiākea Cane Lots, further south, near the current project area. Table 2 below summarizes major findings and Figure 9 shows the location

of archaeological investigations conducted in the former sugarcane fields of western Waiākea Ahupua'a that are relevant to the current project area.

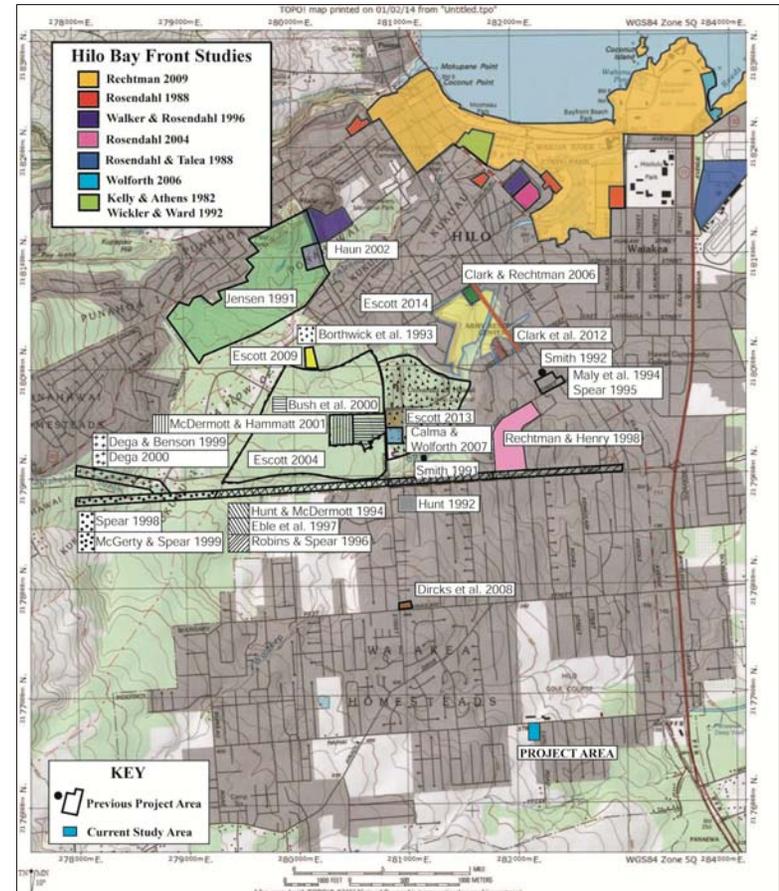


Figure 9: 7.5-Minute Series USGS Topographic Map Showing Location of Previous Archaeological Studies (Hilo, Quad, National Geographic Topo, 2003).

Table 2: Previous Archaeological Research in Waiākea Ahupua‘a.

Reference	Location	Description & Results
Thrum 1907	Waiākea <i>Ahupua‘a heiau</i> sites	List of <i>heiau</i> in Waiākea —none located near present project area.
Thrum 1908	Waiākea <i>Ahupua‘a</i>	List and description of <i>heiau</i> in Waiākea —none located near present project area.
Hudson 1932	East Hawai‘i Island	Detailed description of various sites in the Hilo area.
McEldowney 1979	Hilo Bay area	Zonal Characteristics—Land – use study
Kelly, Nakamura, and Barrère 1981	Hilo Bay area	History of Hilo Bay
Kelly & Athens 1982	Cultural Resources Reconnaissance at Wailoa River	No Archaeological Sites at Wailoa River
Rosendahl & Talea 1988	Archaeological Reconnaissance Survey at Hilo Airport	No Archaeological Sites
Rosendahl 1988	Archaeological Reconnaissance Survey at Four Locations in Hilo	No Archaeological Sites
Smith & Tourtellotte 1988	Burial Discovery at Mouth of Wailoa River	Single Burial. Location not shown on previous archaeology map figure.
Jensen 1991	AIS in Ponahawai <i>Ahupua‘a</i> TMK: (3) 2-3-044:09	Site 50-10-35-14946, an early historic house and sugar cane site. Site 50-10-35-14947, the Hilo Boarding School and Old Mission Ditch
Smith 1991	Waiākea <i>Ahupua‘a</i> , South Hilo, Hawai‘i Island TMK: 3-2-4-01:7	List and description of sites on the 4000+BP and 1500-750BP lava flows. Inventory survey recommended.
Stokes and Dye 1991	Hawaii Island	List and description of <i>heiau</i> of Hawaii Island
Smith 1992	Waiākea Cane Lots, Waiākea <i>Ahupua‘a</i> , South Hilo, Hawai‘i Island TMK: 3-2-4-56:1	Numerous cane field features including walls, clearing mounds, a large rectangular enclosure, and c-shaped enclosures.
Moniz 1992	Waiākea <i>Ahupua‘a</i> , Hilo Hawai‘i	A listing of 1979-1992 inventory survey results within Waiākea <i>Ahupua‘a</i> that document walls, mounds, platforms, and faced terraces.
Hunt	Lands of Waiākea, Kūkūau 1 &	Interim inventory survey report

Reference	Location	Description & Results
1992	2, and Ponahawai <i>ahupua‘a</i> , South Hilo District, Hawai‘i (Puinako Street Extension Project)	listing 31 cane field features including walls, clearing mounds, platforms, and faced terraces.
Wickler & Ward 1992	Archaeological Investigation at ‘Alenaio Stream at Bay Front	Historic Artifacts Only, No Sites
Borthwick, Collins, Folk, and Hammatt 1993	Waiākea <i>Ahupua‘a</i> TMK: 2-4-01:7 and 41	Inventory survey of 163 acres of UH property along and east of Komohana Street. Documents four historic sites associated with sugar cane agriculture. No further work recommended.
Hunt and McDermott 1994	Lands of Waiākea, Kūkūau 1 & 2, and Ponahawai <i>ahupua‘a</i> , South Hilo District, Hawai‘i (Puinako Street Extension Project)	Inventory survey final report (completion of Hunt 1992) documenting 13 historical sites associated with sugar cane agriculture.
Maly, Walker, and Rosendahl 1994	Lands of Waiākea, South Hilo TMK: 2-4-57:01	Inventory survey of 4.5 acres in the Waiākea Cane Lots documenting four sites associated with historical sugar cane agriculture. Forty-seven features were recorded including walls, clearing mounds, and terraces. One radiocarbon date and recovered artifacts suggest prehistoric land-use in the project area. Data recovery recommended.
Spear 1995	Lands of Waiākea, South Hilo TMK: 2-4-57:01	Data recovery report of Maly <i>et al.</i> (1994) parcel documenting historic sugar cane agricultural features and a few temporary habitations. No further archaeological work recommended.
Maly 1996	Waiākea Cane Lots (12, 13, 17, 18, 19, 20 & 20-A, District of South Hilo, Island of Hawai‘i	Oral interviews and archival research pertaining to Waiākea Cane Lots. Provides background of pre-Contact land-uses in the area and description of sugar cane agricultural features, their construction, and uses.

Reference	Location	Description & Results
Robins and Spear 1996	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai, South Hilo District, Island of Hawai‘i (Puainako Street Realignment/Extension Project)	Inventory survey of proposed realignment of Puainako Street Extension Corridor documenting 30 new features at 3 sites (Hunt and McDermott 1994), and one new site containing 16 features. Sites and features are associated with historic sugar cane agriculture.
Walker & Rosendahl 1996	Archaeological Assessment at Hilo Judicial Complex	Five Historic Sites
Eblé, Denham, and Pantaleo 1997	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai Ahupua‘a, South Hilo District, Hawai‘i (Puainako Street Extension Project)	Supplemental testing of features (six sites) documented in Hunt and McDermott (1994). Features associated with historic sugar cane agriculture. Recommended preservation of several sites within the project area.
Rechtman & Henry 1998	Archaeological Inventory Survey on 40 acres at UH-Hilo	117 sugarcane era agricultural rock mounds, walls, and enclosures.
Spear 1998	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai, South Hilo District, Island of Hawai‘i (Puainako Street Realignment/Extension Project)	Reconnaissance-level survey of proposed realignment of Puainako Street Extension Corridor documenting 27 new features associated with historical sugar cane agriculture.
McGerty and Spear 1999	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai, South Hilo District, Island of Hawai‘i (Puainako Street Realignment/Extension Project)	Inventory survey of Spear (1998) parcel documenting 17 features: 15 historic sugar cane agriculture features and two features associated with a modern pig farm. All features were added to site 50-10-35-18921. Data Recovery recommended.
Dega and Benson 1999	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai, South Hilo District, Island of Hawai‘i (Puainako Street Realignment/Extension Project)	Reconnaissance-level survey of proposed realignment of Puainako Street Extension Corridor documenting eight sites containing 18 features including 12 clearing mounds, two platforms, two walls, a rock alignment, and an ‘auwai. All but the ‘auwai were associated with historic sugar cane cultivation. The ‘auwai was described as a pre-Contact feature likely also utilized in historic cane field agriculture.

Reference	Location	Description & Results
Dega 2000	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai, South Hilo District, Island of Hawai‘i (Puainako Street Realignment/Extension Project)	Inventory survey of Dega and Benson (1999) parcel documenting eight new features (at Site 50-10-35-18921) associated with sugar cane agriculture.
Dega and Spear 2000	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai, South Hilo District, Island of Hawai‘i (Puainako Street Realignment/Extension Project)	Preservation plan for sites 50-10-35-18914, 18915, 18917 and a boulder path/alignment recorded by Eblé <i>et al.</i> (1997). See Eblé <i>et al.</i> (1997) project area location on previous archaeology map figure.
Bush, McDermott, and Hammatt 2000	Lands of Waiākea, South Hilo TMK: 2-4-01: 122, South Hilo, Hawai‘i Island (USDA Pacific Basin Agricultural Center Project)	Inventory survey of 20 acres along western edge of Komohana Street, and adjacent to east-central portion of current project area. Documents one skylight (site 50-10-35-22080) containing a single human femur. Preservation recommended.
McDermott and Hammatt 2001	Lands of Waiākea, South Hilo TMK: 2-4-01: 122, South Hilo, Hawai‘i Island (USDA Pacific Basin Agricultural Center Project)	Inventory survey of 10 acres adjacent (west) to Bush <i>et al.</i> (2000) documenting two historic sites (one feature each), including a modified outcrop and a stone causeway. No further work recommended.
Haun 2002	Archaeological Field Inspection of eight acres in Ponahawai Ahupua‘a TMK: (3) 2-3-037:001	Historic sugar cane agricultural features and house site.
Rosendahl 2004	Archaeological Assessment at Hilo Judicial Complex	No Archaeological Sites
Escott 2004	AIS of 258 Acres, Waiākea Ahupua‘a [TMK: 3-2-4-01:122].	Sixteen sites associated with sugar cane agriculture, ranching, and WWII training.
Wolforth 2006	AIS at Reed’s Bay Beach Park	Two Pre-Contact and Three Historic Sites
Clark & Rechtmen 2006	Section 106 Mohouli St	One Historic Era Rock Mound
Calma & Wolforth 2007	AIS of 5.22 Acres Waiākea Ahupua‘a [TMK: 3-2-4-01:1007	Six sugar cane rock clearing mounds identified. No further

Reference	Location	Description & Results
	por.]	work recommended.
Rechtman 2009	Archaeological Assessment - Hilo Bay Front to Reed's Bay	No archaeological sites present.
Escott 2009	AA of 5.0 acres Waiākea Ahupua'a [TMK: (3)-2-4-01:176]	No archaeological sites present.
Escott 2013	AIS of 4.4 Acres Waiākea Ahupua'a [TMK: (3)-2-4-001:007]	A rock wall and rock clearing mound associated with sugarcane agriculture.
Clark <i>et al.</i> 2012	AIS of 9.4 Acres Waiākea Ahupua'a [Kapi'olani St. Extension]	Four Historic era sites including two drainage ditches, a rock mound, and the Hilo Dairy structure foundations.
Escott 2014 (Draft)	AIS of 42.6 Acres at UHH	Eighteen sugarcane agriculture and Hilo Dairy sites recorded.

The above listed archaeological and historical investigations are instrumental to understanding broad patterns of land-use in the Hilo area (see McEldowney 1977, Kelly *et al.* 1981, Maly 1996), general trends in the distribution of formal archaeological features in the Hilo area (see Thrum 1907 and 1908, Hudson 1930, Smith 1991, Moniz 1992, Spear 1993), and for formulating archaeological expectations at the present project area (see Jensen 1991, Borthwick *et al.* 1993, Hunt and McDermott 1994, Spear 1995, Robins and Spear 1996, McGerty and Spear 1999, Dega 2000, Bush *et al.* 2000, McDermott and Hammatt 2001, Haun 2002, and Escott 2004).

REGIONAL ARCHAEOLOGICAL STUDIES

McEldowney (1979)

McEldowney (1979) provides an overview of changing land-use patterns in the Hilo area based on early historic accounts. She proposes that Hawaiians utilized land in accordance to five elevation zones (1979:14). Land-use zones are classified as (I) coastal, (II) upland agricultural, (III) lower forest, (IV) rainforest, and (V) sub alpine, or montane. The inhabitants of Waiākea Ahupua'a had access to resources in all five of McEldowney's zones.

The present project is situated in the upland agricultural zone (50 to 1,500 feet) described as unwooded grasslands and extensive dryland cultivation plots. McEldowney suggests this region was likely deforested prior to European contact through shifting agricultural practices such as swiddening. Site types consist of scattered houses adjacent to garden and arboreal plots on older *pāhoehoe* and 'a'ā flows with well-developed soils. Modified lava tubes and tubes used for cultural practices are also common in the upland agricultural zone.

Smith (1991)

Smith (1991) also comments on site distribution in the ahupua'a of Waiākea based on Mauna Loa lava flows, including a portion of the 1880-1881 *pāhoehoe* flow, a *pāhoehoe* flow dating to 750-1,500 ybp, and a *pāhoehoe* flow dating to 5,000-10,000 ybp. He notes that the majority of sites are located on the older lava flow, which has deeper, more developed soils.

Kelly *et al.* (1991)

Kelly *et al.* (1991) also contributes to an historical understanding of changing land-use patterns following European involvement in the economy of Hawai'i. In particular, the regular use of Hilo Bay by foreign vessels, the whaling industry, the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugarcane cultivation all brought about changes in settlement patterns and long-established land-use patterns. Hilo became a population center and settlements in outlying regions declined. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugarcane plantations and industrial facilities were established in areas that were once upland agricultural areas and coastal settlements.

Thrum (1907 and 1908), Hudson (1932), and Stokes and Dye (1991)

Thrum (1907 and 1908), Hudson (1932), and Stokes and Dye (1991) represent early archaeological efforts to document site distribution pertinent to the greater Hilo area. Hudson notes there were already no archaeological sites remaining in the city of Hilo by the early 1930s (Hudson 1932:236). All three authors note the dismantling of well-known *heiau* in the Hilo area (Thrum 1908:240, Hudson 1932:236, Stokes and Dye 1991:152).

INVESTIGATIONS SPECIFIC TO SUGARCANE AGRICULTURE

Several recent archaeological and historical investigations completed in the former Waiākea sugarcane lots that have direct bearing on the types and distribution of expected sites and features. The majority of these reports document historic-era sites on well-developed ash and organic soils overlaying a Mauna Loa *pāhoehoe* flow dating to 5,000-10,000 ybp. Sites are primarily the remains of sugarcane field clearing and in-field collection and processing architecture. The reports provide insight into predicting the types of sites located on former sugarcane lots.

Jensen 1991

PHRI conducted an archaeological inventory survey north of the present project area and identified only two sites. Only one of the two sites, SIHP 50-10-35-14947, the Hilo Boarding School and Old Mission Ditch, was recommended for further documentation and preservation. The second site, SIHP 50-10-35-14946, is an historic-era house site associated with sugarcane agriculture.

Haun 2002

Haun conducted a field inspection north of the present project and identified 15 sites with 25 component features. There were 19 rock mounds, a road, a low wall, a retaining wall, a terrace, and two platforms. The features all appear to be historic and related to sugarcane agriculture.

Hunt and McDermott (1994)

The initial archaeological investigations south and southeast of the present project area was an Archaeological Inventory Survey of the Pu'ainako Street Extension within Waiākea, Kūkūāu 1 and 2, and Ponahawai *ahupua'a* conducted by Hunt and McDermott (1994) in 1992 and 1993. The study entailed historical background research, pedestrian survey, and limited subsurface testing.

The inventory survey report documents 13 sites (SIHP Sites 50-10-35-18911 to -18923) comprised of 88 individual features. All features were interpreted as dating from A.D. 1880 to 1950, and were interpreted as features associated with the cultivation and processing of sugarcane. Five test-units were excavated within several features and it was concluded that the lack of prehistoric artifacts and traditional subsurface features within them supported the interpretation that the features were historic in origin (Hunt and McDermott 1994:104). The inventory survey report recommended that data recovery be carried out at site complexes as additional excavation work "could potentially yield isolated traces of prehistoric use of the area, presumably for dryland agriculture" (Hunt and McDermott 1994:109-113). The report also recommended extensive archival research, a task later undertaken by Maly (1996).

Borthwick, Collins, Folk, and Hammatt (1993)

Cultural Surveys Hawaii conducted an archaeological on a 163-acre UH Hilo parcel adjacent to and southeast of the present study area. The report documents four historic sugarcane cultivation sites (SIHP Sites 50-10-35-18667 through 18670) comprised of seven features (one feature contains 25 clearing mounds), including walls, clearing mounds, enclosures, and a

remnant sugarcane field (Figure 10). Test-units contained no cultural material confirming their association with more recent sugarcane cultivation. No further work was recommended.

Maly (1996)

Kepa Maly's report combines the results of McEldowney (1979) with traditional Hawaiian history, early European accounts, previous archaeological work, and oral histories to document cultural and agricultural practices in Hilo and the *ahupua'a* of Waiākea. The report focuses on Hawaiian settlement and population expansion in the region of the present study area. Of particular interest is the description of bird snaring and mention of banana growing in the area of the present study (Maly 1996:6-8). Maly also documents the effect of sugarcane cultivation (Waiākea Mill Company operations from the 1870s to 1940s) on pre-Contact archaeological remains within the present project area. While some components of early Hawaiian sites might be incorporated in more modern archaeological features, the clearing of fields and the construction of collection and processing facilities have dismantled or obscured older archaeological sites (Kenneth Bell in Maly 1996:57). Informants who remembered the Waiākea sugarcane plantation fields stated that features such as stone mounds, ramped platforms, terraces, walls, enclosures, and berms (railway berms) were built in order to facilitate sugarcane cultivation and ranching.

Robins and Spear (1996)

Following Maly's (1996) work, SCS (Robins and Spear 1996) conducted an inventory survey on a narrow parcel of land south of the present study area. The project area covered four proposed road alignments for the Pu'ainako Street Extension project and reflected both an elongation and a lateral expansion of the original road alignment study (Hunt and McDermott 1994) from a 120 to 300-foot wide corridor.

The Robins and Spear survey documented the 30 architectural features associated with sites previously reported by Hunt and McDermott (SIHP Sites 50-10-35-18912, 18914, and 18919) as well as 16 additional features that were combined, with features taken by SHPD from SIHP Site 18919, to form a new site (SIHP Site 20681). Robins and Spear (1996:49-52) concluded that all 46 features, representing four sites, were associated with historic sugarcane activities based on the fact that all of the sites are located within or adjacent to known sugarcane fields, all features are representative of formal sugarcane field features, site structure is comparable to other known plantation sites and is atypical of traditional Hawaiian structures, and the documented sites contain historic-era artifacts that are specific to sugar plantation or ranching activities.

No traditional Hawaiian components of modern features or pre-Contact artifacts were discovered during the inventory survey work. Robins and Spear (1996:53-56) recommended data recovery for eight sites within the corridor and concurred with SHPD in the preservation of several other sites.

Eblé, Denham, and Pantaleo (1997)

At the request of the Ho' oikaika Hawaiian Club (HHC), Garcia and Associates (Ganda) conducted supplemental archaeological excavations (reported in Eblé *et al.* 1997) at sites previously identified by Hunt and McDermott (1994). The purpose of the additional work was "to aid in the interpretation of site function and chronology, and to ensure that all cultural remains in the area have been sufficiently identified" (Eblé *et al.* 1997:1). The Hunt and McDermott survey had excavated only five units within 88 features and the sponsoring Ho' oikaika group deemed additional excavations necessary to support or refute the report's site age and function determinations. The supplemental archaeological work performed by Ganda was not considered an official stage in the State of Hawai'i historic preservation process but was deemed a supplemental aid to the previous study.

Seven test-units (typically 1.0 m by 1.0 m) were excavated within six sites previously mapped and recorded by Hunt and McDermott (1994). The sites included SIHP Site 50-10-35-18916, 18911, 18912, 18914, 18915, and 18917. The excavation units yielded historic artifacts such as metal and midden. Three samples of wood charcoal were submitted for radiocarbon testing and were dated to pre-Contact (traditional) and early historic times. The samples were considered problematic since they did not precisely date the architectural structures themselves but were taken from the soil matrix below features and were not associated with any subsurface features such as 'imu or discrete hearths, for example. The report further concluded that all "intact evidence of pre-Contact occupation and/or activity in the project area has been disturbed or destroyed as a result of post-Contact period activity" (Eblé *et al.* 1997:53). The archaeological features examined as part of this supplemental project were interpreted as associated with sugarcane cultivation and processing, and reinforced the interpretations offered by Hunt and McDermott (1994), Maly (1996), and Robins and Spear (1996). The supplemental testing report recommended preservation for several sites (discussed below) (Eblé *et al.* 1997:56).

Rechtman and Henry (1998)

Paul . Rosendahl, PhD., Inc. (PHRI) conducted an archaeological inventory survey of 40.0 acres at the University of Hawai'i at Hilo campus location. A total of 117 sugarcane era

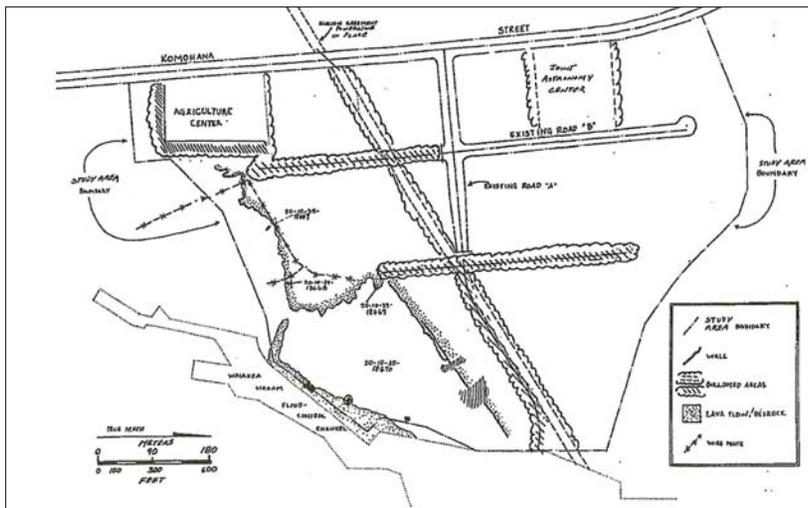


Figure 10: Location of CSH, Inc. Archaeological Sites (Borthwick *et al.* 1993).

features were recorded during the survey (Figure 11). Features included 102 rock mounds, seven single walls, five sets of parallel walls, and three enclosures. The features were assigned to Site 50-10-35-21461 and were interpreted as the remains of Historic era sugarcane agriculture.

Spear (1998)

An archaeological reconnaissance-level investigation was carried out by SCS along the western (*mauka*) portion of the Pu'ainako Street Extension. Twenty-seven features were recorded during the reconnaissance survey and were associated with SIHP Site 50-10-35-18921 previously recorded by Hunt and McDermott (1994). Spear (1998) recommended that an inventory survey be conducted.

McGerty and Spear (1999)

The inventory survey work (McGerty and Spear 1999) generated as a result of the previous reconnaissance survey (Spear 1998) was listed as an addendum to the inventory survey report completed by Robins and Spear (1996). McGerty and Spear (1999) re-identified the features documented by Spear (1998) and recorded a total of 17 features. The number of features was reduced from 27 to 17 because several of the features documented during the reconnaissance survey were combined into more discrete feature designations or were assessed as not being archaeological features. All 17 features were assigned to SIHP Site 18921 and 15 of them were interpreted as features associated with historic sugarcane activities cultivation and processing. The inventory survey report notes that SIHP Site 18921 is located on former Waiākea Sugar Company cane fields (Conde and Best 1973:120, as cited in McGerty and Spear 1999:23).

Based on information provided in an interview, two features (Feature 1 and Feature 11) were interpreted as remnants of a modern pasture or piggery (Robins and Spear 1996:42, McGerty and Spear 1999:5). The inventory survey report (McGerty and Spear 1999:25) concurred with Hunt and McDermott (1994:112) that the site was significant under Criterion D and recommended a data recovery investigation.

Dega and Benson (1999)

In August 1999, SCS conducted a reconnaissance-level survey (Dega and Benson 1999) along the proposed Puainako Street Extension corridor. The survey was performed within a short, expanded section of the highway (western end) occurring just to the south, and partially overlapping the reconnaissance survey area documented in Spear (1998), and the inventory survey work reported in McGerty and Spear (1999). The project area was approximately 1.0

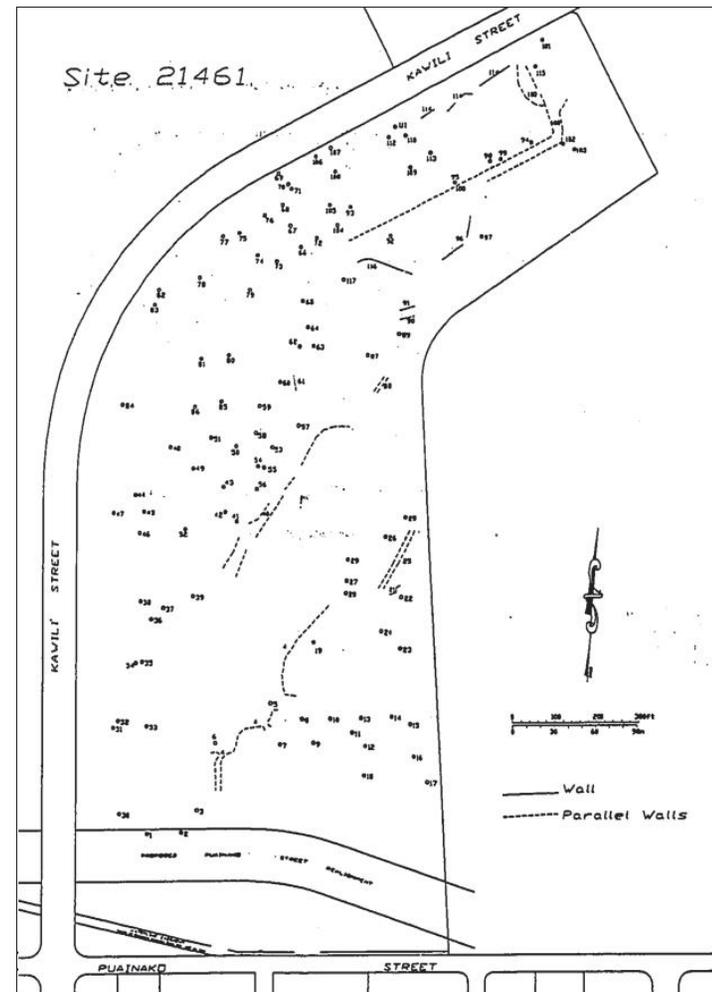


Figure 11: Distribution of Archaeological Features Identified in Rechtman and Henry 1998.

mile long (east-west) and 300 feet wide (north-south) and was situated from 0.40 km to 2.5 km south of Kaumana Drive at the study corridor's western and eastern termini.

Eight archaeological sites were identified within the western border of the project area. Eighteen features were documented including 12 rock mounds, two platforms, two walls, one alignment, and one stone-lined *'auwai*, or water channel. Seventeen features were interpreted as related to historic sugarcane cultivation and processing, a similar interpretation to that presented previously (Hunt and McDermott 1994, Robins and Spear 1996, McGerty and Spear 1999).

One feature, a rock-lined *'auwai* or water channel, was interpreted as traditional (pre-Contact). The *'auwai* is situated parallel to and between several rock mounds associated with sugarcane cultivation but is suggestive of a traditional water channel because its width (0.80 m) is much smaller than channels typically used for sugarcane field irrigation. Secondly, the gravity-fed system was lined with small cobbles and not metal, as is commonly used in the construction of sugarcane water channels. Thirdly, the channel itself was not deep (average 0.10 m below rock surface) and had not been maintained for some time. Finally, the channel emptied onto a small alluvial plain that would have been well suited to small-scale irrigated taro cultivation. The Dega and Benson (1999) reconnaissance survey report recommended inventory survey work be carried out, including test-excavations within and near the *'auwai* feature.

Dega (2000)

SCS conducted an inventory survey to complete the reconnaissance-level survey reported by Dega and Benson (1999) at SIHP Site 50-10-35-18921. Eight features were documented, two previously recorded by Spear (1998) or during the Dega and Benson (1999) reconnaissance survey. Features included walls, clearing mounds, rock alignments, a platform, and a stone-lined *'auwai*. Four stratigraphic trenches were mechanically excavated in and around the *'auwai* feature. Trenches were typical 1.80 meters wide and totaled 17 meters in length. The *'auwai* was reinterpreted as an historical sugarcane field irrigation ditch due to a lack of stones lining its bottom as is common in traditional Hawaiian *'auwai*. No evidence was found to substantiate the presence of a *lo'i* associated with the irrigation ditch.

Bush, McDermott, and Hammatt (2000)

Cultural Surveys Hawaii carried out an inventory survey of a 20-acre parcel for the proposed USDA Pacific Basin Research Center. A single human femur was located in an overhang within a collapsed lava blister or lava tube. The site (SIHP Site 50-10-35-22080) was designated a burial and recommended for preservation.

McDermott and Hammatt (2001)

Cultural Surveys Hawaii carried out an additional inventory survey of a 10-acre parcel (adjacent to and west of the 2000 study area) for the proposed USDA Pacific Basin Research Center. Two post-Contact sites comprised of two features were documented. SIHP Site 50-10-35-22734 consisted of a modified outcrop and SIHP Site 50-10-35-22735 consisted of a stacked stone causeway. No further work was recommended at both sites.

Escott (2004)

Sixteen new sites (80 features) and three previously recorded sites were recorded during inventory survey work conducted on lands along the west side of Komohana Street. Eleven of the sites on the project area were associated with Historic-era sugarcane agriculture, three were associated with WWII military training activities, one was associated with Historic-era ranching, and four were associated with Historic-era dirt roads. None of the sites were recommended for preservation, two of the military sites were recommended for data recovery, and the seventeen remaining sites required no further work.

Calma and Wolforth (2007)

Scientific Consulting Services, Inc. conducted an archaeological inventory survey on 5.22 acres of UH-Hilo for the College of Pharmacy. The project area is immediately south of the current project area, and is within the Borthwick *et al.* 1993 project area. A single site consisting of six rock clearing mounds associated with sugarcane agriculture were identified within the project area. No further work was recommended for the rock mounds.

Escott (2009)

SCS, Inc. conducted an archaeological assessment of a five-acre parcel of land along Mohouli Extension. No archaeological sites or features were located on the current project area parcel. The entire 5.0-acre parcel is completely covered by pahoehoe lava from the 1880 to 1881 flow. The recent lava flow also prevented modern sugarcane or other agricultural pursuits. No cultural resources, modern structures, or modern disturbance were identified on the study parcel.

Escott (2013)

SCS, Inc. conducted an archaeological inventory survey of 4.8 acres located at the University of Hawai'i at Hilo, just north of the area surveyed by Wolforth and Calma (2007). A sugarcane era rock clearing mound (Site 50-10-35-28818) and historic era wall (Site 50-10-35-28817) were documented during the inventory survey work.

Escott (2014, Draft)

SCS, Inc. conducted an archaeological inventory survey on 42.6 acres of land next to the University of Hawai'i at Hilo Campus [TMK: (3) 2-4-001:024 and (3) 2-4-056:014]. Eighteen new sites and a previously recorded site (Site 50-10-35-29373) comprising 68 features were recorded during the course of the current archaeological inventory survey. The vast majority of sites within the study area were associated with historic era sugarcane cultivation, ranching, or the Hilo Dairy facilities. None of the sites were interpreted as pre-Contact.

All of the archaeological features (n=68) identified during the study were remains of historic era sugarcane, ranching, and a dairy operation. The majority of features were modified outcrops (n=27) created by piling and stacking cobbles and small boulders onto exposed bedrock outcrops. The remaining features were field clearing rock mounds (n=25) associated with sugarcane agriculture, concrete foundations and structural remains associated with the Hilo Dairy (n=10), rock walls (n=3), fence posts (n=2), and a rock alignment (n=1).

INVESTIGATIONS CLOSE TO THE STUDY AREA

Dircks *et al.* 2008

Rechtman Consulting, LLC conducted an archaeological inventory survey on approximately four acres [TMK: (3) 2-4-012: 016 and 017] located 1.5 km northwest of the current project area (see Figure 9). Four Historic Period sites were recorded during the study, including a clearing mound (Site 50-10-35-26470), an enclosure/workshop (Site 26471), and two rock walls (Site 26472 and Site 26473) (Dircks *et al.* 2008:10-17). The sites were interpreted as the result of sugarcane agriculture. No further work was recommended at the four sites.

EXPECTED ARCHAEOLOGICAL PATTERNS

Based on previous archaeological studies, historical research, land-use records, site type can be predicted to consist primarily of sugarcane era agricultural sites. Though, it is possible that traditional Hawaiian pre-Contact era sites might have existed in this area of Waiākea Ahupua'a, previous archaeological investigations have shown that the predominant site type in this area is associated with Waiākea Mill Company plantation fields.

This is likely because sugarcane agriculture in the area involved mechanical clearing of fields and removal of loose rock, likely including pre-Contact rock features, from the fields. These activities would have removed pre-contact era sites and features.

RESULTS OF FIELDWORK

Two archaeological sites (Site 50-10-35-30039 and Site 50-10-35-30040) consisting of four rock mound features were identified within the current 3.0 acre project area (Figures 12 and 13). The rock mounds are interpreted as sugarcane field clearing mounds based on archival research of previous land-use, based on the style of feature construction, and based on excavation results.

SITE 30039

FUNCTION:

AGE:

DIMENSIONS:

CONDITION:

INTEGRITY:

SURFACE ARTIFACTS:

EXCAVATION:

DESCRIPTION:

ROCK MOUNDS

Agricultural

Historic

Length: 13.0 m E/W; Width, 4.0 m; Height, 0.6 m Max.

Good

Slightly Impacted by Cattle

None

Stratigraphic Trench 1

Site 30039 consists of three rock mounds (Features 1, 2, and 3)

recorded along the western portion of the project area (see Figures 12 and 13). The rock mounds are located on the level grassy ground surface roughly 2.3 to 3.5 meters apart from each other (Figure 14). The site is located at UTM Zone 5 North, 282118 East, 2176642 North (WGS84 Datum).

Feature 1 is a linear rock mound located on the west side of the site. The rock mound is approximately 3.2 m long (NE/SW) by 1.5 m wide, and is 60 cm in maximum height. Feature 1 is constructed of angular and subangular cobbles and small boulders piled on the ground surface (Figure 15). There is no stacking or facing evident in the feature construction. Feature 1 is in good condition, and has been slightly altered by cattle ranching. A few rocks appear to have fallen off the rock mound.

Feature 2 is an oval rock mound located 2.3 m east of Feature 1. The rock mound is approximately 3.6 m long (E/S) by 2.5 m wide, and is 55 cm in maximum height. Feature 2 is constructed of angular and subangular cobbles and small boulders piled on the ground surface (Figure 16). There is no stacking or facing evident in the feature construction. Feature 2 is in good condition, and has been slightly altered by cattle ranching. A few rocks appear to have fallen off the rock mound.



Figure 12: 7.5-Minute Series USGS Topographic Map Showing Location of Archaeological Sites (Hilo, Quad, National Geographic Topo, 2003).



Figure 13: TMK: (3) 2-4-051 Map Showing Location of Archaeological sites (Hawai'i County Planning Department 2013).

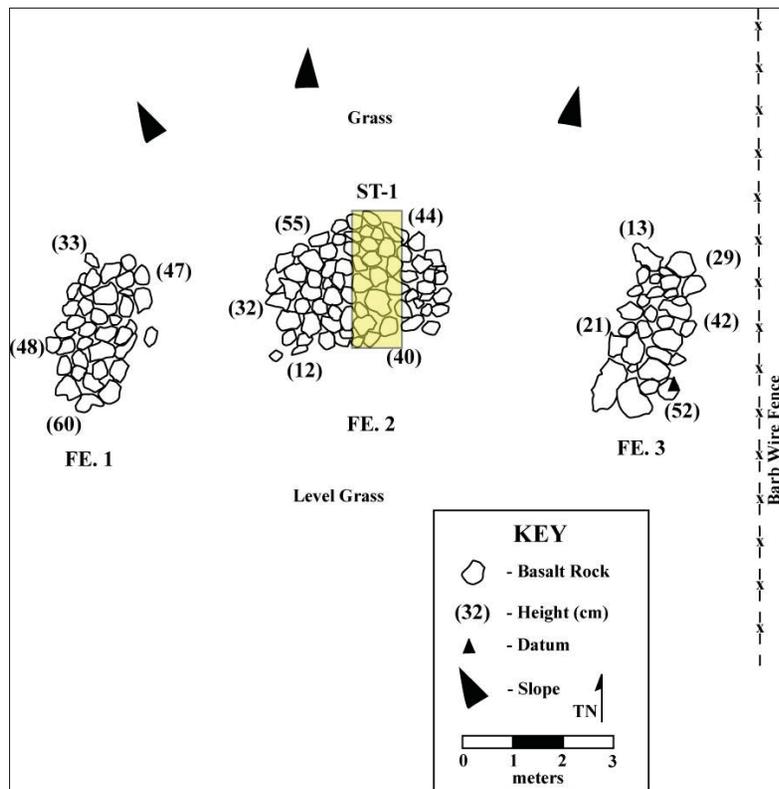


Figure 14: Site 30039 Plan View.



Figure 15: Photograph of Site 30039 Feature 1 Rock Mound Looking West.



Figure 16: Photograph of Site 30039 Feature 2 Rock Mound Looking West.

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Stratigraphic Trench 1

Stratigraphic Trench 1 (ST-1) was excavated through the center of Feature 2 to record feature construction, recover diagnostic artifacts, and to locate the base of the feature. ST-1 was 2.75 m long (N/S) by 1.0 wide, contained an architectural layer and two natural stratigraphic layers, and terminated on bedrock at a maximum depth of 55 cm below the ground surface (Figure 17 and Figure 18).

The architectural Layer (0-50 cm above ground surface) consisted of angular and subangular cobbles and small boulders piled on the ground surface. The base of the architectural layer contained organic detritus and some "A" Horizon soil. The architectural layer continued into Layer I below. Several fragments of modern bottle glass were recovered from the architectural layer (Figure 19).

Layer I (0-27 cm below ground surface) consisted of 10YR 2/2 very dark brown fine sandy silt loam with blocky peds. Layer I matrix contained approximately 10% cobbles and small boulders and less than 1% small roots. The base of the architectural layer was located within Layer I at 20 to 25 cm below the modern ground surface. Layer I did not contain cultural material. The base of Layer I was clear and linear and terminated on Layer II sediment.

Layer II (27-55 cm below ground surface) consisted of 5YR 3/3 dark reddish brown fine sandy silt with blocky peds. Layer II matrix contained less than 1% small cobbles. Layer II did not contain cultural material. Layer I terminated on bedrock.

Feature 3 is a linear rock mound located 3.5 m east of Feature 2. The rock mound is approximately 3.2 m long (NE/SW) by 1.2 m wide, and is 52 cm in maximum height. Feature 3 is constructed of angular and subangular cobbles and small boulders piled on the ground surface. There is no stacking or facing evident in the feature construction (Figure 20). Feature 3 is in good condition, and has been slightly altered by cattle ranching. A few rocks appear to have fallen off the rock mound.

Based on the style of construction of the three rock mounds, and based on artifacts recovered from ST-1, the site is interpreted as three Historic era sugarcane field clearing mounds. The site has been slightly altered by cattle and is in good condition. No further work is recommended at the site.

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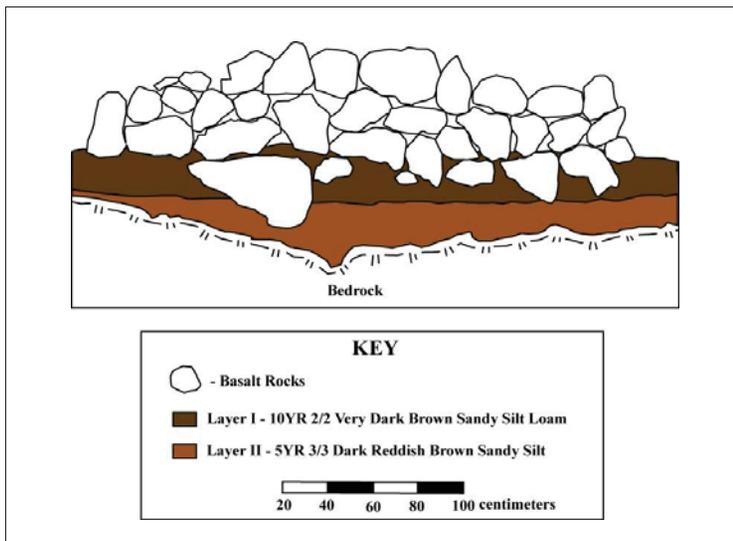


Figure 17: ST-1 West Profile.



Figure 18: Photograph of ST-1 East Profile Showing Stratigraphy.



Figure 19: Photograph of Modern Bottle Glass Recovered from ST-1 Architectural Layer.



Figure 20: Photograph of Site 30039 Feature 3 Rock Mound Looking Northeast.

SITE 30040 **ROCK MOUND**
 FUNCTION: Agricultural
 AGE: Historic
 DIMENSIONS: Length: 1.5 m E/W; Width, 1.2 m; Height, 0.6 m Max.
 CONDITION: Good
 INTEGRITY: Slightly Impacted by Cattle
 SURFACE ARTIFACTS: None
 EXCAVATION: None
 DESCRIPTION: Site 30040 consists of a single rock mound (Feature 1) recorded in the southwest quadrant of the project area (see Figures 12 and 13). The rock mounds are located on the west end of a linear bedrock outcrop (Figure 21). The site is located at UTM Zone 5 North, 282106 East, 2176598 North (WGS84 Datum).

Feature 1 is a rectangular rock mound approximately 1.5 m long (E/W) by 1.2 m wide, and is 60 cm in maximum height. Feature 1 is constructed of angular and subangular cobbles and small boulders piled on the ground surface (Figure 22). The rock mound is piled and stacked two to three courses high on the bedrock outcrop. There is no facing evident in the feature construction. Feature 1 is in good condition, and has been slightly altered by cattle ranching. A few rocks appear to have fallen off the rock mound. Based on the style of construction of the rock mound, the site is interpreted as an Historic era sugarcane field clearing mound. No further work is recommended at the site.

CONCLUSION

Based on historic documentation and archaeological data collected in this AIS report, Site 30039 and Site 30040 area are Historic era rock clearing mounds associated with sugarcane fields known to have existed here. An oral interview conducted with Mike Tulang, the property lessee, indicated that there are a number of rock clearing mounds on the larger Parcel 001 property. Mr. Tulang also stated that there are no remains of the railroad tracks, nor is there evidence of a railroad grade in the area tracks are shown on the Waiākea Mill Company Cane and Homestead Lots Map (Williams 1933) (see Figure 7). It is likely they were portable tracks laid in the fields during times of cane harvest. The Williams (1933) map shows the tracks to the west, outside of the current project area. There were no remnants of pre-Contact era sites recorded on the project area. No other archaeological sites or features were present on the subject property

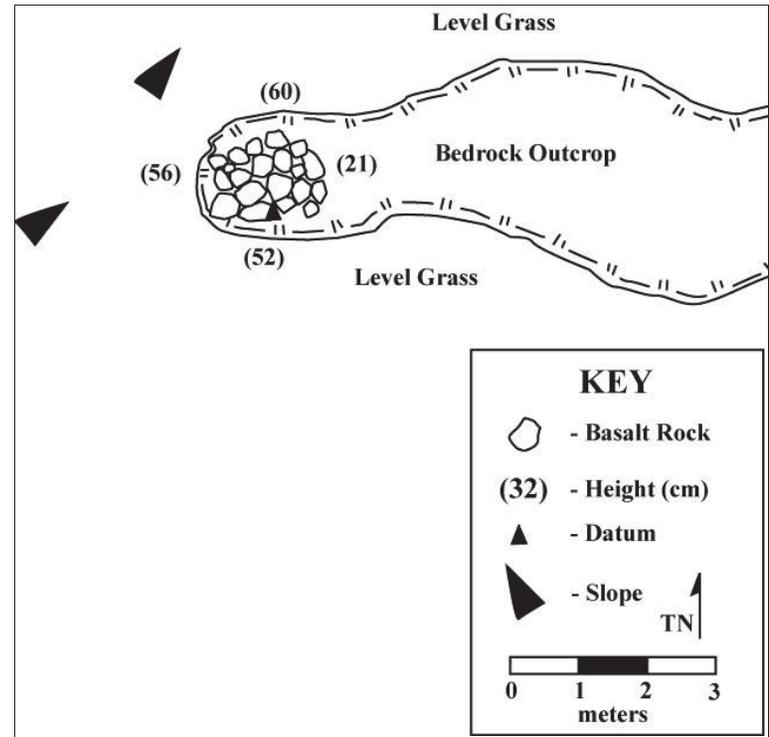


Figure 21: Site 30040 Plan View.

SIGNIFICANCE ASSESSMENTS AND RECOMMENDED TREATMENTS

Sites identified during this project were assessed in accordance with Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered Under Sections 6E-7 and 6E-8 contained in draft Hawai'i Administrative Rules 13§13-275 (Table 5). To be assessed as significant a site must possess integrity of location, design, setting, materials, workmanship, feeling, and association and must be characterized by one or more of the following five criteria:

- (A) It must be associated with events that have made an important contribution to the broad patterns of history.
- (B) It must be associated with the lives of persons important in the past.
- (C) It must embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value.
- (D) It must yield or may be likely to yield, information important in prehistory or history.
- (E) It must 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.

Site 30039 and Site 30040, recorded during the current AIS study, are significant under Criterion D, as they contain information important to the history of Hawai'i. Work conducted during this AIS study has provided sufficient data to determine the function and timing of the features at the two sites. No further work or mitigation is recommended at the sites.



Figure 22: Photograph of Site 30040 Looking Northeast.

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CULTURAL IMPACT ASSESSMENT

**A CULTURAL IMPACT ASSESSMENT OF LANDS FOR THE
PROPOSED HAIHAI STREET FIRE STATION, WAIĀKEA AHUPUA‘A,
SOUTH HILO DISTRICT, ISLAND OF HAWAI‘I
[TMK: (3) 2-4-051:001]**

Prepared By:
Glenn G. Escott, M.A.

DRAFT Report
March 2014

Prepared For:
**KYA Design Group, Inc.
934 Pumehana St.
Honolulu, HI 96815**

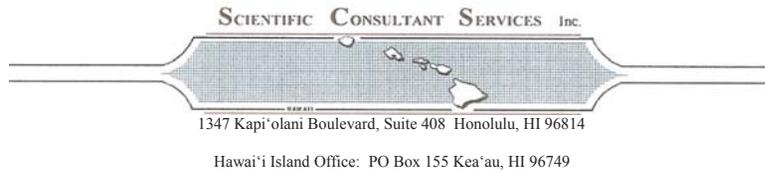


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INTRODUCTION

At the request of KYA Design Group, Inc., Scientific Consultant Services, Inc. (SCS) conducted a Cultural Impact Assessment (CIA) of 35.696 acres [TMK: (3) 2-4-051:001] located in the *ahupua'a* of Waiākea, South Hilo District, Island of Hawai'i (Figures 1, 2, and 3). The project area is located approximately 5.0 kilometers south of Hilo Bay and is bounded by Haihai Street to the north, Laua Street to the east, by agricultural land to the south, and by a residential subdivision to the west. The State of Hawai'i is considering an option to use a 2.0-acre portion of the parcel, currently leased as cattle pasture by the State of Hawai'i Department of Land and Natural Resources (DLNR), for the proposed construction of a fire station.

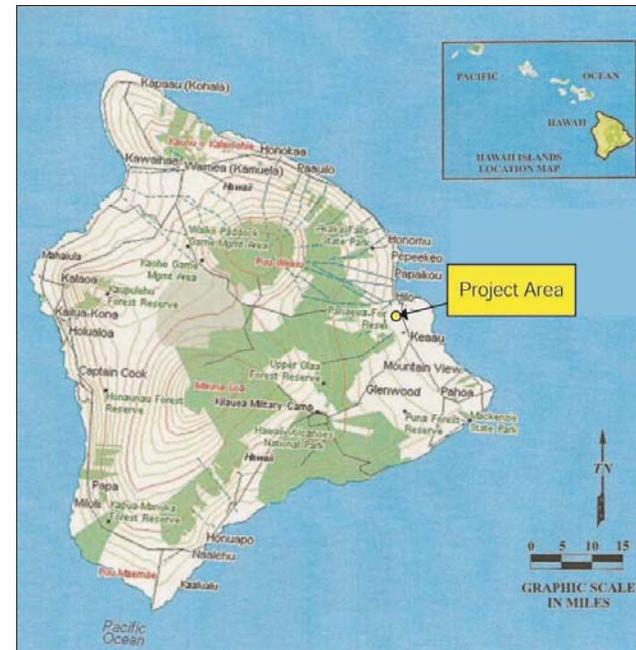


Figure 1: Hawai'i Island Map Showing Project Area Location.

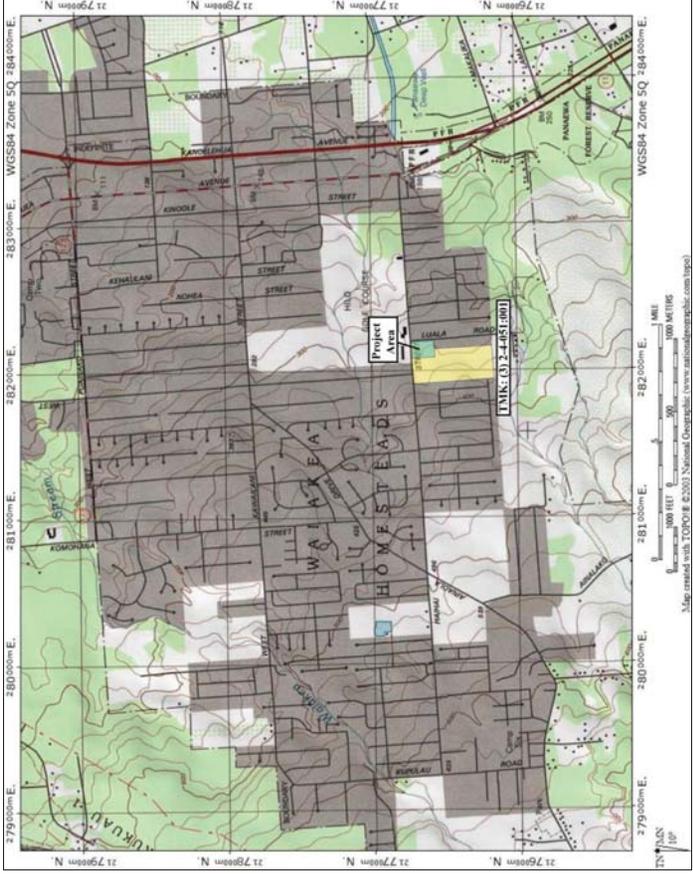


Figure 2: 7.5-Minute Series USGS Topographic Map Showing Location of Parcel 051 (Yellow) and Proposed Fire Station Project Area (Blue) (Hilo, Quad, National Geographic Topo, 2003).

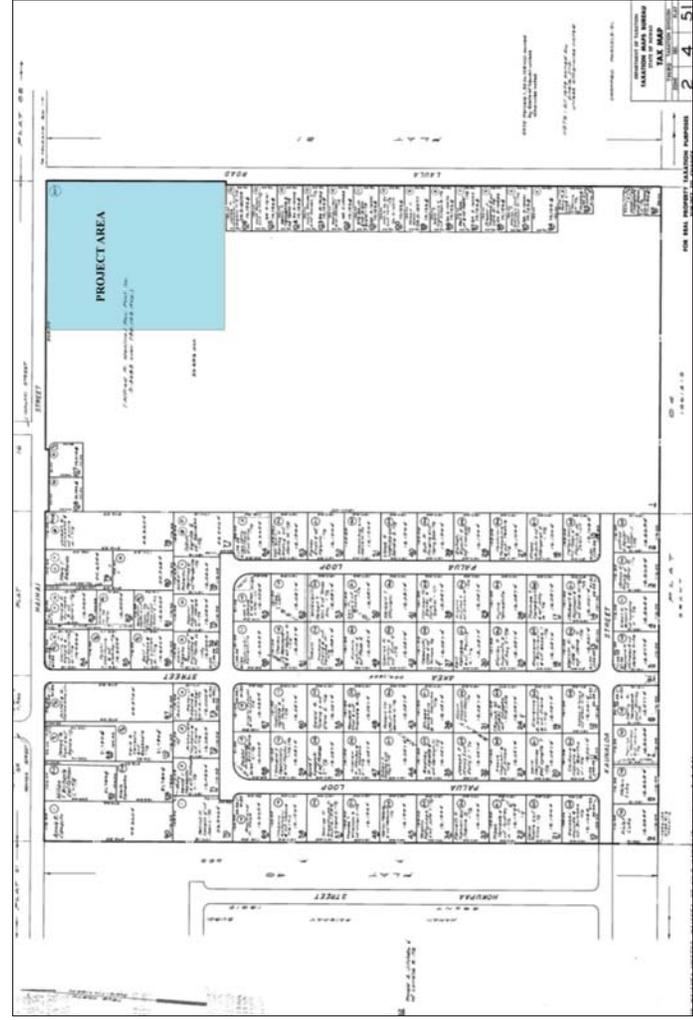


Figure 3: TMK: (3) 2-4-051 Map Showing Location of Project Area (Hawai'i County Planning Department 2013).



Figure 4: Aerial Photograph Showing Proposed Fire Station Project Area Location (Red) on TMK: (3) 2-4-051:001 (ESRI, 2012).

4

The Constitution of the State of Hawai‘i clearly states the duty of the State and its agencies is to preserve, protect, and prevent interference with the traditional and customary rights of native Hawaiians. Article XII, Section 7 requires the State to “protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupua‘a* tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778” (2000). In spite of the establishment of the foreign concept of private ownership and western-style government, Kamehameha III (Kauikeaouli) preserved the people’s traditional right to subsistence. As a result in 1850, the Hawaiian Government confirmed the traditional access rights to native Hawaiian *ahupua‘a* tenants to gather specific natural resources for customary uses from undeveloped private property and waterways under the Hawai‘i Revised Statutes (HRS) 7-1. In 1992, the State of Hawai‘i Supreme Court, reaffirmed HRS 7-1 and expanded it to include, “native Hawaiian rights...may extend beyond the *ahupua‘a* in which a native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner” (Pele Defense Fund v. Paty, 73 Haw.578, 1992).

Act 50, enacted by the Legislature of the State of Hawaii (2000) with House Bill 2895, relating to Environmental Impact Statements, proposes that:

...there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawai‘i’s culture, and traditional and customary rights... [H.B. NO. 2895].

Act 50 requires state agencies and other developers to assess the effects of proposed land use or shoreline developments on the “cultural practices of the community and State” as part of the HRS Chapter 343 environmental review process (2001).

Its purpose has broadened, “to promote and protect cultural beliefs, practices and resources of native Hawaiians [and] other ethnic groups, and it also amends the definition of ‘significant effect’ to be re-defined as “the sum of effects on the quality of the environment including actions that are...contrary to the State’s environmental policies...or adversely affect the economic welfare, social welfare, or cultural practices of the community and State” (H.B. 2895, Act 50, 2000).

Thus, Act 50 requires an assessment of cultural practices to be included in the Environmental Assessments and the Environmental Impact Statements, and to be taken into consideration during the planning process. The concept of geographical expansion is recognized

by using, as an example, “the broad geographical area, e.g. district or *ahupua‘a*” (OEQC 1997). It was decided that the process should identify ‘anthropological’ cultural practices, rather than ‘social’ cultural practices. For example, *limu* (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice.

According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997): The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both manmade and natural, which support such cultural beliefs.

This Cultural Impact Assessment involves evaluating the probability of impacts on identified cultural resources, including values, rights, beliefs, objects, records, properties, and stories occurring within the project area and its vicinity (H.B. 2895, Act 50, 2000).

METHODOLOGY

This Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997). In outlining the “Cultural Impact Assessment Methodology”, the OEQC states: ...information may be obtained through scoping, community meetings, ethnographic interviews and oral histories... (1997).

The report contains archival and documentary research, as well as communication with organizations having knowledge of the project area, its cultural resources, and its practices and beliefs. This Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997). The assessment concerning cultural impacts should address, but not be limited to, the following matters:

- (1) a discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints of limitations with might have affected the quality of the information obtained;
- (2) a description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken;
- (3) ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained;
- (4) biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area;
- (5) a discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken, as well as the particular perspective of the authors, if appropriate, any opposing views, and any other relevant constraints, limitations or biases;
- (6) a discussion concerning the cultural resources, practices and beliefs identified, and for the resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site;
- (7) a discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project;
- (8) an explanation of confidential information that has been withheld from public disclosure in the assessment;
- (9) a discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs;
- (10) an analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place, and;
- (11) the inclusion of bibliography of references, and attached records of interviews, which were allowed to be disclosed.

Based on the inclusion of the above information, assessments of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

ARCHIVAL RESEARCH

Archival research focused on a historical documentary study involving both published and unpublished sources. These included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps and land records such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts, and previous archaeological project reports.

INTERVIEW METHODOLOGY

Interviews are conducted in accordance with Federal and State laws and guidelines. Individuals and/or groups who have knowledge of traditional practices and beliefs associated with a project area or who know of historical properties within a project area are sought for consultation. Individuals who have particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area are invited to share their relevant information. Often people are recommended for their expertise, and indeed, organizations, such as Hawaiian Civic Clubs, the Island Branch of Office of Hawaiian Affairs, historical societies, Island Trail clubs, and Planning Commissions are depended upon for their recommendations of suitable informants. These groups are invited to contribute their input, and suggest further avenues of inquiry, as well as specific individuals to interview.

If knowledgeable individuals are identified, personal interviews are sometimes taped and then transcribed. These draft transcripts are returned to each of the participants for their review and comments. After corrections are made, each individual signs a release form, making the information available for this study. When telephone interviews occur, a summary of the information is often sent for correction and approval, or dictated by the informant and then incorporated into the document. Key topics discussed with the interviewees vary from project to project, but usually include: personal association to the *ahupua'a*, land use in the project's vicinity; knowledge of traditional trails, gathering areas, water sources, religious sites; place names and their meanings; stories that were handed down concerning special places or events in the vicinity of the project area; evidence of previous activities identified while in the project vicinity.

In this case, letters briefly outlining the development plans along with maps of the project area were sent to individuals and organizations whose jurisdiction includes knowledge of the area with an invitation for consultation. Consultation was sought from Kai Markell, the Director of Native Rights, Land and Culture, Office of Hawaiian Affairs; Robert K. Lindsey, Jr., Office of Hawaiian Affairs Hawai'i Island Trustee; Kauanoë Hoomanawanui, SHPD Burial Sites Specialist; Kino Lee, Jr. Chairman of the Hawai'i Island Burial Council; Rick Gmirkin, Ala Kahakai National Historic Trail, NPS Archaeologist; Patrick L. Hahawaiolaa; Keaukaha-Pana'ewa Farmers Association; William "Bill" Brown, Pana'ewa Hawaiian Homelands Community Association; and Mike Tulang, the property lessee and cattle rancher. If cultural resources are identified based on the information received from these organizations and/or additional informants, an assessment of the potential effects on the identified cultural resources in the project area and recommendations for mitigation of these effects can be proposed. Public Notices were placed in the Office of Hawaiian Affairs (OHA) Ka Wai Ola Newspaper, the Honolulu Star Advertiser, and the West Hawai'i Today.

PROJECT AREA AND VICINITY

The proposed Haihahi Street fire station project area consists of a portion of an undeveloped parcel [TMK: (3) 2-4-051:001] situated on gently rolling to level land between 100 m (330 feet) to 116 m (380 feet) above mean sea level (amsl). The project area substrate is a single Mauna Loa lava flow dated to between 5,000 and 10,000 years before present (ybp) (Wolfe and Morris 1996). Soils in the project area belong to the Pana'ewa very rocky silty clay loam (Sato 1973:45). Sugarcane was cultivated in the area of the current project. The property is currently used as cattle pasture.

RAINFALL, DRAINAGE, AND VEGETATION

Rainfall in the project area is high, ranging between 330 and 440 centimeters (150 and 200 inches) per year (Kelly *et al.* 1981). Natural drainage in the area runs from southwest to northeast and from west to east. There are no seasonal gulches or drainage spillways in the immediate area. The Haihahi Street side of the project area is low and holds standing water during the rainy season. Rainwater runoff is high along the boundary between Haihahi Street and the northern edge of parcel 051. Plant communities in the project area are dominated by a small range of grasses. The grasses are cropped low by cattle grazing. There are a small number of bushes and trees along the edges of the project area, including *waivi* (*Psidium cattleianum*) and common guava (*Psidium guajava*), and African tulip trees (*Spathodea campanulata*) (Starr Environmental 2013).

HISTORICAL AND CULTURAL CONTEXTS

Archaeological evidence suggests Hawai'i Island was first settled sometime around A.D. 700 by people sailing from the Marquesas (Cordy 2000:104-109). Early settlers established settlements on the windward shores in likely places such as Waipi'o, Waimanu, and Hilo Bay. The rich marine resources of Hilo Bay and the gently sloping forests of Mauna Loa and Mauna Kea provided abundant resources. Fresh water was available from the Wailoa and Wailuku rivers and smaller streams such as Waiākea, Waiolama, Pukihae, and 'Alenaio.

The project area lands are in the *ahupua'a* of Waiākea, Hilo, in the *moku-o-loko* (district) of Hilo (Maly 1996:4-5) (Figure 5). The *ahupua'a* of Waiākea is large, consists of roughly 95,000 acres, and was regarded as a region of abundant natural resources and numerous fishponds. Waiākea was also an early important political center, notably under chief Kulukulu'a (Kelly *et al.* 1981:3). Kamehameha lived and often returned to his *'ili kūpono* (independent land division where all tributes were paid to the chief of the *'ili* and not the *ahupua'a*) lands of Pi'opi'o in the *ahupua'a* of Waiākea (Figure 6). The *'ili kūpono* lands and its royal fishpond were passed on to his son Liholiho after his death.

TRADITIONAL SETTLEMENT PATTERNS, SUBSISTENCE, AND LAND-USE

Historical accounts and archaeological/cultural studies pertaining to the *ahupua'a* of Waiākea (Ellis 1963; Bingham 1969; Handy and Handy 1972; Bird 1974; McEldowney 1979; Kelly *et al.* 1981; and Maly 1996) provide a wealth of information on traditional settlement patterns, land-use, and subsistence horticulture of the area. These are synthesized below as they allude to the types of sites that may be encountered in the project area.

Historical accounts of residence patterns, land-use, and subsistence horticulture are believed to be indicative of traditional practices developed long before contact with Europeans (McEldowney 1979). Early accounts describe several distinct environmental regions in Waiākea. From the coast inland five or six miles, scattered subsistence agriculture was evident, followed by a region of tall fern and bracken, flanked at higher elevations by a forest region between 10 and 20 miles wide, beyond which was an expanse of grass and lava (Ellis 1969:403).

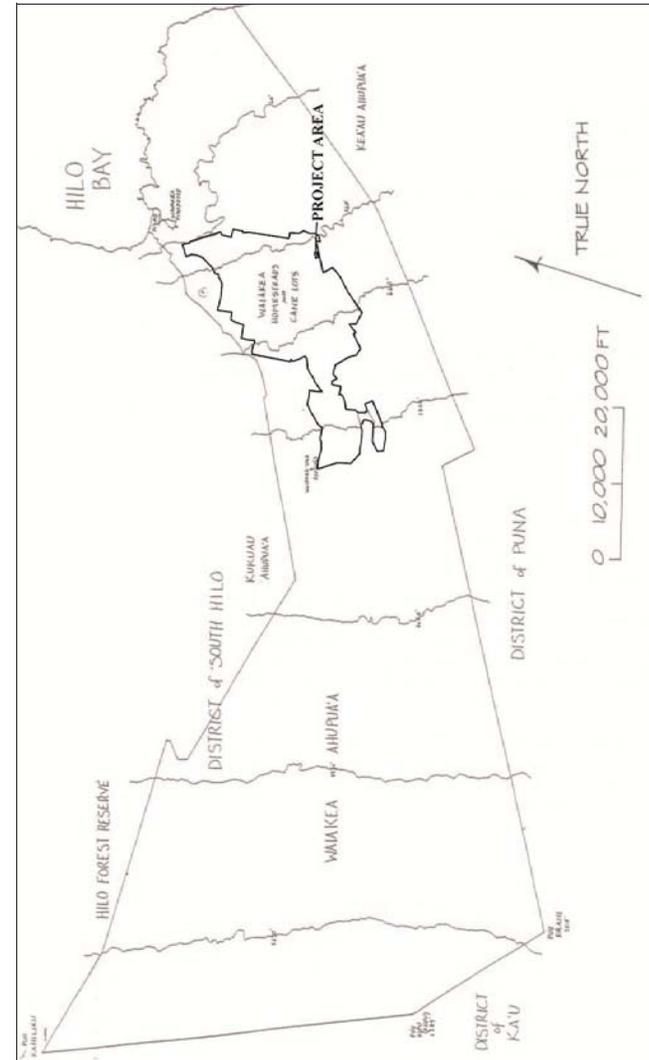


Figure 5: Map of Waiākea Ahupua'a (adapted from Bush *et al.* 2000).

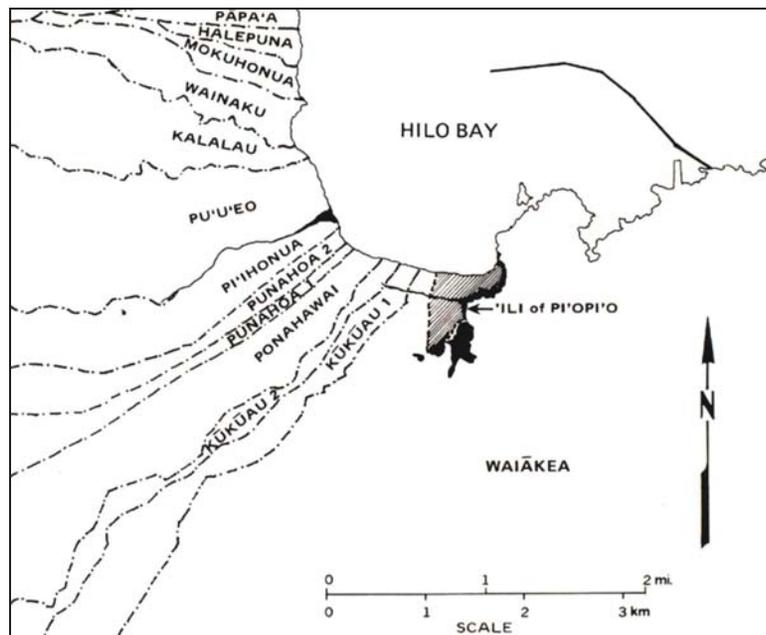


Figure 6: 'Ili Kūpono Lands of Pi'opi'o (Kelly *et al.* 1981).

The American Missionary C.S. Stewart wrote, “the first four miles of the country is open and uneven, and beautifully sprinkled with clumps, groves, and single trees of the bread-fruit, pandanus, and candle tree” (Stewart 1970:361–363). The majority of Waiākea’s estimated 2,000 inhabitants (in 1825) lived within this coastal region (Ellis 1969:253). Taro, plantains, bananas, coconuts, sweet potatoes, and breadfruit were grown individually or in small garden plots. Fish, pig, dog, and birds were also raised and captured for consumption.

The present study area is located along the upper reaches of the open coastal region and the lower reaches of the tall fern and bracken zone. It is located in McEldowney’s “upland agricultural zone” (see Previous Archaeology section) consisting of “scattered huts” amidst “garden plots” created through “shifting agriculture” (McEldowney 1979:18–19).

Wood, such as *ohi'a* and *koa* for house construction, canoe building, and fires was obtained from this upland agricultural zone, and from the dense forests above (Ellis 1963:236). *Hala* for thatching was also known to be plentiful along the lava flows of eastern Waiākea (Ellis 1917, cited in Kelly *et al.* 1981:20). Of particular interest is a description of bird snaring and mention of banana growing in the area of the present study (Maly 1996:6–8).

THE MĀHELE OF 1848 AND LAND COMMISSION AWARDS

The *ahupua'a* of Waiākea became Crown Lands during the *Māhele* of 1848 and in the following years, twenty-five Land Claims were awarded within the *ahupua'a* of Waiākea (Table 1). The awards were small in area, 24 of which went to native claimants. No Land Commission awards were made within the project area, and all but two were located near the coast.

Table 1: Land Commission Awards in Waiākea Ahupua'a.

Grantee	LCA	Acreage
Barenaba	2327	12.25
Halai, L.K.	1279	0.60
Hale	40004	4.25
Kahue	2663	3.75
Kaiana, J.B.	2281	10.25
Kaihenui	11050-B	5.19
Kalolo	1333	2.25
Kalua	8854	3.40
Kaluhikaua	1738	2.98
Kamamalu, V.	7713	'Ili 'aina
Kamanuhaka	8803	1.02
Kapu	1-F	1.60
Kealiko	11174	1.00
Keaniho	2402	5.00
Keawe	5018	0.24
	10505	—
Kuaio	4344	1.22
Leoi	9982	0.80
Lolo	4738-B	1.27
Mahoe	1-E	4.46
Moealoha	4737	1.03
Nakai	4785	1.05
Napeahi	2603	1.30
Wahine	4737-B	1.01
Wahinealua	11173	2.50
Wahinenohihilo	10004	1.69

CHANGING RESIDENTIAL AND LAND-USE PATTERNS (1845–1865)

Between 1845 and 1865, traditional land-use and residential patterns underwent a change. In particular, the regular use of Hilo Bay by foreign vessels, the whaling industry, the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugar cane cultivation all brought about changes in settlement patterns and long-established land-use patterns (Kelly *et al.* 1981). Hilo became the center of population and settlements in outlying regions declined or disappeared. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugar cane plantations and industrial facilities were established in areas that were once upland agricultural areas and coastal settlements, respectively.

WAIĀKEA MILL COMPANY

On July 15, 1861, S. Kipi leased the Crown Land of Waiākea from Kamehameha IV to be used as pastureland for an annual amount of \$600 (Kelly *et al.* 1981:89). In 1874, Rufus A. Lyman was granted a 25-year property lease (General Lease 124-A) within Waiākea, encompassing the government pastureland (Maly 1996:26). The lease granted him all privileges of land use including the cutting of firewood and the use of fishponds. The newly established Waiākea Mill Company, founded by Alexander Young and Theo H. Davies, acquired Rufus A. Lyman's General Lease 124-A in 1879 (with an extension of terms until June 1, 1918 [Maly 1996:27]). By the early 1900s, Waiākea plantation was cultivating sugarcane on over 6,000 acres of government land in Hilo (Kelly *et al.* 1981:89,120).

In 1911, the Waiākea Mill Company applied for a title to several portions of its leased land, but was rejected by the Board of Public Lands. Rather than renew the lease with the Waiākea Mill Company, the government decided to sell some of the land as homestead lots and to lease a portion of the land to small cultivators as cane lots. These became known as the Waiākea Homestead and Cane Lots (see Figure 5 and Figure 7). By 1919, more than 2000 acres of land were purchased as house lots and 5,300 acres was leased to private growers for cane production (Maly 1996:27–28). Sugarcane grown on these lots was, by terms of contract, to be processed by the Waiākea Mill Company for a share of the profits. The current project area is located within the northeast corner of Lot 907 (see Figure 7 and Figure 8).



Figure 7: Waiākea Mill Company Cane and Homestead Lots Map Showing Location of Project Area (Blue) (Williams 1933).

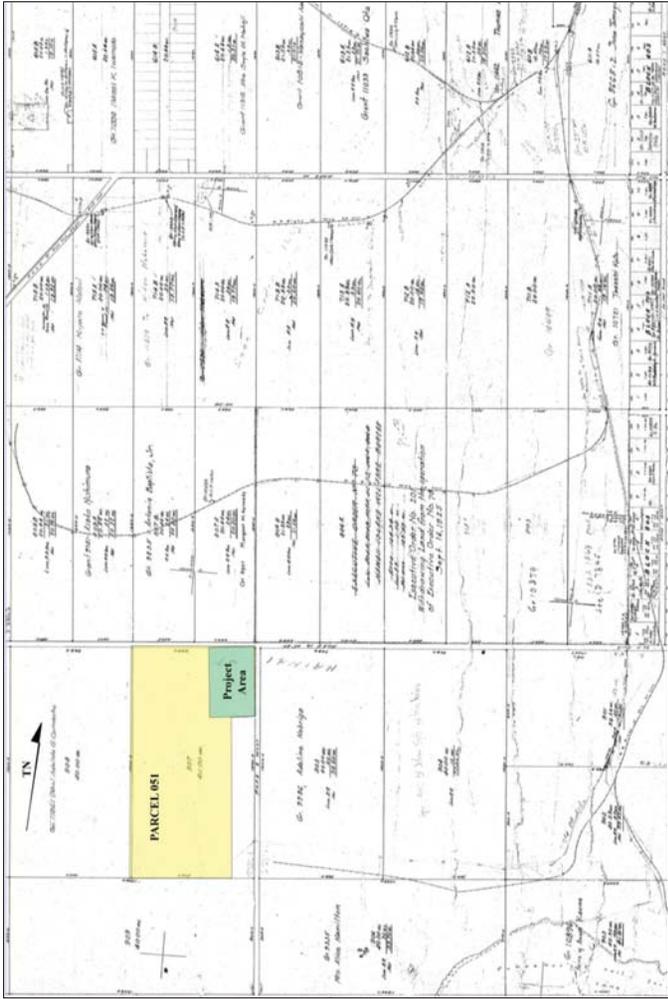


Figure 8: Portion of Waiākea Cane Lots Map Showing Lot 907 (Parcel 051 Shaded Yellow) and Proposed Fire Station (Blue) (Cook and Arioli 1918).

The Waiākea Homestead house lots were surveyed as one-acre parcels. The majority of the lots are along Kīlauea and Kino'olo Street. The cane lot parcels were surveyed *mauka* (west) of the house lots, and were approximately twenty to forty acres in area. Rainfall in the area was ample for sugarcane cultivation, and the soils were deep and fertile enough for good yields.

However, a lack of cooperation and coordination by the mill company, as well as a lack of proficiency on the part of some cultivators to grow cane, created substantial losses for those that entered into the cane lot agreements (*ibid*:28). In period between 1920 and 12923, it became apparent that many who had entered into contracts to pay off their cane lot agreements through the sale of cane to the mill company, would not be able to meet their obligation. In 1925, after an investigation, a settlement was reached, whereby homesteaders were given a sixteen year extension to purchase their land.

The current project area is in the northeast corner of Cane Lot 907, a 40.0 acre parcel of land. A 1918 map of the area shows a Waiākea Mill company railroad track extending just south of Lot 907 (see Figure 8). A 1933 map shows spurs of the railroad track passing through the southern and central portions of the project area. It is possible these are temporary portable tracks. There is no railroad bed or track remains within the project area.

By 1938, many homesteaders who had paid off their land began to subdivide their property into residential lots (*ibid*:29). They built roads to connect the lots and brought in water, gas, and electricity to each lot. The process only increased after the Waiākea Mill Company ceased operations in 1946. Over the years, many of the cane lots have been subdivided into residential house lots. The project area is currently used to pasture cattle. The land surrounding the current project area is now primarily residential neighborhoods. The property across Haihai Street from the project area is the Municipal Golf Course. The property across Luāla Road from the project area is AJA Veterans Council.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Numerous archaeological investigations have been carried out within Waiākea Ahupua'a, in both the Hilo Bay Front area and within the former Waiākea Mill Company Cane Lots (see Figure 7) southwest of Hilo Town. Many of the previous archaeology projects are located in the vicinity of the University of Hawai'i at Hilo, at an elevation both above and below Komohana Street. Only one project has been conducted in the Waiākea Cane Lots, further south, near the current project area. Table 2 below summarizes major findings and Figure 9 shows the location of archaeological investigations conducted in the former sugarcane fields of western Waiākea Ahupua'a that are relevant to the current project area.

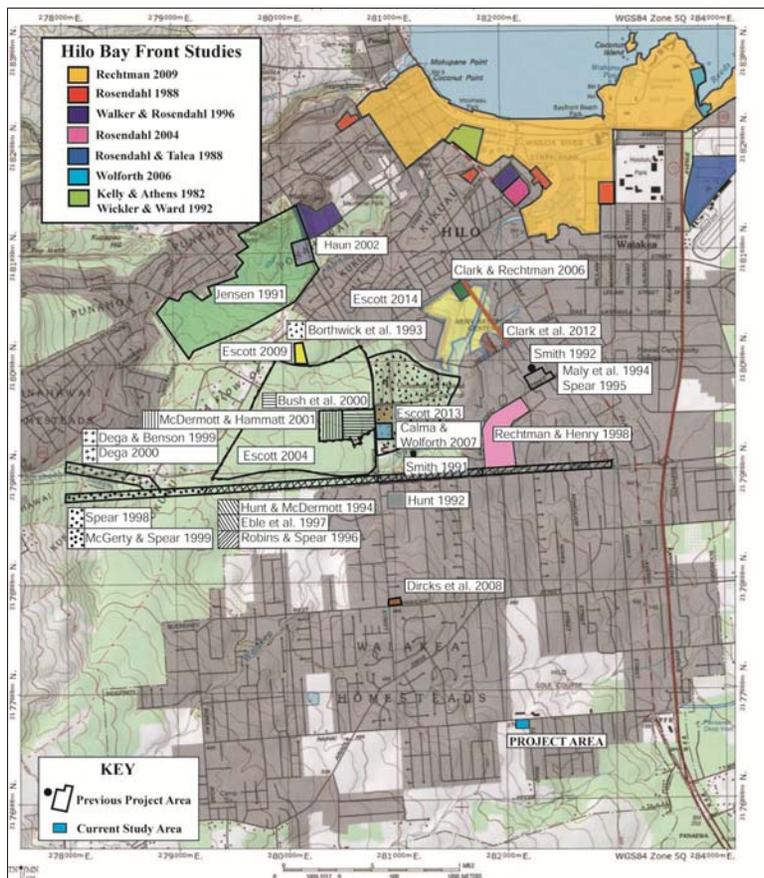


Figure 9: Previous Archaeological Studies Located on USGS Map (Hilo USGS Quad, 1995).

Table 2: Previous Archaeological Research in Waiākea Ahupua'a.

Reference	Location	Description & Results
Thrum 1907	Waiākea <i>Ahupua'a heiau</i> sites	List of <i>heiau</i> in Waiākea —none located near present project area.
Thrum 1908	Waiākea <i>Ahupua'a</i>	List and description of <i>heiau</i> in Waiākea —none located near present project area.
Hudson 1932	East Hawai'i Island	Detailed description of various sites in the Hilo area.
McEldowney 1979	Hilo Bay area	Zonal Characteristics—Land – use study
Kelly, Nakamura, and Barrère 1981	Hilo Bay area	History of Hilo Bay
Kelly & Athens 1982	Cultural Resources Reconnaissance at Wailoa River	No Archaeological Sites at Wailoa River
Rosendahl & Talea 1988	Archaeological Reconnaissance Survey at Hilo Airport	No Archaeological Sites
Rosendahl 1988	Archaeological Reconnaissance Survey at Four Locations in Hilo	No Archaeological Sites
Smith & Tourtellotte 1988	Burial Discovery at Mouth of Wailoa River	Single Burial. Location not shown on previous archaeology map figure.
Jensen 1991	AIS in Ponahawai <i>Ahupua'a</i> TMK: (3) 2-3-044:09	Site 50-10-35-14946, an early historic house and sugar cane site. Site 50-10-35-14947, the Hilo Boarding School and Old Mission Ditch
Smith 1991	Waiākea <i>Ahupua'a</i> , South Hilo, Hawai'i Island TMK: 3-2-4-01:7	List and description of sites on the 4000+BP and 1500-750BP lava flows. Inventory survey recommended.
Stokes and Dye 1991	Hawaii Island	List and description of <i>heiau</i> of Hawaii Island
Smith 1992	Waiākea Cane Lots, Waiākea <i>Ahupua'a</i> , South Hilo, Hawai'i Island TMK: 3-2-4-56:1	Numerous cane field features including walls, clearing mounds, a large rectangular enclosure, and c-shaped enclosures.
Moniz 1992	Waiākea <i>Ahupua'a</i> , Hilo Hawai'i	A listing of 1979-1992 inventory survey results within Waiākea <i>Ahupua'a</i> that document walls, mounds, platforms, and faced terraces.
Hunt	Lands of Waiākea, Kūkūāu 1 &	Interim inventory survey report

Reference	Location	Description & Results
1992	2, and Ponahawai <i>ahupua'a</i> , South Hilo District, Hawai'i (Puainako Street Extension Project)	listing 31 cane field features including walls, clearing mounds, platforms, and faced terraces.
Wickler & Ward 1992	Archaeological Investigation at 'Alenaio Stream at Bay Front	Historic Artifacts Only, No Sites
Borthwick, Collins, Folk, and Hammatt 1993	Waiākea <i>Ahupua'a</i> TMK: 2-4-01:7 and 41	Inventory survey of 163 acres of UH property along and east of Komohana Street. Documents four historic sites associated with sugar cane agriculture. No further work recommended.
Hunt and McDermott 1994	Lands of Waiākea, Kūkūau 1 & 2, and Ponahawai <i>ahupua'a</i> , South Hilo District, Hawai'i (Puainako Street Extension Project)	Inventory survey final report (completion of Hunt 1992) documenting 13 historical sites associated with sugar cane agriculture.
Maly, Walker, and Rosendahl 1994	Lands of Waiākea, South Hilo TMK: 2-4-57:01	Inventory survey of 4.5 acres in the Waiākea Cane Lots documenting four sites associated with historical sugar cane agriculture. Forty-seven features were recorded including walls, clearing mounds, and terraces. One radiocarbon date and recovered artifacts suggest prehistoric land-use in the project area. Data recovery recommended.
Spear 1995	Lands of Waiākea, South Hilo TMK: 2-4-57:01	Data recovery report of Maly <i>et al.</i> (1994) parcel documenting historic sugar cane agricultural features and a few temporary habitations. No further archaeological work recommended.
Maly 1996	Waiākea Cane Lots (12, 13, 17, 18, 19, 20 & 20-A, District of South Hilo, Island of Hawai'i	Oral interviews and archival research pertaining to Waiākea Cane Lots. Provides background of pre-Contact land-uses in the area and description of sugar cane agricultural features, their construction, and uses.

Reference	Location	Description & Results
Robins and Spear 1996	Lands of Waiākea, Kūkūau 1 & 2, and Ponahawai, South Hilo District, Island of Hawai'i (Puainako Street Realignment/Extension Project)	Inventory survey of proposed realignment of Puainako Street Extension Corridor documenting 30 new features at 3 sites (Hunt and McDermott 1994), and one new site containing 16 features. Sites and features are associated with historic sugar cane agriculture.
Walker & Rosendahl 1996	Archaeological Assessment at Hilo Judicial Complex	Five Historic Sites
Eblé, Denham, and Pantaleo 1997	Lands of Waiākea, Kūkūau 1 & 2, and Ponahawai <i>Ahupua'a</i> , South Hilo District, Hawai'i (Puainako Street Extension Project)	Supplemental testing of features (six sites) documented in Hunt and McDermott (1994). Features associated with historic sugar cane agriculture. Recommended preservation of several sites within the project area.
Rechtman & Henry 1998	Archaeological Inventory Survey on 40 acres at UH-Hilo	117 sugarcane era agricultural rock mounds, walls, and enclosures.
Spear 1998	Lands of Waiākea, Kūkūau 1 & 2, and Ponahawai, South Hilo District, Island of Hawai'i (Puainako Street Realignment/Extension Project)	Reconnaissance-level survey of proposed realignment of Puainako Street Extension Corridor documenting 27 new features associated with historical sugar cane agriculture.
McGerty and Spear 1999	Lands of Waiākea, Kūkūau 1 & 2, and Ponahawai, South Hilo District, Island of Hawai'i (Puainako Street Realignment/Extension Project)	Inventory survey of Spear (1998) parcel documenting 17 features: 15 historic sugar cane agriculture features and two features associated with a modern pig farm. All features were added to site 50-10-35-18921. Data Recovery recommended.
Dega and Benson 1999	Lands of Waiākea, Kūkūau 1 & 2, and Ponahawai, South Hilo District, Island of Hawai'i (Puainako Street Realignment/Extension Project)	Reconnaissance-level survey of proposed realignment of Puainako Street Extension Corridor documenting eight sites containing 18 features including 12 clearing mounds, two platforms, two walls, a rock alignment, and an <i>'auwai</i> . All but the <i>'auwai</i> were associated with historic sugar cane cultivation. The <i>'auwai</i> was described as a pre-Contact feature likely also utilized in historic cane field agriculture.

Reference	Location	Description & Results
Dega 2000	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai, South Hilo District, Island of Hawai‘i (Puainako Street Realignment/Extension Project)	Inventory survey of Dega and Benson (1999) parcel documenting eight new features (at Site 50-10-35-18921) associated with sugar cane agriculture.
Dega and Spear 2000	Lands of Waiākea, Kūkūāu 1 & 2, and Ponahawai, South Hilo District, Island of Hawai‘i (Puainako Street Realignment/Extension Project)	Preservation plan for sites 50-10-35-18914, 18915, 18917 and a boulder path/alignment recorded by Eblé <i>et al.</i> (1997). See Eblé <i>et al.</i> (1997) project area location on previous archaeology map figure.
Bush, McDermott, and Hammatt 2000	Lands of Waiākea, South Hilo TMK: 2-4-01: 122, South Hilo, Hawai‘i Island (USDA Pacific Basin Agricultural Center Project)	Inventory survey of 20 acres along western edge of Komohana Street, and adjacent to east-central portion of current project area. Documents one skylight (site 50-10-35-22080) containing a single human femur. Preservation recommended.
McDermott and Hammatt 2001	Lands of Waiākea, South Hilo TMK: 2-4-01: 122, South Hilo, Hawai‘i Island (USDA Pacific Basin Agricultural Center Project)	Inventory survey of 10 acres adjacent (west) to Bush <i>et al.</i> (2000) documenting two historic sites (one feature each), including a modified outcrop and a stone causeway. No further work recommended.
Haun 2002	Archaeological Field Inspection of eight acres in Ponahawai Ahupua‘a TMK: (3) 2-3-037:001	Historic sugar cane agricultural features and house site.
Rosendahl 2004	Archaeological Assessment at Hilo Judicial Complex	No Archaeological Sites
Escott 2004	AIS of 258 Acres, Waiākea Ahupua‘a [TMK: 3-2-4-01:122].	Sixteen sites associated with sugar cane agriculture, ranching, and WWII training.
Wolforth 2006	AIS at Reed’s Bay Beach Park	Two Pre-Contact and Three Historic Sites
Clark & Rechten 2006	Section 106 Mohouli St	One Historic Era Rock Mound
Calma & Wolforth 2007	AIS of 5.22 Acres Waiākea Ahupua‘a [TMK: 3-2-4-01:1007	Six sugar cane rock clearing mounds identified. No further

Reference	Location	Description & Results
	por.]	work recommended.
Rechtman 2009	Archaeological Assessment - Hilo Bay Front to Reed’s Bay	No archaeological sites present.
Escott 2009	AA of 5.0 acres Waiākea Ahupua‘a [TMK: (3)-2-4-01:176]	No archaeological sites present.
Escott 2013	AIS of 4.4 Acres Waiākea Ahupua‘a [TMK: (3)-2-4-001:007]	A rock wall and rock clearing mound associated with sugarcane agriculture.
Clark <i>et al.</i> 2012	AIS of 9.4 Acres Waiākea Ahupua‘a [Kapi‘olani St. Extension]	Four Historic era sites including two drainage ditches, a rock mound, and the Hilo Dairy structure foundations.
Escott 2014 (Draft)	AIS of 42.6 Acres at UHH	Eighteen sugarcane agriculture and Hilo Dairy sites recorded.

The above listed archaeological and historical investigations are instrumental to understanding broad patterns of land-use in the Hilo area (see McEldowney 1977, Kelly *et al.* 1981, Maly 1996), general trends in the distribution of formal archaeological features in the Hilo area (see Thrum 1907 and 1908, Hudson 1930, Smith 1991, Moniz 1992, Spear 1993), and for formulating archaeological expectations at the present project area (see Jensen 1991, Borthwick *et al.* 1993, Hunt and McDermott 1994, Spear 1995, Robins and Spear 1996, McGerty and Spear 1999, Dega 2000, Bush *et al.* 2000, McDermott and Hammatt 2001, Haun 2002, and Escott 2004).

REGIONAL ARCHAEOLOGICAL STUDIES

McEldowney (1979)

McEldowney (1979) provides an overview of changing land-use patterns in the Hilo area based on early historic accounts. She proposes that Hawaiians utilized land in accordance to five elevation zones (1979:14). Land-use zones are classified as (I) coastal, (II) upland agricultural, (III) lower forest, (IV) rainforest, and (V) sub alpine, or montane. The inhabitants of Waiākea Ahupua‘a had access to resources in all five of McEldowney’s zones.

The present project is situated in the upland agricultural zone (50 to 1,500 feet) described as unwooded grasslands and extensive dryland cultivation plots. McEldowney suggests this region was likely deforested prior to European contact through shifting agricultural practices such as swiddening. Site types consist of scattered houses adjacent to garden and arboreal plots on older *pāhoehoe* and *‘a‘ā* flows with well-developed soils. Modified lava tubes and tubes used for cultural practices are also common in the upland agricultural zone.

Smith (1991)

Smith (1991) also comments on site distribution in the *ahupua'a* of Waiākea based on Mauna Loa lava flows, including a portion of the 1880-1881 *pāhoehoe* flow, a *pāhoehoe* flow dating to 750-1,500 ybp, and a *pāhoehoe* flow dating to 5,000-10,000 ybp. He notes that the majority of sites are located on the older lava flow, which has deeper, more developed soils.

Kelly et al. (1991)

Kelly et al. (1991) also contributes to an historical understanding of changing land-use patterns following European involvement in the economy of Hawai'i. In particular, the regular use of Hilo Bay by foreign vessels, the whaling industry, the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugarcane cultivation all brought about changes in settlement patterns and long-established land-use patterns. Hilo became a population center and settlements in outlying regions declined. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugarcane plantations and industrial facilities were established in areas that were once upland agricultural areas and coastal settlements.

Thrum (1907 and 1908), Hudson (1932), and Stokes and Dye (1991)

Thrum (1907 and 1908), Hudson (1932), and Stokes and Dye (1991) represent early archaeological efforts to document site distribution pertinent to the greater Hilo area. Hudson notes there were already no archaeological sites remaining in the city of Hilo by the early 1930s (Hudson 1932:236). All three authors note the dismantling of well-known *heiau* in the Hilo area (Thrum 1908:240, Hudson 1932:236, Stokes and Dye 1991:152).

INVESTIGATIONS SPECIFIC TO SUGARCANE AGRICULTURE

Several recent archaeological and historical investigations completed in the former Waiākea sugarcane lots that have direct bearing on the types and distribution of expected sites and features. The majority of these reports document historic-era sites on well-developed ash and organic soils overlaying a Mauna Loa *pāhoehoe* flow dating to 5,000-10,000 ybp. Sites are primarily the remains of sugarcane field clearing and in-field collection and processing architecture. The reports provide insight into predicting the types of sites located on former sugarcane lots.

Jensen 1991

PHRI conducted an archaeological inventory survey north of the present project area and identified only two sites. Only one of the two sites, SIHP 50-10-35-14947, the Hilo Boarding School and Old Mission Ditch, was recommended for further documentation and preservation. The second site, SIHP 50-10-35-14946, is an historic-era house site associated with sugarcane agriculture.

Haun 2002

Haun conducted a field inspection north of the present project and identified 15 sites with 25 component features. There were 19 rock mounds, a road, a low wall, a retaining wall, a terrace, and two platforms. The features all appear to be historic and related to sugarcane agriculture.

Hunt and McDermott (1994)

The initial archaeological investigations south and southeast of the present project area was an Archaeological Inventory Survey of the Pu'ainako Street Extension within Waiākea, Kūkūau 1 and 2, and Ponahawai *ahupua'a* conducted by Hunt and McDermott (1994) in 1992 and 1993. The study entailed historical background research, pedestrian survey, and limited subsurface testing.

The inventory survey report documents 13 sites (SIHP Sites 50-10-35-18911 to -18923) comprised of 88 individual features. All features were interpreted as dating from A.D. 1880 to 1950, and were interpreted as features associated with the cultivation and processing of sugarcane. Five test-units were excavated within several features and it was concluded that the lack of prehistoric artifacts and traditional subsurface features within them supported the interpretation that the features were historic in origin (Hunt and McDermott 1994:104). The inventory survey report recommended that data recovery be carried out at site complexes as additional excavation work "could potentially yield isolated traces of prehistoric use of the area, presumably for dryland agriculture" (Hunt and McDermott 1994:109-113). The report also recommended extensive archival research, a task later undertaken by Maly (1996).

Borthwick, Collins, Folk, and Hammatt (1993)

Cultural Surveys Hawaii conducted an archaeological on a 163-acre UH Hilo parcel adjacent to and southeast of the present study area. The report documents four historic sugarcane cultivation sites (SIHP Sites 50-10-35-18667 through 18670) comprised of seven features (one feature contains 25 clearing mounds), including walls, clearing mounds, enclosures, and a

remnant sugarcane field (Figure 10). Test-units contained no cultural material confirming their association with more recent sugarcane cultivation. No further work was recommended.

Maly (1996)

Kepa Maly’s report combines the results of McEldowney (1979) with traditional Hawaiian history, early European accounts, previous archaeological work, and oral histories to document cultural and agricultural practices in Hilo and the *ahupua’a* of Waiākea. The report focuses on Hawaiian settlement and population expansion in the region of the present study area. Of particular interest is the description of bird snaring and mention of banana growing in the area of the present study (Maly 1996:6-8). Maly also documents the effect of sugarcane cultivation (Waiākea Mill Company operations from the 1870s to 1940s) on pre-Contact archaeological remains within the present project area. While some components of early Hawaiian sites might be incorporated in more modern archaeological features, the clearing of fields and the construction of collection and processing facilities have dismantled or obscured older archaeological sites (Kenneth Bell in Maly 1996:57). Informants who remembered the Waiākea sugarcane plantation fields stated that features such as stone mounds, ramped platforms, terraces, walls, enclosures, and berms (railway berms) were built in order to facilitate sugarcane cultivation and ranching.

Robins and Spear (1996)

Following Maly’s (1996) work, SCS (Robins and Spear 1996) conducted an inventory survey on a narrow parcel of land south of the present study area. The project area covered four proposed road alignments for the Pu’ainako Street Extension project and reflected both an elongation and a lateral expansion of the original road alignment study (Hunt and McDermott 1994) from a 120 to 300-foot wide corridor.

The Robins and Spear survey documented the 30 architectural features associated with sites previously reported by Hunt and McDermott (SIHP Sites 50-10-35-18912, 18914, and 18919) as well as 16 additional features that were combined, with features taken by SHPD from SIHP Site 18919, to form a new site (SIHP Site 20681). Robins and Spear (1996:49-52) concluded that all 46 features, representing four sites, were associated with historic sugarcane activities based on the fact that all of the sites are located within or adjacent to known sugarcane fields, all features are representative of formal sugarcane field features, site structure is comparable to other known plantation sites and is atypical of traditional Hawaiian structures, and the documented sites contain historic-era artifacts that are specific to sugar plantation or ranching activities.

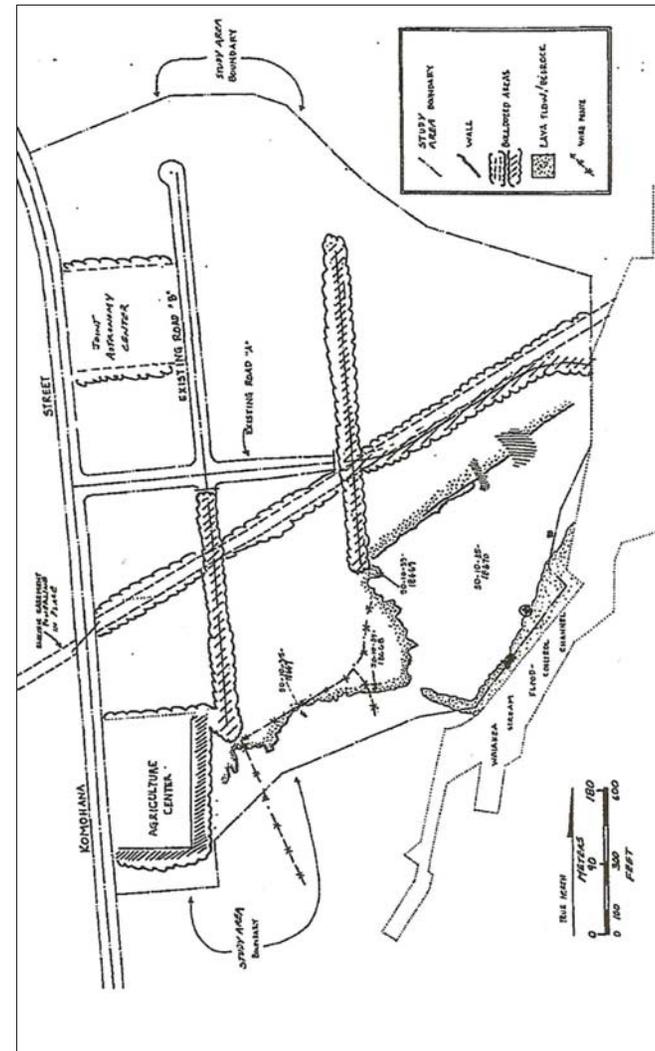


Figure 10: Location of CSH, Inc. Archaeological Sites (Borthwick et al. 1993).

No traditional Hawaiian components of modern features or pre-Contact artifacts were discovered during the inventory survey work. Robins and Spear (1996:53-56) recommended data recovery for eight sites within the corridor and concurred with SHPD in the preservation of several other sites.

Eblé, Denham, and Pantaleo (1997)

At the request of the Ho'ōikaika Hawaiian Club (HHC), Garcia and Associates (Ganda) conducted supplemental archaeological excavations (reported in Eblé *et al.* 1997) at sites previously identified by Hunt and McDermott (1994). The purpose of the additional work was "to aid in the interpretation of site function and chronology, and to ensure that all cultural remains in the area have been sufficiently identified" (Eblé *et al.* 1997:1). The Hunt and McDermott survey had excavated only five units within 88 features and the sponsoring Ho'ōikaika group deemed additional excavations necessary to support or refute the report's site age and function determinations. The supplemental archaeological work performed by Ganda was not considered an official stage in the State of Hawai'i historic preservation process but was deemed a supplemental aid to the previous study.

Seven test-units (typically 1.0 m by 1.0 m) were excavated within six sites previously mapped and recorded by Hunt and McDermott (1994). The sites included SIHP Site 50-10-35-18916, 18911, 18912, 18914, 18915, and 18917. The excavation units yielded historic artifacts such as metal and midden. Three samples of wood charcoal were submitted for radiocarbon testing and were dated to pre-Contact (traditional) and early historic times. The samples were considered problematic since they did not precisely date the architectural structures themselves but were taken from the soil matrix below features and were not associated with any subsurface features such as 'imu or discrete hearths, for example. The report further concluded that all "intact evidence of pre-Contact occupation and/or activity in the project area has been disturbed or destroyed as a result of post-Contact period activity" (Eblé *et al.* 1997:53). The archaeological features examined as part of this supplemental project were interpreted as associated with sugarcane cultivation and processing, and reinforced the interpretations offered by Hunt and McDermott (1994), Maly (1996), and Robins and Spear (1996). The supplemental testing report recommended preservation for several sites (discussed below) (Eblé *et al.* 1997:56).

Rechtman and Henry (1998)

Paul H. Rosendahl, PhD., Inc. (PHRI) conducted an archaeological inventory survey of 40.0 acres at the University of Hawai'i at Hilo campus location. A total of 117 sugarcane era

features were recorded during the survey (Figure 11). Features included 102 rock mounds, seven single walls, five sets of parallel walls, and three enclosures. The features were assigned to Site 50-10-35-21461 and were interpreted as the remains of Historic era sugarcane agriculture.

Spear (1998)

An archaeological reconnaissance-level investigation was carried out by SCS along the western (*mauka*) portion of the Pu'ainako Street Extension. Twenty-seven features were recorded during the reconnaissance survey and were associated with SIHP Site 50-10-35-18921 previously recorded by Hunt and McDermott (1994). Spear (1998) recommended that an inventory survey be conducted.

McGerty and Spear (1999)

The inventory survey work (McGerty and Spear 1999) generated as a result of the previous reconnaissance survey (Spear 1998) was listed as an addendum to the inventory survey report completed by Robins and Spear (1996). McGerty and Spear (1999) re-identified the features documented by Spear (1998) and recorded a total of 17 features. The number of features was reduced from 27 to 17 because several of the features documented during the reconnaissance survey were combined into more discrete feature designations or were assessed as not being archaeological features. All 17 features were assigned to SIHP Site 18921 and 15 of them were interpreted as features associated with historic sugarcane activities cultivation and processing. The inventory survey report notes that SIHP Site 18921 is located on former Waiākea Sugar Company cane fields (Conde and Best 1973:120, as cited in McGerty and Spear 1999:23).

Based on information provided in an interview, two features (Feature 1 and Feature 11) were interpreted as remnants of a modern pasture or piggery (Robins and Spear 1996:42, McGerty and Spear 1999:5). The inventory survey report (McGerty and Spear 1999:25) concurred with Hunt and McDermott (1994:112) that the site was significant under Criterion D and recommended a data recovery investigation.

Dega and Benson (1999)

In August 1999, SCS conducted a reconnaissance-level survey (Dega and Benson 1999) along the proposed Puainako Street Extension corridor. The survey was performed within a short, expanded section of the highway (western end) occurring just to the south, and partially overlapping the reconnaissance survey area documented in Spear (1998), and the inventory survey work reported in McGerty and Spear (1999). The project area was approximately 1.0

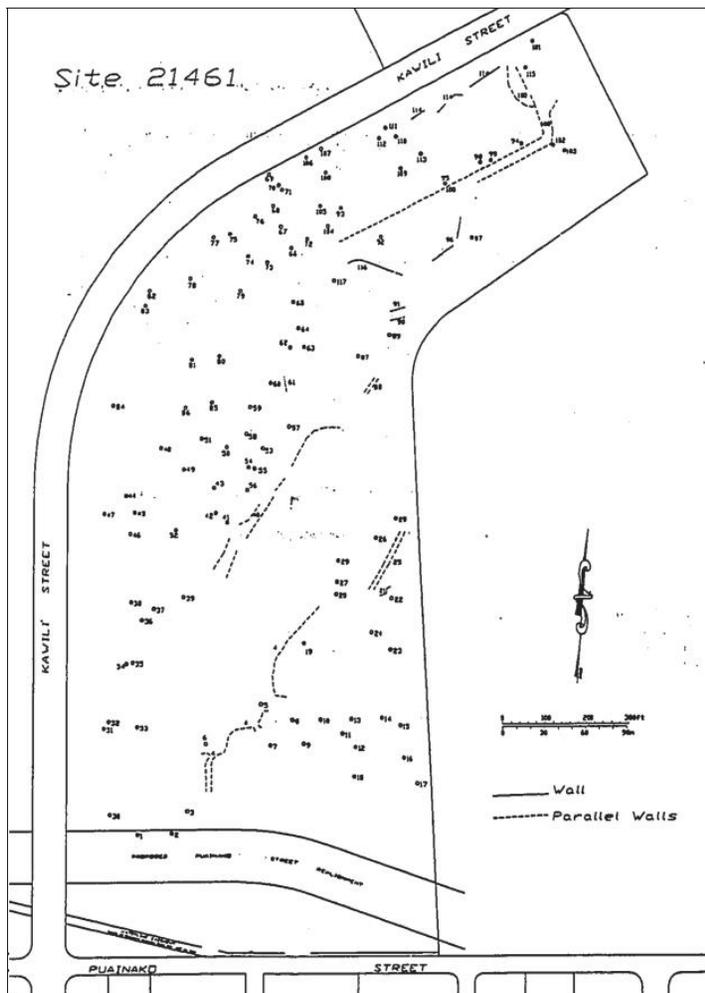


Figure 11: Distribution of Archaeological Features Identified in Rechtman and Henry 1998.

mile long (east-west) and 300 feet wide (north-south) and was situated from 0.40 km to 2.5 km south of Kaumana Drive at the study corridor's western and eastern termini.

Eight archaeological sites were identified within the western border of the project area. Eighteen features were documented including 12 rock mounds, two platforms, two walls, one alignment, and one stone-lined *'auwai*, or water channel. Seventeen features were interpreted as related to historic sugarcane cultivation and processing, a similar interpretation to that presented previously (Hunt and McDermott 1994, Robins and Spear 1996, McGerty and Spear 1999).

One feature, a rock-lined *'auwai* or water channel, was interpreted as traditional (pre-Contact). The *'auwai* is situated parallel to and between several rock mounds associated with sugarcane cultivation but is suggestive of a traditional water channel because its width (0.80 m) is much smaller than channels typically used for sugarcane field irrigation. Secondly, the gravity-fed system was lined with small cobbles and not metal, as is commonly used in the construction of sugarcane water channels. Thirdly, the channel itself was not deep (average 0.10 m below rock surface) and had not been maintained for some time. Finally, the channel emptied onto a small alluvial plain that would have been well suited to small-scale irrigated taro cultivation. The Dega and Benson (1999) reconnaissance survey report recommended inventory survey work be carried out, including test-excavations within and near the *'auwai* feature.

Dega (2000)

SCS conducted an inventory survey to complete the reconnaissance-level survey reported by Dega and Benson (1999) at SIHP Site 50-10-35-18921. Eight features were documented, two previously recorded by Spear (1998) or during the Dega and Benson (1999) reconnaissance survey. Features included walls, clearing mounds, rock alignments, a platform, and a stone-lined *'auwai*. Four stratigraphic trenches were mechanically excavated in and around the *'auwai* feature. Trenches were typical 1.80 meters wide and totaled 17 meters in length. The *'auwai* was reinterpreted as an historical sugarcane field irrigation ditch due to a lack of stones lining its bottom as is common in traditional Hawaiian *'auwai*. No evidence was found to substantiate the presence of a *lo'i* associated with the irrigation ditch.

Bush, McDermott, and Hammatt (2000)

Cultural Surveys Hawaii carried out an inventory survey of a 20-acre parcel for the proposed USDA Pacific Basin Research Center. A single human femur was located in an overhang within a collapsed lava blister or lava tube. The site (SIHP Site 50-10-35-22080) was designated a burial and recommended for preservation.

McDermott and Hammatt (2001)

Cultural Surveys Hawaii carried out an additional inventory survey of a 10-acre parcel (adjacent to and west of the 2000 study area) for the proposed USDA Pacific Basin Research Center. Two post-Contact sites comprised of two features were documented. SIHP Site 50-10-35-22734 consisted of a modified outcrop and SIHP Site 50-10-35-22735 consisted of a stacked stone causeway. No further work was recommended at both sites.

Escott (2004)

Sixteen new sites (80 features) and three previously recorded sites were recorded during inventory survey work conducted on lands along the west side of Komohana Street. Eleven of the sites on the project area were associated with Historic-era sugarcane agriculture, three were associated with WWII military training activities, one was associated with Historic-era ranching, and four were associated with Historic-era dirt roads. None of the sites were recommended for preservation, two of the military sites were recommended for data recovery, and the seventeen remaining sites required no further work.

Calma and Wolforth (2007)

Scientific Consulting Services, Inc. conducted an archaeological inventory survey on 5.22 acres of UH-Hilo for the College of Pharmacy. The project area is immediately south of the current project area, and is within the Borthwick *et al.* 1993 project area. A single site consisting of six rock clearing mounds associated with sugarcane agriculture were identified within the project area. No further work was recommended for the rock mounds.

Escott (2009)

SCS, Inc. conducted an archaeological assessment of a five-acre parcel of land along Mohouli Extension. No archaeological sites or features were located on the current project area parcel. The entire 5.0-acre parcel is completely covered by pahoehoe lava from the 1880 to 1881 flow. The recent lava flow also prevented modern sugarcane or other agricultural pursuits. No cultural resources, modern structures, or modern disturbance were identified on the study parcel.

Escott (2013)

SCS, Inc. conducted an archaeological inventory survey of 4.8 acres located at the University of Hawai'i at Hilo, just north of the area surveyed by Wolforth and Calma (2007). A sugarcane era rock clearing mound (Site 50-10-35-28818) and historic era wall (Site 50-10-35-28817) were documented during the inventory survey work.

Escott (2014a)

SCS, Inc. conducted an archaeological inventory survey on 42.6 acres of land next to the University of Hawai'i at Hilo Campus [TMK: (3) 2-4-001:024 and (3) 2-4-056:014]. Eighteen new sites and a previously recorded site (Site 50-10-35-29373) comprising 68 features were recorded during the course of the current archaeological inventory survey. The vast majority of sites within the study area were associated with historic era sugarcane cultivation, ranching, or the Hilo Dairy facilities. None of the sites were interpreted as pre-Contact.

All of the archaeological features (n=68) identified during the study were remains of historic era sugarcane, ranching, and a dairy operation. The majority of features were modified outcrops (n=27) created by piling and stacking cobbles and small boulders onto exposed bedrock outcrops. The remaining features were field clearing rock mounds (n=25) associated with sugarcane agriculture, concrete foundations and structural remains associated with the Hilo Dairy (n=10), rock walls (n=3), fence posts (n=2), and a rock alignment (n=1).

INVESTIGATIONS CLOSE TO THE STUDY AREA**Dircks *et al.* 2008**

Rechtman Consulting, LLC conducted an archaeological inventory survey on approximately four acres [TMK: (3) 2-4-012: 016 and 017] located 1.5 km northwest of the current project area (see Figure 9). Four Historic Period sites were recorded during the study, including a clearing mound (Site 50-10-35-26470), an enclosure/workshop (Site 26471), and two rock walls (Site 26472 and Site 26473) (Dircks *et al.* 2008:10-17). The sites were interpreted as the result of sugarcane agriculture. No further work was recommended at the four sites.

Escott (2014b)

SCS, Inc. conducted an archaeological inventory survey (AIS) of the 2.0-acre proposed fire station project area. Two archaeological sites (Site 50-10-35-30039 and Site 50-10-35-30040) consisting of four rock mound features were identified within the current 2.0 acre project area (Figures 12 through 15). The rock mounds were constructed of rocks piled loosely on the ground surface and on an exposed bedrock outcrop. Modern glass bottle fragments were recovered from a stratigraphic trench excavated through the center of a rock mound. The rock mounds are interpreted as sugarcane field clearing mounds based on archival research of previous land-use, based on the style of feature construction, and based on excavation results.

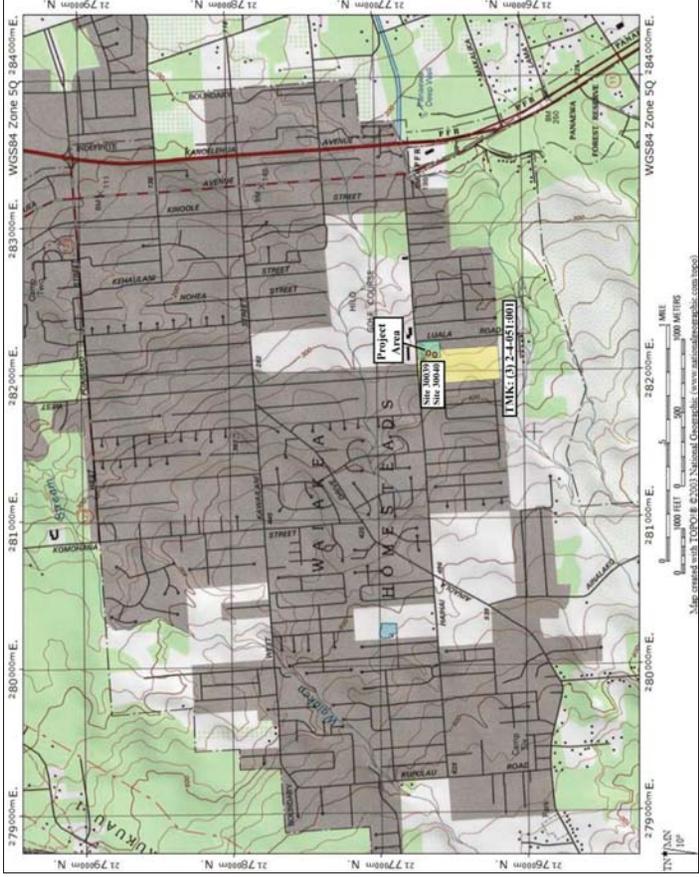


Figure 12: 7.5-Minute Series USGS Topographic Map Showing Location of Archaeological Sites (Hilo, Quad, National Geographic Topo, 2003).

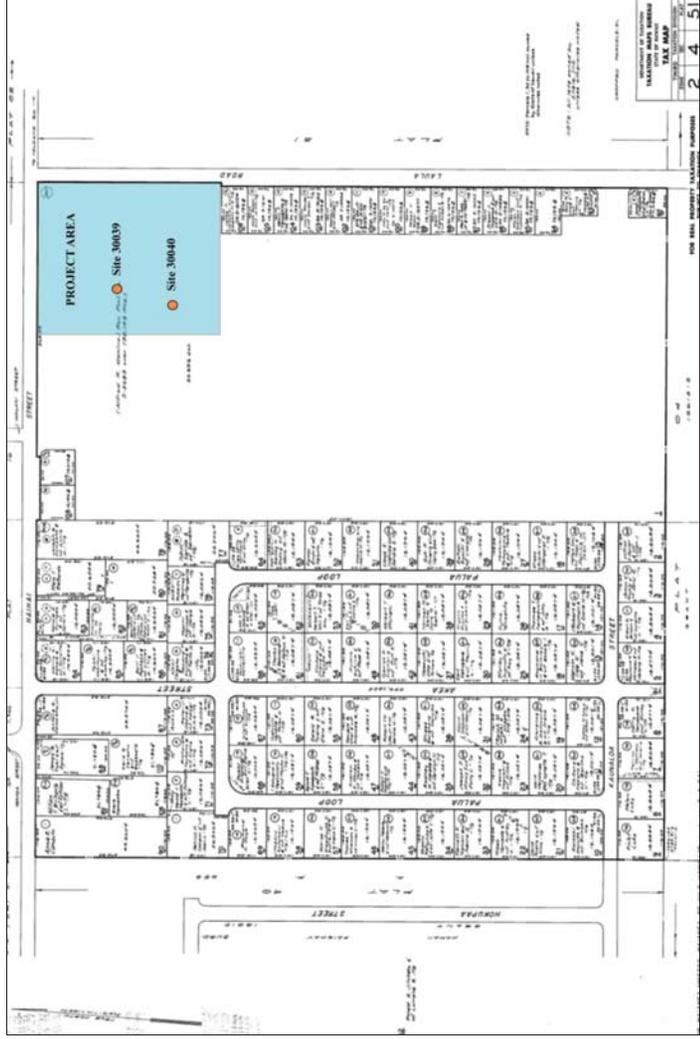


Figure 13: TMK: (3) 2-4-051 Map Showing Location of Archaeological sites (Hawai'i County Planning Department 2013).

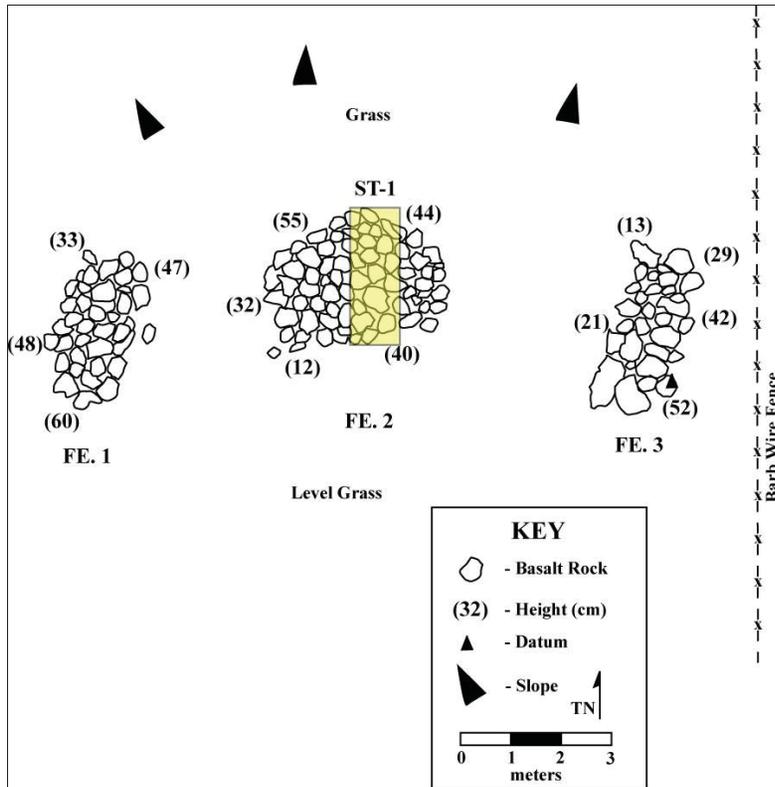


Figure 14: Site 30039 Plan View.

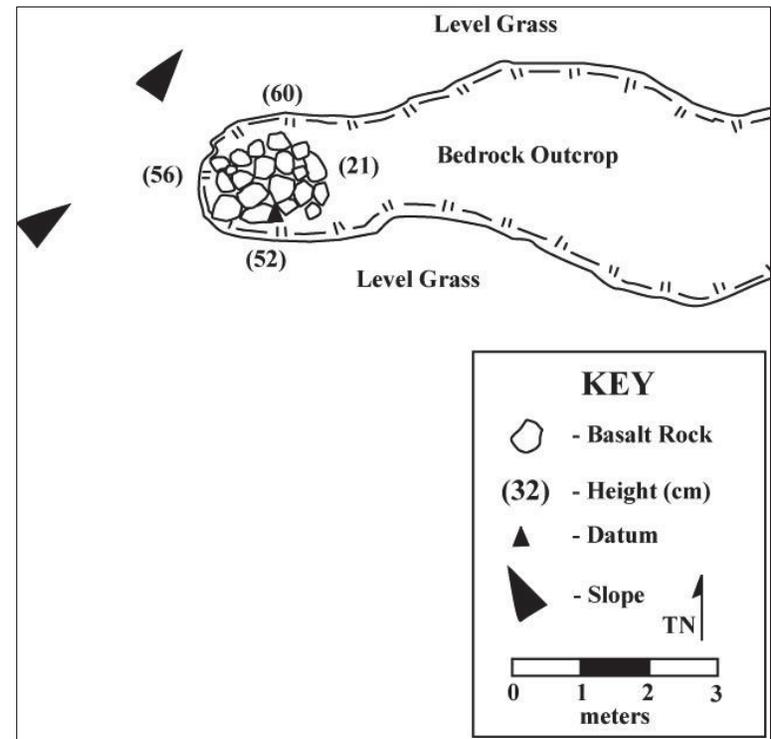


Figure 15: Site 30040 Plan View.

CULTURAL INFORMANT INTERVIEWS

SCS, Inc contacted eight individuals who either work for the Office of Hawaiian Affairs, are the SHPD Burial Sites Specialist (HIBC), are familiar with the project area lands through cultural, professional, or historical work, or are long-time residents of the area (Table 3). None of the individuals were aware of past or ongoing cultural activities conducted on the subject parcels.

Table 3: Individuals Responding to CIA.

Name	Affiliation	Responded	Has Knowledge	Cultural Practices
Kai Markell	Office of Hawaiian Affairs	No	-	-
Robert K. Lindsey, Jr.	Office of Hawaiian Affairs	Yes	Yes	No
Kauanoë Hoomanawanui	SHPD Burial Sites Program	No	-	-
Kimo Lee Jr.	Chairman, HIBC	No	-	-
Rick Gmirkin	Ala Kahakai NHT, NPS	Yes	Yes	No
William Brown	Pana'ewa Hawaiian Homelands Community Association	Yes	Yes	No
Patrick L. Kahawaiola'a	Keaukaha-Pana'ewa Farmers Association	Yes	Yes	No
Mike Tulang	Property Lessee	Yes	Yes	No

SUMMARY

The “level of effort undertaken” to identify potential effect by a project to cultural resources, places or beliefs (OEQC 1997) has not been officially defined and is left up to the investigator. A good faith effort can mean contacting agencies by letter, interviewing people who may be affected by the project or who know its history, research identifying sensitive areas and previous land use, holding meetings in which the public is invited to testify, notifying the community through the media, and other appropriate strategies based on the type of project being proposed and its impact potential.

In the case of the present parcel, letters of inquiry were sent to organizations whose expertise would include the project area. Consultation was sought from Kai Markell, the Director of Native Rights, Land and Culture, Office of Hawaiian Affairs; Robert K. Lindsey, Jr., Office of Hawaiian Affairs Hawai'i Island Trustee; Kauanoë Hoomanawanui, SHPD Burial Sites Specialist; Kino Lee, Jr. Chairman of the Hawai'i Island Burial Council; Rick Gmirkin, Ala Kahakai National Historic Trail, NPS Archaeologist; Patrick L. Hahawaiola; Keaukaha-

Pana'ewa Farmers Association; William "Bill" Brown, Pana'ewa Hawaiian Homelands Community Association; and Mike Tulang, property lessee and cattle rancher. Inquiries were also made to members of the community who are familiar with the project area lands through cultural, professional, or historical work, or are long-time residents of the area.

Public notices were published in the Office of Hawaiian Affairs Ka Wai Ola Newspaper, and were published in the Honolulu Star Advertiser and the Tribune Herald.

Historical and cultural source materials were extensively used and can be found listed in the References Cited portion of the report. Such scholars as I'i, Kamakau, Chinen, Kame'eleihiwa, Fornander, Kuykendall, Kelly, Handy and Handy, Puku'i and Elbert, Thrum, and Cordy have contributed, and continue to contribute to our knowledge and understanding of Hawai'i, past and present. The works of these and other authors were consulted and incorporated in the report where appropriate. Land use document research was supplied by the Waihona 'Aina 2007 Data Base.

CIA INQUIRY RESPONSE

As suggested in the “Guidelines for Accessing Cultural Impacts” (OEQC 1997), CIAs incorporating personal interviews should include ethnographic and oral history interview procedures, circumstances attending the interviews, as well as the results of this consultation. It is also permissible to include organizations with individuals familiar with cultural practices and features associated with the project area.

As stated above, consultation was sought from Kai Markell, the Director of Native Rights, Land and Culture, Office of Hawaiian Affairs; Robert K. Lindsey, Jr., Office of Hawaiian Affairs Hawai'i Island Trustee; Kauanoë Hoomanawanui, SHPD Burial Sites Specialist; Kino Lee, Jr. Chairman of the Hawai'i Island Burial Council; Rick Gmirkin, Ala Kahakai National Historic Trail, NPS Archaeologist; Patrick L. Hahawaiola; Keaukaha-Pana'ewa Farmers Association; William "Bill" Brown, Pana'ewa Hawaiian Homelands Community Association; and Mike Tulang, property lessee and cattle rancher. None of the organizations or individuals that responded were aware of ongoing or past cultural resources or practices associated with lands of the project area. Those individuals who had knowledge of the project area lands responded that they were not aware of any cultural resources or ongoing cultural practices or beliefs associated with those lands.

Analysis of the potential effect of the project on cultural resources, practices or beliefs, its potential to isolate cultural resources, practices or beliefs from their setting, and the potential of the project to introduce elements which may alter the setting in which cultural practices take place is a requirement of the OEQC (No. 10, 1997). To our knowledge, the project area has not been used for traditional cultural purposes within recent times. Based on historical research and the responses from the above listed contacts, it is reasonable to conclude that Hawaiian rights related to gathering, access or other customary activities within the project area will not be affected and there will be no direct adverse effect upon cultural practices or beliefs. There will be no visual impact of the project from surrounding vantage points.

CULTURAL ASSESSMENT

Based on the results of a pedestrian survey of the project area, the results of previous archaeological studies, as well as organizational response, individual cultural informant responses, and archival research, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by development activities on this parcel. No cultural activities were identified within the project area, and the proposed undertaking will not produce adverse effects to any native Hawaiian cultural practices.

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Appendix **F**

TRANSPORTATION ASSESSMENT REPORT



March 10, 2014

Mr. Glenn Yokotake
 Sustainable Design Leader
 KYA Design Group
 934 Pumehana Street
 Honolulu, Hawaii 96815

Subject: Transportation Assessment for the Proposed Fire Station on Haihai Street in Hilo

Dear Mr. Yokotake,

Fehr & Peers has completed a transportation assessment for the proposed fire station to be located on Haihai Street in Hilo on the island of Hawaii. Our transportation assessment for the proposed project site includes a review of site access and on-site circulation to ensure that safe and efficient access is provided in and around the site without creating potential vehicle conflicts. County of Hawaii staff indicated that a comprehensive transportation impact analysis report (TIAR) is not required due to the anticipated low vehicle trip generation. This letter presents a description of the project followed by the assessment.

Project Description and Background

Proposed Project

The proposed project is a new fire station to be located on an approximate two-acre site on Haihai Street in Hilo. The existing site is vacant and bounded by Haihai Street on the north, Laula Road on the east side, and will be bound by additional vacant land on the south and west sides. It will be located directly across from the Hilo Municipal Golf Course parking lot at the southwest corner of the Haihai Street/Laula Street intersection. The fire station will serve the community of central Hilo and is expected to enhance service and reduce emergency response times. The project's January 26, 2014 site plan was prepared by PBR Hawaii & Associates and is illustrated on Figure 1.

Existing Roadway Network

Regional access to the project site is provided by Kanoelehua Avenue (Route 11), while local access is provided by both Haihai Street and Laula Street. The following describes the key roadways in the project vicinity:

Kanoelehua Avenue (Route 11) is a four-lane divided highway, also designated as Mamalahoa Highway, which extends through Hilo and is part of a network of roadways that encircles the island of Hawaii. This highway is located approximately one mile makai of the project site. Access to Mamalahoa Highway from the project site is provided via two un-signalized side-street stop intersections: 1) on Kilauea Avenue south of Haihai Street and 2) via E Palai Street and Kilauea Avenue (north of Haihai Street). It has a posted speed limit of 55 mph south of Kilauea Avenue and transitions to a reduced speed of 35 mph approximately half a mile north of Kilauea Avenue.

Haihai Street is a two-lane roadway that extends westerly from Kilauea Avenue to Kupulau Road. Haihai Street provides direct access to the Hilo Municipal Golf Course and surrounding neighborhoods. Most intersections on Haihai Street are un-signalized side-street stop intersections; the nearest signalized intersection is a little less than a mile mauka of the project site, at Ainaola Drive. In the immediate vicinity of the site, Haihai Street has a posted speed limit of 35 miles per hour (mph) and lane widths of approximately 10 feet. This roadway currently does not provide a paved sidewalk in either direction, however an eight- to nine-foot shoulder is provided on the north side of the street along most of the golf course frontage. On either side of the golf course, the shoulder on the north side is three feet or less. A driveway serving the golf course is located approximately 320 feet mauka of Laula Street.

Laula Road is a two-lane undivided north-south cul-de-sac street that forms the eastern boundary of the project site and terminates about 2,215 feet south of Haihai Street. Similar to other streets in the area, this roadway does not include any formal sidewalks or shoulders and it has homes that front on its makai and mauka side. The northern end of Laula Street intersects Haihai Street opposite the golf course's exit driveway and both the Laula Street and golf course driveway approaches are stop controlled.

Planned Roadway Improvements

Iwalani Street is a north-south street located approximately 450 west of the western edge of the site. This street is planned to be extended south of its existing terminus at Haihai Street and then



west to connect to Komohana Street (approximately a one-mile extension in total). While this extension will increase neighborhood connectivity and will affect turning movement volumes at the Iwalani Street/Haihai Street intersection, it is not expected to substantially affect volumes and traffic operations on Haihai Street in front of the project site.

Trip Generation and Transportation Assessment Requirements

Fire stations are typically expected to generate a negligible number of vehicle trips at any one time that are intermittently distributed throughout the day in response to emergency calls. Vehicle trips are generated by emergency personnel traveling to and from the site in their personal vehicles during shift changes, by emergency vehicles responding to calls, and by visitors to the station. All of these trips do not occur at one time, and the maximum total trip generation during any single hour of the day is estimated to be less than 20 one-way trips for all trip types, and in most cases, only a minimal number of trips would occur during peak commute periods (between 6:00am and 9:00am and 2:30 pm and 5:30pm). Consequently, given the project's substantially low trip generation, the project is not anticipated to trigger a significant traffic impact at any of the adjacent roadways or intersections.

The County of Hawaii Department of Public Works-Traffic Division uses a 50-trip peak hour threshold as the minimum volume to establish the need for a comprehensive transportation impact analysis report (TIAR). For volumes below this threshold, County staff typically requires an assessment of traffic and other modes to ensure appropriate access and circulation. As such, this approach was applied to the proposed fire station.

Site Access and Vehicle Circulation

Based on the site plan provided by PBR Hawaii & Associates, the proposed project includes six visitor parking stalls in the northwest corner of the site, and 17 staff parking stalls behind the fire station in the southwest corner, resulting in a total of 23 parking stalls on site.

The proposed site plan includes two access points: one north driveway on Haihai Street and one east driveway on Laula Street. Emergency service vehicles will enter the project site from Laula Street and exit via Haihai Street. The Haihai Street project driveway will be located in between the two Hilo Municipal Golf Course driveways, and will be centered approximately 130 feet mauka of Laula Street. This driveway will provide full access to visitors and exiting emergency service vehicles. The Laula Road driveway will be located approximately 280 feet south of Haihai Street



and will provide full access to staff members and entering emergency service vehicles. This proposed layout is preferred as there will be no conflict of emergency vehicles entering or exiting the same driveway at the same time, and emergency vehicles will be able to pull into the station without having to back up on any public street.

The major site access issue for a fire station is the exiting of vehicles from the station during an emergency response. Responses can range from a single paramedic unit or ambulance to multiple engines and trucks departing the site at one time. When fire/emergency vehicles leave the station, it is important that vehicles on the adjacent street (in this case Haihai Street) stop so that emergency response is not impeded.

To facilitate this movement and to properly notify drivers on Haihai Street, we recommend installation of a set of beacons and signs warning drivers of exiting traffic from the station and requiring them to stop on Haihai Street in both directions. Various types of installations are possible from side mounted signs and beacons to an overhead mounted system. The beacons would activate from within the fire station during an emergency response and could be solar powered to minimize the need for electric infrastructure to the installed lights. In addition, a "Keep Clear" designation with stop bars should be striped on the street. The bars should be striped a minimum of 20 feet beyond the edges of the driveway on Haihai Street.

Sight Distance Evaluation

The proposed project will include a project driveway on Haihai Street which will serve visitors and exiting emergency vehicles. With access points on public streets, it is important to determine if the visibility will be adequate for drivers of vehicles turning out of the site and viewing approaching traffic. This determination is accomplished by reviewing the minimum stopping sight distance for vehicles turning onto Haihai Street. Stopping sight distance is defined as the distance required by the driver of a vehicle, traveling at a given speed, to bring the vehicle to a stop after an object on the road becomes visible.

The posted speed limit on Haihai Street is 35 miles per hour. The design speed of a roadway is typically five miles per hour higher than the posted speed, resulting in an estimated design speed of 40 miles per hour for this facility.

According to the *A Policy on Geometric Design of highways and Streets* (American Association of State Highway and Transportation Officials), the minimum stopping sight distance for a design



speed of 40 miles per hour is 305 feet. The sight line from the Haihai Street project driveway is presented in Figure 2 and depicts the line of sight from a driver's view (15 feet behind the edge of the traveled way) to the point where a westbound or eastbound vehicle on Haihai Street would enter their view. To maintain adequate sight distance, all obstructions within the colored sight triangle on Figure 2 must be less than 2.5 feet above grade to ensure that a vehicle traveling westbound or eastbound on Haihai Street is visible by a driver exiting the site driveway.

Elimination of all visual obstructions includes tree trunks and other natural vegetation that could impede vision. Given that the eye height of drivers of fire engines is substantially higher (assumed to be 7.5 feet) than that of a driver in a passenger vehicle (assumed to be 3.5 feet), all branches of trees within the sight distance triangle should be pruned to no less than 10 feet above the ground.

Stopping sight distance is the minimum viewing distance required in urbanized areas and is often the minimum distance that can reasonably be achieved without requiring the removal of structures, major landscaping features, etc. The AAHSTO publication also describes intersection sight distance, which is a greater desired distance that allows vehicles turning out of a side street or driveway approach to make their maneuver without significantly impeding the flow of traffic on the adjacent street. However, these distances are substantially longer and would result in much greater vegetation removal. For this study, the intersection sight distance is 560 feet for vehicles turning left and 500 feet for right turns, where left-turning vehicles must cross the opposing traffic lane as part of the turn. These distances are based on the single-unit truck time gap values which are intended to reflect the size of the station's fire engines. County of Hawaii Department of Public Works staff will make the final determination on the need for providing intersection sight distance beyond the minimum stopping sight distance.

Summary of Findings

Based on this evaluation, the proposed fire station is not expected to result in any significant traffic impacts to the adjacent roadway system. The planned extension of Iwalani Street will be located approximately 450 feet west of the project site and is not expected to be affected by project implementation. The on-site circulation layout and the low peak hour trip generation indicate that there will be negligible vehicle queuing and delays at the parking lot driveways on both Haihai Street and Laua Road, and no street modifications are recommended.



As stated previously, objects within the sight line of drivers exiting onto Haihai Street must be less than 2.5 feet or greater than 10 feet above grade to maintain adequate stopping sight distance. We recommend that a "Keep Clear" designation be striped on Haihai Street along the frontage of the project driveway to define an area for emergency vehicles to exit the facility efficiently during emergency responses. This will help emergency vehicles exit the building without having to drive around queued vehicles.

Additionally, we recommend implementing a visible and audible warning feature on Haihai Street for approaching traffic. The warning installation could include either an overhead or side mounted beacon in each direction that would be activated when an emergency service vehicle exits the driveway and warns drivers traveling on Haihai Street to slow down and stop during a response to an emergency call.

We appreciate the opportunity to assist the project team with this study. Please let us know if you have any questions on the information in this letter.

Sincerely,

FEHR & PEERS

Sohrab Rashid, T.E.
Principal

Daleingrid Domingo
Transportation Engineer

Attachments:

Figure 1 – Site Plan

Figure 2 – Stopping Sight Distance

Appendix **G**

PUBLIC MEETING RECORDS

Appendix **G-1**

Meeting Notice

JOIN US COMMUNITY MEETING FOR THE PROPOSED HAIHAI FIRE STATION



Proposed location for the Haihai Fire Station at the corner of Haihai Street and Laua Road, Hilo, HI

Agenda:

5:00-5:30 Informal Question & Answer (come early to browse exhibits, ask questions or provide comments one-on-one)

5:30-6:45 Presentation by Project Architect and Fire Department (need for the project, site plan, considerations such as noise, drainage, and traffic; question and answer)

6:45-7:00 Informal Question & Answer (stay or come late for one-on-one comments or questions)

August 14, 2014 5:00-7:00 p.m.

Council Room, 25 Aupuni Street, Hilo, HI

Comments on the Draft Environmental Assessment (EA) will be accepted until September 8, 2014.

Copies are available at [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA and EIS Online Library/Hawaii/2010s/2014-07-08-HA-5B-DEA-Haihai-Fire-Station.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA%20and%20EIS%20Online%20Library/Hawaii/2010s/2014-07-08-HA-5B-DEA-Haihai-Fire-Station.pdf). Or you may request a copy at the meeting or call PBR HAWAII at (808) 521-5631 or email vshigekuni@pbrhawaii.com. If you are providing written comments to the Draft EA before, during, or after the community meeting, please include a return mailing address and send (or deliver at the meeting) postmarked by September 8, 2014 to:

Proposing/Determining Agency:

County of Hawai'i Department of Public Works
ATTN: David Yamamoto
Hilo, Hawai'i 96720
Phone: (808) 961-8321
Fax: (808) 961-8630

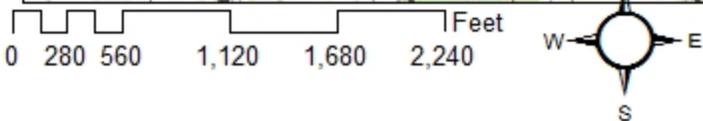
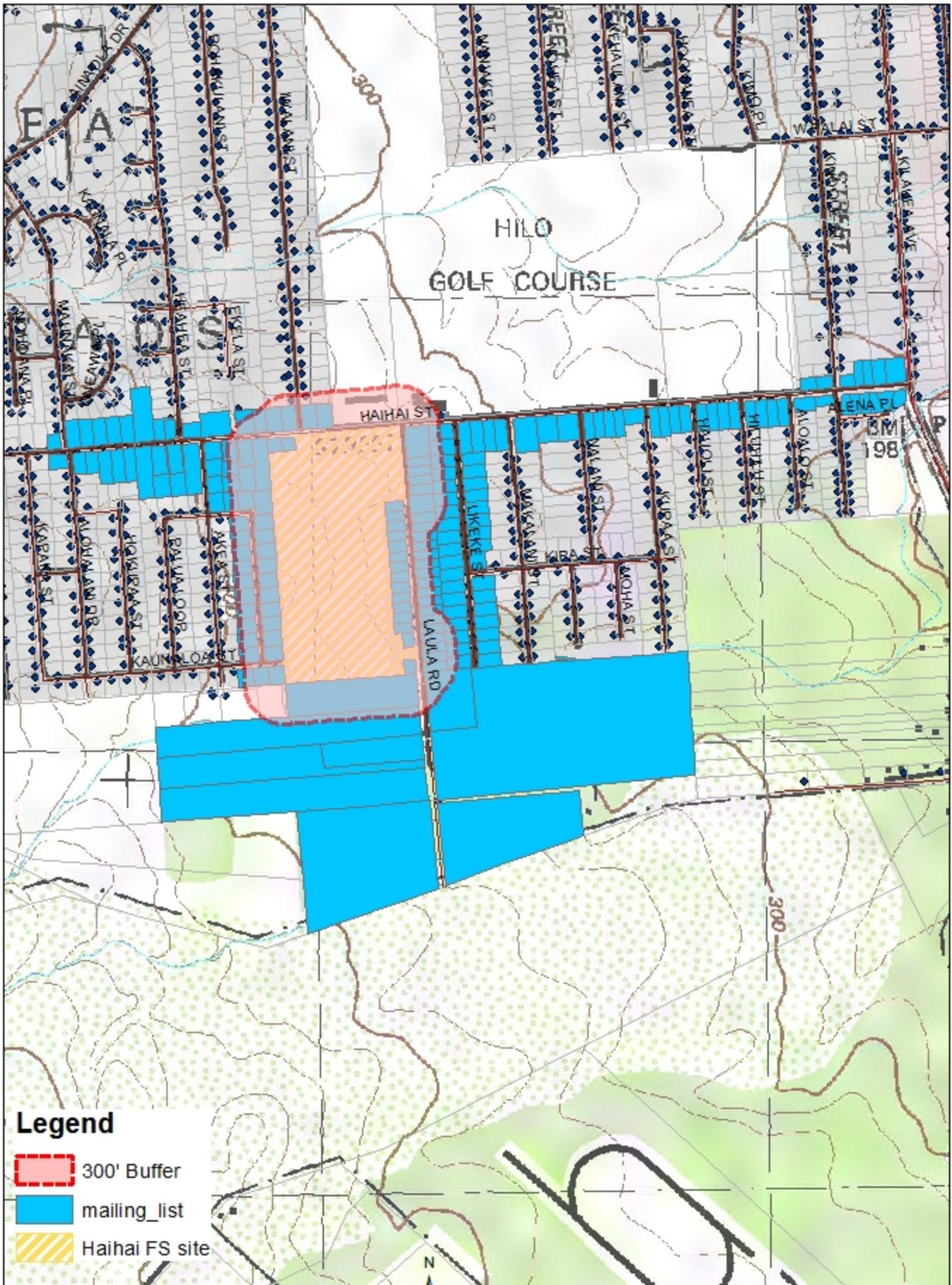
Consultant:

PBR HAWAII
ATTN: Mr. Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813
Phone: (808) 521-5631
Fax: (808) 523-1402



If you have questions or need special assistance, please call:

Councilman Fresh Onishi's Office
(808) 961-8396 | donishi@co.hawaii.hi.us



Appendix **G-2**

Meeting Handout

FACT SHEET

PROPOSED HAIHAI FIRE STATION, HILO, HI



Proposed Project

The County of Hawai'i proposes to construct a new fire station at the corner of Haihai Street and Laula Road across from the Hilo Municipal Golf Clubhouse. This station would replace the Kawailani Fire Station. The Kawailani Station has limited space that will be further reduced by the planned widening of Kawailani Street. The fire station provides fire-fighting and emergency medical services.

Proposed Site

The proposed site is currently used as a pasture. The State owns the land and will withdraw approximately 2 acres from the current pasture lease to allow the County's use of this land for a fire station. Located at the corner of Haihai Street and Laula Road, the nearest residences would be buffered by the AJA Hall, Hilo Municipal Golf Course, and pasture land. The proposed location will allow comparable response time to the geographical area served by the Kawailani Fire Station.



Figure 1. Proposed location at the corner of Haihai Street and Laula Road

Site Plan

The proposed facility will be designed to enable the fire vehicles to drive through with minimal reversing, entering from Laula Road and exiting from Haihai Street. The new building will be approximately 12,000 square feet in size to accommodate living quarters, offices, work rooms, classrooms, bathrooms, showers, an exercise room, locker rooms, a kitchen, storage, a training room, an apparatus bay and a hose tower.

Flashing lights along Haihai Street will alert drivers of an emergency call. Sirens are turned on only as necessary when traffic is heavy. Anyone is welcome to drop in to the station for emergency medical service, blood pressure testing, reserve use of the meeting room, or check out the fire trucks.

Construction would start approximately Spring 2015.

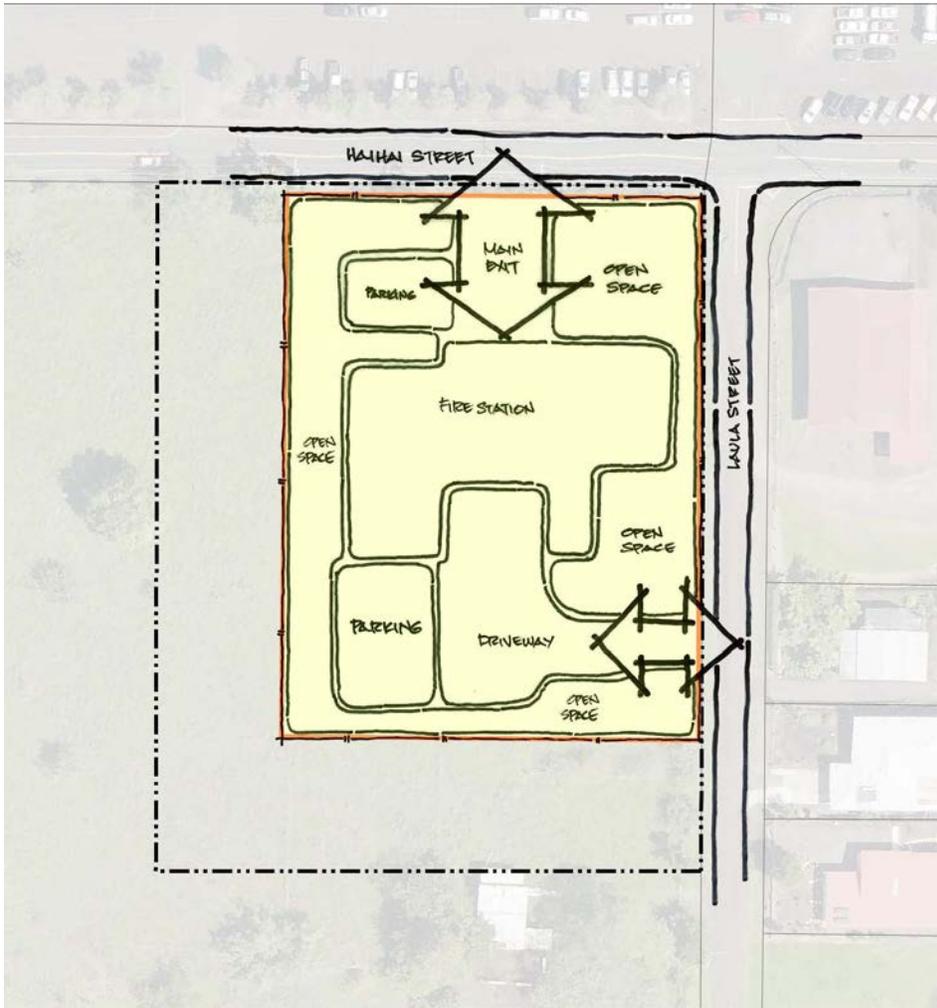


Figure 2. Conceptual site plan

Environmental Assessment

A Draft Environmental Assessment (EA) is available for review at [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA and EIS Online Library/Hawaii/2010s/2014-07-08-HA-5B-DEA-Haihai-Fire-Station.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA%20and%20EIS%20Online%20Library/Hawaii/2010s/2014-07-08-HA-5B-DEA-Haihai-Fire-Station.pdf). If you would like a copy or have questions you may contact the persons below. If you are providing written comments to the Draft EA, please include a return mailing address and send postmarked by **September 8, 2014** to:

Proposing/Determining Agency:
County of Hawai'i Department of Public Works
ATTN: David Yamamoto
Hilo, Hawai'i 96720
Phone: (808) 961-8321
Fax: (808) 961-8630

Consultant:
PBR HAWAII
ATTN: Mr. Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813
Phone: (808) 521-5631
Fax: (808) 523-1402

Appendix **G-3**

PowerPoint Presentation and Results of In-Meeting Polling



Proposed Haihai Fire Station

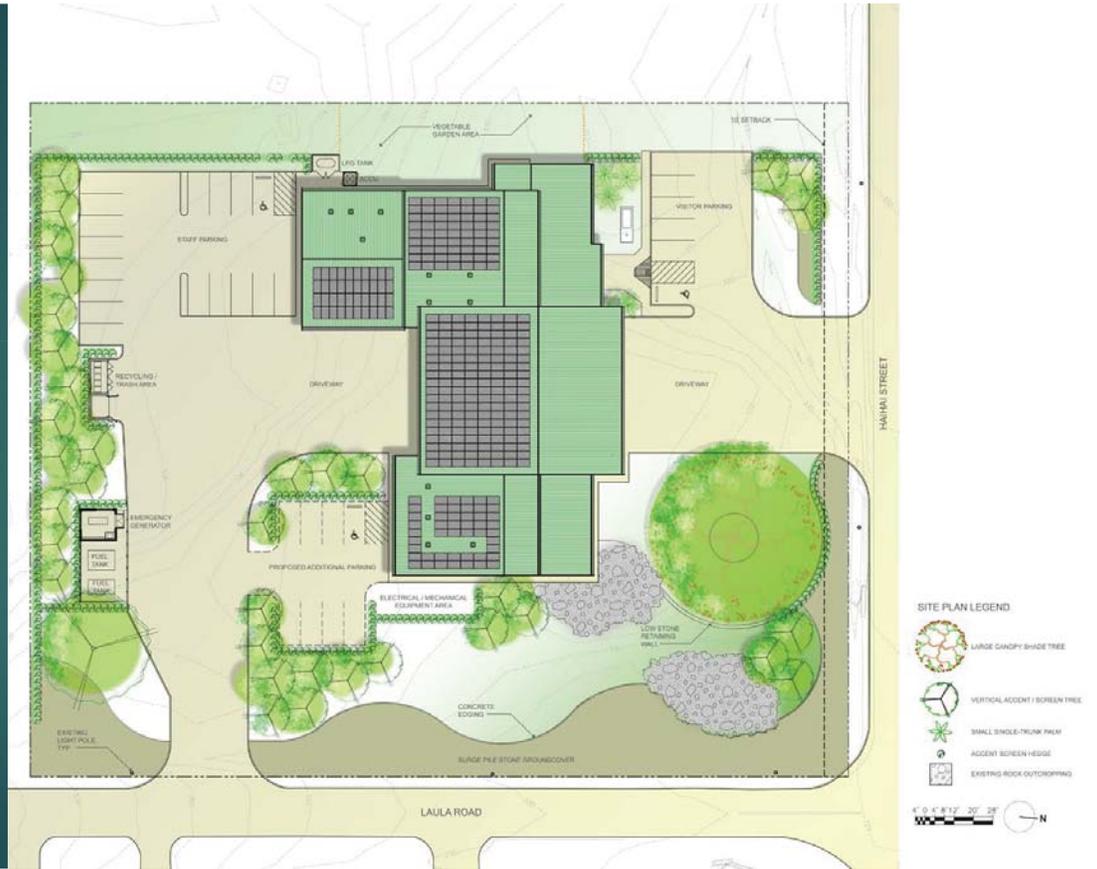
COMMUNITY MEETING, AUGUST 14, 2014



Agenda

- ▶ 5:00 -5:30: Informal Question & Answer
- ▶ 5:30: Presentation
 - ▶ Welcome
 - ▶ Project Description
 - ▶ Fire Station Operations
 - ▶ Question & Answer
- ▶ 6:45 Informal Question & Answer

Site Plan

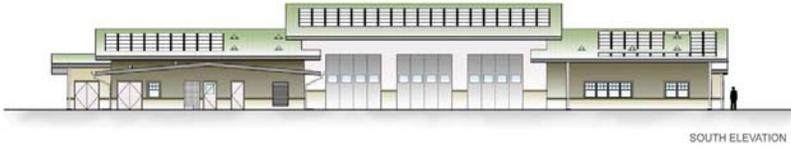
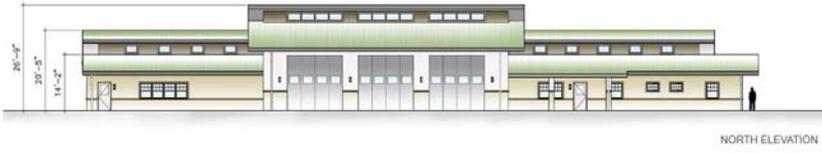


Floor Plan

Building Area:
13,678 SF



Building Images



Building Images



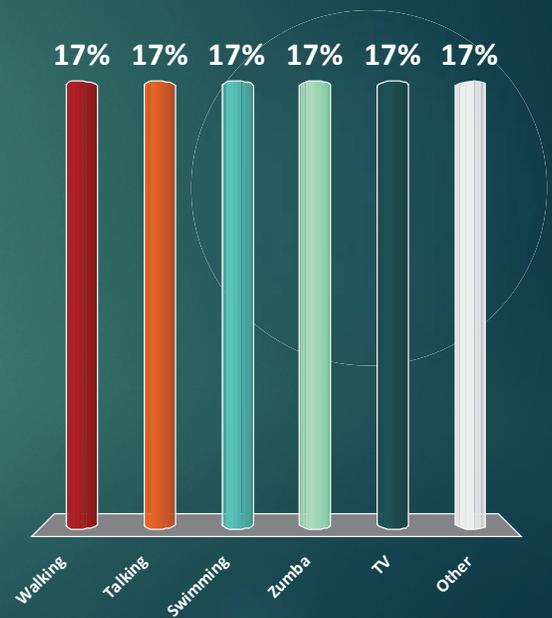
Next Steps

- ▶ Environmental Assessment– written comments will be accepted until September 8, 2014 (see handout for contact information).
- ▶ Project Schedule
 - ▶ Design: early stages; now is time to make any changes to address concerns
 - ▶ Construction: approximate start date Spring 2015; approximately 12-16 months duration

Any Questions or Comments?

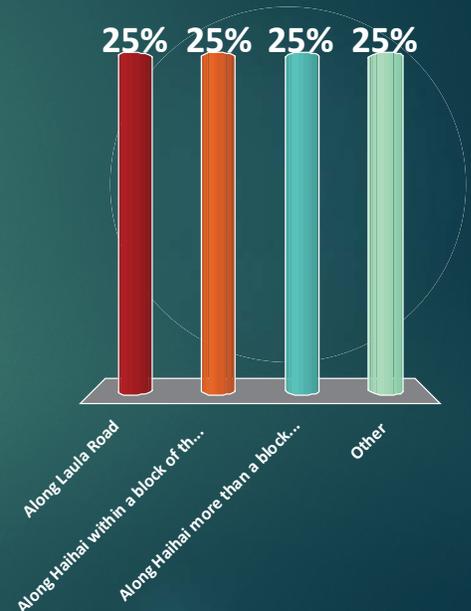
What is your favorite exercise?

- A. Walking
- B. Talking
- C. Swimming
- D. Zumba
- E. Couch Potato
- F. Other



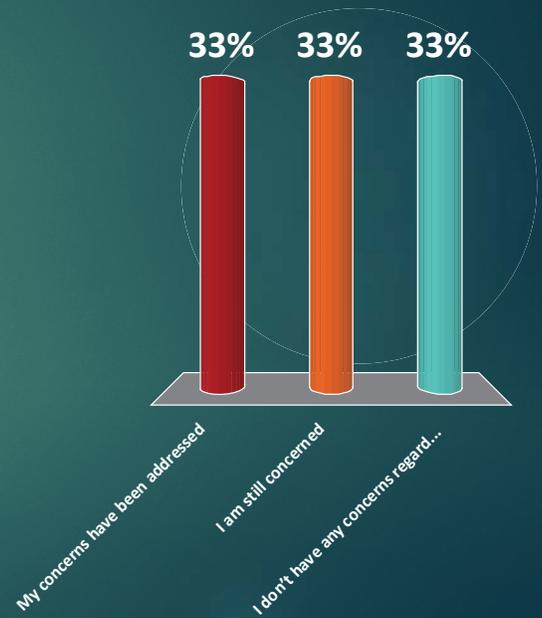
Your home in relation to the proposed site is:

- A. Along Laula Road
- B. Along Haihai within a block of the proposed site
- C. Along Haihai more than a block from the proposed site
- D. Other



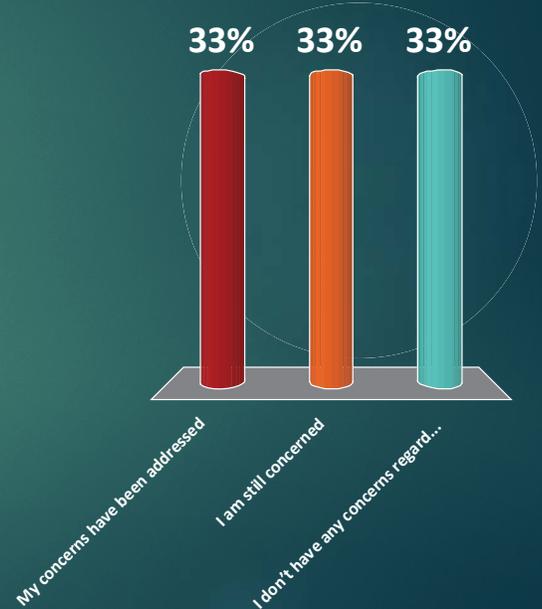
If you had concerns regarding drainage:

- A. My concerns have been addressed
- B. I am still concerned
- C. I don't have any concerns regarding drainage



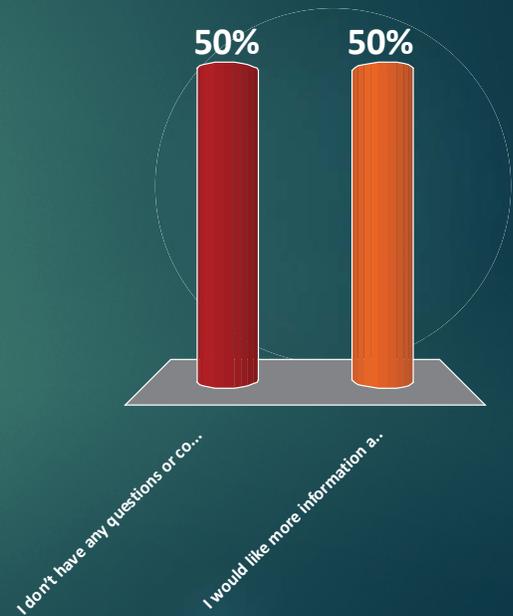
If you had concerns regarding noise:

- A. My concerns have been addressed
- B. I am still concerned
- C. I don't have any concerns regarding noise



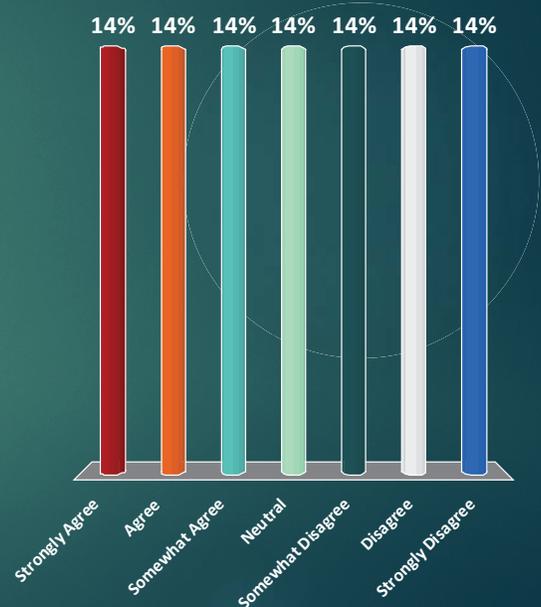
Besides noise and drainage, have your questions or concerns been addressed?

- A. I don't have any questions or concerns at this time
- B. I would like more information and will contact the County



The proposed site is acceptable

- A. Strongly Agree
- B. Agree
- C. Somewhat Agree
- D. Neutral
- E. Somewhat Disagree
- F. Disagree
- G. Strongly Disagree



Appendix **G-4**

Meeting Minutes

COMMUNITY MEETING NOTES

PROPOSED HAIHAI FIRE STATION, HILO, HI



Meeting Date and Time: August 14, 2014, 5:00 to 7:00 p.m.

Meeting Place: County Council Chambers, 25 Aupuni Street, Hilo, HI

Meeting Notice and Handouts: A notice was mailed to residents within 300' of the proposed project site and along Haihai Street approximately two weeks prior to the meeting. A handout was available at the meeting summarizing the project need, site location, site plan, and environmental assessment contact and extension of comment deadline to September 8, 2014.

Attendance: Approximately 16 members of the public, Councilman Onishi and staff, Assistant Fire Chief Glen Honda and staff, consultant team

The notes below summarize the questions raised during the meeting and the County's responses. These notes have been mailed to the meeting attendees.

Q: Since the Site presently ponds during heavy rains effectively functioning as a catchment basin, where will that ponding water go?

The flooding that occurs during exceptionally heavy rains is a regional problem. The Project by itself cannot solve that regional flooding problem, but it will not make it worse.

The major source of flood waters that flow into the pasture seems to be a culvert at Palua Loop. The water flows across and ponds within the pasture at a low point mauka of the Site. When the ponding capacity is exceeded, it overflows in two directions—toward the golf course and toward Laula in the Puna direction. A berm is located on the mauka side of the Laula lots that deflects the flow along the backside of the lots flowing in the Puna direction (see attached figure). The overflow flowing towards Haihai presently collects at the low point at the corner of Laula Road and Haihai, which is the proposed Site. The ponded water then either flows under Haihai through a culvert to the golf course, or sheet flows across Haihai.

The Project would not increase the overflow flowing toward the Puna direction. For the overflow flowing toward Haihai, the Project would divert the flood waters around the Project where it would end up in the same low point at the Haihai and Laula Road corner. Any increase in runoff from the Project's roof and pavement would flow into drywells within the Project boundaries and recharge the groundwater. Although the Project would not add to the regional flood flows, it could increase the flows toward the golf course flowing under Haihai in the culvert or sheetflowing over Haihai.

Q: What types and typical level of noise can be expected from the fire station? How frequently would this occur?

The typical noises generated by a fire station include:

- *Beacons and alarms for exiting emergency vehicles.* These alarms are sounded only as necessary during heavier traffic.
- *Alarms, phone ringers, and speakers within the fire station.* The noise from within the building escapes only when the apparatus doors are open. Due to the lack of space at the existing Kawaihāni Station, the doors seldom can be closed. The rear doors at the new station would be closed, especially during the evenings.
- *Outdoor alarms and speakers.* The outdoor speakers are turned on only during the day when staff is working outside.

The average number of emergency calls at the existing Kawaihāni Fire Station is approximately 300 calls per month.

Q: Haihai Street has an open drainage ditch and no shoulder that prevents vehicles from being able to pull off to allow an emergency vehicle to pass. How do the emergency vehicles maneuver in that situation?

Emergency vehicle drivers are trained to sound just a quick burst siren to attempt to get through the traffic. They do not keep blaring the siren until a path clears. If a clear path cannot happen, they must wait. Alternative routes are taken during known traffic congestion periods. There are no funds as part of this Project nor separate capital improvement project to cover the open ditches to provide a shoulder.

Q: The intersections of Kinoole and Kilauea with Haihai are tight left turns. Is Laula Road wide enough? How will the fire trucks handle these turns?

The Kinoole and Kilauea intersections are tighter at Haihāhi than at Kawaihāni. For these intersections, the turns will be slower and more careful. The fire truck drivers usually sound the siren at an intersection. For Laula, the trucks are returning from a call, so they are not in a rush and would slowly turn into Laula Road. As part of the design, the Project will reinforce the entry portion of Laula Road to withstand the weight of the fire trucks. The fire trucks can maneuver most streets in Hilo.

Q: AJA Hall parking presently overflows onto Laula Road. Will the Project include sidewalks or expanded shoulder area to accommodate the parking that occurs on both sides of the street?

The width of Laula Road does not safely accommodate onstreet parking on one nor two sides of the street. Instead of allowing this potentially unsafe practice to continue, the County is considering an amendment to the Traffic Code to prohibit parking along Laula Road. The County would allow AJA Hall users to park at the golf course, and install a crosswalk.

Q: What alternative sites were considered? Would any of the other alternatives provide more flexible access to major roads?

The planned widening of Kawaiiani Street together with the expanded services provided by the fire station triggered a search for alternative solutions. A suitable site would meet the following criteria:

- 1) Adequate land area to accommodate present and future needs.
- 2) Centered within its assigned response zone with optimum overlap to respond as backup if Central or Waiakea Fire Stations could not respond to calls within their respective response zones.
- 3) Convenient and safe access to alternative routes.
- 4) Buffered from residential neighbors.
- 5) Maximum coverage of homes and businesses within a 5 mile radius for potential insurance discounts.
- 6) Owned by the State, County, or no-cost arrangement with a private or nonprofit owner.

Besides the proposed Site, the pros and cons of other alternative sites considered in relation to the above criteria included:

- *Expansion of the existing Kawaiiani Fire Station site.* This alternative would have required an expensive redesign of the golf course with limited additional capacity to accommodate future needs.
- *Shifting the Kawaiiani widening toward the HELCO site.* The HELCO site could not accommodate any reduction and the resulting design of the road widening fronting the fire station would not have been acceptable.
- *Joint use of Machado Acres Park off of Keone Street.* The concept was for Parks and Recreation and the Fire Department to share costs to build the fire station together with a neighborhood park. However, the density and proximity of residences did not provide an optimum buffer to minimize impact to surrounding residences.
- *State land at the corner of Haihai and Ainaola Streets.* This site has the most flexible access to alternative routes via Ainaola to Haihai, Komohana, upper Waiakea, and Komohana Streets. However, the fire chief opposed this site due to its distance from commercial establishments along and across Kanoiehua Avenue.

Q: Wasn't the deadline to send written comments for the Environmental Assessment on August 8, 2014?

The official deadline to submit comments was August 8, 2014. However, the County has the discretion to extend the deadline. The County announced that it has extended the deadline a month and would accept comments postmarked until September 8, 2014.

Q: How many in attendance agreed that the proposed Site is acceptable?

Based on an *informal* polling at the end of the meeting, there was no clear consensus for or against the proposed Site:

- Strongly agree that the proposed site is acceptable: 18%
- Agree that the proposed site is acceptable: 18%
- Somewhat agree that the proposed site is acceptable: 18%
- Neutral: 9%
- Somewhat disagree that the proposed site is acceptable: 18%
- Disagree that the proposed site is acceptable: 18%
- Strongly disagree that the proposed site is acceptable: 0%

If you would like to send written comments or have questions, the addresses or contact information for this Project are:

Proposing/Determining Agency:

County of Hawai'i Department of Public Works
ATTN: David Yamamoto
Hilo, Hawai'i 96720
Phone: (808) 961-8321
Fax: (808) 961-8630

Consultant:

PBR HAWAII
ATTN: Mr. Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813
Phone: (808) 521-5631
Fax: (808) 523-1402



NFIP

Hawaii - National Flood Insurance Program
Flood Hazard Assessment Tool



Zoom In



Zoom Out



Pan



Measure



Full View



Last View



Select Parcel



LOMC



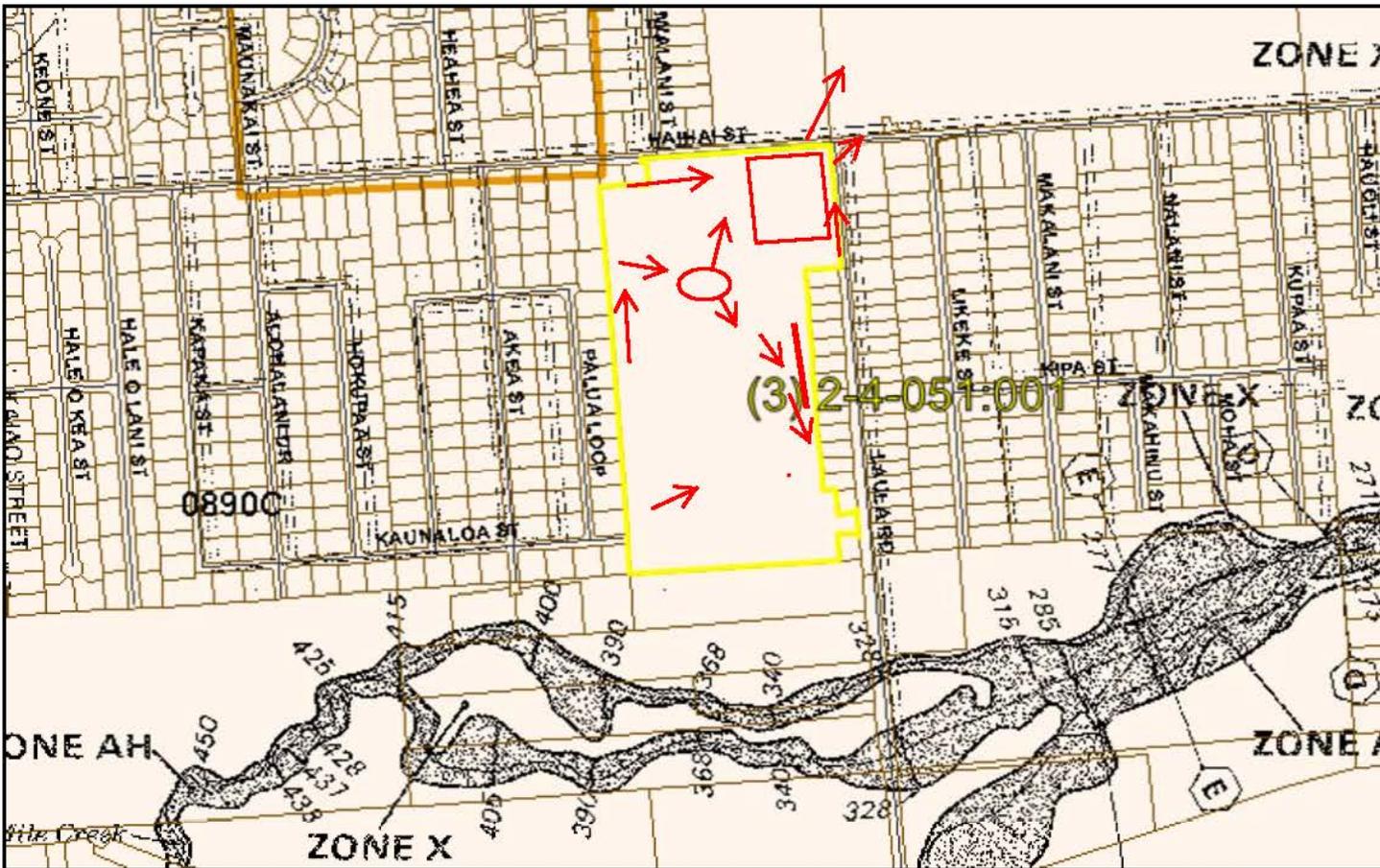
Report



Datasheet



Home



County: HAWAII

TMK: (3) 2-4-051-001 Address: ADDRESS NOT FOUND

LOMC: NONE

Clear Map

Layers

Property Search

1. Select a County:

HAWAII

2. Enter a street name to search:

Street Lookup

OR

Enter a 9-digit Tax Map Key with special characters (e.g. 444002)

324051001

Search TMK

Restart Search

Pop-up blockers must be disabled for searches to work properly.

Map Legend

Letter of Map Change (LOMC)

Elevation Certificate

Flood Insurance Studies (FIS)

Island Number

HELP...

Using Toolbox Buttons

Property Search

How to View Proposed Flood Map

Letter of Map Changes

Elevation Certificate



Session Name: Haihai FS Community Mtg Session 8-14-2014 7-13 PM

Date Created: 8/14/2014 6:46:32 PM

Active Participants: 12 of 12

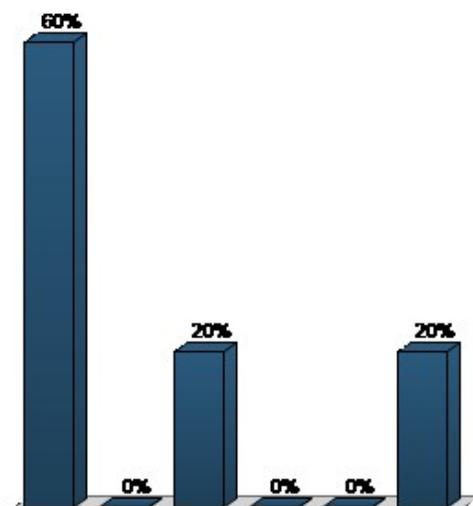
Average Score: 0.00%

Questions: 6

Results by Question

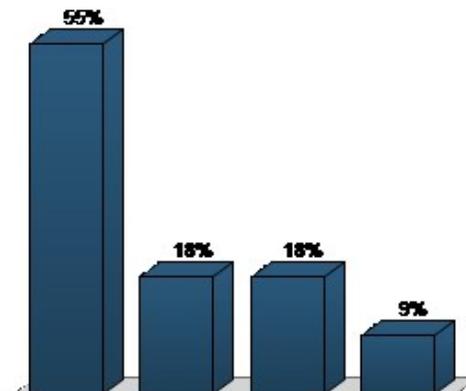
1. What is your favorite exercise? (Multiple Choice)

	Responses	
	Percent	Count
Walking	60%	6
Talking	0%	0
Swimming	20%	2
Zumba	0%	0
Couch Potato	0%	0
Other	20%	2
Totals	100%	10



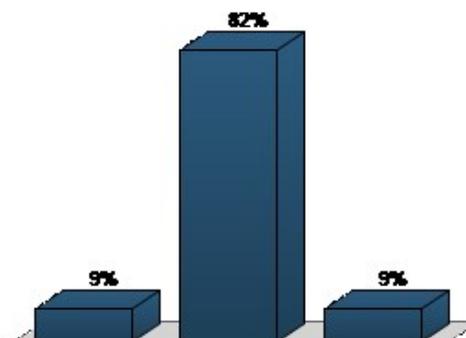
2. Your home in relation to the proposed site is: (Multiple Choice)

Responses		
	Percent	Count
Along Loula Road	54.55%	6
Along Haihai within a block of the proposed site	18.18%	2
Along Haihai more than a block from the proposed site	18.18%	2
Other	9.09%	1
Totals	100%	11



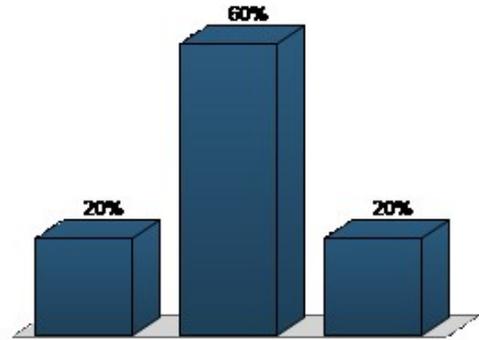
3. If you had concerns regarding drainage: (Multiple Choice)

Responses		
	Percent	Count
My concerns have been addressed	9.09%	1
I am still concerned	81.82%	9
I don't have any concerns regarding drainage	9.09%	1
Totals	100%	11



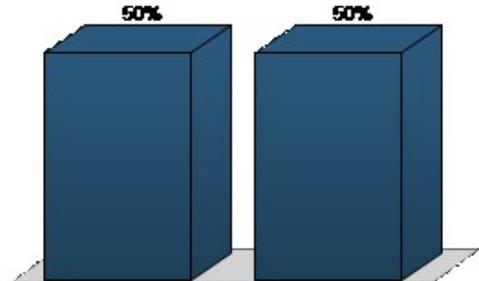
4. If you had concerns regarding noise: (Multiple Choice)

	Responses	
	Percent	Count
My concerns have been addressed	20%	2
I am still concerned	60%	6
I don't have any concerns regarding noise	20%	2
Totals	100%	10



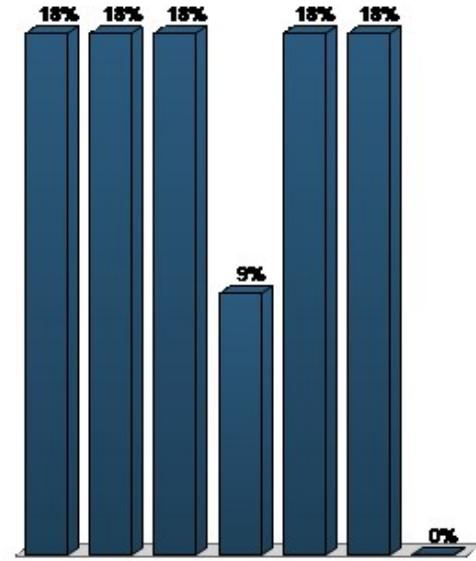
5. Besides noise and drainage, have your questions or concerns been addressed? (Multiple Choice)

	Responses	
	Percent	Count
I don't have any questions or concerns at this time	50%	4
I would like more information and will contact the County	50%	4
Totals	100%	8



6. The proposed site is acceptable (Multiple Choice)

Responses		
	Percent	Count
Strongly Agree	18.18%	2
Agree	18.18%	2
Somewhat Agree	18.18%	2
Neutral	9.09%	1
Somewhat Disagree	18.18%	2
Disagree	18.18%	2
Strongly Disagree	0%	0
Totals	100%	11



**Haihai Street Fire Station
Community Meeting at Council Chambers on August 14, 2014
ATTENDANCE SHEET**

	Name	Address	Phone or email	Affiliation (e.g., resident, landowner, fireman)
1	Dennis & Linda Yoshimura	100 Palua Loop	345-4206	landowner
2	Marcy Kadincew & Christina Wales	2550 Kinole St.	514-2458 (C) 703-1152 (M)	landowners Christina Wales
3	Robin Kokubun	62 Laula Rd	936 1774	Resident
4	RICHARD WONG	934 PUMEHANA ST. HON.	949-7270	KYAD DESIGN GROUP
5	GLENN YOSHIKAKE	" " "	"	" " "
6	Lois Shimizu	2650 Wai'anuhia Pl.	959-4214	landowner
7	Donna Kim	6 Hauoli St		Resident
8	Elizabeth Moore	39 LAULA RD	Mrsmoore@live.com 333-9401	OWNER
9				
10				
11				
13				
14				
15				
16				
17				
18				
19				
20				

**Haihai Street Fire Station
Community Meeting at Council Chambers on August 14, 2014
ATTENDANCE SHEET**

	Name	Address	Phone or email	Affiliation (e.g., resident, landowner, fireman)
1	Jason Inaba	273 Waiannenuue Ave	inabreng@ hawaii.rr.com	Inaba Engineering Inc
2	—			
3	STEVEN BUDROBIN	138 LAULA PL.	STEVE 138 HAWAII@JPL.NET	Land Owner
4	On August	33 Leala PL		Resident
5	Meredith Komata	16643 Kipimana St. #12 Keaau	144 utanioka@hawaii.rr.com	Leonard Biscel Assn.
6	Leonard Biscel	" "	LB552@hawaii.rr.com	
7	Joseph Farias	HCR 1 Box 4157 Keaau	josephf@hawaii.edu	HFD
8	Debbie Adviento	37 Likela St Hilo	dadviento64@gmail.	
9	Gloreen Okueka	76 Leula Rd Hilo		Resident
10	MARTY SHIMIZU	6 HAWAII ST Hilo	mshimizu@hawaii county	Resident
11	Glen Uekawa	169 Haihai St. Hilo	gukawa@worldb.org	Resident
13				
14				
15				
16				
17				
18				
19				
20				

**DRAFT ENVIRONMENTAL ASSESSMENT
PUBLIC REVIEW COMMENTS
AND WRITTEN RESPONSES**

NEIL ABERCROMBIE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

JUL 23 2014

Dean H. Seki
Comptroller
Maria E. Ziellinski
Deputy Comptroller

(P)1240.4

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

Dear Mr. Shigekuni:

Subject: Draft Environmental Assessment
Haihai Fire Station
Waiakea Homesteads
Waiakea, South Hilo, Island of Hawaii
TMK: (3) 2-4-051:001 (portion)

This is in response to your letter dated July 1, 2014 regarding the subject project. The proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If there are any questions, your staff may call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,


JAMES K. KURATA
Public Works Administrator

DD:lnn

c: Mr. David Yamamoto, County of Hawaii - DPW
Mr. Jerry Watanabe, DAGS-Hawaii District Office



August 22, 2014

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ROY TAKEMOTO
Managing Director - Hilo

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DACHENG DONG, LEED AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
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HILO OFFICE
1719 Hialeka Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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Mr. James K. Kurata, Public Works Administrator
State of Hawai'i
Department of Accounting & General Services
P.O. Box 119
Honolulu, Hawai'i 96810-0119

Attn: Mr. David DePonte

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiakea Homesteads, Waiakea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Kurata:

Thank you for your letter (your reference number (P)1240.4) dated July 23, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that the "...proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities" and that the Department has no comments to offer at this time. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President



**OFFICE OF PLANNING
STATE OF HAWAII**

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

NEIL ABERCROMBIE
GOVERNOR

LEO R. ASUNCION
ACTING DIRECTOR
OFFICE OF PLANNING

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: <http://planning.hawaii.gov/>

Ref. No. P-14453

July 30, 2014

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

Dear Mr. Shigekuni:

Subject: Draft Environmental Assessment for the Haihai Fire Station Project, TMK:
(3) 2-4-051:001

Thank you for the opportunity to provide comments on the Draft Environmental Assessment (Draft EA) for the Haihai Fire Station.

We have reviewed the Draft EA sent to our office by letter dated July 1, 2014, and have no further comments at this time. The Draft EA addresses comments made in our previous letter dated January 24, 2014 (reference number P-14262) in regards to Coastal Zone Management Act objectives, non-point pollution impacts on coastal waters, watershed management measures, and stormwater impacts. Additionally, the Draft EA thoroughly addressed the Office of Planning's concerns relating to the Hawaii State Plan.

If you have any questions regarding this comment letter, please contact Josh Hekeka of our Hawaii CZM Program at 587-2845.

Sincerely,

Leo R. Asuncion
Acting Director

c: Mr. David Yamamoto



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Associate

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Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE

1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

KAPOLEI OFFICE

1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
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Fax: (808) 535-3163

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1719 Halekoko Street
Hilo, Hawaii 96720-1553
Tel/Col: (808) 315-6878

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August 22, 2014

Mr. Leo R. Asuncion, Acting Director
State of Hawaii
Office of Planning
P.O. Box 2359
Honolulu, Hawaii 96804

Attn: Mr. Josh Hekeka

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiäkea Homesteads, Waiäkea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Asuncion:

Thank you for your letter (your reference number P-14453) dated July 30, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your Department has no further comments regarding the proposed improvement as the Draft EA addresses your department's comments made during the pre-consultation period. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

NEIL ABERCROMBIE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

August 1, 2014

DARRYLL D. M. WONG
MAJOR GENERAL
ADJUTANT GENERAL

JOSEPH K. KIM
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL



August 22, 2014

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

Subject: Draft Environmental Assessment
Haihai Fire Station
Tax Map Key: (3) 2-4-051: 001 (portion)
Waiakea Homesteads, Waiakea, South Hilo, Hawaii

Dear Mr. Shigekuni:

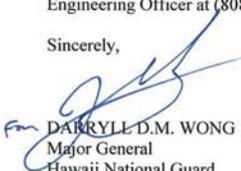
Thank you for the opportunity to comment on the above project.

The State of Hawaii Department of Defense provided a recommendation to PBR Hawaii & Associates, Inc. via a letter dated February 3, 2014 for the provision of one (1) omni-directional 121-db(c) siren mounted on a 45-foot H2 rated composite pole, and that the State Civil Defense would work with the developer on the placement of the pole. These comments were acknowledged by PBR Hawaii in a letter dated June 16, 2014.

The State of Hawaii Department of Defense has no further comments to offer relative to the project at this time.

If you have any questions or concerns, please have your staff contact Mr. Lloyd Maki, Assistant Chief Engineering Officer at (808) 733-4250.

Sincerely,


DARRYLL D.M. WONG
Major General
Hawaii National Guard
Adjutant General

c: Mr. Ian Duncan, State Civil Defense

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Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 523-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
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Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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Major General Darryll D.M. Wong
State of Hawai'i
Department of Defense
Office of the Adjutant General
3949 Diamond Head Road
Honolulu, Hawai'i 96816-4495

Attn.: Mr. Lloyd Maki, Assistant Chief Engineering Officer

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiakea Homesteads, Waiakea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Major General Wong:

Thank you for your letter dated August 1, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your Department has no comments other than those provided during the pre-assessment comment period. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

NEIL A. BERCROMBIE
GOVERNOR
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P. O. BOX 1879
HONOLULU, HAWAII 96805

July 31, 2014

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

Dear Mr. Shigekuni:

Subject: Request for Comments on Draft Environmental Assessment (DEA) for the proposed Haihai Fire Station, Located in South Hilo District, Hawaii Island, TMK: 3-2-4-051:001 (portion)

Thank you for the opportunity to review the subject DEA. As noted in PBR Hawaii's letter to the Department of Hawaiian Home Lands (DHHL) dated June 16, 2014, copies of the DEA will be provided to the Panaewa Hawaiian Home Lands Community Association as well as the Keaukaha Panaewa Farmers Association. We appreciate your efforts to involve our beneficiary organizations in this process. DHHL does not have any further comments at this time.

If you have further questions, please contact Andrew Choy at (808) 620-9279 or email him at andrew.h.choy@hawaii.gov.

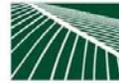
Aloha,

Jobie M. K. Masagatani, Chairman
Hawaiian Homes Commission

c: David Yamamoto, County of Hawaii Department of Public Works

JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

DARRELL T. YOUNG
DEPUTY TO THE CHAIRMAN



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HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
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August 22, 2014

Ms. Jobie M. K. Masagatani, Chairman
State of Hawai'i
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805

Attn: Mr. Andrew Choy

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiakea Homesteads, Waiakea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Ms. Masagatani:

Thank you for your letter dated July 31, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your acknowledgement of efforts to involve your beneficiary organizations. We also acknowledge that you have no further comments at this time. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



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

July 11, 2014

PBR HAWAII
Attn: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Shigekuni:

**SUBJECT: Draft Environmental Assessment for the Haihai Fire Station Project
Waiakea Homesteads, Waiakea, South Hilo, TMK: (3) 2-4-051: 001 (portion)**

The Department of Health, Environmental Planning Office (EPO), acknowledges receipt of your letter dated July 1, 2014. EPO commented on the Pre-Assessment Consultation for this project on January 30, 2014, see attachment. We have no further comments at this time.

Mahalo,

Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

Attachment : #14-013 letter dated January 30, 2014

- c. David Yamamoto, County of Hawaii, Department of Public Works
Newton Inouye, District Health Office-Hawaii

LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to:
File:

EPO 14-140



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Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 523-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 523-5631
Fax: (808) 835-3163

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1719 Hialeka Street
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Tel/Cel: (808) 315-6878

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August 22, 2014

Ms. Laura Leialoha Phillips McIntyre, AICP
Program Manager
State of Hawai'i
Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, HI 96801-3378

**SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiakea
Homesteads, Waiakea, South Hilo, Island and County of Hawai'i
TMK (3) 2-4-051:001 (portion)**

Dear Ms. Phillips-McIntyre:

Thank you for your letter (your reference number EPO14-140) dated July 11, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your Department has no further comments other than those provided during the pre-assessment comment period. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

NEIL ABERCROMBIE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawaii 96813

July 18, 2014

PATRICIA McMANAMAN
DIRECTOR
BARBARA A. YAMASHITA
DEPUTY DIRECTOR

Refer to 14-0425



August 22, 2014

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Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 600
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehika Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
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1719 Halekale Street
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Mr. Scott Nakasone, Assistant Division Administrator
State of Hawai'i
Department of Human Services
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawai'i 96813

Attn: Ms. Jill Arizumi, Child Care Program Specialist

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiākea Homesteads, Waiākea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Nakasone:

Thank you for your letter (your reference number 14-0425) dated July 18, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your Department has no comments regarding the proposed improvement at this time, and that your concerns expressed in your January 28, 2014 letter have been sufficiently addressed in the DEA and our previous response letter to you. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

PBR HAWAII & Associates, Inc.
Attn: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Subject: Draft Environmental Assessment (EA) for the Haihai Fire Station project located at Waiākea Homesteads, South Hilo District, Hawaii Island
TMK: (3) 2-4-051:001 (portion)

Dear Mr. Shigekuni:

Thank you for your letter dated July 1, 2014 that requests the Department of Human Services (DHS) review the Draft Environmental Assessment (EA) on the Haihai Fire Station project.

The DHS has reviewed the EA of the proposed project. Our original letter dated January 28, 2014 expressing our concerns of the possible impact the project would have on DHS licensed family child care homes is located on pg. 27 of the EA as well as your response to the DHS in a letter dated June 16, 2014. The DHS has no further comment as the EA and letter has sufficiently addressed our concerns.

If you have any questions or need further information, please contact Ms. Jill Arizumi, Child Care Program Specialist, at (808) 586-5240.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Patricia McManaman, Director

NEIL ABERCROMBIE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
830 PUNCHBOWL STREET, ROOM 321
HONOLULU, HAWAII 96813
www.hawaii.gov/labor
Phone: (808) 586-8844/Fax: (808) 586-9099

DWIGHT TAKAMINE
DIRECTOR

JADE T. BUTAY
DEPUTY DIRECTOR

July 28, 2014

PBR HAWAII
ATTN: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, HI 96813

Dear Mr. Vincent Shigekuni:

This is in response to your request for comments dated July 1, 2014 on the Environmental Assessment report for the Haihai Fire Station in Waiakea, South Hilo on the island of Hawaii.

The Department of Labor and Industrial Relations has no comments, and we foresee no impact on our existing or proposed programs. Should you have any questions, please call me at (808) 586-8844.

Sincerely,


DWIGHT TAKAMINE
Director



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HONOLULU OFFICE

1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

KAPOLEI OFFICE

1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
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August 22, 2014

Mr. Dwight Takamine, Director
State of Hawai'i
Department of Labor and Industrial Relations
Ke'elikolani Building
830 Punchbowl Street #321
Honolulu, Hawai'i 96813

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiakea Homesteads, Waiakea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Takamine:

Thank you for your letter dated July 28, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your Department has no comments regarding the proposed improvement as the project will have no impact on the Department's existing or proposed programs. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 6, 2014

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT



PBR Hawaii & Associates, Inc.
Attn: Vincent Shigekuni
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

via email: vshigekuni@pbrhawaii.com

Dear Mr. Shigekuni:

SUBJECT: Draft Environmental Assessment for the Haihai Fire Station Project, PBR Hawaii & Associates, Inc. for County of Hawaii Department of Public Works, Applicant, Waiakea Homesteads, South Hilo, Hawaii; TMK: (3) 2-4-051:001

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 the (i) Engineering Division; and (ii) Hawaii District Land Office on the subject matter. Should you have any questions, please feel free to call me at 587-0426.

Sincerely,

Kevin E. Moofe
Acting Land Administrator

Enclosure(s)

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 10, 2014

MEMORANDUM

TO: From:

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
- Historic Preservation

FROM: TO: fr

Russell Y. Tsuji, Land Administrator
Draft Environmental Assessment for the Haihai Fire Station Project
LOCATION: Waiakea Homesteads, South Hilo, Hawaii; TMK: (3) 2-4-051:001
APPLICANT: PBR Hawaii & Associates, Inc. for County of Hawaii Department of Public Works

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by August 5, 2014.

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 Kevin Moore at 587-0426. Thank you.

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

Signed:

Print name: Cary S. Chang, Chief Engineer

Date: 8/15/14

cc: Central Files

RECEIVED
LAND DIVISION 10AM 11/11 ENGINEERING
2014 AUG -5 PM 3:30
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: DEA for the Haihai Fire Station Project, Waiakea
Hawaii.039

COMMENTS

- (X) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone X. The National Flood Insurance Program does not have any regulations for developments within Zone X.
- () Please take note that the remainder of the project site according to the Flood Insurance Rate Map (FIRM), is located in Zones ____.
- () Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ____.
- () Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

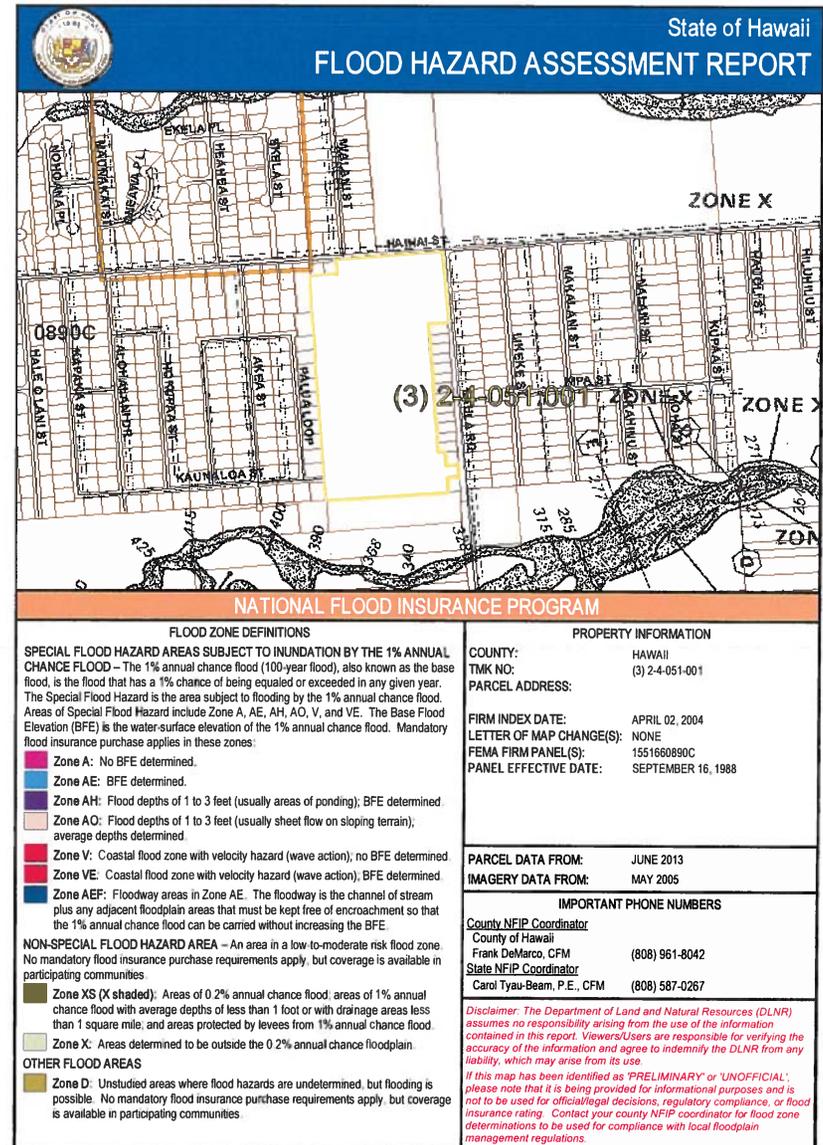
Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- () Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
- () Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
- () Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.
- () Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.
- () The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- () The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.
- () Additional Comments: _____
- () Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: Chris Chang
CARTY S. CHANG, CHIEF ENGINEER

Date: 8/5/14



NEIL ABERCROMBIE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 10, 2014

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
 Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment for the Haihai Fire Station Project
LOCATION: Waiakea Homesteads, South Hilo, Hawaii; TMK: (3) 2-4-051:001
APPLICANT: PBR Hawaii & Associates, Inc. for County of Hawaii Department of Public Works

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by August 5, 2014.

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 Kevin Moore at 587-0426. Thank you.

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

Signed:

Print name: Gordon C. HEST
Date: 7/17/14

cc: Central Files

WILLIAM J. AHLA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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HONOLULU OFFICE
1001 Bishop Street, Suite 600
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

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1001 Kamehika Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
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August 23, 2014

Mr. Kevin E. Moore, Acting Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
Post Office Box 621
Honolulu, Hawai'i 96809

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiakea Homesteads, Waiakea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Moore:

Thank you for your letter dated August 6, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and the input provided by the Engineering Division and Hawaii District Land Office. The comments provided by the Engineering Division confirms that the project is located in Flood Zone X according to the Flood Insurance Rate Maps (FIRM). We also acknowledge that the Land Division has no objections to the project. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



HISTORIC PRESERVATION DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

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FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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BOATING AND OCEAN RECREATION
BUREAU OF CONSERVATION
COMMISSION ON WATER RESOURCE MANAGEMENT
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

August 22, 2014

Vincent Shigekuni
PBR Hawaii & Associates
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Shigekuni,

SUBJECT: **Chapter 6E-8 Historic Preservation Review –
Draft Environmental Assessment for the Haihai Fire Station
Waiākea Ahupua‘a, South Hilo District, Island of Hawai‘i
TMK: (3) 2-4-051-001 (por)**

Thank you for the opportunity to review the subject environmental assessment (EA) that was received by our office on July 3, 2014. According to the assessment, the County of Hawai‘i is proposing to construct a new fire station located on the subject property owned by the State of Hawai‘i. The proposed project will be built on a two-acre portion of the 35.696-acre parcel. A review of our records indicates an archeological inventory survey (AIS) was conducted (Escott 2014) and approved by our office (Log No. 2014.00662 Doc. No. 1404SN15). The AIS report and our approval letter are attached to EA.

The AIS report identifies two historic properties on the parcel consisting of rock clearing mounds (4) associated with the Waiākea Sugar Mill's cane lots. These mounds were determined to be significant under criterion D, pursuant to HAR 13 §275-6 and were recommended for no further work. Based on the information obtained from the survey SHPD believes that no historic properties will be affected by this project; we concur with the EA finding of no significant impact regarding historic properties.

Please contact Sean Nāleimaile at (808) 933-7651 or Sean.P.Naleimaile@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,

Theresa K. Donham
Archaeology Branch Chief

cc: COH Department of Public Works
101 Pauahi Street, Suite 7
Hilo, HI 96720
Attn. David Yamamoto

LOG NO: 2014.03058
DOC NO: 1408SN19
Archaeology



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Associate

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CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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August 28, 2014

Ms. Theresa K. Donham
Archaeology Branch Chief
State of Hawai‘i
Historic Preservation Division
Department of Land and Natural Resources
601 Kamokila Boulevard, Suite 555
Honolulu, Hawai‘i 96707

**SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiākea
Homesteads, Waiākea, South Hilo, Island and County of Hawai‘i
TMK (3) 2-4-051-001 (portion)**

Dear Ms. Donham:

Thank you for your letter dated August 23, 2014 regarding the subject project. As the planning consultant for the County of Hawai‘i Department of Public Works, we are responding to your comments.

We appreciate the information provided in your letter that based on the information obtained from the archaeological inventory survey, the State Historic Preservation Division "...believes that no historic properties will be affected by this project..." If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

NEIL ABERCROMBIE
GOVERNOR



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

July 24, 2014

FORD N. FUCHIGAMI
INTERIM DIRECTOR

Deputy Directors
RANDY GRUNE
AUDREY HIDANO
ROSS M. HIGASHI
JADINE URASAKI
IN REPLY REFER TO:
DIR 1014

HWY-PS 2.7693

Mr. Vincent Shigekuni
July 24, 2014
Page 2

HWY-PS 2.7693

If you have any questions, please contact Gary Ashikawa, Systems Planning Engineer, Highways Planning Branch, at (808) 587-6336. Please reference file review no. 2014-035A in all contacts and correspondence regarding these comments.

Very truly yours,



FORD N. FUCHIGAMI
Interim Director of Transportation

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

Dear Mr. Shigekuni:

Subject: Draft Environmental Assessment, Haihai Fire Station
Waiakea, Hilo, South Hilo District, Hawaii
TMK: (3) 2-4-051:001 por.

We received your request for comments on the proposed new fire station on a two-acre site of State land bordered by two streets under County of Hawaii jurisdiction, i.e., Haihai Street to the north and Laula Road to the east. Fire trucks and ambulances or other emergency vehicles would exit the new station on Haihai Street and enter the station from Laula Road. The nearest roads under State jurisdiction, Kanoelehua Avenue (Route 11) and Puainako Street, are approximately 1.0 and 1.6 miles, respectively, from the proposed project. The new station will replace the existing fire station on Kawaiilani Street with a facility planned to accommodate additional Emergency Medical Services personnel, vehicles and equipment. The new station will serve the same area as the existing Kawaiilani Street station.

We have the following comments on the Haihai Fire Station Draft Environmental Assessment (DEA) and the attached Transportation Report (Appendix F) dated June 2014:

1. The fire response district or service area referred to in Section 2.2 should be more fully described and shown on a map;
2. The preferred most direct routes to the State highways, Kanoelehua Avenue and Puainako Street, from the existing Kawaiilani fire station and the proposed Haihai fire station should be described and shown on a map;
3. The existing Kawaiilani fire station has slightly better direct access to the State highways than the proposed Haihai fire station;
4. We are concerned that additional improvements may be requested to expedite the emergency responders, such as the opticon signal system for the existing traffic signals or the installation of new traffic signals;
5. A plan for infrastructure improvements to support the proposed Haihai fire station should be included in the DEA.



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Senior Associate

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Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 600
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3165

HILO OFFICE
1719 Hialeka Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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Mr. Ford N. Fuchigami, Interim Director
SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR HAIHAI FIRE STATION AT WAIĀKEA HOMESTEADS, WAIĀKEA, SOUTH HILO, ISLAND AND COUNTY OF HAWAII TMK (3) 2-4-051:001 (PORTION)
August 22, 2014
Page 2 of 2

August 22, 2014

Mr. Ford N. Fuchigami, Interim Director
State of Hawai'i
Department of Transportation
Ali'iaimoku Building
869 Punchbowl Street
Honolulu, Hawai'i 96813-5097

Attn.: Mr. Gary Ashikawa, Systems Planning Engineer

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiākea Homesteads, Waiākea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Fuchigami:

Thank you for your letter (your reference 2014-035A; DIR 1014, HWY-PS 2.7693) dated July 24, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and provide the following responses to your comments:

1. Per your comments, a map showing the fire response service area will be prepared and included in Section 2.2.
2. The preferred and most direct routes to the State highways, Kanoelehua Avenue and Puainako Street, from the existing Kawaiiani Fire Station and the proposed Haihai Fire Station will be described and shown on the new map.
3. We acknowledge your Department's assessment that the existing Kawaiiani Fire Station has slightly better access to the State highways than the proposed Haihai Fire Station. However, we will clarify in the discussion of alternatives that the expansion of the existing Kawaiiani site is not a viable option—it would require expensive adjustments to the Hilo Municipal Golf Course and inadequate land area due to the planned widening of Kawaiiani Street.
4. We appreciate your concern that additional improvements may be requested to expedite the emergency responders. According to the Fire Department, the design of the Haihai Fire Station will include the appropriate warning signaling on Haihai Street both east and west of the planned fire apparatus driveway. The Fire Department installed similar signaling for the Makalei Fire Station on Mamalahoa Highway.
5. A description of planned infrastructure improvements was provided in section 4.7 of the Draft EA, starting on page 25.

If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

NEIL ABERCROMBIE
GOVERNOR



JESSICA E. WOOLEY
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
Department of Health
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813
Telephone (808) 586-4185
Facsimile (808) 586-4186
Email: oeqchawaii@doh.hawaii.gov

July 29, 2014

Mr. Warren H.W. Lee, P.E., Director
Department of Public Works
County of Hawai'i
101 Pauahi Street, Suite 7
Hilo, Hawai'i 96720-4224

Subject: HAIHAI FIRE STATION DRAFT ENVIRONMENTAL ASSESSMENT AND
ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT (DEA-AFNSI)

Dr. Mr. Warren:

The Office of Environmental Quality Control published the subject document in the July 8, 2014, issue of The Environmental Notice. The publication started the 30-day public review and comment period. OEQC has reviewed the subject document and offers this comment:

It is strongly recommended that the permitting agencies incorporate the relevant mitigation measures identified in the DEA or a better alternative, as part of their permit condition(s).

Thank you very much for the opportunity to review and comment on the proposed project. Please feel free to contact me at (808) 586-4185 if you have further questions.


Herman Tuiolosega
Senior Planner



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Senior Associate

KIMI MIKAMI YUEN, LEED^{AP} BD-C
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Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED^{AP}
Associate

DACHENG DONG, LEED^{AP}
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 521-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehika Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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August 23, 2014

Mr. Herman Tuiolosega, Senior Planner
State of Hawai'i
Office of Environmental Quality Control
Department of Health
235 South Beretania Street, Suite 702
Honolulu, HI 96813

**SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiākea
Homesteads, Waiākea, South Hilo, Island and County of Hawai'i
TMK (3) 2-4-051:001 (portion)**

Dear Mr. Tuiolosega:

Thank you for your letter to the County of Hawai'i Department of Public Works dated July 29, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We acknowledge your recommendation that the permitting agencies incorporate the relevant mitigation measures identified in the DEA or a better alternative, as part of the permit condition(s). Your letter will be included in the Final EA.

Thank you for participating in the environmental review process. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

14-03761



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
737 IWILEI ROAD, SUITE 200
HONOLULU, HAWAII 96817

HRD14/7028C

August 5, 2014

David Yamamoto
County of Hawai'i Department of Public Works
101 Pauahi Street, Suite 7
Hilo, HI 96720-4224

Vincent Shigekuni
PBR Hawai'i
1001 Bishop Street, Suite 650
Honolulu, HI 96813

**RE: Draft Environmental Assessment
Haihai Fire Station
Waiākea Homesteads
Tax Map Key: (3) 2-4-051:051**

Aloha e Mr. Yamamoto and Mr. Shigekuni:

The Office of Hawaiian Affairs (OHA) is in receipt of your July 1, 2014 letter, draft environmental assessment (DEA), seeking comments for the Haihai Fire Station project (project). The County of Hawai'i, Department of Public Works is proposing to construct a new fire station in the Waiākea Homestead area. The proposed project will replace the existing fire station located on Kawaiiani Street and provide additional space required for Emergency Medical Services. The proposed location is 3 acres of State land, which is currently being leased as pasture land. The new building will be approximately 12,000 square feet, separate parking lots will be constructed, new sidewalks and underground utility will be placed.

According to the DEA, in Appendix B, Pre-Assessment Consultation, a letter from the Department of Land and Natural Resources, Archaeology Branch Chief notes the project area is found to be entirely within the old Waiākea Sugar Mill Cane lots. In the *Archaeological Inventory Survey*, dated April 2014, four rock mounds were found and determined to be rock clearing mounds associated with sugarcane field clearing and concludes that no archaeological or historic sites are anticipated to be affected. Our agency recognizes the finding of SHPD and does not have any information on file that raises additional concerns for this site.

However, OHA requests your assurances that when this project moves forward, should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during the construction of the project, work will cease, and the State Historic Preservation Department (SHPD/DLNR) will be contacted pursuant to applicable law. OHA would also like to be notified and consulted if burials are found.

Thank you for initiating consultation and providing an opportunity to provide comments. Should you have any questions, please contact Kathryn Keala, at (808) 594-1848 or kathyk@oha.org.

D. Yamamoto
V. Shigekuni
8/5/2014
Page 2

'O wau iho nō me ka 'oia'i'o,

A handwritten signature in black ink, appearing to read "Kamana'opono M. Crabbe".

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer
Office of Hawaiian Affairs

KMC:kk



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Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6478

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August 22, 2014

Mr. Kamana'opono M. Crabbe, Ph.D.
Ka Poughana, Chief Executive Officer
State of Hawai'i
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 1250
Honolulu, Hawai'i 96813

Attn: Ms. Kathryn Keala

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Wai'ikea Homesteads, Wai'ikea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Dr. Crabbe:

Thank you for your letter (your reference number HRD14/7028C) dated August 5, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your agency recognizes the findings of SHPD and does not have any information on file that raises additional concerns for this site. The Department of Public Works has been notified that should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during construction, work will cease and SHPD/DLNR will be contacted, and OHA will be notified and consulted if burials are found. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

July 15, 2014

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

Dear Mr. Shigekuni:

This is in response to your request for comments regarding the Haihai Fire Station Draft Environmental Assessment/Anticipated Finding of No Significant Impact, County of Hawaii, Hawaii.

Please review the current effective countywide Flood Insurance Rate Maps (FIRMs) for the County of Hawaii (Community Number 155166), Maps revised April 2, 2004. Please note that the County of Hawaii, State of Hawaii is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.
- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any **development** must not increase base flood elevation levels. **The term development means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052



FEMA

Vincent Shigekuni
Page 2
July 15, 2014

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at <http://www.fema.gov/business/nfip/forms.shtm>.

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Hawaii County floodplain manager can be reached by calling Carter Romero, Director and Floodplain Administrator, Department of Public Works, at (808) 961-8943.

If you have any questions or concerns, please do not hesitate to call Sarah Owen of the Mitigation staff at (510) 627-7050.

Sincerely,



Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:

Carter Romero, Director and Floodplain Administrator, Department of Public Works,
County of Hawaii

Carol Tyau-Beam, Hawaii Department of Land and Natural Resources
Sarah Owen, NFIP Planner, DHS/FEMA Region IX

Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

www.fema.gov



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MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 600
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Halekale Street
Hilo, Hawaii 96720-1553
Tel/Cell: (808) 315-6878

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August 22, 2014

Gregor Blackburn, CFM, Branch Chief
U.S. Department of Homeland Security
FEMA Region IX
Floodplain Management and Insurance Branch
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Attn: Ms. Sarah Owen, NFIP Planner

**SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiākea
Homesteads, Waiākea, South Hilo, Island and County of Hawai'i
TMK (3) 2-4-051:001 (portion)**

Dear Mr. Blackburn:

Thank you for your letter dated July 15, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We have reviewed the current effective countywide Flood Insurance Rate Maps (FIRMs) for the County of Hawai'i (Community Number 155166). The proposed Haihai Fire Station is located within Flood Zone X, or an area determined to be located outside of the 500-year flood plain and not regulated by the National Flood Insurance Program. The project will comply with all requirements as described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65 and local floodplain management building requirements. We also checked the preliminary revisions to the FIRMs, and no changes are proposed to the current effective FIRMs in the vicinity of the Site.

If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

From: [Jan Bordenave](#)
To: [Vincent Shigekuni](#); dyamamoto@co.hawaii.hi.us
Subject: 2014-TA-0345 DEA for the Proposed Haihai Fire Station, Hawai'i
Date: Tuesday, July 29, 2014 2:04:19 PM

Mr. David Yamamoto
County of Hawai'i
Department of Public Works
Hilo, Hawai'i 96720

Mr. Vincent Shigekuni
PBR Hawaii, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813

In Reply Refer To:
2014-TA-0345

Subject: Draft Environmental Assessment for the Proposed Haihai Fire Station, Hawaii

The U.S. Fish and Wildlife Service (Service) received your letter on July 3, 2014, requesting comment on the proposed construction of a 12,000 square-foot fire station near Waiakea Homesteads on the Island of Hawai'i. The proposed project footprint will cover approximately 3 acres of land on a 35-acre parcel located at the intersection of Haihai Street and Laulua Road [TMK (3) 2-4-051:001].

Based on information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program, three species protected by the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), may occur within, or transit through, the proposed action area and could be impacted by the proposed action: the endangered Hawaiian goose (*Branta sandvicensis*), Hawaiian petrel (*Pterodroma sandwichensis*), and the threatened Newell's shearwater (*Puffinus auricularis newelli*).

To help you minimize potential impacts to listed species, the Service is providing you the following avoidance and minimization measures. Please note that implementation of these measures does not ensure that impacts to listed species can be avoided and further coordination with the Service on compliance with the ESA may be required.

- Due to its range and foraging behavior, the Hawaiian goose may be present in the vicinity of the proposed action at any time of the year. If a Hawaiian goose appears within 100 feet of ongoing construction work, all activity shall be temporarily suspended until the bird moves off to a safe distance of its own volition. Moreover, if any number of Hawaiian geese are observed loafing or foraging within the area of the proposed project during the Hawaiian goose breeding season (October through May), a biologist familiar with the nesting behavior of the Hawaiian goose should survey in and around the proposed construction footprint prior to the resumption of any work, or after any subsequent delay of work of three or more days (during which the birds may attempt to nest). If a nest is

discovered within a radius of 150 feet of proposed construction work, or a previously undiscovered nest is found within said radius after work begins, all work must cease immediately and the Service contacted for further guidance.

- The Hawaiian petrel and Newell's shearwater, collectively referred to as seabirds, may transit through the proposed action area while flying between the ocean and nesting sites in the mountains during their respective breeding seasons (typically March through December). Seabird fatalities resulting from collisions with artificial structures that extend above the surrounding vegetation have been documented in Hawaii where high densities of transiting seabirds occur. Additionally, outdoor artificial lighting such as flood lighting for construction work, security, and outdoor illumination can adversely affect seabirds by causing disorientation which may result in collision with utility lines, buildings, fences, and vehicles. Fledging seabirds are especially affected by artificial lighting and have a tendency to exhaust themselves while circling the light sources and become grounded. Too weak to fly, these birds become vulnerable to depredation by feral predators such as dogs, cats, and mongoose. Accordingly, all project-related overhead lighting should be shielded so that the bulb is not visible at or above bulb-height.

If you have any questions regarding the comments provided in this email, please feel free to call or email me during regular business hours using the information provided below.

Regards,

Ian Bordenave
Biologist
U.S. Fish and Wildlife Service
Maui Nui Field Station
Milepost 6 Mokulele Highway
Kihei, HI. 96793
Phone: (808) 270-1432
E-Mail: ian_bordenave@fws.gov



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Associate

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Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Halekale Street
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Tel/Cal: (808) 315-6879

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August 23, 2014

Mr. Ian Bordenave, Biologist
U.S. Fish and Wildlife Service
Maui Nui Field Station
Milepost 6 Mokulele Highway
Kihei, Hawai'i 96793

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiākea Homesteads, Waiākea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Bordenave:

Thank you for your e-mail (your reference number 2014-TA-0345) on July 29, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and the avoidance and minimization measures you have provided regarding the three species (endangered Hawaiian goose, Hawaiian Petrel, and threatened Newell's shearwater) protected by the Endangered Species Act (ESA) that may occur within, or transit through, the proposed area. We will implement these minimization measures and continue to coordinate with the U.S. Fish and Wildlife Service to ensure compliance with the ESA. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

William P. Kenoi
Mayor

Walter K.M. Lau
Managing Director



BJ Leithead Todd
Director

John A. Medeiros
Deputy Director

County of Hawai'i
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

345 Kekūāiō'a Street, Suite 41 - Hilo, Hawai'i 96720
(808) 961-8083 • Fax (808) 961-8086
cohdem@co.hawaii.hi.us

<http://www.hawaii.gov/dep/departmental-management/>

MEMORANDUM

Date : July 8, 2014
To : David Yamamoto, DPW
From : BJ Leithead Todd, Director *BJT*
Subject : Haihai Fire Station
Waiākea Homesteads, Waiākea, South Hilo
TMK: 2-4-051:001 (portion)

Our department has no comments to offer on the subject project.

cc: Mr. Vincent Shigekuni
PBR HAWAII
1001 Bishop Street, Suite 650
Honolulu, HI 96813



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Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 600
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 529-3169

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1719 Hialeka Street
Hilo, Hawaii 96720-1553
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DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
345 KEKĪANAŌ'A STREET, SUITE 20 • HILO, HAWAII 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

July 17, 2014

Mr. Vincent Shigekuni
PBR Hawaii'i & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

**DRAFT ENVIRONMENTAL ASSESSMENT
HAIHAI FIRE STATION PROJECT
TAX MAP KEY: 2-4-051:001 PORTION**

We have reviewed the subject Draft Environmental Assessment (DEA) and have the following comments.

Our comments from our February 19, 2014, Pre-Environmental Assessment Consultation letter, which was included in the DEA, still stand.

Please be informed that there is an existing 6-inch waterline along Laua Road fronting the project site.

Should there be any questions, please contact Mr. Ryan Quitoriano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,

Quirino Antonio, Jr., P.E.
Manager-Chief Engineer

RQ:sco

copy – Mr. David Yamamoto, Department of Public Works



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Senior Associate

SCOTT ALIKA ABRIGO, LEED AP BD+C
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ROY TAKEMOTO
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SCOTT MURAKAMI, ASLA, LEED AP
Associate

DACHENG DONG, LEED AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 600
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 935-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
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August 22, 2014

Mr. Quirino Antonio, Jr., P.E.
Manager-Chief Engineer
County of Hawai'i
Department of Water Supply
345 Kekuaaoa Street, Suite 20
Hilo, Hawai'i 96720

Attn.: Mr. Ryan Quitoriano, Water Resources and Planning Branch

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiäkea Homesteads, Waiäkea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Antonio:

Thank you for your letter dated July 17, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your Department has no comments other than those provided during the pre-assessment comment period which still stand, and we acknowledge that there is an existing 6-inch waterline along Laula Road fronting the project site. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

William P. Kenoi
Mayor

West Hawai'i Office
74-5044 Ane Keohokalole Hwy
Kailua-Kona, Hawai'i 96740
Phone (808) 323-4770
Fax (808) 327-3563



**County of Hawai'i
PLANNING DEPARTMENT**

Duane Kanuha
Director

Bobby Command
Deputy Director

East Hawai'i Office
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720
Phone (808) 961-8288
Fax (808) 961-8742

August 5, 2014

Mr. Vincent Shigekuni
PBR Hawai'i
1001 Bishop Street, Suite 650
Honolulu, HI 96813

Dear Mr. Shigekuni:

Subject: Draft Environmental Assessment
Applicant: County of Hawai'i, Department of Public Works
Land Owner: State of Hawaii
Project: Haihai Fire Station
TMK: 2-4-051:Por. of 001, South Hilo, Hawai'i

This is in response to your letter received on July 3, 2014, requesting our comments on the above-referenced project.

We provided preliminary comments by letter dated February 6, 2014 for the proposed project and have no additional comments on the Draft Environmental Assessment.

If you have questions, please feel free to contact Esther Imamura of this office at 961-8139.

Sincerely,

DUANE KANUHA
Planning Director

ETI:cs
P:\Wpwin60\ETI\Eadraftpre-Consul\Shigekuni Haihai Fire Station.Docx



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SCOTT ALIKA ABRIGO, LEED® AP BD+C
Managing Director - Kapolei

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Managing Director - Hilo

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Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehaha Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

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1719 Halekale Street
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August 22, 2014

Mr. Duane Kanuha, Director
County of Hawai'i
Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720

Attn: Ms. Esther Imamura

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiäkea Homesteads, Waiäkea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Mr. Kanuha:

Thank you for your letter dated August 5, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your Department has no comments other than those provided during the pre-assessment consultation process. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

William P. Kenoi
Mayor



Harry S. Kubojiri
Police Chief

Paul K. Ferreira
Deputy Police Chief

County of Hawai'i

POLICE DEPARTMENT
349 Kapi'olani Street • Hilo, Hawai'i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

July 10, 2014

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

Dear Mr. Shigekuni:

Subject: Haihai Fire Station; Waiäkea Homesteads, Waiäkea, South Hilo, Island and County of Hawaii; Tax Map Key: (3)2-4-051:001 (portion)

Staff, upon reviewing the provided documents, does not anticipate any significant impact to traffic and/or public safety concerns.

Thank you for allowing us the opportunity to comment.

If you have any questions, please contact Captain Richard Sherlock, Commander of the S. Hilo District, at 961-2214.

Sincerely,

HENRY J. TAVARES, JR.
ASSISTANT POLICE CHIEF
AREA I OPERATIONS BUREAU

RS:lli
140039



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Senior Associate

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Managing Director - Kapolei

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Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE

1001 Bishop Street, Suite 600
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE

1001 Kamehika Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE

1719 Halekiko Street
Hilo, Hawaii 96720-1553
Tel/Cal: (808) 315-6879

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DENNIS "FRESH" ONISHI
Council Member
District 3



PHONE: (808) 961-8396
FAX: (808) 961-8912
EMAIL: donishi@co.hawaii.hi.us

HAWAII COUNTY COUNCIL
25 Aupuni Street, Hilo, Hawaii 96720

August 6, 2014

PBR Hawaii
Attn: Mr. Vincent Shigekuni
1001 Bishop St., Suite 650
Honolulu, HI 96813

Dear Mr. Shigekuni,

Thank you for providing the opportunity to comment on the Draft Environmental Assessment for the Haihai Fire Station. I support this project, provided that concerns are addressed regarding noise impacts throughout the night and early morning, and also concerns that this project will control flooding in the area.

Sincerely,

Dennis "Fresh" Onishi
Council Member

August 22, 2014

Assistant Police Chief Henry J. Tavares, Jr.
County of Hawai'i
Police Department
Area 1 Operations Bureau
349 Kapi'olani Street
Hilo, Hawai'i 96720-3998

Attn: Captain Richard Sherlock, Commander of the South Hilo District

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiäkea Homesteads, Waiäkea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Assistant Police Chief Tavares:

Thank you for your letter (your reference number 140039) dated July 10, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your input that your staff does not anticipate any significant impact to traffic and/or public safety concerns. If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President



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Senior Associate

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Senior Associate

SCOTT ALIKA ABRIGGA, LEED® AP BD+C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehika Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

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1719 Halekahi Street
Hilo, Hawaii 96720-1553
Tel/Cal: (808) 315-6878

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August 22, 2014

Councilmember Dennis "Fresh" Onishi
District 3
Hawai'i County Council
25 Aupuni Street
Hilo, Hawai'i 96720

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiakea Homesteads, Waiakea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Councilmember Onishi:

Thank you for your letter dated August 6, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and your continued support of the project, provided we address noise impacts throughout the night and early morning, and localized flooding in the area. To mitigate noise impacts, the Final Environmental Assessment (EA) will describe the operational practices of the fire department such as keeping the apparatus doors closed at night to contain the internal noises, to sound the alarm only during heavy traffic which is unlikely at night when responding to a call, and to minimize reverse beeping of the vehicles with the drive-through design of the new station by entering from Laula Road and exiting onto Haihai Street. Localized flooding is a regional problem that the project cannot alleviate on its own but will not make worse. The Final EA will clarify the relationship of the Site to the pattern of the localized flood flows. We also want to express our sincere appreciation for your assistance and leadership with the public meeting held on August 14, 2014.

If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President

August 4, 2014

✓PBR HAWAII
ATTN: Vincent Shigekuni
1001 Bishop St., Suite 650
Honolulu, Hawaii 96813

County of Hawaii Department of Public Works
ATTN: David Yamamoto
101 Pauahi St., Suite 7
Hilo, Hawaii 96720

Name of Project: Haihai Fire Sttion
Location: Waiakea Homesteads, Waiakea, South Hilo
TMK: (3) 2-4-051:001 (position)

Dear Mr. Shigekuni and Mr. Yamamoto:

I am writing to you as a concerned citizen who has a property directly across the fire station which will be built.

My primary concern is about the diversion of the natural flow of water that may impact my residence. Were proper studies done to assure that the water will not be flowing into my property? If this happens, will the county be responsible to rectifying the situation and be liable for any damages incurred?

What other possible sites were considered? Was Panaewa (where there is lots of vacant land) considered? What factors were considered in the location, and who made the decision to build the fire station at this location?

Will the entrance of Laula Rd. be widened? It does seem to be narrow. As stated in the draft environmental assessment, there are no formal sidewalks or shoulders. Will these be built? When there are functions at the AJA Veterans' Hall, people do park on both sides of Laula Rd. which may be of concern.

If people are travelling makai on Haihai St. and an emergency vehicle is approaching from the back, there is no room or not enough shoulder area to pull over for the emergency vehicle to pass. How safe is this? What will be done??

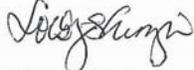
I was very disappointed to find out that the fire station will be built at this location by reading it in the local newspaper. I would think the proper protocol would be to inform the neighboring residents first, as a courtesy.

I realize that fire service is an essential part of our community. I am willing to live with some inconveniences i.e., siren noise, alarm, loud emergency vehicles, etc. for the sake of public safety.

By contacting my City Council member, homeowners living within a 100 yard radius will finally be able to get information about this fire station at an upcoming informational meeting.

In conclusion, my primary concern is the natural flow of water and the resulting effects. As far as personal inconveniences, we are willing to forego some inconveniences for the overall safety of the community.

Sincerely,



Lois Y. Shimizu
Property Owner



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Executive Vice-President

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Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED[®] AP
Associate

DACHENG DONG, LEED[®] AP
Associate

MARC SHIMATSU, ASLA
Associate

CATE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 523-5631
Fax: (808) 523-1402
E-mail: ssyadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamehika Boulevard
Kapolei Building, Suite 313
Kapolei, Hawaii 96707-2005
Tel: (808) 523-5631
Fax: (808) 855-3165

HILO OFFICE
1719 Hialeka Street
Hilo, Hawaii 96720-1553
Tel/Cel: (808) 315-6878

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August 22, 2014

Ms. Lois Y. Shimizu
2650 Waianuhea Place
Hilo, Hawaii 96720

SUBJECT: Draft Environmental Assessment for Haihai Fire Station at Waiakea Homesteads, Waiakea, South Hilo, Island and County of Hawai'i TMK (3) 2-4-051:001 (portion)

Dear Ms. Shimizu:

Thank you for your letter dated August 4, 2014 regarding the subject project. As the planning consultant for the County of Hawai'i Department of Public Works, we are responding to your comments.

We appreciate your participation in the environmental review process and we are providing the following responses to your comments:

Questions: "My primary concern is about the diversion of the natural flow of water that may impact my residence. Were proper studies done to assure that the water will not be flowing into my property? If this happens, will the county be responsible to rectifying the situation and be liable for any damages incurred?"

Responses: Inaba Engineering, a Hilo-based civil engineering firm, provided the following information. The major source of flood waters that flow into the pasture appears to be a culvert at Palua Loop. The water flows across and ponds within the pasture at a low point mauka of the Site. When the ponding capacity is exceeded, it overflows in two directions—toward the golf course and toward Laula Road in the Puna direction. A berm is located on the mauka side of the Laula Road lots that deflects the flow along the backside of the lots flowing in the Puna direction (see attached figure). The overflow flowing towards Haihai Street presently collects at the low point at the corner of Laula Road and Haihai Street, which is the proposed Site. The ponded water then either flows under Haihai Street through a culvert to the golf course, or sheet flows across Haihai Street.

Since the Project is downstream of the split in the flow toward the Puna direction and toward Haihai Street, the Project would not increase the overflow flowing toward the Puna direction. For the overflow flowing toward Haihai Street, the Project would divert the flood waters around the Project where it would end up in the same low point at the Haihai Street and Laula Road corner. Any increase in runoff from the Project's roof and pavement would flow into drywells within the Project boundaries and recharge the groundwater. Since your property is located across the Site along Laula Road, the Project will not make the localized flooding worse. If an extreme flood event occurred that would have flooded your property under existing conditions without the Project, the Project could not prevent that situation. By meeting all drainage standards, the Project would not be liable for flood damages that would have occurred even if the Project had not been built.

Mr. Lois Shimizu

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR HAIHAI FIRE STATION AT WAIĀKEA HOMESTEADS, WAIĀKEA, SOUTH HILO, ISLAND AND COUNTY OF HAWAII TMK (3) 2-4-051:001 (PORTION)

August 22, 2014

Page 2 of 4

Questions: “What other possible sites were considered? Was Panaewa (where there is lots of vacant land) considered? What factors were considered in the location, and who made the decision to build the fire station at this location?”

Responses: The planned widening of Kawaihāni Street together with the expanded services provided by the fire station triggered a search for alternative solutions. Panaewa was not considered since it is not reasonably located with the response zone assigned to this fire station. The factors considered in identifying alternative sites included:

- 1) Adequate land area to accommodate present and future needs.
- 2) Centered within its assigned response zone with optimum overlap to respond as backup if Central or Waiākea Fire Stations could not respond to calls within their respective response zones.
- 3) Convenient and safe access to alternative routes.
- 4) Buffered from residential neighbors.
- 5) Maximum coverage of homes and businesses within a 5 mile radius for potential insurance discounts.
- 6) Owned by the State, County, or no-cost arrangement with a private or nonprofit owner.

Besides the proposed Site, the pros and cons of other alternative sites considered in relation to the above criteria included:

- *Expansion of the existing Kawaihāni Fire Station site.* This alternative would have required an expensive redesign of the golf course with limited additional capacity to accommodate future needs.
- *Shifting the Kawaihāni widening toward the HELCO site.* The HELCO site could not accommodate any reduction and the resulting design of the road widening fronting the fire station would not have been acceptable.
- *Joint use of Machado Acres Park off of Keone Street.* The concept was for Parks and Recreation and the Fire Department to share costs to build the fire station together with a neighborhood park. However, the density and proximity of residences did not provide an optimum buffer to minimize impact to surrounding residences.
- *State land at the corner of Haihai and Ainaola Streets.* This site has the most flexible access to alternative routes via Ainaola to Haihai, Komohāna, upper Waiākea, and Komohāna Streets. However, the concern of this alternative site is its distance from commercial establishments along and across Kanoehāua Avenue.

Although the Haihai Street property is the preferred site at the moment, a final decision will be made by the County administration (i.e., Fire Chief and Mayor) with concurrence by the County Council after reviewing the Final Environmental Assessment.

Mr. Lois Shimizu

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR HAIHAI FIRE STATION AT WAIĀKEA HOMESTEADS, WAIĀKEA, SOUTH HILO, ISLAND AND COUNTY OF HAWAII TMK (3) 2-4-051:001 (PORTION)

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Questions: “Will the entrance of Laua Rd. be widened? It does seem to be narrow. As stated in the draft environmental assessment, there are no formal sidewalks or shoulders. Will these be built? When there are functions at the AJA Veterans’ Hall, people do park on both sides of Laua Rd. which may be of concern.”

Responses: For Laua Road, the trucks are returning from a call, so they are not in a rush and would slowly turn into Laua Road. As part of the design, the Project will reinforce the entry portion of Laua Road to withstand the weight of the fire trucks.

The width of Laua Road does not safely accommodate on-street parking on one or two sides of the street. Instead of allowing this potentially unsafe practice to continue, the County is considering an amendment to the Traffic Code to prohibit parking along Laua Road. The County would allow AJA Hall users to park at the golf course, and install a crosswalk.

Questions: “If people are travelling Makai on Haihai St. and an emergency vehicle is approaching from the back, there is no room or not enough shoulder area to pull over for the emergency vehicle to pass. How safe is this? What will be done??”

Responses: The fire trucks can maneuver most streets in Hilo. Emergency vehicle drivers are trained to sound just a quick burst siren to attempt to get through the traffic. They do not keep blaring the siren until a path clears. If a clear path cannot happen, they must wait. Alternative routes are taken during known traffic congestion periods.

Comment: “I was very disappointed to find out that the fire station will be built at this location by reading it in the local newspaper. I think the proper protocol would be to inform the neighboring residents first, as a courtesy.”

I realize that fire services is an essential part of the community. I am willing to live with some inconveniences, i.e., siren noise, alarm, loud emergency vehicles, etc. for the sake of public safety.

By contacting my City Council member, homeowners living within a 100 yard radius will finally be able to get information about this fire station at an upcoming informational meeting.”

Response: Although a community meeting was always included in the ongoing design process, the publication of the Draft Environmental Assessment prompted the timing of this meeting. The community meeting was held on August 14, 2014. A notice was mailed to residents within 300 feet of the proposed project site and along Haihai Street approximately two weeks prior to the meeting. A handout was available at the meeting summarizing the project need, site location, site plan, and environmental assessment contact and extension of the Draft Environmental Assessment comment deadline to September 8, 2014. Approximately 16 members of the public, Councilman Onishi and staff, Assistant Fire Chief Glen Honda and staff attended the meeting.

Comment: “In conclusion, my primary concerns is the natural flow of water and the resulting effects. As far as personal inconveniences, we are willing to forego some inconveniences for the overall safety of the community.”

Response: We acknowledge your concerns and as standard design practice will address the impact of runoff

Mr. Lois Shimizu

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from the project site on downstream properties. We are sure the Fire Department appreciates the sentiment you expressed that while there may be occasional inconveniences, they are unavoidable, and this facility will enhance health and safety in this area.

If you have any questions regarding this project, please do not hesitate to contact me at 521-5631.

Thank you for participating in the environmental review process. Your letter will be included in the Final EA.

Sincerely,

PBR HAWAII

Vincent Shigekuni
Vice-President