



MAKALEI FIRE STATION

KAILUA-KONA, HAWAII

NEPA ENVIRONMENTAL ASSESSMENT

JULY 2010

PREPARED BY



PBR HAWAII
& ASSOCIATES, INC.

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LIST OF ACRONYMS

The following is a list of terms, abbreviations, and acronyms used in this document.

A

ADA	Americans with Disability Act
AFG	Assistance to Firefighters Grants
ALISH	Agricultural Lands of Importance to the State of Hawai'i
APE	Area of potential effect
ARRA	American Recovery and Reinvestment Act of 2009
ASEA	Aquifer Sector Area
ASYA	Aquifer System Areas

C

CATV	cable television
CFR	Code of Federal Regulations
CDP	Community Development Plan
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act

D

DEM	Department of Environmental Management
DWS	Department of Water Supply

E

EA	environmental assessment
EHP	environmental planning and historical preservation
EIS	environmental impact statement
EO	Executive Order
ESA	Endangered Species Act

F

FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FP&S	Fire Prevention and Safety
FWCA	Fish and Wildlife Coordination Act
FWS	U.S. Department of the Interior, Fish and Wildlife Service

H

HAR Hawai'i Administrative Rules
HazMat Hazardous Materials
HELCO Hawaiian Electric Light Company
HFD Hawai'i Fire Department

M

MGD million gallons daily

N

NEPA National Environmental Policy Act
NHPA National Historic Preservation Act
NMFS National Marine Fisheries Service
NOAA National Oceanic and Atmospheric Administration
NRCS Natural Resource Conservation Service (formerly "Soil Conservation Service")

O

OHA Office of Hawaiian Affairs

Q

QLT Queen Lili'uokalani Trust

R

rPYD Punalu'u Extremely Rocky Peat, 6-20%

S

SAFER Staffing for Adequate Fire and Emergency Grants
SCG Fire Station Construction Grant Program
SHPD State Historic Preservation Division
SMA Special Management Area
SO₂ Sulfur dioxide

T

TMK Tax Map Key
TOD Transit Oriented Development

U

UFC Uniform Fire Code
UHCWH University of Hawai'i Center at West Hawai'i
U.S.C. United States Code

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1.0 INTRODUCTION

1.1 PROJECT SUMMARY

Project Name:	Makalei Fire Station
Location:	Makalei, North Kona, Island of Hawai'i, Hawai'i (Figure 1)
Tax Map Key (TMK):	(3) 7-2-007:010. (Figure 2)
Applicant:	County of Hawai'i Fire Department (hereinafter referred to as "Hawai'i Fire Department")
Landowner:	County of Hawai'i
Existing use:	Vacant land
Proposed Action:	Construction of the Makalei Fire Station
Project Area:	2.802 acres
Land Use Designations:	State Land Use: Agriculture (Figure 3) County of Hawai'i General Plan: Extensive Agriculture County of Hawai'i Zoning: Agriculture (A-900a). (Figure 4)
Special Management Area:	The project is not in the Special Management Area (SMA)
Permits/Approvals Requested:	Special Permit and Plan Approval Approval of Project Construction Plans Building and Grading Permits Underground Injection Control Highway Connection Subdivision Approval
Lead Agency:	Federal Emergency Management Agency

1.2 LOCATION

The proposed site for the Makalei Fire Station is in Makalei, North Kona, Island of Hawai'i, Hawai'i (Figure 1). The Makalei Fire Station proposed site is east of Makalei Drive and Māmalahoa Highway (Highway 190) (Figure 5) and between mile markers 32 and 33.

1.3 LAND OWNERSHIP

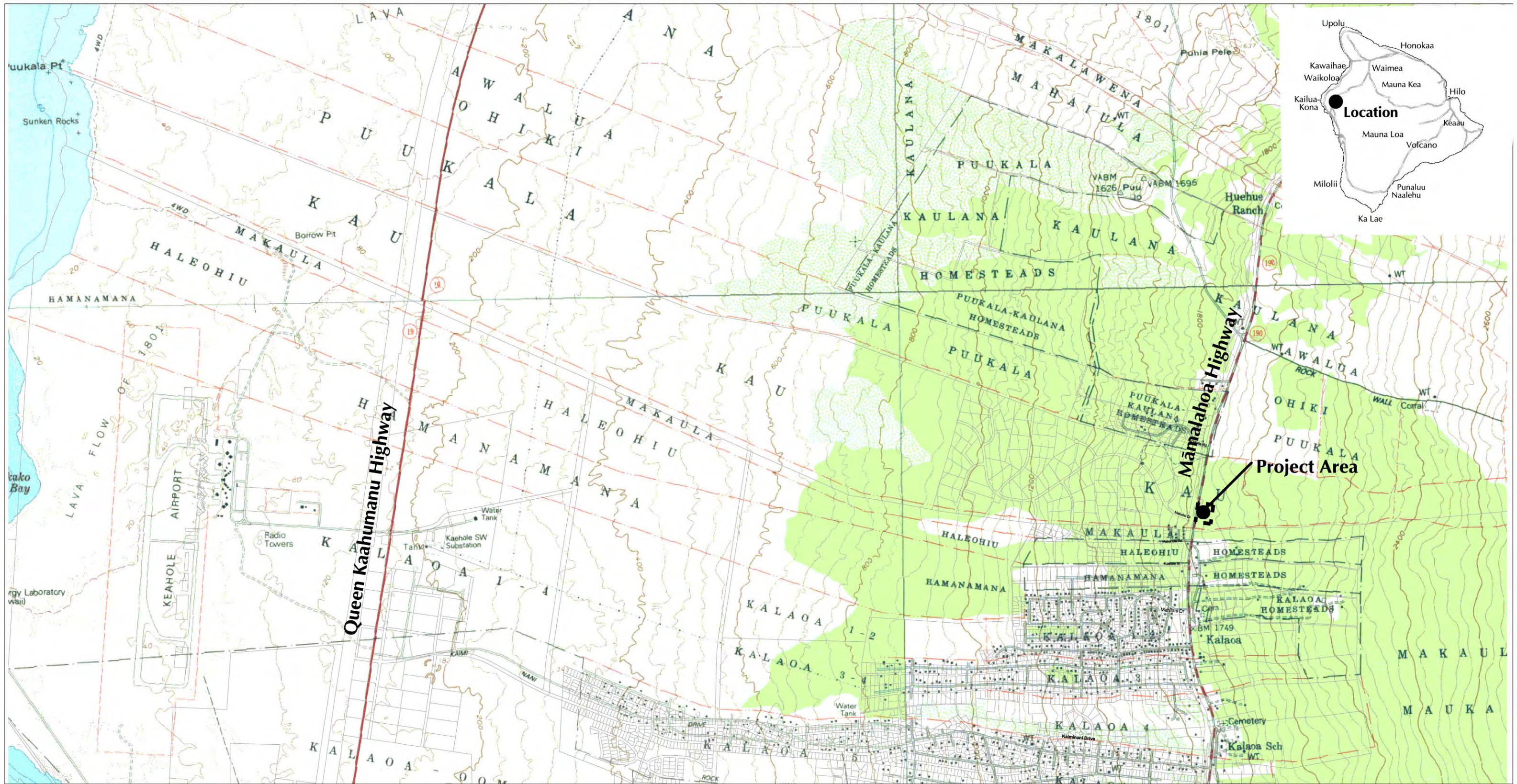
County of Hawai'i owns the land for the proposed Makalei Fire Station identified as TMK (3) 7-2-007:010 (Figure 2). The property was donated to the County on the stipulation that: "...site to be used exclusively as a fire station and related fire protection and emergency medical services purposes for the benefit of the general public..." A County Council Resolution accepting the prospective land transfer was approved on December 17, 2008 (this was done before the actual transfer of land took place). The Dedication Deed transferring the property to the County is dated June 3, 2009 and was recorded at the Bureau of Conveyances on September 21, 2009.

Contact: Ken Van Bergen, Property Manager
County of Hawai'i Department of Finance
25 Aupuni Street, Suite 1101
Hilo, HI 96720-4245
Phone: (808) 961-8009
Fax: (808) 961-8248

1.4 IDENTIFICATION OF APPLICANT

The Hawai'i Fire Department is the project applicant.

Contact: Desmond Wery, CIP Manager
Hawai'i Fire Department
25 Aupuni Street
Hilo, HI 96720
Phone: (808) 932-2905
Fax: (808) 932-2928



LEGEND


 Project Area

Figure 1

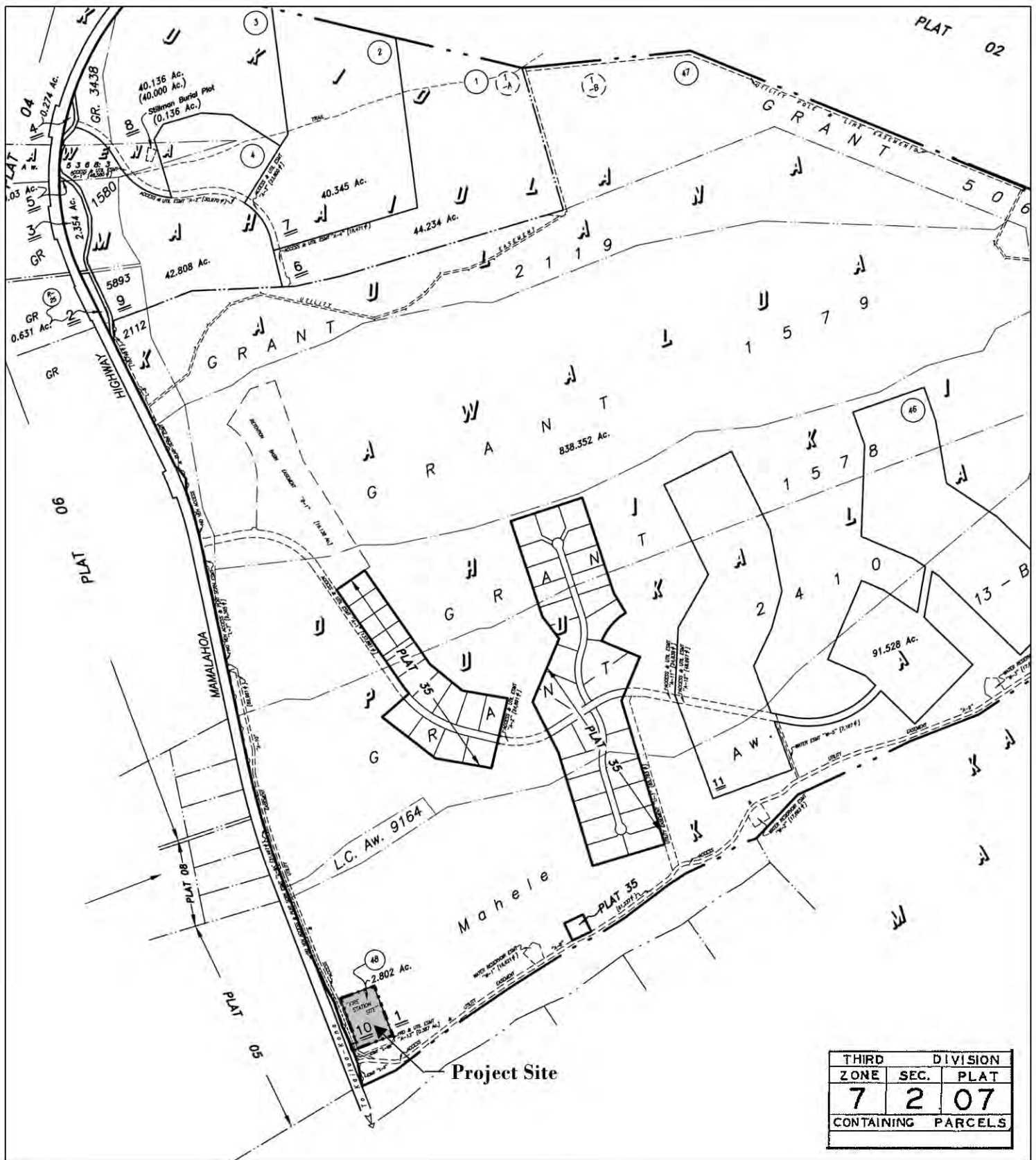
Regional Location

Makalei Fire Station

County of Hawai'i ISLAND OF HAWAII



Source: U.S. Geological Survey
 Disclaimer: This map is to be used for general planning purposes only.



LEGEND

 Project Area

Figure 2

Tax Map Key

Makalei Fire Station

County of Hawai'i

ISLAND OF HAWAII

NORTH



NOT TO SCALE



Source: City & County of Hawai'i

Disclaimer: This map is to be used for general planning purposes only.



LEGEND

-  Project Area
-  A: Agricultural
-  U: Urban

Figure 3

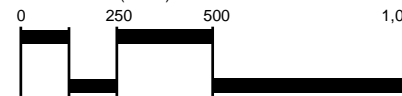
State Land Use Districts

Makalei Fire Station

County of Hawai'i

ISLAND OF HAWAII

NORTH LINEAR SCALE (FEET)



Source: State Land Use Commission (2009)
 Disclaimer: This map is to be used for general planning purposes only.



LEGEND









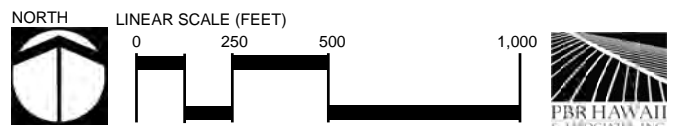
- | | | |
|---|--------------|--|
|  | Project Area | Agricultural Zones |
|  | (road) |  A-900a |
| Residential Zones | |  A-20a |
|  | RS-10 |  A-3a |
|  | RS-7.5 |  A-5a |

Figure 4

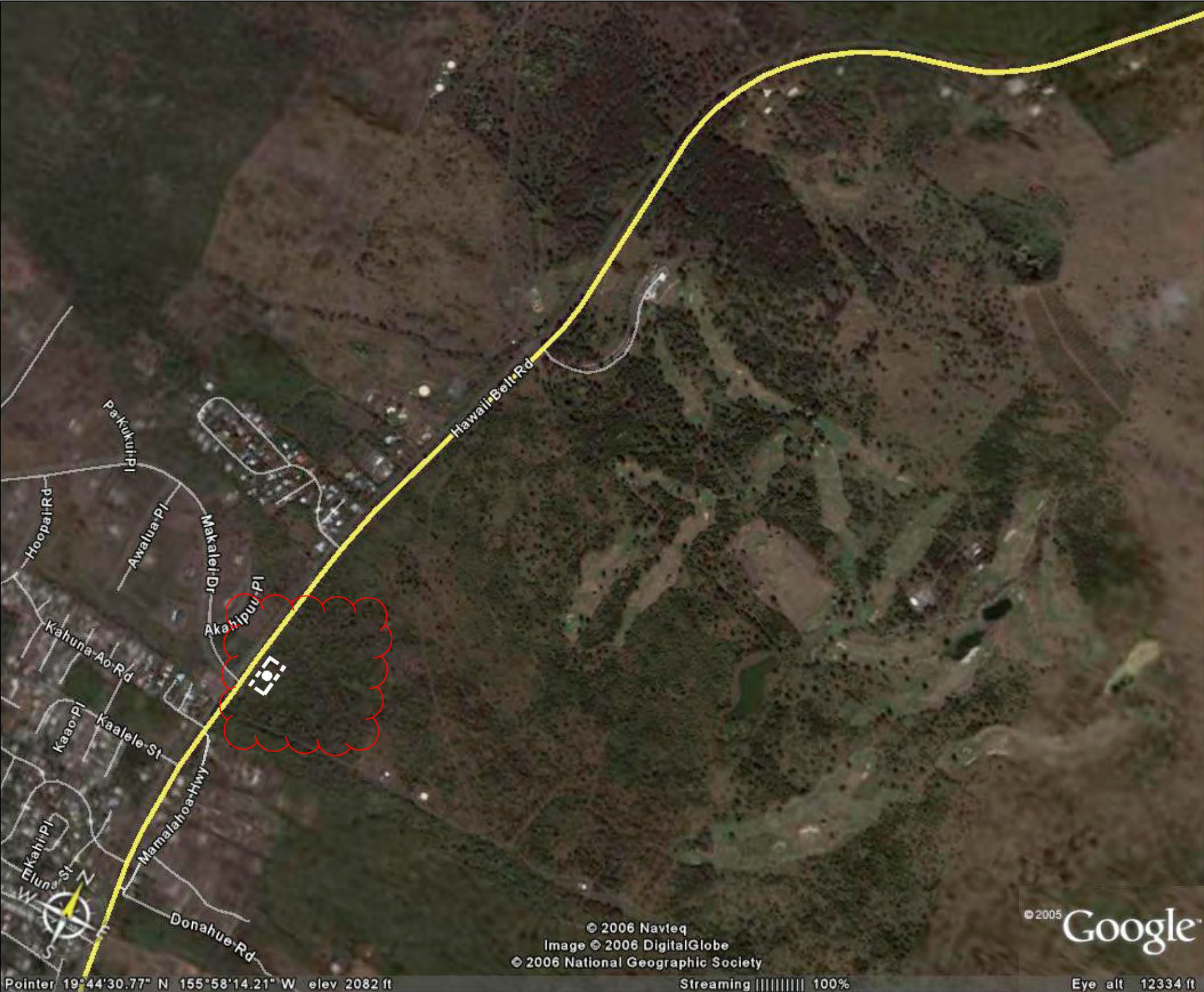
County of Hawai'i Zoning

Makalei Fire Station

County of Hawai'i ISLAND OF HAWAII



Source: City & County of Hawai'i (2009)
 Disclaimer: This map is to be used for general planning purposes only.



LEGEND

 Project Area

Figure 5
 Site Photographs
Makalei Fire Station
 County of Hawai'i ISLAND OF HAWAII

Disclaimer: This map is to be used for general planning purposes only.



1.5 IDENTIFICATION OF ENVIRONMENTAL CONSULTANT

The environmental consultant is PBR HAWAII & Associates, Inc.

Contact: Vincent Shigekuni, Vice President
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813
Phone: (808) 521-5631
Fax: (808) 523-1402

1.6 IDENTIFICATION OF LEAD AGENCY

The Federal Emergency Management Agency (FEMA) is the lead federal agency pursuant to the National Environmental Policy Act (NEPA) of 1969.

Contact: Donna M. Meyer CEM, HPS
Deputy Regional Environmental and Historic Preservation Officer
FEMA, Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607
Phone: (510) 627-7728

1.7 BACKGROUND

Under the American Recovery and Reinvestment Act of 2009 (ARRA), FEMA is providing grant funding to non-Federal fire departments and State and local governments through its Fire Station Construction Grant Program (SCG) for the construction, renovation, or modification of fire stations. The County of Hawai'i is a recipient of SCG grant funding and is seeking to construct a new facility, the proposed Makalei Fire Station, in Makalei, North Kona, Island of Hawai'i. As recipients of SCG funding, grantees must comply with Federal requirements as a condition of the grant award.

This Environmental Assessment (EA) has been prepared in accordance with NEPA, the President's Council on Environmental Quality regulations to implement NEPA (40 Code of Federal Regulations Parts 1500-1508), and FEMA's regulations implementing NEPA (44 CFR Part 10). FEMA is required to consider potential environmental impacts before funding or approving its Grantee's actions and/or projects. The purpose of this EA is to analyze the potential environmental impacts on the quality of the human environment as a result of the proposed project. FEMA will use the findings in this EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

1.8 PROJECT DESCRIPTION

The project site is situated on a 2.802-acre site set back approximately 117 feet from Māmalahoa Highway (Highway 190) (Figure 6). The fire station would include an apparatus bay with three (3) bays, hose tower, emergency power generator, grounds maintenance storage, office, kitchen/training room, dormitory, shower/restroom facilities, exercise/work rooms, laundry room, fuel tank, and parking areas for staff and guests. The station would feature energy efficient initiatives such as solar power panels and solar lighting. The station would also have an apparatus bay for vehicles including a fire engine, ambulance, support/utility vehicle, hazardous materials (HazMat) supply trailer, and HazMat truck.

The proposed fire apparatus access road would be designed in accordance with Uniform Fire Code (UFC) Sections 10.207(a-l). The proposed water system would also be designed in accordance with Uniform Fire Code (UFC) Section 10.301(c).

The County hopes to commence construction in the winter of 2010. Construction should take approximately sixteen months and the fire station should be operational around the spring of 2012. The budget for the fire station is \$9.1 million with the necessary funds already appropriated to complete the project.

1.9 IDENTIFICATION OF AGENCIES CONSULTED

The following agencies were consulted in the preparation of this EA:

Federal

Department of Agriculture, Natural Resource Conservation Service
Department of the Interior, Fish and Wildlife Service

State of Hawai'i

Department of Business, Economic Development and Tourism, Hawai'i Coastal Zone Management Program
Department of Land and Natural Resources, State Historic Preservation Division
Office of Hawaiian Affairs

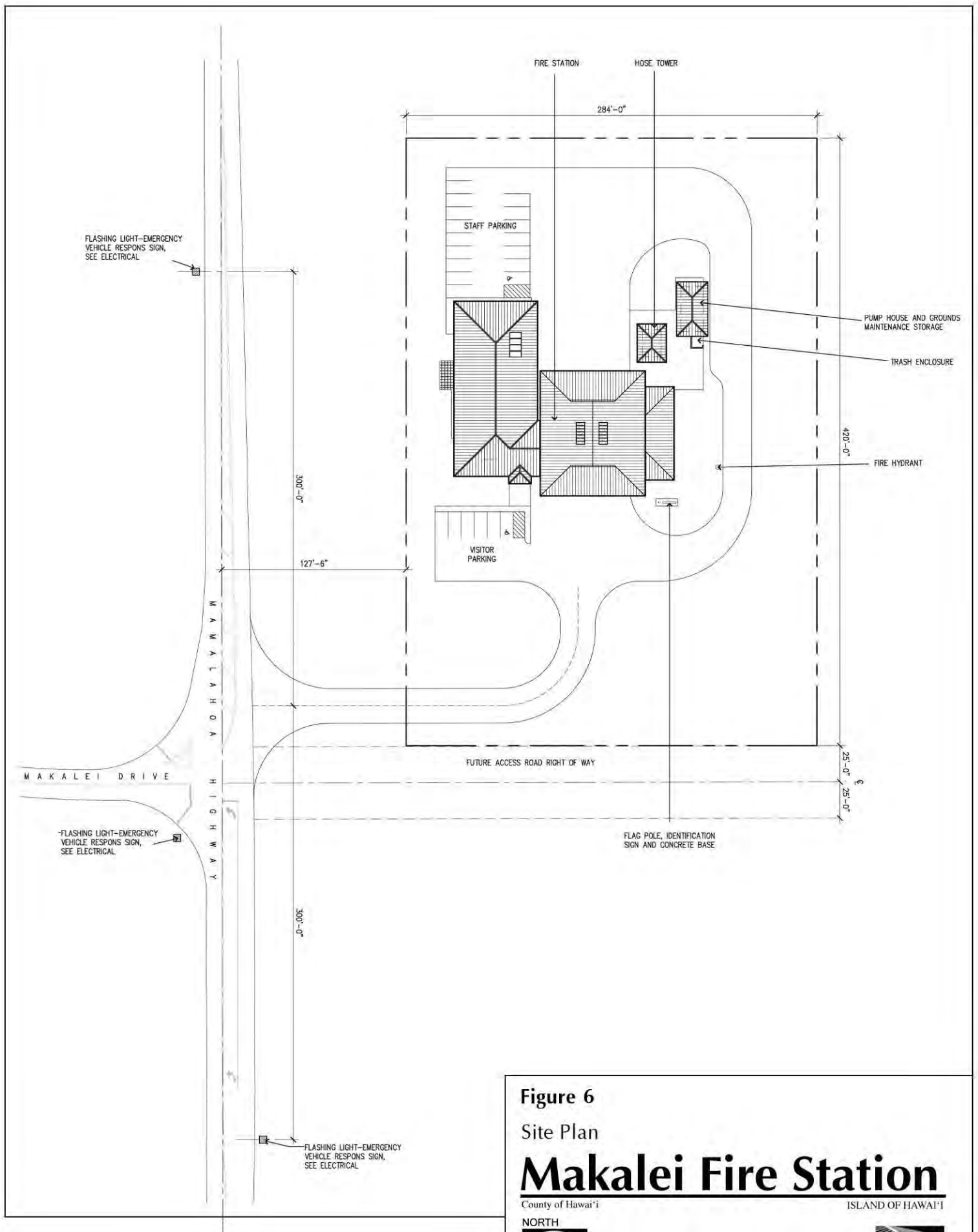


Figure 6
 Site Plan
Makalei Fire Station

County of Hawai'i ISLAND OF HAWAII

NORTH



NOT TO SCALE



2.0 PURPOSE AND NEED

2.1 PURPOSE

The Hawai'i Fire Department's (HFD) "Fire Protection Division" has the responsibility of protecting life and property from fire and other emergencies. Hawai'i Fire Department's multi-emergency staff manages a variety of crises throughout the island of Hawai'i and adjacent shores. Hawai'i Fire Department provides the following services for all island residents and visitors: (1) fire suppression (structural, vehicular, brush, crops, etc.); (2) medical emergencies (pre-hospital for traumatic or natural illness); (3) land and sea rescues involving water sports or fishing, overdue hikers, hunters, or fishermen, etc; (4) vehicular or other extrications; and (5) hazardous materials mitigation.

To provide the above services, the Hawai'i Fire Department is located in several stations around the island. In the County-designated district of North Kona, the closest station (Kailua Station) to the proposed project site is located to the south (Figure 7). The two (2) closest stations to the north (South Kohala and Waikoloa Stations) are actually located in the next district of South Kohala.

2.2 NEED

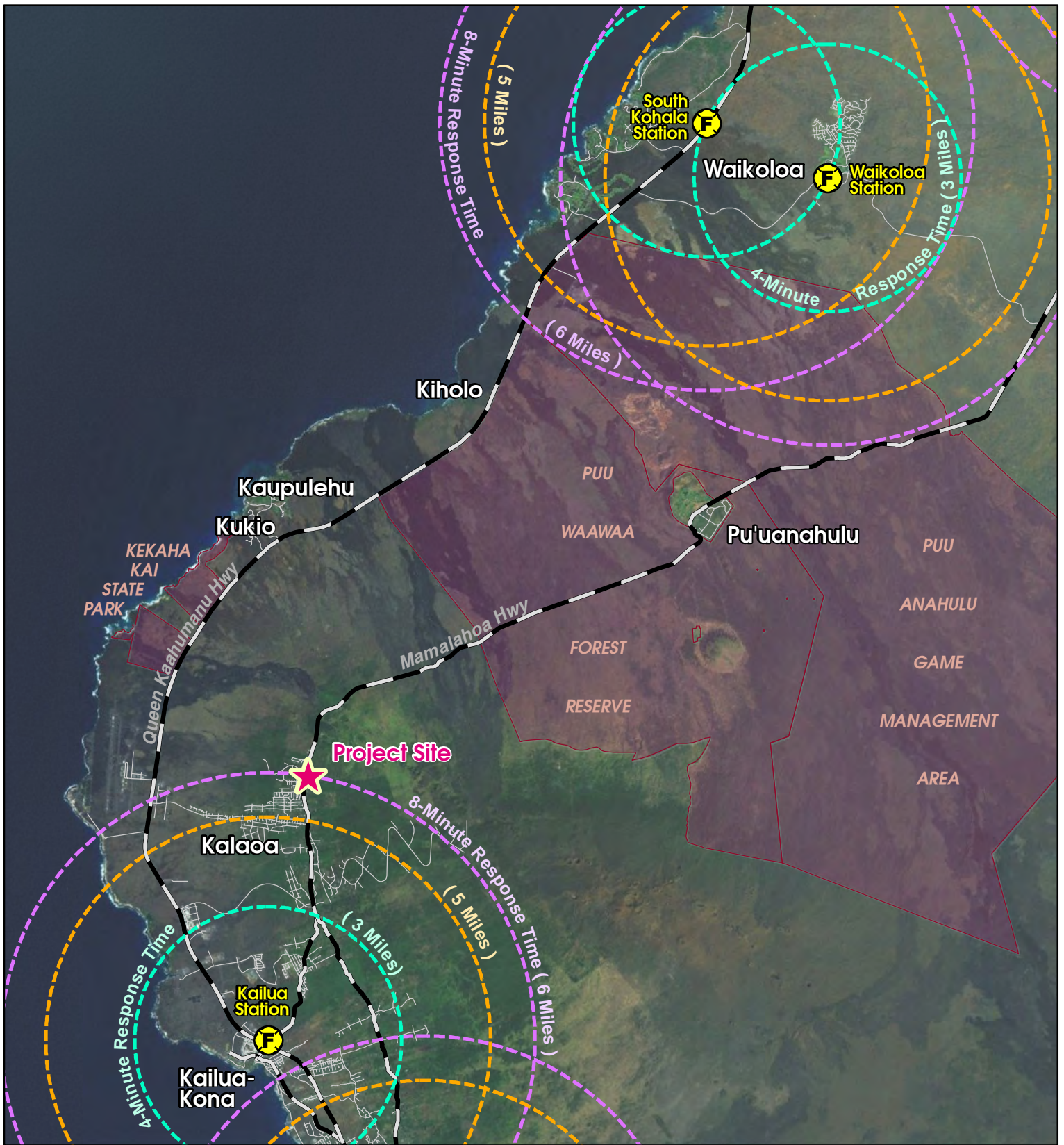
Shown on Figure 7 are the areas that can be reached by emergency and fire trucks based on response times of four (4) minutes (three (3) mile radius), and eight (8) minutes (six (6) mile radius). While there is generally very little development inland of Queen Kaahumanu Highway, between the service areas of the existing Kailua Station to the south, and the South Kohala and Waikoloa Stations to the north, there are existing resort residential communities and developments proposed along Queen Kaahumanu Highway that are not within an eight (8)-minute response time from existing stations.

While there are fire stations to the south of the Kailua Station, the nearest station is located approximately six (6) miles away, and would need to travel at least 12 miles (16 minute response time) to reach the area of the project site.






To enhance the Hawai'i Fire Department's response capabilities in North Kona and to protect the North Kona community from fire and fire-related hazards, a site has long been sought in the project vicinity. The proposed project would provide a permanent station for this Fire Company. Also relocation to the proposed site would allow for optimum placement of the Company to better service the West Hawai'i community and places the HazMat Response Team near the target area of need based on statistical data of HazMat target hazards.

In 2008, the Hawai'i County Council adopted the Kona Community Development Plan, which identified the area from approximately the location of the proposed Makalei Fire

Station site to Kailua for development. The enhancement of the Hawai'i Fire Department's response capabilities in North Kona and the protection of the North Kona community from fire and fire-related hazards is needed to address both existing and future anticipated demand.



LEGEND

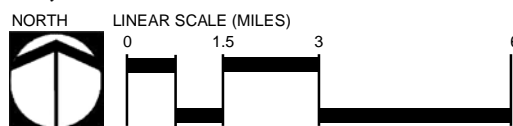
-  Project Site
-  Existing Fire Station
-  4 Minute or Less Response Time on 45 MPH (3 Miles)
-  5 Mile-Buffer
-  8 Minute or Less Response Time on 45 MPH (6 Miles)

Source: County of Hawaii GIS (2004)
 Disclaimer: This graphic has been prepared for general planning purposes only.

Figure 7
 Adjacent Fire Stations

Makalei Fire Station

County of Hawai'i ISLAND OF HAWAII



3.0 ALTERNATIVES

3.1 NO ACTION ALTERNATIVE

The no action alternative would involve the proposed Makalei Fire Station not being constructed. Implementation of the no action alternative would avoid the impacts associated with the construction of the proposed project.

Implementation of the no action alternative would avoid the impacts associated with the operation of the proposed project. The project site is currently vacant and generates little noise (wind through vegetation and noise from introduced bird species).

The negative impacts of the no action alternative include:

- the Hawai'i Fire Department's response capabilities in this portion of North Kona would remain "status quo"-- that is, the immediate vicinity would remain eight (8) minutes away from the nearest fire station and ambulance service (Figure 7);
- would not provide additional back up to the Kailua Fire Station's service area;
- this portion of North Kona community would remain relatively exposed to fire and fire-related hazards;
- property insurance premiums would remain at current costs;
- Federal funding would be rescinded;
- as the land was donated to the County by the previous private landowner, failing to construct the proposed fire station at the project site would deny the County an economic opportunity to obtain the project site at no cost; and
- as the land was donated to the County on the stipulation that: "...site to be used exclusively as a fire station and related fire protection and emergency medical services purposes for the benefit of the general public...", this alternative would result in non-compliance with the Dedication Deed.

3.2 PROPOSED ACTION

Implementation of the proposed action alternative would involve transforming the current land use of the project site from vacant and unused to active use. The transformation of the site would result in the following short-term, construction-related impacts:

- heavy equipment used in clearing vegetation would be transported to the site, resulting in traffic-related noise, and depending when the equipment is transported, possible traffic delays;

- the existing vegetation on the site would be cleared, and noise would be generated during site clearing;
- the habitat for introduced bird and mammal species provided by the existing vegetation would be removed, but the project site is surrounded by undeveloped areas providing habitats similar to the project site;
- whatever cleared vegetation is not recycled on site would be hauled off the site using large trucks to the Green Waste Recycling Facility located at the Kealakehe/Kailua-Kona Transfer Station, and depending when the equipment is transported, may result in possible traffic delays; and
- construction trucks and other construction equipment would access the site to install necessary infrastructure (driveways, water, wastewater, drainage, electrical and communications) and vertical improvements (buildings). Depending when the equipment is transported, may result in possible traffic delays.

Once the proposed Makalei Fire Station is in full operation, there would occasionally be emergencies that would require emergency vehicles from the proposed fire station to use sirens to warn motorists as the fire trucks and ambulances travel along roadways. In comparison, the project site currently is vacant and generates little noise (wind through vegetation and noise from introduced birds). The proposed represents a commitment to a change in land use from vacant open space designated by the State and County for agricultural use, to a permanent public facility meeting the public's health and safety needs.

The positive impacts of the proposed action include:

- the Hawai'i Fire Department's response capabilities in this portion of North Kona would be significantly improved, that is, the immediate vicinity would experience shorter response times for fire protection and ambulance service;
- this portion of North Kona community would have significantly improved protection from fire and fire-related hazards;
- property insurance premiums would likely lower in cost; and
- constructing the proposed fire station at the project site would allow the County of Hawai'i an economic opportunity to obtain the project site at no cost (which was donated by the previous landowner).

3.3 OTHER ACTION ALTERNATIVES

Other possible alternatives include:

- delaying the proposed action to seek offers of land donations from other landowners in the immediate vicinity; and
- conducting a site selection study, including lands owned by the County of Hawai'i and land which may have to be purchased by the of Hawai'i.

3.4 ALTERNATIVES CONSIDERED AND DISMISSED

Possible alternatives to the proposed action that were considered and dismissed include:

- delaying the proposed action to seek offers of land donations from other landowners in the immediate vicinity; and
- conducting a site selection study, including lands owned by the County of Hawai'i and land which may have to be purchased by the of Hawai'i.

The alternative of *Delaying the Proposed Action* was considered but dismissed because this alternative would delay the enhancement of the Hawai'i Fire Department's response capabilities in North Kona and the protection of the North Kona community from fire and fire-related hazards. The Hawai'i Fire Department has spent years seeking a suitable site for a new fire station in North Kona. Although several were initially evaluated, none of the alternative sites considered provided the economic and locational benefit as the subject property, because they did not achieve the needs of reducing response times and increasing protection in the region.

The alternative of *Conducting a Site Selection Study* was considered but dismissed because the negative impacts of this alternative would be similar to the alternative of *Delaying the Proposed Action*. Additionally, in the event that the site selection study found that a suitable alternative to the proposed could not be found on County-owned land, than the County would need Council action to fund the acquisition of a site. This would require a political process (County Council action) in a difficult economic environment. The site for the proposed Makalei Fire Station was donated by a private landowner to the County specifically for the purpose of a County fire station, and switching to an alternative site (that would not either be already owned by the County or donated by another landowner) would deny the County an economic opportunity to obtain land at no cost.

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4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

4.1 PHYSICAL RESOURCES

4.1.1 Geology and Soils

Geology

Hualālai Volcano shaped the landscape of North Kona. It's most recent flow in 1800-1801, and including earlier flows, has created a harsh landscape that greatly slopes towards the sea. Multiple flows of differing ages overlap each other creating a layered landscape with lava colors reflecting differences in age, chemical composition, and state of weathering. Hualālai lay dormant since 1801, but a series of earthquakes in 1929 and other seismic activity indicate its most recent eruptive phase may not have concluded (Macdonald, Abbott & Peterson, 1983). Figure 8 shows that the proposed project (as with much of the area surrounding Hualālai) is located in the U.S. Geological Survey's designated Volcanic Hazard Zone 4, with Zone 1 representing the most hazardous area, and Zone 9 representing the least hazardous area.

The site's geomorphology consists of multiple interbedded *pāhoehoe* and *a'a* flows. *Pāhoehoe* flows harden and form a smooth ropey surface while *a'a* flows harden as a rough jagged surface. Both lavas contain buried voids like pockets, blisters, and extensive lava tubes and tunnels that form as the molten rock cools and residual lava drains beneath the solidified surface. Many of these lava tubes and voids have been found in the area. The thin roofs of lava tubes can collapse when placed under additional weight.

Topography

The project area slopes in an east to west direction, with a cross-slope of approximately one (1) percent. The eastern boundary of the site is located at an elevation of approximately 1,879 feet above mean sea level and the western boundary is located at an elevation of approximately 1,853 feet above mean sea level.

Potential Impacts and Mitigation Measures

Grading on the property would occur during construction. During grading activities, soils would be exposed, creating a short-term potential for erosion from rainfall and wind. As noted in the following discussion, the soils on-site are described as having a slight erosion hazard. With tradewinds averaging only seven (7) miles per hour, it is anticipated that the conditions for wind-borne soil erosion during grading to be slight. An effective dust control plan would be implemented as necessary. All construction activities would comply with the provisions of Section 11-60.1-33, Hawai'i Administrative Rules (HAR) related to Fugitive Dust.

Over the long term, the project grading would not drastically change the topographic nature of the parcel relative to the surrounding lands.

Soils

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

Natural Resources Conservation Service (NRCS)

The Natural Resource Conservation Service, Soil Survey for the Island of Hawai'i, classifies the soil of the Makalei Fire Station project site as: Punalu'u Extremely Rocky Peat, 6-20% (rPYD) (Figure 9). This soil has a rapidly permeable black peat surface layer, about four (4) inches thick. Permeable *pāhoehoe* lava bedrock underlies the soil. The peat has a weak, very fine, granular structure. It can be characterized as very friable, non-sticky, non-plastic, and non-smearly. The soil also has very fine pores, few pebbles on the surface and many roots. The soil has a medium acidity.

Approximately 40 to 50 percent of the surface consists of rock outcrop. Runoff is slow, and there is slight erosion hazard. Roots are matted over the *pāhoehoe* lava. Typically lands with this soil are primarily used for pasture.

Land Study Bureau Detailed Land Classification

The University of Hawai'i Land Study Bureau document, Detailed Land Classification, Island of Hawai'i, classifies soils based on a productivity rating. Letters indicate class of productivity with A representing the highest class and E the lowest. The soils of the Makalei Fire Station project site are classified as C (Fair) and D (Poor) (Figure 10).

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

The Agricultural Lands of Importance to the State of Hawai'i (ALISH) system classifies important agricultural lands as Prime, Unique, or Other Agricultural Land. The Makalei Fire Station project site lands are not classified (Figure 11).

Potential Impacts and Mitigation Measures

Consultation occurred with the NRCS. On May 21, 2010, NRCS wrote that: "In reviewing the Makalei Fire Station project site location we concur with your determination that the project would not impact any prime or other important farmlands. Therefore this site is not subject to the Farmland Protection Policy Act and completion of the AD-1006 form is not required."



LEGEND




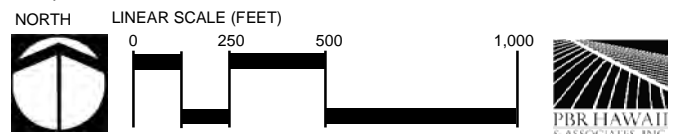
-  Project Area
-  rKED: Kaimu extremely stony peat, 7-25% slopes
-  rPYD: Punaluu extremely rocky peat, 6-20% slopes

Figure 9

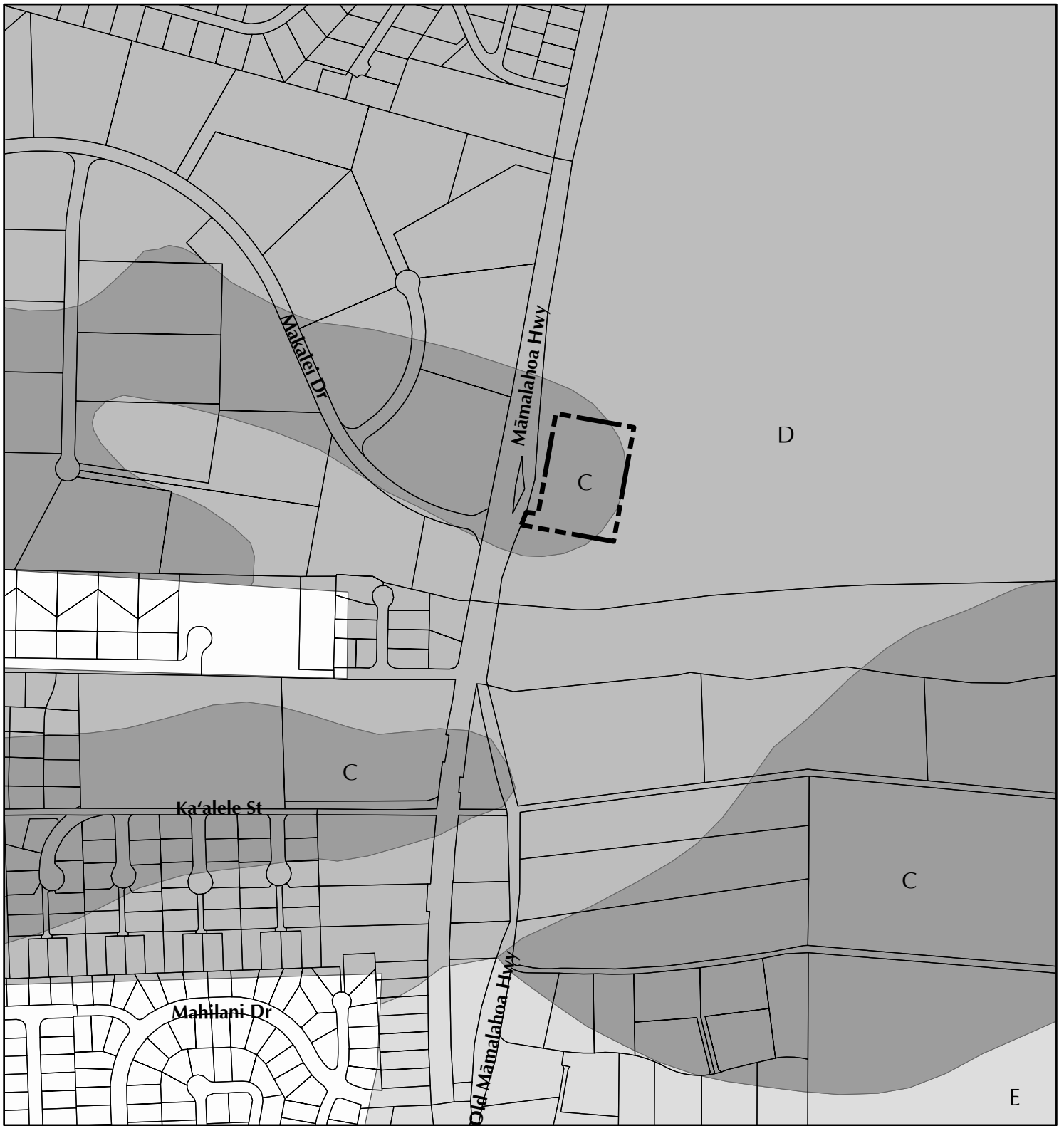
Soil Survey

Makalei Fire Station

County of Hawai'i ISLAND OF HAWAII



Source: Natural Resource Conservation Service GIS (2007)
 Disclaimer: This map is to be used for general planning purposes only.



LEGEND

	A: Excellent	Project Area
	B: Good	
	C: Fair	
	D: Poor	
	E: Very Poor	
	N: Not Classified	

Source: Land Study Bureau (1972)
 Disclaimer: This map is to be used for general planning purposes only.

Figure 10

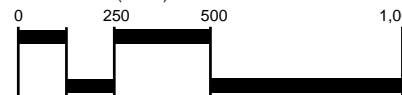
Detailed Land Classification

Makalei Fire Station

County of Hawai'i

ISLAND OF HAWAII

NORTH LINEAR SCALE (FEET)





LEGEND






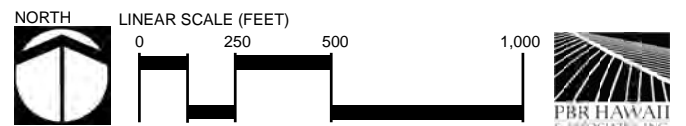
-  Project Area
-  Not Unclassified as ALISH
-  Prime ALISH Lands
-  Unique ALISH Lands
-  Other ALISH Lands

Figure 11
Agricultural Lands of Importance
to the State of Hawai'i

Makalei Fire Station

County of Hawai'i ISLAND OF HAWAII



Source: U.S. Department of Agriculture (1977)
Disclaimer: This map is to be used for general planning purposes only.

Construction of the Makalei Fire Station would not have a deleterious effect on the soil in the project site. The soils on-site are described as having a slight erosion hazard. With tradewinds averaging only seven (7) miles per hour, it is anticipated that the conditions for wind-borne soil erosion during grading to be slight. An effective dust control plan would be implemented as necessary. All construction activities would comply with the provisions of Section 11-60.1-33, Hawai'i Administrative Rules (HAR) related to Fugitive Dust. Measures to control dust during various phases of construction include:

- providing an adequate water source at the site prior to start-up construction activities;
- irrigating the construction site during periods of drought or high winds;
- landscaping with native vegetation (where feasible) 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 would 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.

Because soils at the project site are not well suited for crop cultivation, the proposed development would not have a long-term impact on the availability of agricultural land for cultivation.

4.1.2 Air Quality

The project site is located within an area that is exposed to natural pollution from volcanic out-gassing (volcanic haze or vog). The vog is vented on the other side of a mountain barrier Mauna Loa more than 50 miles east of the site. However, the prevailing tradewinds flow can carry the vog over and around the mountain barrier, leading to an increase in particulates and other air pollutants. Sulfur dioxide (SO₂) from Kīlauea is the primary pollutant monitored by the Environmental Protection Agency throughout Hawai'i County. In 2007, the agency documented 304 days where SO₂ was detectable in the atmosphere.

Other sources of air pollution are vehicular traffic on Queen Ka'ahumanu Highway (located approximately 3.2 miles to the west) and Māmalahoa Highway.

Potential Impacts and Mitigation Measures

It is anticipated that the primary impacts to air quality would be during construction. This could occur from additional traffic generated by construction vehicles, the operation of construction machinery, and dust generated during grading.

While it is anticipated that additional traffic would access the site from current conditions (no traffic), to minimize the potential for traffic congestion during peak hour periods, the contractor can be required to avoid any construction on Māmalahoa Highway during peak hour periods and to minimize the transport of construction machinery and supplies (on large, slow-moving vehicles) on area roads during peak hour periods.

Excessive exhaust emissions from construction machinery can be mitigated by requiring contractors to ensure that the exhausts of the construction machinery are properly maintained.

The soils on-site are described as having a slight erosion hazard. With tradewinds averaging only seven (7) miles per hour, it is anticipated that the conditions for wind-borne soil erosion during grading to be slight. An effective dust control plan would be implemented as necessary. All construction activities would comply with the provisions of Section 11-60.1-33, HAR related to Fugitive Dust. Measures to control dust during various phases of construction include:

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

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

4.1.3 Climate Change

Hawai'i Island's geological features heavily influence its climate. Although the island consists of five (5) volcanoes, the peaks of Mauna Loa (13,679 foot summit elevation) and Mauna Kea (13,796 foot summit elevation) dominate ground-based atmospheric influences. The project site receives an annual rainfall of approximately 30 to 40 inches. Regional temperatures range from 72 to 77 degrees Fahrenheit (County of Hawai'i Department of Research and Development, 2005). Throughout the year, humidity ranges between 68 percent in the morning to 80 percent in the afternoon (NOAA, no date).

Trade winds are typical of the Hawaiian Islands, blowing predominantly from a northeast direction, and averaging approximately seven (7) miles per hour (mph) (NOAA, no date). Hualālai and Mauna Loa, further influence the wind pattern for the

Island of Hawai'i. In the early morning, the prevailing wind pushes out towards the ocean, and in the afternoon, the winds blow from the ocean towards the island (Juvick & Juvick, 1998).

Potential Impacts and Mitigation Measures

According to the Environmental Protection Agency website, industrial and commercial energy use accounts for nearly 30% of total U.S. greenhouse gas emissions (<http://www.epa.gov/climatechange/emissions/index.html>). These emissions primarily result from electricity use, product transportation, burning fossil fuels to power boilers and to produce steam, and using gasoline to power vehicle fleets and employee transportation. The construction and operation of the proposed fire station would generate greenhouse gas. The impact of greenhouse gas emissions can be mitigated by designing the fire station to:

- use energy-efficient lighting fixtures;
- use Energy Star qualified products (cooling equipment and appliances);
- include proper and adequate building insulation;
- include solar panels;
- include storage for recyclable materials;
- include facilities for on-site composting; and
- water-efficient fixtures.

The Hawai'i Fire Department plans to incorporate the above mitigation measures into the design of the proposed fire station and into operational policies.

4.2 WATER RESOURCES

The main source of potable water on the island is ground water. The proposed Makalei Fire Station site is located within the Hualālai Aquifer Sector Area (ASEA). The Hualālai ASEA includes the entire Hualālai shield volcano and is surrounded by Mauna Loa. The ASEA is divided into the Keauhou and Kīholo Aquifer System Areas (ASYA) along Hualālai's main northwest-southwest rift zone.

The project site is more specifically located within the Keauhou ASYA. According to DWS, the average rainfall in the Keauhou ASYA ranges from less than 20 inches along the northwest coast to about 125 inches in the Kahalu'u Forest Reserve, resulting in a sustainable yield of 38 million gallons daily (MGD). Current total water usage in the Keauhou ASYA, including agricultural uses is 12.02 MGD or approximately 32 percent of estimated sustainable yield.

According to DWS, the Hualālai ASEA has experienced significant urban growth in the last 20 years, with water demands in this ASEA the highest on the island. The DWS estimates that within the Hualālai ASEA, the potable water demand would grow from 32 percent today, to 43 to 45 percent by 2025. The DWS' 20-year projections

would indicate that the existing groundwater resources would still have adequate capacity to accommodate future demand in 2025.

Potential Impacts and Mitigation Measures

The proposed project would generate an insignificant long-term potable water demand on the existing groundwater resource (Hualālai ASEA). If total current usage is 12.02 MGD, then the proposed fire station's estimated daily water demand of 1,200 gallons per day would represent less than a 0.01 percent increase in regional daily water demand.

The proposed Makalei Fire Station expands the Hawai'i Fire Department's capabilities in responding to wildfires. Protecting watersheds from wildfires is a positive long-term impact, as vegetation helps to reduce surface runoff and enhance groundwater recharge.

4.2.1 Water Quality

As previously noted, the source of potable water in the region is from ground water resources. There are no nearby surface water resources. According to a link from the EPA website to the Groundwater Protection Council website (http://www.gwpc.org/state_resources/state_resources_fact_sheets.htm),

Ground water in developed areas is more susceptible to contaminants from agricultural, industrial and human activities. Chemical contaminants have been found in well water samples in central O`ahu, west Maui, east Kaua`i and east Hawai`i. Herbicides and pesticides associated with the sugarcane and pineapple industries, and leaking fuel and solvents are some of the chemical contaminants. Granular activated carbon filters and aeration systems are being used to treat the volatile organic compounds(VOCs) in contaminated ground water.

The EPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the Safe Drinking Water Act (SDWA.) Since 1977, it has been used by communities to help prevent contamination of groundwater from federally-funded projects. It has increased public awareness of the vulnerability of groundwater resources. The SSA program allows for EPA environmental review of any project which is financially assisted by federal grants or federal loan guarantees. These projects are evaluated to determine whether they have the potential to contaminate a sole source aquifer. There are no "Sole Source Aquifer" designations for the island.

The State of Hawai'i Department of Land and Natural Resources (DLNR) Commission on Water Resource Management (CWRM) regulates groundwater resources for their best utilization, conservation, and protection in order to prevent threat from exhaustion,

depletion, waste, pollution, or deterioration by salt encroachment. No "Groundwater Management Areas" are designated over any part of the island.

Potential Impacts and Mitigation Measures

The construction and operation of the proposed Makalei Fire Station would not have a short-term or long-term impact on the groundwater aquifer or any nearby surface water resources. As previously mentioned, the anticipated water demand from the proposed fire station is relatively small in capacity to existing usage, and would not result in negatively affecting the sustainable yield of the aquifer. All stormwater over pre-development runoff quantities will be retained in drywells, with the runoff filtering through soil and rock before recharging the aquifer.

4.2.2 Wetlands

The purpose of Executive Order 11990 is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." To meet these objectives, Executive Order 11990 requires Federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. The order applies to:

- acquisition, management, and disposition of Federal lands and facilities construction and improvement projects which are undertaken, financed or assisted by Federal agencies; and
- Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation and licensing activities.

According to the U.S. Fish and Wildlife Service National Wetland Inventory Map (Figure 12), there are no wetlands within the proposed Makalei Fire Station site or in the immediate vicinity.

Potential Impacts and Mitigation Measures

No short- or long-term impacts to wetlands from the construction and operation of the proposed Makalei Fire Station are anticipated, as there are no identified jurisdictional wetlands on site.

4.2.3 Floodplains

Executive Order 11988 requires Federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, "each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and

preserve the natural and beneficial values served by flood plains in carrying out its responsibilities" for the following actions:

- acquiring, managing, and disposing of Federal lands and facilities;
- providing Federally-undertaken, financed, or assisted construction and improvements; and
- conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

According to the Flood Insurance Rate Map (FIRM) prepared by FEMA, National Flood Insurance Program, the project site is located in "Zone X", which are areas located outside of the 500-year and 100-year floodplain (Figure 13). As noted earlier, the Natural Resource Conservation Service, Soil Survey for the Island of Hawai'i, classifies the soil of the Makalei Fire Station project site as: Punalu'u Extremely Rocky Peat, 6-20% (rPYD). This soil has a rapidly **permeable** black peat surface layer, about four (4) inches thick, and a **permeable** *pāhoehoe* lava bedrock underlies the soil.

Potential Impacts and Mitigation Measures

The construction and operation of the proposed Makalei Fire Station is not anticipated to have any short- or long-term impacts to any floodplains.

4.3 COASTAL RESOURCES

The Coastal Zone Management Act (CZMA) encourages the management of coastal zone areas and provides grants to be used in maintaining coastal zone areas. It requires that Federal agencies be consistent in enforcing the policies of State coastal zone management programs when conducting or supporting activities that affect a coastal zone. It is intended to ensure that Federal activities are consistent with State programs for the protection and, where possible, enhancement of the nation's coastal zones.

The CZMA's definition of a coastal zone includes coastal waters extending to the outer limit of State submerged land title and ownership, adjacent shorelines and land extending inward to the extent necessary to control shorelines. A coastal zone includes islands, beaches, transitional and intertidal areas, and salt marshes.

The CZMA requires that states develop a State Coastal Zone Management Plan or program and that any Federal agency conducting or supporting activities affecting the coastal zone conduct or support those activities in a manner consistent with the approved State plan or program.

To comply with the CZMA, the Federal agency must identify activities that would affect the coastal zone, including development projects, and review the State coastal zone management plan to determine whether the activity would be consistent with the plan. The Federal agency must then notify the State of its determination. This determination must be in writing and include a detailed description of the action, its associative

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Potential Impacts and Mitigation Measures

The construction and operation of the proposed Makalei Fire Station is not anticipated to have any short- or long-term impacts to any floodplains.

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LEGEND

-  Project Area
-  Freshwater Pond

Figure 12

Wetlands

Makalei Fire Station

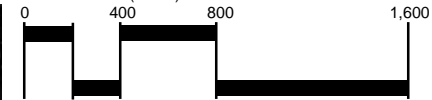
County of Hawai'i

ISLAND OF HAWAII

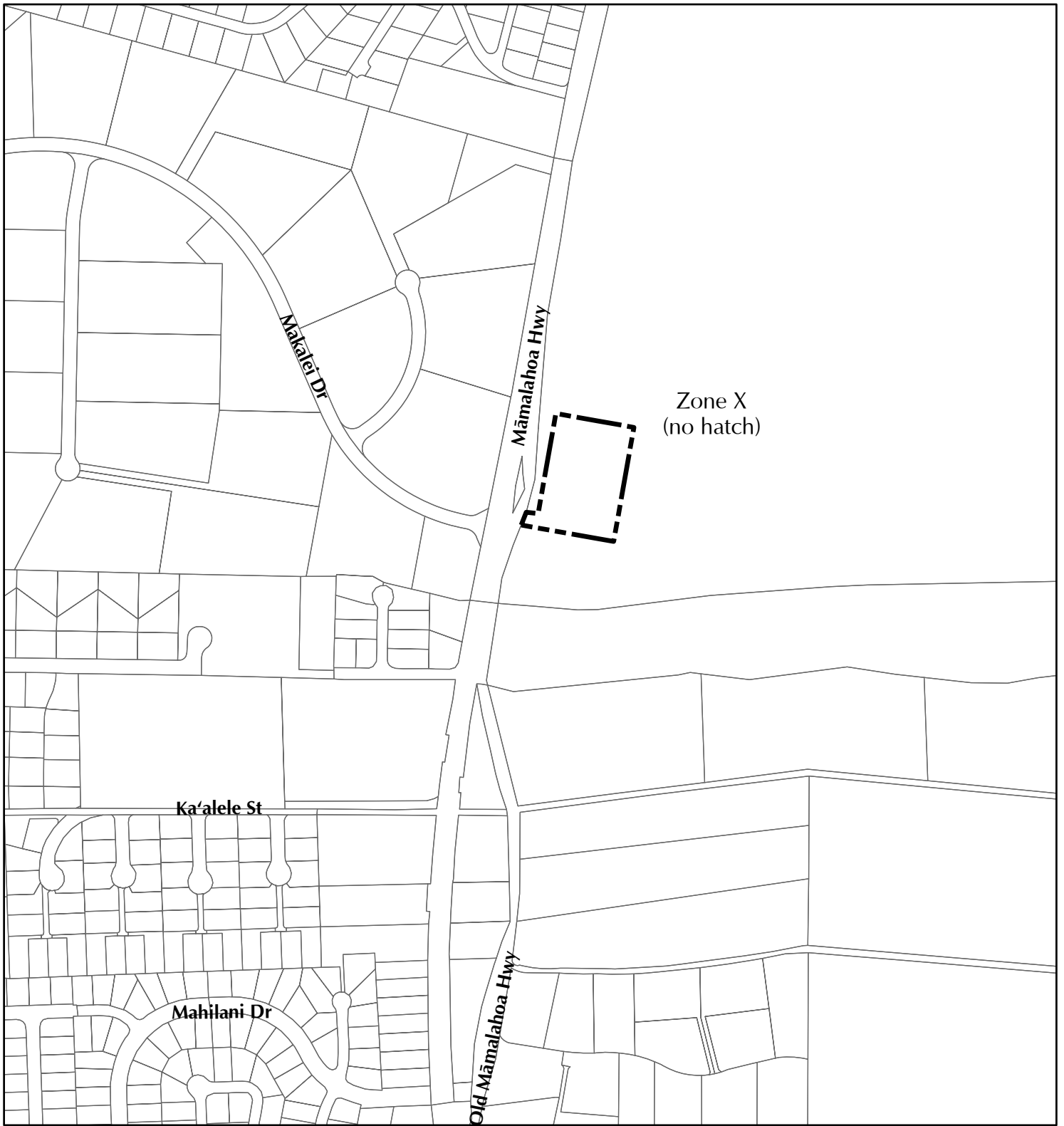
NORTH



LINEAR SCALE (FEET)



Source: U.S. Fish and Wildlife Service National Wetland Inventory
 Disclaimer: This map is to be used for general planning purposes only.



LEGEND






-  Project Area
-  Zone X (no hatch): Outside Floodplain
-  Zone X (hatched): 500-Year Floodplain
-  Zone A: 100-Year Floodplain
-  Floodway

Figure 13

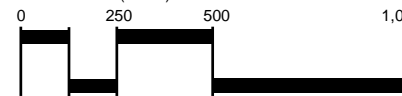
Flood Insurance Rate Map

Makalei Fire Station

County of Hawai'i

ISLAND OF HAWAII

NORTH LINEAR SCALE (FEET)



Source: Federal Emergency Management Agency Map Service Center (2007)
 Disclaimer: This map is to be used for general planning purposes only.

facilities, and coastal zone effects; a brief statement of how the activity would be consistent with the State coastal zone management plan; and data to support the consistency determination.

Federally licensed and permitted activities and Federal financial assistance to State and local governments which affect the coastal zone are also subject to Federal consistency provisions. Before the Federal agency can approve a license or permit or grant financial assistance, the applicant for a Federal license, permit, or financial assistance must attach a consistency certification issued by the State coastal agency.

Potential Impacts and Mitigation Measures

On April 20, 2010, a Hawai'i CZM Program Application for CZM Federal Consistency Review to the State Office of Planning. On April 22, 2010, the State Office of Planning (which houses the Hawai'i CZM Program) replied:

The proposed funding from FEMA does not require Hawaii CZM Program federal consistency review. The Hawaii CZM Program does not review any FEMA assistance programs, grants, or loans for federal consistency in accordance with Section 307(d) of the Coastal Zone Management Act and 15 CFR 930. There are no FEMA assistance programs identified on the Hawaii CZM Program listing of federal assistance programs subject to consistency review, pursuant to 15 CFR 930.95.

4.4 BIOLOGICAL RESOURCES

4.4.1 Threatened and Endangered Species and Critical Habitat

The purpose of the Endangered Species Act (ESA) is to ensure that federal agencies and departments use their authorities to protect and conserve endangered and threatened species. Section 7 of the Act requires that federal agencies prevent or modify any projects authorized, funded, or carried out by the agencies that are "likely to jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of critical habitat of such species."

In response to FEMA's request for Section 7 Consultation, the U.S. Fish and Wildlife Service (FWS) responded via a letter dated April 2, 2010, that:

*We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program. There are no federally listed threatened or endangered species or critical habitat known to occur within the project footprint. However, the endangered Hawaiian Hawk (*Buteo solitarius*), and the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), have been observed in the vicinity of the proposed project.*

Potential Impacts and Mitigation Measures

Based on the Section 7 Consultation with the U.S. Fish and Wildlife Service, no short- or long-term impacts to federally listed threatened or endangered species or critical habitat (Figure 14) are anticipated during the construction and operation of the proposed Makalei Fire Station; however, the proposed project site may be within the flight range of the Hawaiian Hawk and the Hawaiian hoary bat. Since construction of the proposed Makalei Fire Station would occur during daylight hours, construction activity and noise may present an unattractive area for feeding and nesting for the Hawaiian Hawk. Since the Hawaiian hoary bat is most active in twilight and evening hours, it is unlikely that construction activity would impact the animal. The small scale of the Makalei Fire Station is not anticipated to have a significant long-term impact on Hawaiian Hawk and the Hawaiian hoary bat. For example, issues related to displacement of feeding areas are virtually non-existent due to the large amount of remaining greater property and the presence of similar vegetation surrounding the project site and greater property area.

4.5 CULTURAL RESOURCES

4.5.1 Historic Properties

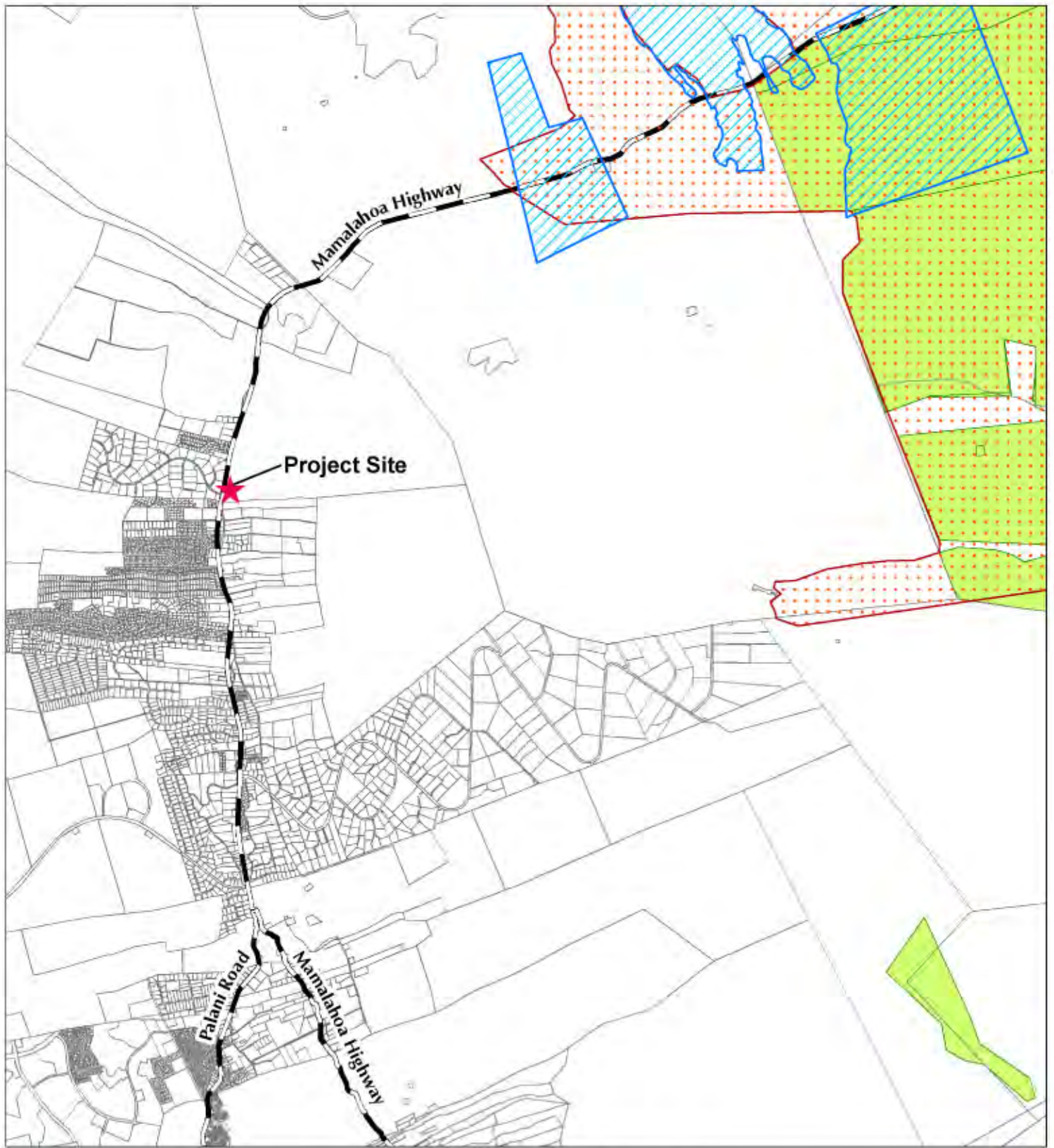
Section 106 of the National Historic Preservation Act (NHPA), 1966 as amended (2000) requires that, before approving or carrying out a Federal, Federally assisted, or Federally licensed undertaking, Federal agencies are to take into consideration the impact that the action may have on historic properties.

Tax Map Key parcel number (3) 7-2-007:001, of which a portion would be subdivided from to create the proposed Makalei Fire Station site, was surveyed for historic properties entirely by Haun & Associates in 2005. The archaeological inventory survey did not identify any historic properties within the proposed Makalei Fire Station site. The inventory survey was approved by the State Historic Preservation Division (SHPD) on June 26, 2006 (Log No: 2006.2068, Doc No: 0606JT72).

A preservation site (Site 24573) is located approximately 360 feet north-northeast of the project site. Provisions for the protection of Site 24573, along with Sites 24593 and 24599 are detailed in a Preservation Plan that was approved by SHPD on January 8, 2007 (Log No: 2006.3466, Doc No: 0701MK10).

Potential Impacts and Mitigation Measures

In response to FEMA's request for Section 106 Consultation (in accordance with the National Historical Preservation Act of 1966 [Title 16 United States Code Section 470f, as amended] the State Historic Preservation Division responded via a letter dated March 24, 2010, that:



LEGEND





-  Project Site
-  Critical Habitat for Koki'o (Hawaiian Tree Cotton)
-  Critical Habitat for Blackburn's Sphinx Moth
-  Critical Habitat for Plants

Figure 14

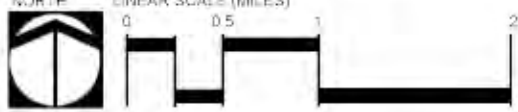

Critical Habitat

Makalei Fire Station

County of Hawaii ISLAND OF HAWAII

NORTH LINEAR SCALE (MILES)

0 0.5 1 2

PBR HAWAII
LANDMARKS, INC.

Source: U.S. Fish and Wildlife Service, Pacific Islands Office, 2004
 Disclaimer: This graphic has been prepared for general planning purposes only

We concur that no historic properties will be affected by this undertaking because:...An accepted archaeological inventory survey (AIS) found no historic properties (Haun, Henry & Berringer 2006)...This determination is made with the understanding that all construction activities and material/machinery staging shall occur within the designated APE of parcel 1. Preservation sites are located in the larger parcel and may not be marked as such during project construction....

In the event that historic resources, including human skeletal remains, cultural materials, lava tubes, and lava blisters/bubbles are identified during the construction activities, all work needs to cease in the vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Hawaii Island Section, needs to be contacted immediately...

4.5.2 American Indian/Native Hawaiian/Native Alaskan Cultural/Religious Sites

In response to FEMA's request for Section 106 Consultation (in accordance with the National Historical Preservation Act of 1966 [Title 16 United States Code Section 470f, as amended] the State Office of Hawaiian Affairs (OHA) responded via a letter dated February 22, 2010 that:

OHA is unaware of any historic properties, religious practices or cultural resources which could be adversely affected by this proposed undertaking. We do encourage you to engage in a broad consultation effort with individuals and organizations who may have specific connections to the project area.

Thank you for initiating consultation at this early stage and providing an opportunity to comment on this proposed undertaking. OHA applauds your efforts in considering this financial assistance request for this much needed project which will certainly benefit the Kona Community.

Potential Impacts and Mitigation Measures

Based on the Section 106 Consultation with OHA, no short- or long-term impacts to any historic properties, religious practices or cultural resources are anticipated during the construction and operation of the proposed Makalei Fire Station.

4.6 SOCIOECONOMIC RESOURCES

4.6.1 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, particularly when such analysis is required by NEPA.

The proposed Makalei Fire Station is currently vacant but 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 proposed site are disproportionately impacted relative to the North Kona community at large.

Potential Impacts and Mitigation Measures

The proposed Makalei Fire Station would enhance the Hawai'i Fire Department's response capabilities in North Kona and further protect the North Kona community from fire and fire-related hazards. The availability of trained emergency medical service personnel and fire protection in the immediate vicinity of the proposed site and neighboring properties is a positive and reassuring public presence and may also have a positive impact on lowering home insurance rates for neighboring residents.

The Hawai'i Fire Department has spent years seeking a suitable site for a new fire station in North Kona. Although several were initially evaluated, this site was not selected because of the neighborhood's "economic status," but because land was immediately available in a central location near major thoroughfare.

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

4.6.2 Noise

Existing noise levels at and immediately adjacent to the proposed site mimic those typical to rural residential communities fronting a major thoroughfare. The noise generated along Māmalahoa Highway typically comes from the vehicular traffic of commuters between the major population centers at Kona and Waimea. The noise level is considered a low to moderate exposure and well within the guidelines for non-noise sensitive land uses.

Potential Impacts and Mitigation Measures

Construction activities for the development of the property would inevitably create temporary, short-term noise impacts. The developer may employ mitigation measures to minimize those temporary noise impacts (exceeding maximum noise levels) including the use of mufflers and implementing construction curfew periods.

Pursuant to Chapter 11-46, Hawai'i Administrative Rules, all project activities must comply with all community noise controls.

Once in operation, the proposed Makalei Fire Station would generate temporary noise impacts during the course of responding to fire alarms and other emergencies. These noise disturbances are of an unavoidable, long-term element of emergency response equipment but would be intermittent and of short duration.

The proposed fire station is set back from Māmalahoa Highway over approximately 110 feet. Within this 110+ foot buffer would be the existing thick vegetation. It is unlikely normal day-to-day operations at the Makalei Fire Station would be noticeable to nearby residents, especially given the ambient noise generated by passing traffic along Māmalahoa Highway.

4.6.3 Traffic

The Makalei Fire Station would be located directly off of Māmalahoa Highway, east of Makalei Drive. Māmalahoa Highway is a mountainous, winding, State-owned road, wide enough to accommodate two (2)-way traffic with shoulders. The right-of-way is approximately 80 feet wide, more than adequate to support two (2) additional lanes of traffic and one (1) turning lane where required. Pavement widths and road shoulder widths vary, with some sections having no shoulder due to retaining walls or steep embankments.

There are no driveways onto the project site or any roads within the project site.

Potential Impacts and Mitigation Measures

Construction of the proposed Makalei Fire Station may result in the following short-term, construction-related activities that depending when the equipment is transported, may result in possible traffic delays:

- heavy equipment used in clearing vegetation would be transported to the site;
- whatever cleared vegetation is not recycled on site would be hauled off the site using large, covered trucks; and
- construction trucks and other construction equipment would access the site to install necessary infrastructure (driveways, water, wastewater, drainage, electrical and communications) and vertical improvements (buildings).

Once the proposed Makalei Fire Station is in full operation, there would occasionally be emergencies that would require emergency vehicles from the proposed fire station to use sirens to warn motorists as the fire trucks and ambulances travel along roadways. In comparison, the project site is currently vacant and generates little noise (wind through vegetation and noise from any animals).

The proposed Makalei Fire Station is not anticipated to generate a significant amount of traffic trips. However, traffic along Māmalahoa Highway would be occasionally and unavoidably interrupted when the emergency vehicles leave the proposed fire station to respond to emergencies. Two (2) flashing light-emergency vehicle response signals would be installed on both sides of Māmalahoa Highway to warn drivers of an emergency vehicle exiting the facility.

The proposed Makalei Fire Station site is setback from Māmalahoa Highway to accommodate any possible widening of the road that may occur over the long-term. However, planned new regional roadways, paralleling, and located between, Māmalahoa Highway and Queen Ka'ahumanu Highway relieves the need to widen both highways.

4.6.4 Public Service and Utilities

Water System

The County of Hawai'i has existing potable water transmission lines running along Māmalahoa Highway, but there are no water transmission lines within the project site. A potable water line would need to be installed from the project site to the existing municipal water transmission system along Māmalahoa Highway.

Potential Impacts and Mitigation Measures

During construction, there would be a short-term impact, when a water line from the proposed Makalei Fire Station is connected to the potable water transmission lines running along Māmalahoa Highway, resulting in temporarily exposing soils to the forces of wind and stormwater erosion. Please refer to Section 4.1.1 for a discussion of soil disturbance impacts and measures to mitigate impacts.

The proposed project is not anticipated to have a significant long-term adverse impact on the municipal water system.

Wastewater System

The County of Hawai'i does not have an existing wastewater collection, treatment and disposal system which services the project area. In order to provide sanitary wastewater treatment and disposal for the proposed Makalei Fire Station, an underground septic system would be installed.

Potential Impacts and Mitigation Measures

During installation, excavation and grading would be required, resulting in temporarily exposing soils to the forces of wind and stormwater erosion. Please refer to Section 4.1.1 for a discussion of soil disturbance impacts and measures to mitigate impacts.

The proposed project is not anticipated to have any significant long-term adverse impacts on the groundwater supply. Any septic system would require environmental permitting and approvals from the Department of Health.

Drainage System

Presently, the project site receives an annual rainfall of approximately 30 to 40 inches. Rainfall percolates into the soils. As noted earlier, the Natural Resource Conservation Service, Soil Survey for the Island of Hawai'i, classifies the soil of the Makalei Fire Station project site as: Punaluu Extremely Rocky Peat, 6-20% (rPYD). This soil has a rapidly permeable black peat surface layer, about four (4) inches thick, and a permeable *pāhoehoe* lava bedrock underlies the soil. There are no man-made drainage systems within the project site, so drywells would be installed to retain any increase in runoff generated by the increase of non-permeable surfaces as a result of the proposed project.

Potential Impacts and Mitigation Measures

During the construction of the proposed project, excavation and grading would be required, resulting in temporarily exposing soils to the forces of wind and stormwater erosion. Please refer to Section 4.1.1 for a discussion of soil disturbance impacts and measures to mitigate impacts.

Over the long-term, the permeable conditions presented by existing soils and vegetation would be replaced with rooftops, parking areas, driveways, and some landscaped areas. The increase in potential storm runoff from the project would be mitigated using drywells to absorb the excess water.

Electrical and Communications Systems

There is no existing electrical, telephone or cable television (CATV) service on the property. Electrical, telephone and CATV service is provided along overhead lines along the western edge of Māmalahoa Highway.

The proposed fire station project would require the installation of new conduits for primary electrical power, telephone and CATV that would cross Māmalahoa Highway and would be stubbed to an existing utility pole. The primary power conduits would be routed to a new transformer pad on which a new Hawaiian Electric Light Company (HELCO) transformer would be provided. The secondary of the transformer would be routed to new service and distribution equipment at the proposed fire station. The telephone and CATV conduits would be routed to a communication room in the proposed Makalei Fire Station. Low pressure, sodium post lights on concrete bases would be provided along new driveways and roadways on the Makalei Fire Station site. Traffic warning beacons would be provided along Māmalahoa Highway and the intersection of Māmalahoa Highway and Makalei

Drive. The beacons would be utilized to signal oncoming traffic that a emergency vehicle is exiting the facility.

Potential Impacts and Mitigation Measures

During construction, there would be a short-term impact when the proposed conduits from the proposed Makalei Fire Station are installed across Māmalahoa Highway and stubbed to an existing utility pole, resulting in temporarily exposing soils to the forces of wind and stormwater erosion. Please refer to Section 4.1.1.

Trenching across Māmalahoa Highway would be phased to allow continued access (using signalmen and traffic cones to direct traffic onto highway shoulders, while construction is taking place, and covering open trenches with metal plates to allow the free flow of traffic during non-construction hours).

The proposed project would not have any significant long-term adverse impact on existing electrical and communication systems.

Solid Waste

The County of Hawai'i Department of Environmental Management's (DEM) nearest solid waste facility is located at Pu'uanahulu, which is approximately 15 minutes away from the project site. Pu'uanahulu Landfill is a modern, state-of-the-art facility in West Hawai'i. As of 2002, Pu'uanahulu was estimated to have adequate capacity to accommodate solid waste for about 40 years.

Potential Impacts and Mitigation Measures

The construction of the proposed project would generate green waste from grading and solid waste during construction. To minimize short-term impacts, the contractor would be required to dispose of all waste in compliance with DEM requirements.

Over the long-term, the solid waste that would be generated at the Makalei Fire Station would predominantly come from the firefighters living in the station 24 hours a day, 7 days a week. The composition of the solid waste would be similar to that produced by residential land uses. It is anticipated that the Pu'uanahulu Landfill would be able to accommodate the solid waste generated by the Makalei Fire Station until approximately 2040.

4.6.5 Public Health and Safety

Police Protection

The main police station is located in Kealakehe, with substations in Captain Cook, Kailua-Kona, and Keauhou.

Fire Protection

The closest County Fire Station is Kailua-Kona Fire Station, which is located near the intersection of Palani Avenue and Queen Ka'ahumanu Highway. The Kailua-Kona Fire Station serves areas within a 30-mile radius, from Keauhou to the Kona Village Resort.

Health Care Services

The nearest hospital is Kona Community Hospital, which is located on Haukapila Street in Kealahou. The hospital has 49 acute beds, 11 psychiatric beds, and 34 long-term beds.

Recreational Facilities

The nearest active recreational facilities in the North Kona region include Palamanui Park, Old Kona Airport Park, and Kona Community Aquatic Center (Figure 15).

Schools

The Department of Education's Kealahou High School complex consists of Hōlualoa Elementary School, Kahakai Elementary School, Kealahou Elementary School, Kealahou Intermediate School, and Kealahou High School. The University of Hawai'i-Hawai'i Community College is planning a campus adjacent to the Palamanui Development, and within close proximity to the subject project.

Potential Impacts and Mitigation Measures

The construction of the proposed Makalei Fire Station is not anticipated to impact any of the above public facilities or services, due to the distance of the proposed project from the above-mentioned public facilities. The proposed use is unusual (not residential or commercial use), in that personnel within the proposed Makalei Fire Station would be able to provide security, fire protection and emergency health care services for facilities and personnel on the project site. Also, while fire station personnel are required to be physically fit, the requirements of the job necessitate on-duty fire station personnel to be located near the fire station or near their emergency vehicles at all times. Therefore, the proposed Makalei Fire Station would not pose a long-term demand on area recreational facilities or area schools.

Noise from the construction of the proposed Makalei Fire Station is not anticipated to impact nearby schools. Over the long-term, the operation of the fire station is not anticipated to result in negative impacts to area schools, but provide a positive impact by supplementing existing fire protection and emergency medical services within eight (8) miles of the proposed Makalei Fire Station.

The proposed Makalei Fire Station would actually enhance first-responder protection in the North Kona. Plans for the Makalei Fire Station include a hazardous materials (HazMat) Unit, an engine apparatus, and a ladder apparatus.



HAWAII



LEGEND

- Project Site
- Roads
- District Boundaries

RECREATIONAL FACILITIES

- Park Boundary
- Private Park
- County Park
- State Park
- Federal Park
- Boating Facility

MANAGED AREAS

- Wildlife Sanctuary
- Forest Reserve
- Game Management Area
- Marine Life Conservation District
- Fisheries Management Area
- Marine Managed Area
- Fish Aggregating Device (Buoy)

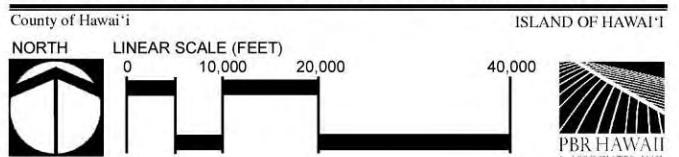
Figure 15

North Kona
Recreational Facilities & Managed Areas

Makalei Fire Station

Source: County of Hawai'i; Department of Planning & Permitting
 State of Hawai'i; Office of Planning; Department of Land & Natural Resources
 U.S. Department of the Interior; U.S. Geological Survey
 U.S. Department of the Interior; U.S. Fish & Wildlife Service

Disclaimer: This map has been prepared for general planning purposes only. It should not be used for boundary interpretations or other spatial analysis beyond the limitations of the data.



5.0 CUMULATIVE IMPACTS

Cumulative impacts are impacts on the environment that result from the proposed action when added to other past, present, and reasonably foreseeable future actions by other agencies or persons.

Cumulative long-term impacts associated with the addition of the Makalei Fire Station to North Kona include the increase in demand for potable water, wastewater treatment, and electricity. Other impacts include occasional increases in noise from loud sirens, and disruptions to the normal flow of traffic as emergency vehicles respond emergencies. These latter impacts can be characterized as unavoidable and the by-products of meeting the public's health and safety needs. Moreover, the long-term impacts of the operation of the proposed Makalei Fire Station are outweighed by the necessity of the County of Hawai'i to provide fire protection and emergency medical services for this growing area. The County of Hawai'i Kona Community Development Plan (CDP) includes a guiding principle to "...provide infrastructure and essential facilities concurrent with growth". In the years between the 1990 and 2000 censuses, the number of housing units in Kona (North and South Kona combined) increased from 7,947 units to 13,330 housing units, an important consideration for emergency services planning purposes.

The Kona CDP designates the lands west of the proposed fire station as within the "Kona Urban Area" and anticipates future Transit Oriented Development (TOD), and higher-density, village-style communities within this area. Further, the Kona CDP sets forth a fire protection, Emergency Medical Services (EMS), Rescue, HazMat level of service policy to: "...locate fire stations to provide a response time of eight minutes in the Urban Area". The CDP describes the eight (8) minute response time as a ten-mile radius with a five (5)-mile overlap. Figure 7 shows the project site in relation to nearest existing fire stations. In addition to response time, the CDP level of service policy states, "...one station should have HazMat capability to serve the North and South Kona districts." Presently, no fire stations in North and South Kona Districts have HazMat capabilities. The proposed Makalei Fire Station is being planned to address this shortfall in HazMat capabilities.

Proposed developments in the vicinity of the project site include additional housing, institutional, recreational, and service facilities. These properties have had or would have environmental documents (EA or EIS) prepared and the development of the projects includes appropriate mitigation measures to address any impacts posed by each project. The following projects are planned for the immediate vicinity of the Makalei Fire Station Extension (Figure 16):

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

The UHCWH plans a future expansion west of the project site. This would be beneficial to the entire region by providing educational and employment opportunities. The 2000 EIS for the UHCWH addressed the cumulative impacts in the area (Wil Chee - Planning & Environmental, Inc., 2000). A Draft Supplemental EIS addressing impacts of site plan changes and expanded instructional programs was published for public comment in February 2010 (Wil Chee Planning, Inc., 2010).

Palamanui—A Hiluhilu Development Project

The Palamanui Development (near the Kona International Airport at Keāhole and west of the project site) includes residential uses, mixed uses, an 18-hole golf course, and in conjunction with UHCWH, a University Village Center. A 2004 EIS was prepared that addresses cumulative growth in the area (Group 70 International, Inc., 2004).

University Drive and Main Street Road

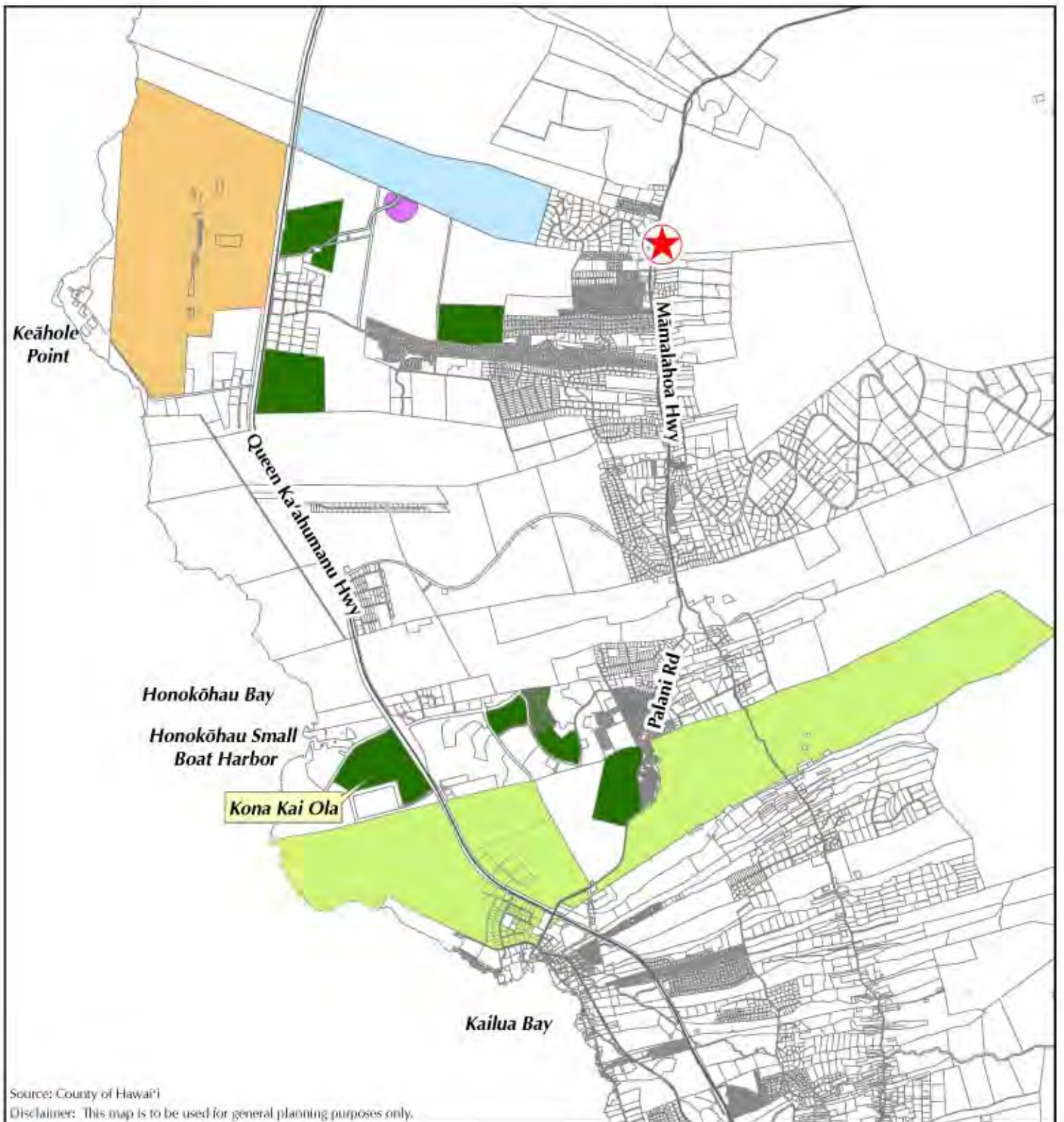
These proposed collector roads would connect Māmalahoa Highway to Queen Ka'ahumanu Highway in the area of Palamanui. The roads would be constructed by the developers of Palamanui and transferred to public ownership (County of Hawai'i). The roads would provide needed access for emergency services (Wil Chee Planning, Inc., 2010).

Palamanui Waterline and 343 Foot Elevation Reservoir

A Final EA was accepted with a Finding of No Significant Impact in 2008 for additional water facilities at Palamanui. The 16-inch waterline and 1 million gallon reservoir are proposed to be located within and adjacent to the Main Street collector road corridor (PBR HAWAII, 2008).

'O'oma Beachside Village

'O'oma Beachside Village is a proposed residential community to include between 900 and 1,200 single and multifamily residential units, neighborhood commercial uses, parks, preserves, and trails. Supporting infrastructure would include a wastewater treatment plant, water system and a charter school site. A 2009 Final EIS for the development included an analysis of cumulative impacts in the area and offers mitigation measures to offset impacts (PBR HAWAII, 2009).



LEGEND

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

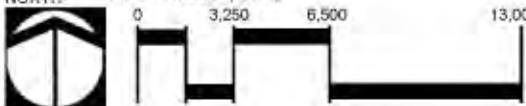

Figure 16
 Surrounding Projects

Makalei Fire Station

County of Hawai'i ISLAND OF HAWAII

NORTH LINEAR SCALE (FEET)

0 3,250 6,500 13,000

Kona International Airport at Keāhole

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

Department of Hawaiian Home Lands (DHHL) Properties

DHHL has jurisdiction over a large amount of acreage in the surrounding area (but significantly removed from the project site) that it eventually plans to develop. Various types of uses are included that range from agricultural lots, industrial lots, commercial lots, a golf course, and residential units.

Honokohau Boat Harbor

DHHL has accepted the Kona Kai Ola EIS for expansion of Honokohau Boat Harbor and a mixed-use development at a site inland of the Harbor.

Queen Lili'uokalani Trust (QLT)

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

As noted elsewhere, the main source of potable water in the region is ground water. The County Department of Water Supply (DWS) estimates that within the Hualālai ASEA, the potable water demand (including the projects described above) would grow from 32 percent today, to 43 to 45 percent by 2025. The DWS' 20-year projections would indicate that the existing groundwater resources would still have adequate capacity to accommodate future demand in 2025.

The proposed project would address the above projects' cumulative, occasional and unavoidable demand for fire protection and emergency medical services.

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6.0 AGENCY COORDINATION, PUBLIC INVOLVEMENT AND PERMITS

6.1 Agency Coordination

In April 2008, an Environmental Assessment (EA) was prepared in accordance with the provisions of Chapter 343, HRS and Title 11, Chapter 200, Hawai'i Administrative Rules (HAR) pertaining to Environmental Impact Statements. The preparation of the 2008 Chapter 343, HRS EA included a pre-consultation (scoping) process that involved writing to various Federal, State and County agencies in March 2007 and asking for their input in preparing a Chapter 343, HRS EA. The agencies that were consulted in preparation of the 2008 Chapter 343, HRS EA, included:

Federal

Army Corps of Engineers
Department of the Interior-Fish and Wildlife Service
Federal Emergency Management Agency
Department of Agriculture-Natural Resources Conservation Service

State of Hawai'i

Department of Business, Economic Development, and Tourism
Office of Planning
Land Use Commission
Department of Health
Department of Health-Environmental Planning Office
Department of Land and Natural Resources-State Historic Preservation Division
Department of Transportation
Office of Environmental Quality Control
Office of Hawaiian Affairs

County of Hawai'i

Mayor's Office
County Council
Department of Environmental Management
Department of Parks and Recreation
Department of Public Works
Department of Water Supply
Planning Department
Department of Research and Development
Police Department
Fire Department

Private

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

In addition, to the Federal, State, County and private agencies and organizations that were consulted during the of the 2008 Chapter 343, HRS EA, the following agencies were coordinated with during the preparation of this NEPA EA:

Federal

Department of the Interior, U.S. Fish and Wildlife Service

State Of Hawai'i

Department of Business, Economic Development, and Tourism, Office of Planning,
Hawai'i Coastal Zone Management Program
Department of Land and Natural Resources, State Historic Preservation Officer
Office of Hawaiian Affairs

FEMA initiated Section 7 Consultation (pursuant to the Endangered Species Act) with the U.S. Fish and Wildlife Service on January 29, 2010. The requirements of the Section 7 Consultation were completed with a letter from the U.S. Fish and Wildlife Service on April 2, 2010 (Appendix A).

On April 20, 2010, a Hawai'i Coastal Zone Management (CZM) Program Application was submitted to the State Office of Planning for CZM Federal Consistency Review. The requirements of the CZM Federal Consistency Review were completed with letter from the State Office of Planning on April 23, 2010 (Appendix B).

FEMA also initiated Section 106 Consultation (in accordance with the National Historical Preservation Act of 1966 [Title 16 United States Code Section 470f, as amended] on January 28, 2010, with both the State Historic Preservation Officer and the Office of Hawaiian Affairs. The requirements of the Section 106 Review were completed with letters from the State Historic Preservation Officer dated March 24, 2010 (Appendix C) and the Office of Hawaiian Affairs on February 22, 2010 (Appendix D).

6.2 List of Permits Required

Required permits and approvals are listed below:

Agency	Permit/Approval
State of Hawai'i	
Department of Health	<ul style="list-style-type: none"> • Underground Injection Control Approval of Drywells • Approval of Septic Systems
Department of Transportation	<ul style="list-style-type: none"> • Approval of Driveway Connection
County of Hawai'i	
Planning Commission	<ul style="list-style-type: none"> • Approval of Special Permit Application • Subdivision Approval
Department of Public Works	<ul style="list-style-type: none"> • Approval of Construction Plans
Department of Water Supply	<ul style="list-style-type: none"> • Approval of Construction Plans
Planning Department	<ul style="list-style-type: none"> • Plan Approval • Approval of Construction Plans

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7.0 LIST OF PREPARERS

The individuals who contributed to the technical content of this EA include:

Name	Qualifications & Affiliations	EA Section
Catie Fernandez	Planner, PBR HAWAII	Section 5
Tammy Kapali	Planner, PBR HAWAII	Section 4.6.1
Stevie-Lyn Kim	Assistant Planner, PBR HAWAII	Sections 1 - 7
Donna M. Meyer	Deputy Environmental Officer, FEMA	Sections 1 - 7
Vincent Shigekuni	Vice President, PBR HAWAII	Sections 1 - 7

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8.0 REFERENCES CITED

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- Wil Chee - Planning & Environmental, Inc. 2010. *University of Hawai'i Center – West Hawai'i Long Range Development Plan 2009 Revision and Update*.

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Appendix A:
**Correspondence from
U.S. Fish and Wildlife Service**

From: Meyer, Donna
Sent: Friday, January 29, 2010 14:26
To: 'loyal_mehrhoff@fws.gov'
Subject: Request for Species List

Hello Mr. Mehrhoff:

FEMA is considering providing a American Recovery and Reinvestment Act (ARRA) grant to the Hawaii Fire Department to construct a new fire station on Highway 190 at Makalei Drive and Mamalahoa Highway between mile marker 32 and 33, Makalei, North Kona, Island of Hawaii. The tax map key is (3) 7-2-07:01(por). The latitude/longitude is 19 44 00N; -155 58 39W. I am requesting you provide me with a listing of any threatened/endangered species and their critical habitat that might be impacted by the construction. The proposal would disturb 2.74 acres of a larger 989-acre parcel that is currently zoned Agriculture (A-900a). The Applicant prepared an EA in accordance with Chapter 343, Hawaii Revised Statutes (HRS) however as a federal agency FEMA is required to conduct Section 7 consultation pursuant to the Endangered Species Act of 1973.

I have attached a map of the project location and thank you in advance for your prompt assistance. If you require additional information please contact me at the email, telephone or address below.

Donna M. Meyer

**Deputy Environmental and Historic Preservation Officer
U.S. Department of Homeland Security - FEMA
1111 Broadway, Suite 1200
Oakland, CA 94607
(510) 627-7728**

donna.meyer@dhs.gov



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
2010-SL-0204

Donna M. Meyer
U.S. Department of Homeland Security
Federal Emergency Management Agency
1111 Broadway, Suite 1200
Oakland, California 94607

APR 02 2010

Subject: Makalei Fire Station, Island of Hawaii

Dear Ms. Meyer:

We received your letter dated January 29, 2010, transmitted via electronic mail, requesting a list of species that may occur in the vicinity of the proposed construction of a new fire station in Makalei on the Island of Hawaii. The letter wasn't processed in our office until March 17, 2010. We apologize for the delayed response. For future projects, please send requests through postal mail services.

The proposed construction of a new fire station in Makalei, on the Island of Hawaii, would impact 2.74 acres of Agricultural land on Highway 190 (TMK (3) 7-2-07:01). This project is being considered by FEMA for an American Recovery and Reinvestment Act (ARRA) grant.

We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program. There are no federally listed threatened or endangered species or critical habitat known to occur within the project footprint. However, the endangered Hawaiian Hawk (*Buteo solitarius*), and the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), have been observed in the vicinity of the proposed project.

Thank you for the opportunity to review the proposed project. If you have questions regarding these comments, please contact Jodi Charrier, Fish and Wildlife Biologist, (phone: 808-792-9400, fax: 808-792-9581).

Sincerely,

for Loyal Mehrhoff
Field Supervisor

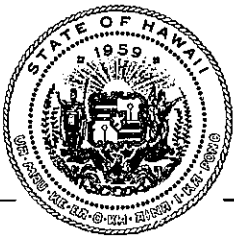
TAKE PRIDE[®]
IN AMERICA 

Thank you for the opportunity to review the proposed project. If you have questions regarding these comments, please contact Jodi Charrier, Fish and Wildlife Biologist, (phone: 808-792-9400, fax: 808-792-9581).

Sincerely,

Loyal Mehrhoff
Field Supervisor

Appendix B:
**Correspondence from
Hawai'i Coastal Zone Management Program**



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

LINDA LINGLE
GOVERNOR
THEODORE E. LIU
DIRECTOR
PEARL IMADA IBOSHI
DEPUTY DIRECTOR
ABBAY SETH MAYER
DIRECTOR
OFFICE OF PLANNING

OFFICE OF PLANNING

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

Telephone: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-12983

April 22, 2010

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

Dear Mr. Shigekuni:

Subject: Hawaii Coastal Zone Management (CZM) Program Federal Consistency
Review for Federal Emergency Management Agency (FEMA) Funding for
Construction of the Makalei Fire Station, North Kona, Hawaii;
TMK (3) 7-2-7:1

This responds to your request for CZM federal consistency review for FEMA funding for the construction of the Makalei Fire Station, North Kona, Hawaii. The proposed funding from FEMA does not require Hawaii CZM Program federal consistency review. The Hawaii CZM Program does not review any FEMA assistance programs, grants, or loans for federal consistency in accordance with Section 307(d) of the Coastal Zone Management Act and 15 CFR 930. There are no FEMA assistance programs identified on the Hawaii CZM Program listing of federal assistance programs subject to consistency review, pursuant to 15 CFR 930.95.

This CZM federal consistency determination does not constitute an endorsement of the project nor does it convey approval with any regulations administered by any State or County agency. If you have any questions, please call John Nakagawa of our CZM program at 587-2878.

Sincerely,

Abbey Seth Mayer
Director

c: Planning Department, County of Hawaii

Appendix C:
**Correspondence from
State Historic Preservation Division**



FEMA

January 28, 2010

Mr. Peter T. Young
State Historic Preservation Officer and Chairperson, DLNR
State Historic Preservation Division
601 Kamokila Boulevard, #555
Kapolei, HI 96707

Re: EMW-2009-FC-02761
LOG NO: 2088.2654
DOC NO: 0807TD26

Dear Mr. Young:

The Department of Homeland Security Federal Emergency Management Agency (FEMA) is considering an application to provide financial assistance in support of the Hawaii Fire Department's (Grantee) proposal to construct an 11,675 square foot, 3-bay fire station to be constructed at Makalei Drive and Mamalahoa Highway, between mile marker 32 and 33, Makalei, North Kona, Island of Hawaii (Tax Map Key (3) 7-2-07:01 (por)). The Grantee's proposal would close a service performance gap due to population shifts and current and projected socioeconomic changes and to improve emergency response service delivery, improve fire fighter safety, and reduce potential fire loss. FEMA's action of providing a grant supporting the Grantee's need meets the definition of an undertaking in accordance with 36 CFR Part 800.16(y) and therefore requires the completion of Section 106 review in accordance with the National Historic Preservation Act of 1966 (Title 16 United States Code Section 470f), as amended.

The 2.74 acre parcel is vacant and is a part of a larger 989-acre parcel and is currently zoned Agriculture (A-900a). FEMA has identified an Area of Potential Effect (APE) as the building footprint, asphalt/concrete pavement area, and landscaping as 2.74 acres. FEMA has determined that the Grantee's proposal and FEMA's subsequent undertaking will result in no historic properties affected pursuant to 36 CFR Part 800.4(d)(1). FEMA has provided this information to the Office of Hawaiian Affairs.

Mr. Peter T. Young
January 28, 2010
Page 2

FEMA seeks your concurrence on our finding and have enclosed documentation in accordance with 36 CFR Part 800.11(d). If you should require any additional information about FEMA's request, please do not hesitate to contact me at (510) 627-7728 or donna.meyer@dhs.gov.

Sincerely,



Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer

Enclosure

DOCUMENTATION – NO HISTORIC PROPERTIES AFFECTED

- 1) **A description of the undertaking, specifying the Federal involvement, and its area of potential effects, including photographs, maps, drawings, as necessary;**

The Department of Homeland Security – Federal Emergency Management Agency intends to provide a Assistance to Fire Fighters grant (AF SCG) to the Hawaii Fire Department to construct a new fire station facility. The site is located on Highway 190 in Makalei, North Kona, Island of Hawaii. The site is a 2.74 acre vacant site (Tax Map Key (3) 7-2-07:01 (por) of a larger 989 acre site. The proposal would provide expanded fire protection coverage to meet increased service demands. The Area of Potential Effect (APE) has been identified by FEMA as the entire 2.74 acre site which includes an 11, 675 square foot, 3-double deep bays and asphalt/concrete parking and landscaping. All utilities are available at the site however the facility would require a new access road.

- 2) **A description of the steps taken to identify historic properties, including, as appropriate, efforts to seek information pursuant to § 800.4(b)**

A search of both the National Register of Historic Places (NRHP) and the Hawaii National Register of Historic Places, the Historic Register by Island was performed. The proposed site is not listed on either.

- 3) **The basis for determining that no historic properties are present or Affected**

On July 28, 2008, the State of Hawaii Department of Land and Natural Resources (SHPD) provided a finding that no historic properties would be affected by the proposal based on an accepted archaeological inventory survey (AIS) prepared by Haun & Associates in 2005. A copy of this letter is provided.

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUIJI
FIRST DEPUTY

KEN C. KAWAHARA
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
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

March 24, 2010

Donna M. Meyer, Deputy Environmental and Historic Preservation Officer
US Department of Homeland Security/FEMA Region IX
1111 Broadway, Suite 1200
Oakland, California 94607-4052

LOG NO: 2010.0761
DOC NO: 1003MD22
Archaeology

Dear Ms. Meyer:

**SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review –
Application for a Grant for the Hawaii Island Fire Department’s 3-Bay
Makalei Fire Station
Makalei Ahupua‘a, North Kona District, Island of Hawai‘i
TMK: (3) 7-2-007:001 (por.)**

Thank you for the opportunity to comment on the aforementioned undertaking, which we received on February 1, 2010; we apologize for the delay in our reply. The APE for this undertaking is 2.74 acres of this 989-acre parcel. We concur that **no historic properties will be affected** by this undertaking because:

- Intensive cultivation has altered the land
- Residential development/urbanization has altered the land
- Previous grubbing/grading has altered the land
- An accepted archaeological inventory survey (AIS) found no historic properties (*Haun, Henry & Berringer 2006*)
- SHPD previously reviewed this project and mitigation has been completed
- Other: *This determination is made with the understanding that all construction activities and material/machinery staging shall occur within the designated APE of parcel 1. Preservation sites are located in the larger parcel and may not be marked as such during project construction.*

In the event that historic resources, including human skeletal remains, cultural materials, lava tubes, and lava blisters/bubbles are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Hawaii Island Section, needs to be contacted immediately. Please contact Morgan Davis at (808) 896-0514 or via email to morgan.e.davis@hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,

Handwritten signature of Nancy A. McMahon in cursive script.

Nancy McMahon, Deputy SHPO/State Archaeologist
and Historic Preservation Manager
State Historic Preservation Division

Appendix D:
**Correspondence from
Office of Hawaiian Affairs**



FEMA

January 28, 2010

Mr. Clyde W. Namu'o
Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapl'olani Boulevard, Suite 500
Honolulu, HI 96813

Re: EMW-2009-FC-02761
LOG NO: 2088.2654
DOC NO: 0807TD26

Dear Mr. Namu'o:

The Department of Homeland Security Federal Emergency Management Agency (FEMA) is considering an application to provide financial assistance in support of the Hawaii Fire Department's (Grantee) proposal to construct an 11,675 square foot, 3-bay fire station to be constructed at Makalei Drive and Mamalahoa Highway, between mile marker 32 and 33, Makalei, North Kona, Island of Hawaii (Tax Map Key (3) 7-2-07:01 (por)). The Grantee's proposal would close a service performance gap due to population shifts and current and projected socioeconomic changes and to improve emergency response service delivery, improve fire fighter safety, and reduce potential fire loss. FEMA's action of providing a grant supporting the Grantee's need meets the definition of an undertaking in accordance with 36 CFR Part 800.16(y) and therefore requires the completion of Section 106 review in accordance with the National Historic Preservation Act of 1966 (Title 16 United States Code Section 470f), as amended.

As required pursuant to Section 106 of the National Historic Preservation Act, FEMA must consult with Native Hawaiian Organizations and potentially interested parties who attach religious and cultural significance to historic properties that may be affected by a Federal Undertaking. You have been identified as an individual who may have an interest in the Undertaking. We therefore would like to extend you the opportunity to review the proposed scope of work and provide us with any comments you may have on the Grantee's proposal to construct a new fire station.

Mr. Clyde W. Namu'o
January 28, 2010
Page 2

Should you have any knowledge of historic properties important to Hawaiian culture in the project vicinity, FEMA would appreciate hearing back from you 30 days upon receipt of this letter. If I don't hear back from you, I will assume that you had no comment regarding the Grantee's proposal and FEMA's subsequent Undertaking. If you should require any additional information about FEMA's request, please do not hesitate to contact me at (510) 627-7728 or donna.meyer@dhs.gov.

Sincerely,



Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer

Enclosures



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

HRD10/2977B

February 22, 2010

Donna M. Meyer
Deputy Environmental and Historic Preservation Officer
Federal Emergency Management Agency
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Re: National Historic Preservation Act Consultation
Funding to County of Hawai'i for fire station construction
Makalei, North Kona, Island of Hawai'i
Tax Map Key: (3)7-2-07:01

Aloha e Donna M. Meyer,

The Office of Hawaiian Affairs (OHA) is in receipt of your January 28, 2010 letter initiating consultation pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR). The County of Hawai'i has applied for financial assistance from the Federal Emergency Management Agency for the proposed construction of an 11, 675 square foot fire station in Makalei, North Kona on the Island of Hawai'i. It is our understanding that you are consulting with us pursuant to the provisions of 36 CFR §800.2 and are seeking information on the potential impacts of this undertaking on historic properties, religious practices or cultural resources.

The two acre area of potential effect (APE) for this proposed undertaking is detailed in the attachments included with your letter. It is our understanding that the APE was part of a larger 989 acre parcel which was subject to an archaeological inventory survey (AIS) in 2005. The State of Hawai'i-Department of Land and Natural Resources-Historic Preservation Division has reviewed and approved this 2005 AIS and has concluded that "...no evidence of historic properties was identified within the area of the proposed fire station".

OHA is unaware of any historic properties, religious practices or cultural resources which could be adversely affected by this proposed undertaking. We do encourage you to engage in a broad consultation effort with individuals and organizations who may have specific connections to the project area.

Donna M. Meyer
Deputy Environmental and Historic Preservation Officer
Federal Emergency Management Agency
February 22, 2010
Page 2 of 2

Thank you for initiating consultation at this early stage and providing an opportunity to comment on this proposed undertaking. OHA applauds your efforts in considering this financial assistance request for this much needed project which will certainly benefit the Kona Community. We look forward to continuing and concluding consultation with you on this proposed undertaking. Should you have any questions, please contact Keola Lindsey at 594-1904 or keolal@oha.org.

‘O wau iho nō me ka ‘oia‘i‘o,



Clyde W. Nāmu‘o
Chief Executive Officer

C: Nancy A. McMahon, Deputy Hawai‘i State Historic Preservation Officer
OHA West Hawai‘i Community Resource Coordinator

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Appendix E:
**Correspondence from
Natural Resources Conservation Service**

Vincent Shigekuni

From: Rolfes, Tony - Honolulu, HI [Tony.Rolfes@hi.usda.gov]
Sent: Tuesday, May 18, 2010 2:30 PM
To: Vincent Shigekuni
Subject: RE: Makalei Fire Station Farmland Conversion Impact Rating Form

Hi Vincent

Can you provide me your mailing address. I will send a hard copy of a letter confirming that Important farmlands do not exist and the Project site is not subject to the Farmland Protection Policy Act. Since there are no Important Farmlands completion of the form is not required or Applicable.

If you have any questions please contact me.

Thank you

Tony

Tony Rolfes
Assistant State Soil Scientist
USDA-NRCS Pacific Islands Area
300 Ala Moana Blvd. Room 4-118
Honolulu, HI 96850-0050 USA
Phone: 808-541-2600 x129
Fax: 808-541-1335
Email: tony.rolfes@hi.usda.gov

From: Vincent Shigekuni [mailto:vshigekuni@pbrhawaii.com]
Sent: Tuesday, May 18, 2010 11:02 AM
To: Rolfes, Tony - Honolulu, HI
Cc: Robotham, Michael - Honolulu, HI; dwery@co.hawaii.hi.us
Subject: Makalei Fire Station Farmland Conversion Impact Rating Form

Aloha Tony,

I am a planner with a private planning firm, PBR HAWAII. We are providing assistance to the County of Hawaii Fire Department in fulfilling NEPA EA requirements as FEMA has funds available for the construction of the County's proposed Makalei Fire Station. I spoke with Michael Robotham late yesterday and we have decided to take him up on his offer to have the USDA review (and complete) the attached form (AD-1006) so that the Fire Department can meet this aspect of FEMA's requirements for environmental documentation.

Please do not hesitate to contact me should you have any questions or require any other maps.

Mahalo,

Vincent Shigekuni
Vice President
PBR HAWAII

5/18/2010

United States Department of Agriculture



Natural Resources Conservation Service
P.O. Box 50004 Rm. 4-118
Honolulu, HI 96850
808-541-2600

May 21, 2010

Vincent Shigekuni, Vice President
PBR HAWAII
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, Hawaii 96813

Dear Vincent

In reviewing the Makalei Fire Station project site location we concur with your determination that the project will not impact any prime or other important farmlands. Therefore this site is not subject to the Farmland Protection Policy Act and completion of the AD-1006 form is not required.

If you have any questions please contact Tony Rolfes, Assistant State Soil Scientist, (808) 541-2600 x129, or email, Tony.Rolfes@hi.usda.gov.

Sincerely

A handwritten signature in black ink that reads "Lawrence T. Yamamoto for".

LAWRENCE T. YAMAMOTO
Director
Pacific Islands Area

cc: Michael Robotham, Asst. Director for Soil Science and Natural Resource Assessments, Honolulu, HI

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