

**WAIKOLOA EMERGENCY ROAD  
SOUTH KOHALA, HAWAI'I  
FINAL ENVIRONMENTAL ASSESSMENT**

Prepared for:

County of Hawai'i  
Department of Public Works  
101 Pauahi Street, Suite 7  
Hilo, HI 96720-3043

October 2006

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Submitted Pursuant to the Hawai'i Environmental Policy Act,  
Chapter 343, Hawai'i Revised Statutes (HRS)





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**SUBJECT: WAIKOLOA EMERGENCY ROAD, SOUTH KOHALA, HAWAII**  
**FINAL ENVIRONMENTAL ASSESSMENT & FONSI**  
**TMK's: Portions of (3<sup>rd</sup>) 6-8-01: 37 & 38 and 6-8-02: 19**

The County of Hawai'i, Department of Public Works has reviewed the comments received during the comment period for the draft EA, which began on August 8, 2006. Our agency has determined that the project will not have significant impacts and has issued a FONSI. Please publish the notice in the next available edition of the OEQC Environmental Notice.

Enclosed are four copies of the Final Environmental Assessment, also enclosed is a OEQC Bulletin Publication Form, and a sample "Dear Participant" letter with Distribution List for Waikoloa Emergency Road Final EA.

If you have any questions, please contact Bruce McClure at 961-8324.

*Bruce C. McClure*  
BRUCE C. McCLURE, P. E.  
Director

Enclosures

cc: Ron Terry – Geometrician Associates

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**WAIKOLOA EMERGENCY ROAD  
SOUTH KOHALA, HAWAI'I**

**FINAL ENVIRONMENTAL ASSESSMENT**

**TMKs: Portions of (3<sup>rd</sup>.) 6-8-01:37 & 38 and 6-8-02:19**

**PROPOSING/APPROVING AGENCY:**

County of Hawai'i  
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Submitted Pursuant to the Hawai'i Environmental Policy Act,  
Chapter 343, Hawai'i Revised Statutes (HRS)



## SUMMARY

The Hawai'i County Department of Public Works (DPW) proposes to construct a single-lane, gravel-surfaced roadway that would provide a route from within Waikoloa Village to Queen Ka'ahumanu Highway for emergency evacuation of the village during natural disasters, or other emergency situations, particularly wildland brush fires. Waikoloa Village has more than 5,000 residents in addition to visitors, and because it is surrounded by dry grass in an area of high wind speeds, it is very vulnerable to brush fires. The August 2005 wildfire burned 25,000 acres and cut off the upper portion of Waikoloa Road. The gated one-way road would be opened *only during emergencies* as authorized by the County of Hawai'i Civil Defense Agency, and professional traffic control personnel would be utilized to safely conduct traffic along and off the road onto Queen Ka'ahumanu Highway. The gravel road would be 12 to 15 feet wide, with an easement width of 50 feet and a total length of about 2.13 miles. The intersection with Queen Ka'ahumanu Highway would involve a new access point with an apron paved for 50-feet beyond the State right-of-way. The project would utilize private lands and County of Hawai'i funds, and would be field constructed by the DPW. It is likely that most of the length of the emergency road will be replaced by the permanent road system of the Bridge Aina Le'a project, which is planned for development some time in the next decade. The area has been surveyed for significant botanical and archaeological resources and none are present. Should archaeological features or human skeletal remains be encountered during road construction or operation, work in the immediate area of the discovery will be halted and DLNR-SHPD contacted.

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# 1 INTRODUCTION AND PURPOSE AND NEED FOR PROJECT

## 1.1 Project Location and Description

The Hawai'i County Department of Public Works (DPW) proposes to construct a single-lane, gravel-surfaced roadway that would provide an emergency route from the end of Hulu Street in Waikoloa Village to Queen Ka'ahumanu Highway in order to evacuate the village during natural disasters, and other emergency situations, particularly wildland brush fires (Figs. 1-1, 1-2, & 1-3).

The gated, one-way road would be opened *only during* emergencies, as authorized by the County of Hawai'i Civil Defense Agency. The Waikoloa and Kohala Coast Fire Stations would have primary responsibility for opening the gate, which for security purposes would be equipped with a Knox Box opened by a County master key and containing the key for the gate lock. Police and DPW personnel would also have keys to and could open the gate. Police and/or DPW personnel would be present to safely conduct traffic along and off the road onto Queen Ka'ahumanu Highway. The gravel road would be 12-15 feet wide, within a 50-foot cleared roadway easement. The roadway would have shoulder delineators for nighttime use. It would extend 2.13 miles from the terminus of Hulu Street in Waikoloa Village to about the 72-mile marker of Queen Ka'ahumanu Highway. The project would utilize County of Hawai'i funds and private lands with an easement in favor of the County. The road would be field constructed by DPW. The intersection with Queen Ka'ahumanu Highway would involve a new, temporary, emergency-only access point with an apron paved for 50 feet beyond the State right-of-way (Fig. 1-4). It is likely that most of the length of the emergency road will eventually be replaced by a permanent road system of the Bridge Aina Le'a project, which is planned for development some time in the next decade.

## 1.2 Project Purpose and Need

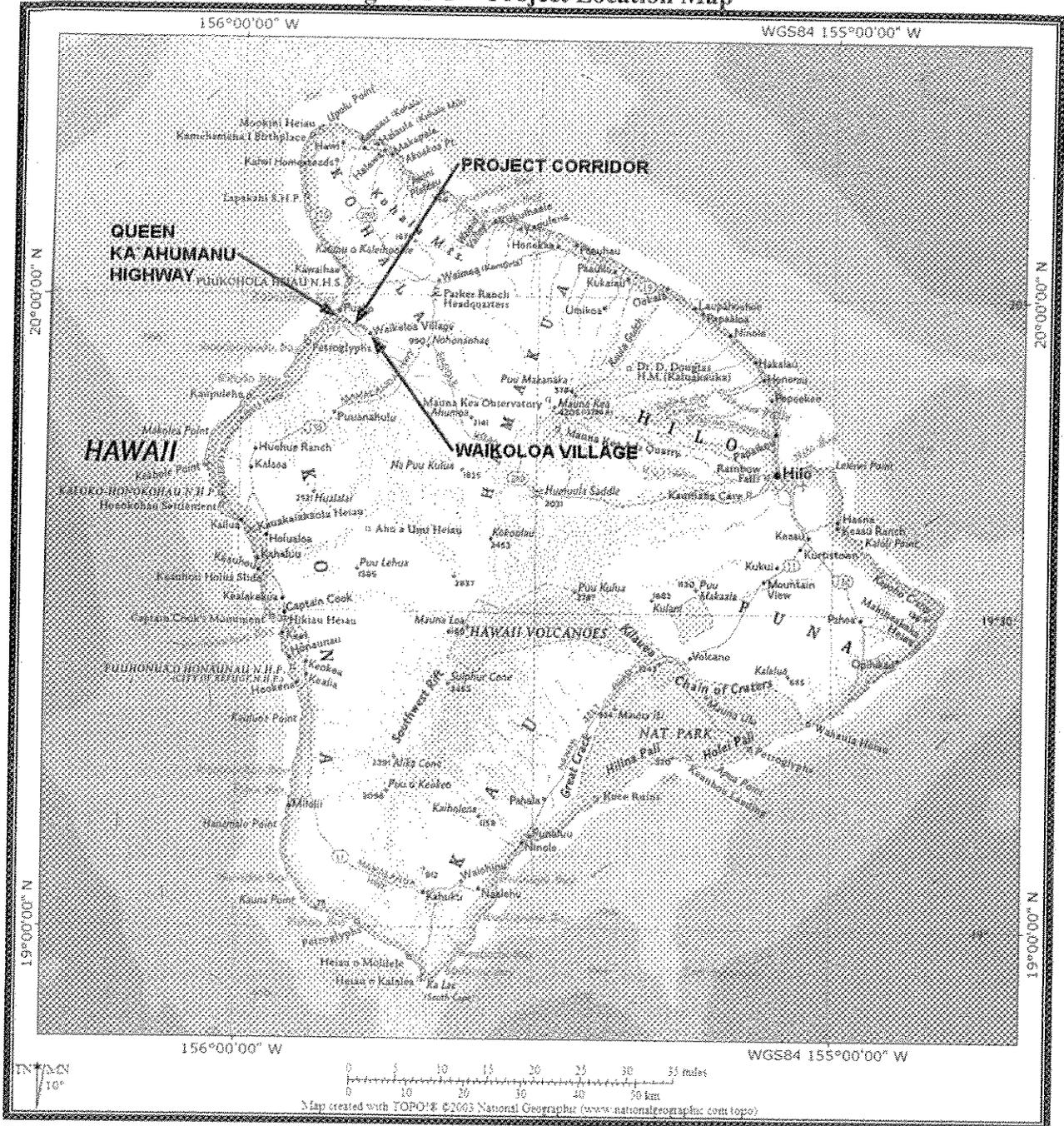
Waikoloa Village, with its more than 5,000 residents and hundreds of condominium units for vacationing visitors, is surrounded by dry grass (Fig. 1-5). Wildfires, and the associated smoke plume, are a real and constant threat to both human life and property. The August 2005 wildfire burned 25,000 acres, cutting off the mauka portion of Waikoloa Road resulting in severely congesting traffic on the makai portion of Waikoloa Road (Honolulu Star-Bulletin, August 2, 2005). Waikoloa Village is one of the fastest growing urban areas in Hawai'i County and this growth is expected to continue. There is a critical need for an additional evacuation route.

## 1.3 Related Projects

Properties identified by TMKs 6-1-01:37 and 38 are portions of the planned Bridge Aina Le'a development, a \$1 billion, 1,024-acre development that is currently planned to include 1,924 single family residences, of which 20 percent would be affordable housing. Also planned are a 25-acre shopping center, a school, parks, and two golf courses. Current project schedules call for completion within ten years.

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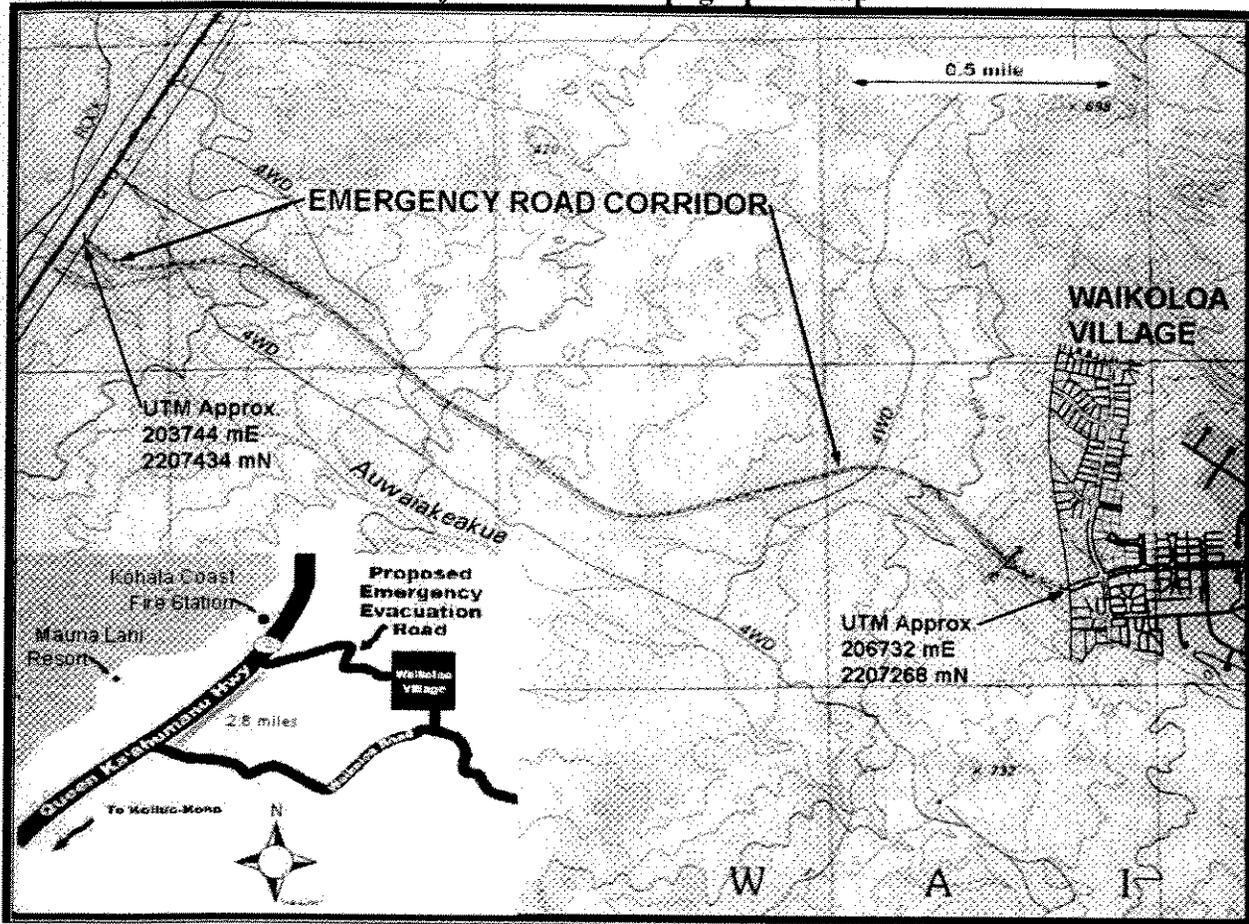
Figure I-1 Project Location Map



As the Bridge Aina Le'a project is developed, certain portions of the Waikoloa Emergency Road on TMKs 6-1-01:37 and 38 would also serve as part of a utility/service road system, and, eventually, as part of the mauka-makai connector road system required by the Bridge Aina Le'a project's entitlement conditions. Neither the utility/service road system nor the final mauka-makai system are planned to utilize the temporary, gated outlet at Queen Ka'ahumanu Highway.



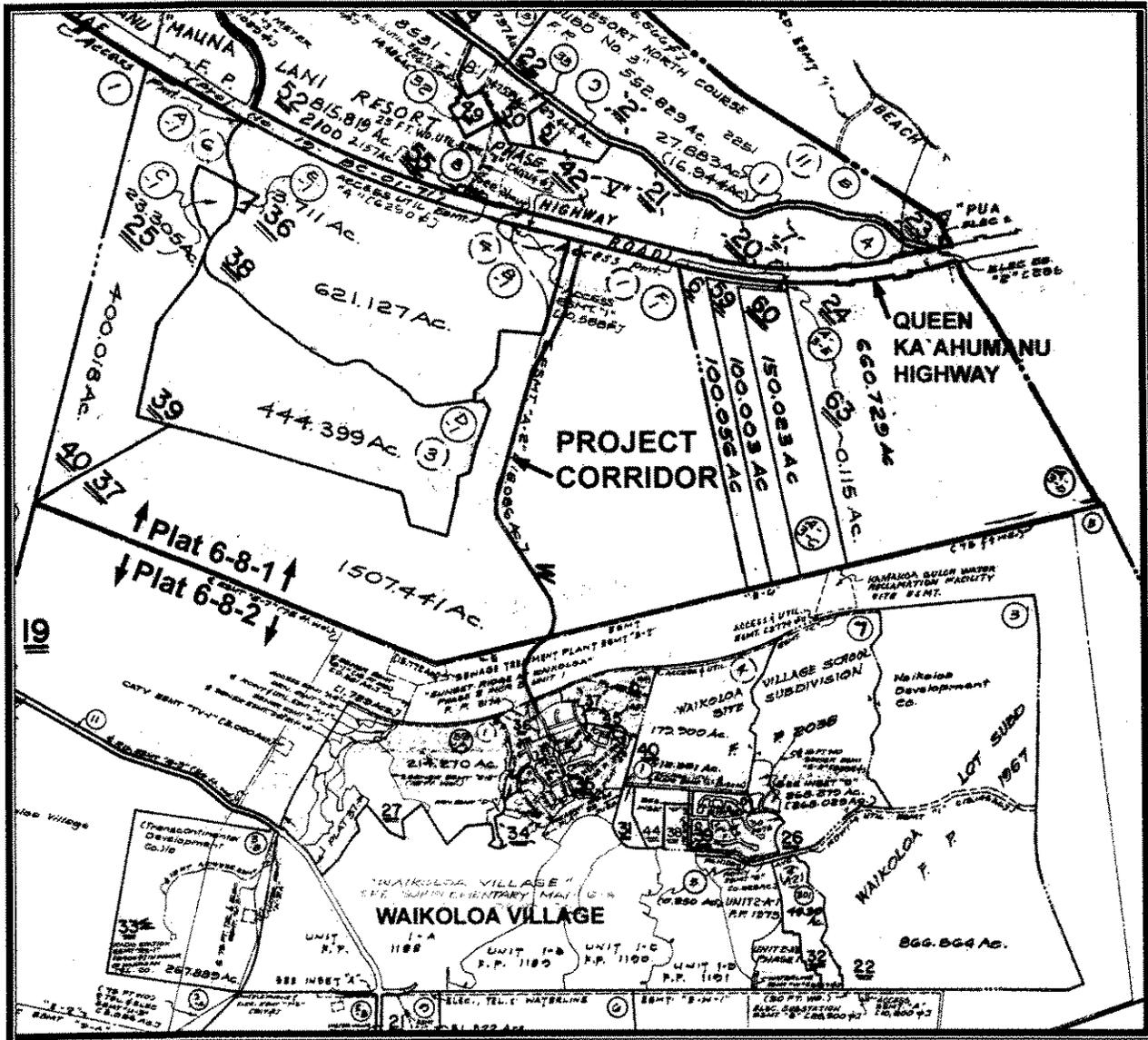
Figure 1-2  
Project Corridor Topographic Map



Eventually, as the Bridge Aina Le'a project is completed, evacuating traffic will be able to use Bridge Aina Le'a roads. There will be accesses to the Queen Ka'ahumanu Highway via Bridge Aina Le'a's future main entrance opposite the Mauna Lani access road (about a quarter mile north), and also via a future secondary access that will be built about 160 feet south of the temporary access. Both will be permanent, standard State Highway intersections. Depending on how the final schedules of both DPW and Bridge Aina Le'a interact, DPW may be able to utilize Bridge Aina Le'a's utility/service road for the majority of the emergency evacuation route, thus avoiding the need to build this portion of the road. Because this route is so critical to the safety of Waikoloa Village residents, the County is proceeding with planning and construction of the road in order to have the road available for emergencies as soon as possible.

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Figure 1-3  
TMK Map



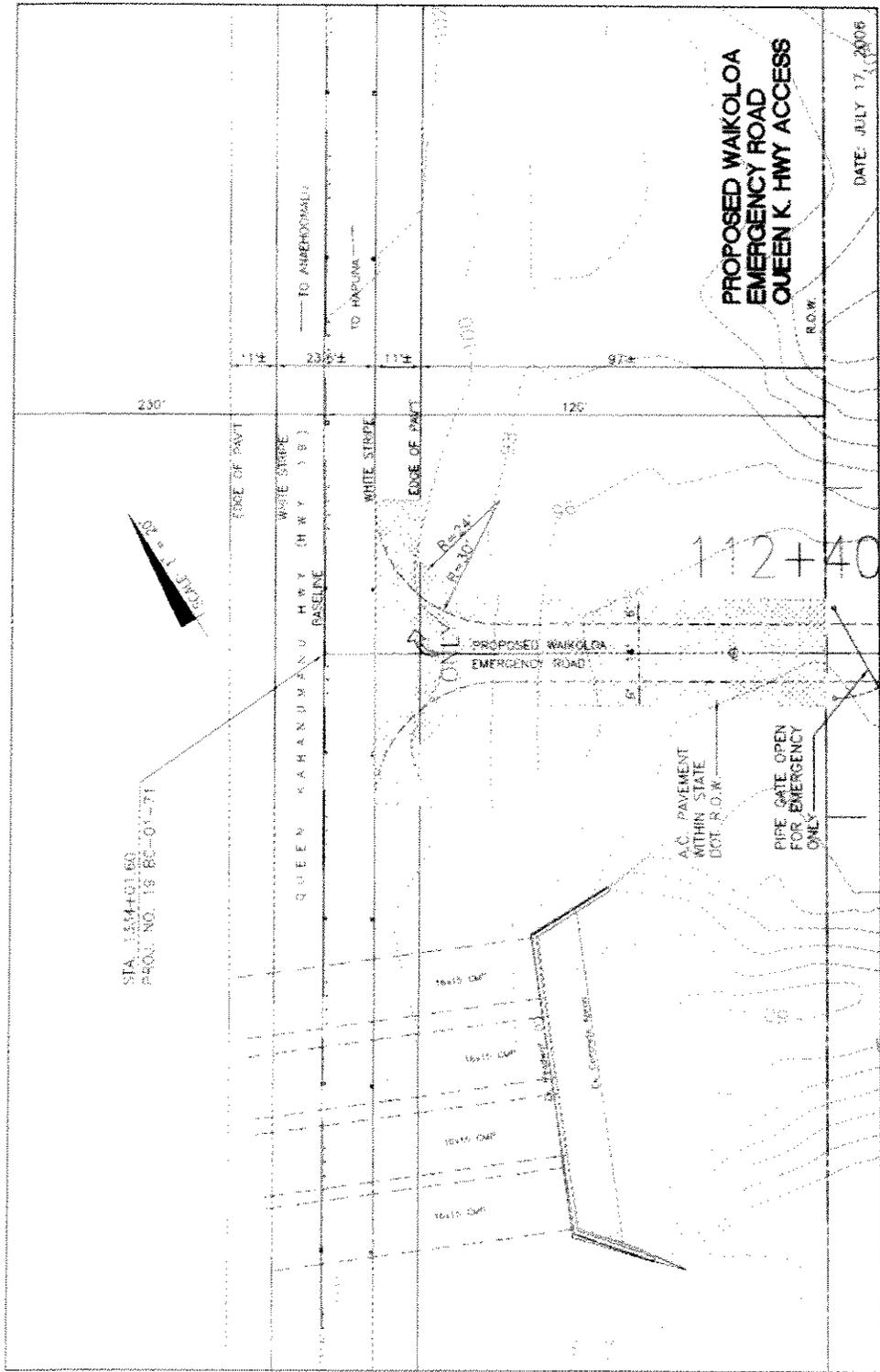
1.4 Summary of Regulatory Requirements

The Hawai'i County Department of Public Works (DPW) is serving as the proposing/approving agency in the preparation of this Environmental Assessment (EA). This EA is meant to comply with the Hawai'i Environmental Policy Act (HEPA) requirements under Chapter 343, HRS.

HEPA was enacted by the State of Hawai'i to require State and County agencies to consider the environmental impacts of their actions as part of the decision-making process. The Office of Environmental Quality Control (OEQC) is mandated with implementing Chapter 343, HRS, and

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Figure 1-4  
Queen Ka'ahumanu Highway Intersection Detail



**Figure 1-5**  
**Photo of Typical Project Corridor Landscape**



has developed guidelines that specify how State and County agencies must carry out the requirements of HEPA. These regulations require State and County agencies to prepare an EA that investigates alternatives, discloses impacts and develops measures that mitigate adverse impacts. An important part of the process is the evaluation of the significance of impacts according to thirteen specific criteria. Part 5 of this EA lists these criteria and the current findings of DPW. These findings will be finalized in consideration of comments received on the Draft EA, and the Final EA will contain the determination. If DPW determines that there are no significant impacts, it will issue the determination of a Finding of No Significant Impact (FONSI). If DPW determines that there are significant impacts, and decides to proceed with the project as planned, it is required to prepare an Environmental Impact Statement (EIS).

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**1.5 Public Involvement and Agency Coordination**

The following agencies and organizations were consulted in development of this document.

State:

Department of Land and Natural Resources, Historic Preservation Division  
Hawai'i State Department of Land and Natural Resources  
Hawai'i State Dept. of Transportation, Highways Division  
Administrator, Office of Hawaiian Affairs  
West Hawai'i Office, Office of Hawaiian Affairs

County:

Hawai'i County Police Department  
Hawai'i County Fire Department  
Pete Hoffman, Council Member  
Hawai'i County Planning Department

Private:

Sierra Club  
Hawai'i Leeward Planning Conference  
Waikoloa Village Association

Copies of communications received during preconsultation are contained in Appendix 1a, and pertinent comments are referenced in various sections.

DPW officials and the consultant presented information and answered public questions on the project at a public meeting for various projects in the Waikoloa area held on August 4, 2006 (see App 1b for meeting materials). Appendix 1b contains written comments on the Draft EA and the responses to these comments. Various places in the EA have been modified to reflect input received in the comment letters; additional or modified non-procedural text is denoted by double underlines, as in this paragraph.

**1.6 Property Ownership**

TMK 6-8-2:19 is owned by the Waikoloa Village Association, and TMKs 6-8-1:37 and 38 are owned by Bridge Aina Le'a LLC. These landowners would assign an easement for the project corridor to Hawai'i County. Hulu Street is a County road, and Queen Ka'ahumanu Highway is a State of Highway facility (State Route 19).

## **2 ALTERNATIVES**

### **2.1 No-Build**

Under the No-Build Alternative, the evacuation route would not be built. Because of the threat to human life and property from fire hazard in this area, Waikoloa Village residents would be limited to a single evacuation route using Waikoloa Road. The Hawai'i County Department of Public Works considers the No-Build Alternative undesirable for such a large concentration of people within a single community and only one evacuation route. However, by definition, the No-Build Alternative also avoids environmental impacts associated with land disturbance and construction-phase impacts to traffic, noise and air quality levels. The No-Build Alternative provides a useful baseline for evaluating the impacts of the Waikoloa Emergency Road.

### **2.2 Alternatives Routes and Strategies**

There are any number of other potential routes that could link parts of existing paved or unpaved roads with one or more segments of new road, providing an escape route to State Highway 19 somewhere between Waimea and the Mauna Lani area. Although several such routes are likely feasible, the totality of advantages associated with the proposed route makes it clearly preferable. The proposed route:

- Provides the shortest total distance between Waikoloa Village and Queen Ka'ahumanu Highway;
- Involves only three properties owned by two cooperative landowners;
- Represents a corridor that for the most part has already been identified as a future road by the landowners and may even be partly constructed by others, reducing County costs;
- Has been surveyed and found free of significant botanical and archaeological resources;
- Does not involve any crossings of intermittent streams; and, in summary
- Provides the most cost-effective and most easily completed route.

If comments on the Draft EA lead to identification of a route or routes with significant overall advantages over the proposed route, DPW may choose to advance such routes for further study.

### **3 ENVIRONMENTAL SETTING AND IMPACTS**

This section describes the existing social, economic, cultural, and environmental conditions associated with the proposed project, along with its probable impacts and the mitigation measures proposed to reduce or eliminate adverse environmental impacts. For most categories of impact, the No-Build Alternative would result in no impacts. Therefore, unless explicitly mentioned, discussion of impacts and mitigation relates to the Build Alternative only.

The island of Hawai'i, home to approximately 148,677 residents in 2000 (U.S. Bureau of the Census 2001), is largely rural. Major divisions include West Hawai'i and East Hawai'i. West Hawai'i's dry climate and calm ocean waters support a major tourism industry in the Kona and Kohala districts. East Hawai'i has an economy based on agriculture and the business and government functions headquartered in Hilo, the major city on the island.

The project area is within the South Kohala District (Figs. 1-1 & 1-2), a rural area of about 372 square miles (Hawai'i County Research and Development Department 2001). The area most directly affected is Waikoloa Village and land directly makai (see Fig. 1-5). The project would utilize a corridor about 2.13 miles in length extending from Hulu Street in Waikoloa Village to Queen Ka'ahumanu Highway at about the 72-mile marker.

#### **3.1 Physical Environment**

##### **3.1.1 Geology, Hazards, and Soils**

###### *Existing Environment*

The island of Hawai'i, youngest and largest of the Hawaiian chain, formed from the coalescence of five volcanoes during the last million years. The South Kohala district encompasses landforms of the extinct and highly eroded Kohala Volcano and others surfaced with Mauna Kea lava flows (Wolfe and Morris 2001). The boundary between soils and surficial lava flows of the Kohala Mountains and those from Mauna Kea is found about six miles north of the project site.

The project area surface is composed of thin basalt 'a'a and pahoehoe Mauna Kea lava flows dated from 65,000 to 250,000 years ago. Their thin and porous rock structure, with numerous cracks, lava tubes and interbedded 'a'a (clinker lava) flows, makes them highly permeable. Slopes generally range from 4-7% and local relief across this slope is variable and undulating.

Soils within the survey corridor are described as Kawaihae extremely stony, very fine sandy loam of 6-12% slopes somewhat excessively drained extremely stony soil that forms in volcanic ash (U.S. Soil Conservation Service 1973). This soil has moderate permeability, runoff, and erosion hazard. Its capability subclass is VIIs, or poor for crops or grazing. This soil is about 2 inches thick and is found on the western slopes of Mauna Kea. The thinness of this soil and the underlying geology make this site very suitable for the intended purpose of a roadway bed.

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This project would be subject to very minor volcanic hazard. According to the USGS hazard classification, the entire project area is contained in Lava Flow Hazard Zone 8, on a scale of ascending risk 9 to 1. Zone 8 areas have had only a few percent of their surface covered by lava in the last 10,000 years (Heliker 1990:23). Only North Kohala has a lower volcanic hazard, because Kohala Volcano has been extinct for at least 60,000 years (Wolfe and Morris 2001).

In terms of seismic risk, the entire island of Hawai'i is rated Zone 4 Seismic Probability Rating (Uniform Building Code, Appendix Chapter 25, Section 2518). Zone 4 areas are at risk from major earthquake damage, especially to structures that are poorly designed or built. Partly owing to the lack of unconsolidated sediments in the local substrate, none of the several earthquakes of Richter magnitude 6.0 or greater that have occurred on the island since 1950 has caused substantial damage to well-engineered roads, bridges or other roadway structures.

As discussed in Section 1, the area is highly subject to wildfire, and this hazard is indeed the principal reason this evacuation road is proposed.

### *Impacts and Proposed Mitigation Measures*

The road would provide an additional evacuation route during natural disasters, including fires, lava flows and earthquakes. Nevertheless, this road, along with any evacuation route that could serve this area, is itself subject to some degree of hazard from lava flows. There are no practical measures to alter this situation.

Road construction has the potential to cause fires through equipment operation, discarded worker cigarettes, and vehicle catalytic converters. The construction plan will include training for personnel and practices that will reduce the potential for fire.

As the road will be gated and unused except during emergencies, it will not present additional fire hazards during operation. The road may also assist firefighting efforts by serving as a firebreak and as an access road for firefighting operations.

The No-Build Alternative would not provide relief for Waikoloa Village should evacuation be necessary in the event of a geologic natural disaster.

### **3.1.2 Hydrology, Floodplains and Water Quality**

#### *Existing Environment*

Floodplain status for the project area has been determined by the Federal Emergency Management Agency (FEMA), which has mapped the area as part of the National Flood Insurance Program's Flood Insurance Rate Maps (FIRM). A summary of applicable Special Flood Hazard Areas (SFHA) designations in the area is as follows:

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- Zone A: SFHAs subject to inundation by the 100-year flood. Because detailed hydraulic analyses have not been performed, no base flood elevation or depths are shown.
- Zone AE: SFHAs subject to inundation by the 100-year flood determined in a Flood Insurance Study by detailed methods. Base flood elevations are shown within these zones.
- Zone AH: SFHAs subject to inundation by 100-year shallow flooding (usually areas of ponding where average depths are between 1 and 3 feet. Base flood elevations derived from detailed hydraulic analyses are shown in this zone.
- Zone VE: the 100-year coastal, high hazard flood plain, incorporating storm surges. Base flood elevations derived from detailed hydraulic analyses are shown in this zone.
- Zone X: Areas identified in the community flood insurance study as areas of moderate or minimal hazard from the principal source of flooding in the area.

The Flood Insurance Rate Map for the project area (FIRM) 277C (9/16/1988) shows that the entirety of the project corridor is in Flood Zone X.

Waters of the U.S. include coastal waters, streams, tidal wetlands and ponds, and non-tidal wetlands that are tributary to other waters of the U.S. The makai end of the project corridor is more than 1.5 miles from the shoreline (see Fig. 1-2). No ponds or wetlands are present. Because of the arid climate and minimally weathered geology, perennial streams are rare in South Kohala, and none are present in or near the project area. An intermittent stream, Auwaiakeakua, generally parallels the project corridor to the south, while a larger gulch, Kamakoa, is located about 1.5 miles to the north (see Figs. 1-1 & 1-2). No intermittent streams are crossed by the corridor itself. In summary, no waters of the U.S. are present in the area to be affected.

### *Impacts and Mitigation Measures*

Aside from construction-phase impacts (discussed in Section 3.4.1), road and highway projects have the potential, if unmitigated, to adversely and permanently impact water bodies, drainage and water quality in several ways. Roads may displace waters of the U.S. Unregulated activities within a floodplain may raise flood levels or alter floodplain boundaries. In addition, roadway paving increases the amount of impervious surface area, which increases the rate and volume of storm water runoff on a permanent basis.

In this case, the proposed project will not impact any waters of the U.S. The proposed alignment corridor was selected, in part, to avoid crossing intermittent streams. The project corridor is not located within or adjacent to a floodplain, and no effects to floodplains will occur from use of the road. The road will be gravel, not paved with asphalt, except for the access onto Queen Ka'ahumanu Highway. Any excess drainage will runoff overland to natural swales and infiltrate, and there will be no direct discharge to coastal waters.

### **3.1.3 Climate and Air Quality**

#### *Existing Environment*

The climate of the project area can be described as arid and warm. Average high temperatures vary from approximately 82° Fahrenheit (F) in the winter to 88° F in the summer. Temperature lows average approximately 64° F in the winter and 71° F in the summer. Mean annual rainfall in the project area is about 10-15 inches. Wind is important for its effect on dispersion or concentration of pollutants, especially dust. This portion of South Kohala typically experiences east to northeast trade winds with speeds of 20-30 miles per hour during nighttime hours, with a daytime sea breeze of similar strength (UH-Hilo Dept. of Geography 1998). Depending on the location of any given fire – which can start at virtually any distance from Waikoloa Village in any direction of the compass – fires can bring smoke to any location within Waikoloa Village or along Waikoloa Road.

Regional and local climate along with the type and amount of human activity generally dictate air quality of a given location. Federal and state air quality standards limit ambient concentrations of pollutants produced by motor vehicles. These include particulate matter, sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>), and lead. These ambient air quality standards (AAQS) are specified in Section 40, Part 50 of the Code of Federal Regulations (CFR) and Chapter 11-59 of the Hawai'i Administrative Rules. Each regulated air pollutant has the potential to create or exacerbate some form of adverse health effect or to produce environmental degradation when present in sufficiently high concentration for a prolonged period of time. The state and federal governments periodically monitor air quality to determine whether it meets AAQ standards. Areas that do not meet standards are termed non-attainment areas and are subject to Conformity Rules. The entire State of Hawai'i is considered to have acceptable air quality and is thus an attainment area not subject to Conformity Rules.

Air quality on Hawai'i Island is currently mostly affected by emissions from industrial sources, vehicles, and natural sources. The major industrial source for the island is oil-fired power plants, which emit SO<sub>2</sub>, nitrogen oxides, and particulate matter. Motor vehicles emit CO, nitrogen oxides and hydrocarbons (an ozone precursor), as well as smaller amounts of other pollutants. Volcanic emissions of sulfur dioxide convert into particulate sulfate, which causes a volcanic haze (vog) to blanket the area during periods of light and variable or southerly winds.

The State of Hawai'i operates five air quality monitoring stations on Hawai'i Island, one in Hilo, three in Puna, and one at Konawaena High School in Kealahou. Data from these stations indicate that concentrations are well within State air quality standards (no federal standards exist for H<sub>2</sub>S), with no measurements exceeding State standards during the period of 2001-2003. In fact, no single measurement from any of the Hawai'i Island air quality monitoring stations was above any applicable State or federal standards during this period.

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### *Impacts and Mitigation Measures*

The planned project would not permanently alter traffic circulation in the area nor generate any additional traffic, and should thus not affect regional air quality. The gravel road will generate minimal dust when it is not in use. When and if it requires maintenance, water trucks will be used to minimize dust. Construction-phase impacts to air quality are discussed in Section 3.4.2.

#### **3.1.4 Noise Levels**

##### *Existing Environment, Impacts and Mitigation Measures*

Away from Waikoloa Village, the project corridor is presently very quiet due to its rural nature. Primary noise sources are wind, birds, helicopters, and traffic near Waikoloa Village and Queen Ka'ahumanu Highway. No residences, schools, churches or other noise sensitive uses are located near the project corridor. Because there no sensitive receptors along the project corridor and the road would rarely be used, the project would not produce noise impacts. Ultimately, much of the area will probably be developed for urban uses as part of the Bridge Aina Le'a project, and the emergency road will be replaced by a standard road system. Construction-phase impacts to air quality are discussed in Section 3.4.3.

#### **3.1.5 Scenic Values**

##### *Existing Environment*

The project area is generally open grassland presenting panoramic views of the ocean and Mauna Kea where the local topography permits. The Hawai'i County General Plan does not note any areas of particular natural beauty in the project area.

##### *Impacts and Mitigation Measures*

The undulating terrain will make the emergency road only indistinctly visible from areas makai of the project, most notably from certain segments of Queen Ka'ahumanu Highway. The Waikoloa Emergency Road is not likely to adversely affect the scenic value of the area.

### **3.2 Biological Environment**

#### **3.2.1 Flora**

##### *Existing Environment*

The vegetation of this part of South Kohala is mixed alien shrubland and clumping grassland, dominated by the aliens buffel grass (*Cenchrus ciliaris*) and fountain grass (*Pennisetum setaceum*), with scattered koa haole (*Leucaena leucocephala*) and kiawe (*Prosopis pallida*) shrubs (see Fig. 1-5). Some natives are present as well, including low shrubs or sprawling

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perennial herbs such ‘ilima (*Sida fallax*), ‘aheahea (*Chenopodium oahuensis*) and ‘uhaloa (*Waltheria indica*).

Vegetation surveys for the upper and lower parts of the project corridor were conducted by different parties at different times. A botanical survey in 1991 covered the entire Bridge Aina Le‘a project area, including the lower portion of the Waikoloa Emergency Road project corridor. Portions of this area were again resurveyed for endangered species in 2000. A separate survey in 2006 covered only that part of the project corridor located on Waikoloa Village Association land.

Evangeline Funk, Ph.D., of Botanical Consultants of Honolulu, performed a botany survey of TMKs: 6-8-1: 25, 36, 37, 38, 39, and 40, property of Bridge Aina Le‘a, in June 1991 (TMK 6-8-1: 37 & 38 contain the project corridor) for the Puako Residential Golf Community Use Permit Application. In general, the project vegetation was found to be dominated by invasive aliens and few rare plants or ecosystems were found. However, the survey identified 38 individuals of the federally listed endangered species ko‘oloa‘ula (*Abutilon menziesii*). A preservation plan submitted in September 2000 by Dr. Funk mapped the distribution of ko‘oloa‘ula, which were restricted to one small patch approximately one-quarter mile south of the project corridor, across Auwaiakeakua Gulch. The survey identified no other threatened or endangered species. The 2000 resurvey found that the plants had died, probably because of a prolonged drought, but continued to recommend a preservation area.

Ron Terry, Ph.D. surveyed the portion of the project corridor within Waikoloa Village Association lands in TMK 6-8-2:19 on March 12, 2006 (see Table 3-1). No plant species listed as threatened or endangered by the U.S. Fish and Wildlife Service were found to be present in the corridor.

**Table 3-1  
Plant Species Identified Within Corridor in TMK 6-6-8-2-:19**

Scientific Name	Family	Common Name	Life Form	Status
<i>Boerhavia coccinea</i>	Nyctaginaceae	None	Herb	A
<i>Cenchrus ciliaris</i>	Poaceae	Buffel grass	Grass	A
<i>Chenopodium oahuensis</i>	Chenopodiaceae	‘Aheahea	Shrub	E
<i>Indigofera suffruticosa</i>	Fabaceae	Indigo	Herb	A
<i>Leucaena leucocephala</i>	Fabaceae	Haole Koa	Shrub	A
<i>Merremia aegyptia</i>	Convolvulaceae	Hairy merremia	Vine	A
<i>Pennisetum setaceum</i>	Poaceae	Fountain grass	Grass	A
<i>Prosopis pallida</i>	Fabaceae	Kiawe	Tree	A
<i>Sida fallax</i>	Malvaceae	‘Ilima	Herb	I
<i>Waltheria indica</i>	Sterculiaceae	‘Uhaloa	Herb	I

Endemic (E), Indigenous (I), and Alien (A)

*Impacts and Mitigation Measures*

Construction of the road would involve removal of primarily weedy and invasive vegetation. The federally listed species observed on the Bridge Aina Le‘a property in 1991 was not found

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within or adjacent to the project corridor and, even if this population revives, it would not be affected by the emergency road. Because the corridor is dominated by invasive species and because the project would not affect any threatened or endangered plant species, no adverse impacts to botanical resources would occur as a result of clearing and improvements. It is important to emphasize that the entire area containing the project corridor has been approved for urban development as part of the Bridge Aina Le'a project, and thus urbanization of the land is expected to occur over the next decade anyway.

### **3.2.2 Fauna**

#### *Existing Environment*

Several species of alien feral mammals are likely to be found in the corridor at various times, including goats, rats, mice, cats, dogs and mongooses. None of these species are of conservation concern. Foraging habitat for Hawai'i's only land mammal, the endangered *Lasiurus cinereus semotus* (the 'ope'ape'a or Hawaiian hoary bat), may be present, as this species is widely distributed in a variety of vegetation types both native and alien around the island of Hawai'i.

The lack of native plant species as well as the presence of predatory mammals makes the area poor habitat for most native birds. One exception is the Short-eared Owl or Pueo (*Asio flammeus sandwichensis*), which preys on rats and mice. A number of alien birds such as Sky Larks (*Alauda arvensis*), francolins (*Francolinus* sp.) and Spotted Doves (*Streptopelia chinensis*) are found in the area.

#### *Impacts and Proposed Mitigation Measures*

The minor removal of vegetation and construction of a new road in this area should not adversely impact native fauna, including Hawaiian hoary bats and Short-eared Owls. Again, it is important to note that the entire area is approved for urban development.

### **3.2.3 Wetlands and Aquatic Habitat**

#### *Existing Environment, Impacts and Mitigation Measures*

No permanent streams, ponds, wetlands or aquatic habitat are present in the arid project area, which is a minimum of 1.5 miles from the shoreline.

Short and long-term impacts to marine habitat downslope of the proposed project would be avoided by the runoff containment measures that will occur through the drainage improvements and by adhering to the best management practices specified in the permits to which the project would be subject (see Section 3.4.1).

### **3.3 Socioeconomic**

#### **3.3.1 Land Use**

##### *Existing Land Use on Project Corridor and Impacts*

Land along the project corridor is currently vacant and undeveloped. As described above in Section 1.3, Bridge Aina Le'a plans to develop the lands surrounding the proposed project corridor on plat 6-8-2, and the emergency road corridor itself will become part of the internal road system. Bridge Aina Le'a is cooperating in the planning for the Waikoloa Emergency Road, and may be building a functional equivalent for it during the next decade. There are no current plans for development on TMK 6-9-1:19.

The proposed project would not appear to adversely affect current or future planned land uses. Coordination with landowners is planned throughout the environmental assessment, permitting, design and construction process in order to minimize all impacts and identify and mitigate any that remain.

#### **3.3.2 Land Use Designations**

Planning responsibility for the island of Hawai'i rests with the Hawai'i County Planning Department and Planning Commission and the State Land Use Commission.

##### *Hawai'i County General Plan*

The General Plan for the County of Hawai'i, adopted by ordinance in 2005, is a policy document expressing the broad goals and policies for the long-range development of the island of Hawai'i. The County General Plan calls for the following among its Transportation Goals:

- Provide a transportation system whereby people and goods can move efficiently, safely, comfortably and economically.
- Make available a variety of modes of transportation that best meet the needs of the County.
- Provide a system of thoroughfares and streets for the safe, efficient and comfortable movement of people and goods between and within the various sections of the County.
- Provide an integrated State and County system so that new major routes would complement and encourage proposed land uses.

The project is consistent with the Transportation Goals of the Hawai'i County General Plan because it would allow people to move efficiently in the interest of their safety, given that the area is frequently at risk for natural hazards.

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### *LUPAG Maps*

The Land Use Pattern Allocation Guide (LUPAG) map is a graphic representation of the General Plan's goals and policies. Lands surrounding and some lands within the project corridor are designated principally as Urban Expansion lands. Lands designated Open are present near Waikoloa Village and there is a strip of Conservation designated land near Queen Ka'ahumanu Highway. An emergency road would not be inconsistent with these LUPAG designations.

### *County Zoning, State Land Use District and Special Management Area*

All land in the State of Hawai'i is classified into one of four land use categories – Urban, Rural, Agricultural, or Conservation – by the State Land Use Commission. The land use designation for the project corridor is designated Agricultural. County zoning for TMKs 6-8-1:37 and 38, the makai portion of the project corridor, is designated of RA-1a and A-5a. County zoning for TMK 6-8-2:19, the mauka portion of the project corridor, is designated Open. The project would be a permitted use for these State Land Use District and County zoning designations.

The proposed project corridor is not within the Special Management Area (SMA).

### *Project in Context of Land Use Designations*

The project is consistent with all land use designations. No rezoning, or land use reclassification, is required for the project.

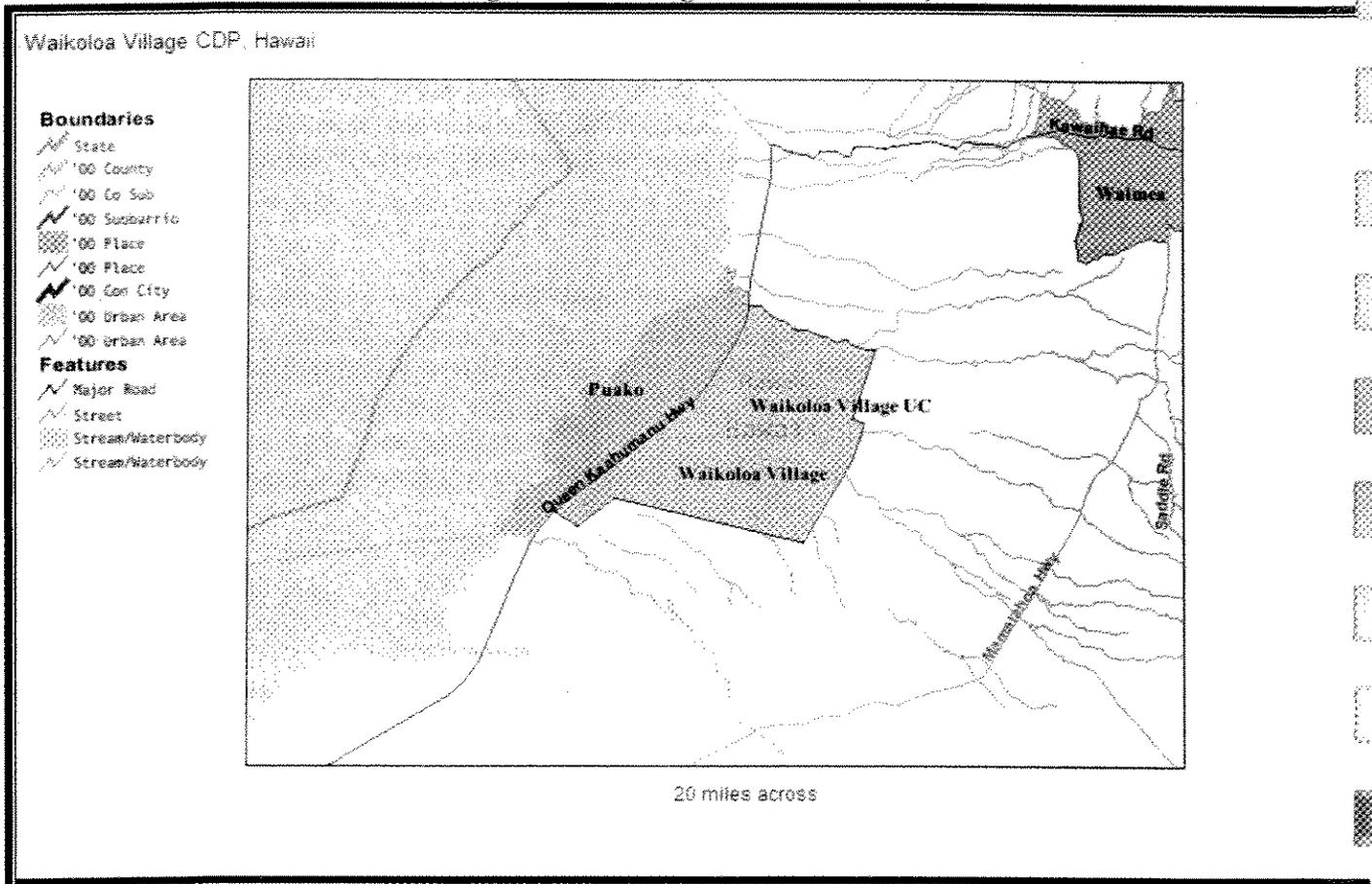
## **3.3.3 Demographics and Community Identity**

### *Existing Environment*

The 2000 U.S. Census of Population provides the most recent demographic information for the project area. Table 3-1 presents demographic data for Waikoloa Village (boundaries of census designated place shown in Fig. 3-1), for the South Kohala District as a whole (Fig. 3-2), and for the entire County of Hawai'i. Despite substantial construction and population growth in South Kohala and Waikoloa Village since 2000, the general picture provided by the census data is still reasonably accurate. In general, Waikoloa Village and South Kohala both have median home values well above the Hawai'i County average, and both areas also have a greater proportion of white residents than the County.

Table 3-2 presents historic population data for Hawai'i County, the South Kohala District, and for Waikoloa Village. Available data shows that Waikoloa Village has grown faster than both South Kohala District and Hawai'i County from 1990 to 2000. From 1990 to 2000, the Waikoloa Village population grew from 2,248 residents to 4,806 residents, a 214% increase. Also in this period the South Kohala District population grew by 43.7%, while that of Hawai'i County grew by 23.6%.

**Figure 3-1  
Waikoloa Village Census Designated Place (CDP)**



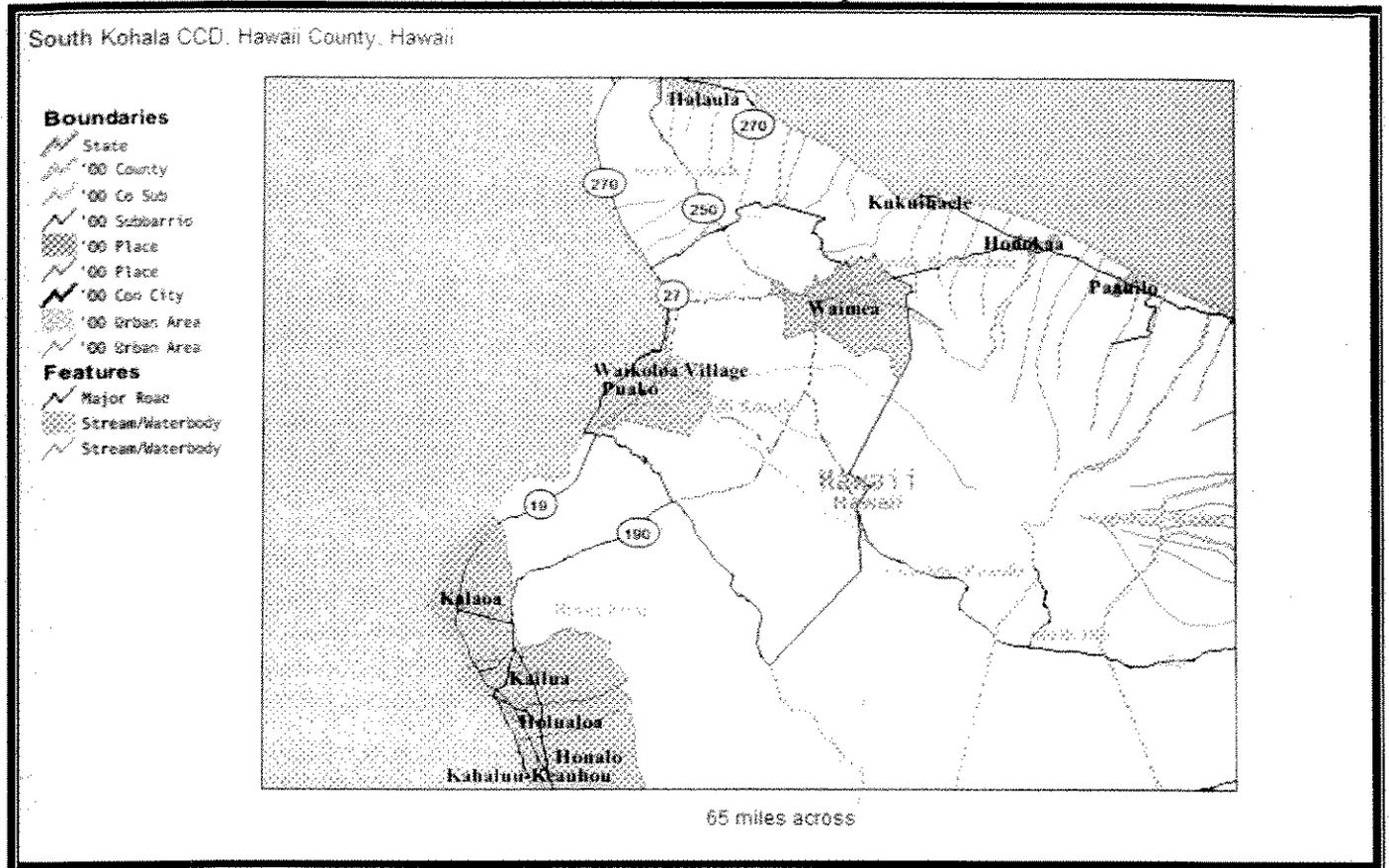
**Table 3-2  
Demographic Characteristics of Project Area Census Subdivisions**

Demographic Area Description	Population	Persons/ Household	Ethnic Characteristics (in percent)	Percent Hawaiian	Median Home Value
Waikoloa Village Census Designated Place	4,806	2.75	Asia/Pac 25.8 White 45.9 Other 28.3	9.2	\$196,400
South Kohala District	13,131	2.81	Asia/Pac 30.9 White 38.8 Other 30.4	12.8	\$203,800
Hawai'i County	148,677	2.75	Asia/Pac 44.7 White 31.5 Other 23.8	11.2	\$155,400

Sources: U.S. Bureau of the Census: "2000 Census of Population, General Population Characteristics," 2000 CP-1-13

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**Figure 3-4  
South Kohala District Census Map**



**Table 3-3  
Historic Population Trends**

Place/Region	1980	1990	2000
Waikoloa Village CDP	n/a	2,248	4,806
South Kohala District	4,607	9,140	13,131
County of Hawai'i	92,053	120,317	148,677

Sources: U.S. Bureau of the Census: "2000 Census of Population. General Population Characteristics," 2000 CP-1-13.

*Impacts and Mitigation Measures*

No relocation of residences, businesses, community organizations or farms would occur because of the project. No effects on community identity or cohesion are expected.

### **3.3.4 Public Services and Facilities**

#### Utilities

Water service is available at the mauka and makai ends of the project corridor; however, no water or wastewater service is necessary for the project.

Electrical and telephone service is available at the mauka and makai ends of the project corridor. As no streetlights are proposed, there is no need for electricity. Telephone service is not needed for the project.

#### Police, Fire and Emergency

The Waikoloa Village Volunteer Fire Station, the Waikoloa Fire Station, and the South Kohala Fire Station provide both fire and emergency medical services for the area. Police services are provided by the Waimea, Waikoloa and Kalahuipua'a Police Stations. The makai end of the project corridor is located approximately one-half mile from the South Kona Fire Station and the Kalahuipua'a Police Station.

The project will provide an additional evacuation route that will be useful for both police and fire actions during emergencies. DPW will cooperate with the Police and Fire Departments to ensure that evacuation procedures on this road are efficient and coordinated.

#### Other Services

Two public schools are located in Waikoloa Village: Waikoloa Elementary and Intermediate. These schools would benefit from the emergency access provided by the project.

Construction-phase impacts to public facilities and utilities are discussed in Section 3.4.5.

### **3.3.5 Cultural Resources**

#### *Existing Environment*

#### Methods

A letter report providing cultural and archaeological information for the project site, including its context in the ahupua'a of Waikoloa, was written by Rechtman Consulting, Inc. It is attached as Appendix 2 and summarized in this and the next section, which also includes information from other sources.

The purpose of the study was to document the presence of any historic properties or traditional cultural properties that might exist within the project area, assess the significance of any such resources, and provide a statement of impact to any such resources as a result of the proposed

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construction and use of the Waikoloa Emergency Road. The study used historic maps and documents, archaeological summaries of the area, and field investigation. This information provided a context for the search for potential historic or traditional cultural properties.

### Background

Prior to the Mahele of 1848, present-day Waikoloa Ahupua'a was referred to as Waikoloa Nui and the neighboring present day Lalamilo Ahupua'a was referred to as Waikoloa Iki. The latter was retained as crown land, and Waikoloa Nui was awarded to George Davis Hu'eu, as Kamehameha I originally gave the land to George's father Issac Davis. This award did not include the coastal areas of 'Anaeho'omalua and Kalahuipua'a, which were retained by the crown; thus the Davis Hu'eu award was primarily restricted to the non-agricultural pili lands south of the agriculturally productive Lalamilo area and mauka of the rich coastal resource area. There were nine small residential kuleana awarded in the uplands of Waikoloa near the town of Waimea (Maly 1999:56).

Testimony from 1865 Boundary Commission hearings indicates that Waikoloa Ahupua'a was a place for bird catching. Ehu testified, "Waikoloa was the land that had the birds" (Maly 1999:88). Oral histories indicate the presence of a dryland field planting area referred to as Makahonu, "which was still used through the turn of the [twentieth] century" (Maly 1999:153). Makahonu was located near the intersection of Waikoloa Road and Queen Ka'ahumanu Highway. There is no information in the oral histories referencing what was specifically cultivated in the planting area although 'Anaeho'omalua was a favorable area for growing sweet potatoes (ibid).

Given the cultural-historical background and the results of previous archaeological studies in Waikoloa ahupua'a, the archaeological sites expected in the general area are trails, petroglyphs, dryland agricultural features, temporary habitation sites, and Historic Period ranching and military features. As discussed in the next section, no such archaeological remains reflecting cultural history or supporting cultural values appear to be present in the project corridor. Furthermore, no caves, springs, pu'u, native forest groves, gathering resources or other natural features are present on or near the project site. The vegetation is dominated by invasive, weedy species, and it does not contain the quality and quantity of resources that would be important for native gathering.

### *Impacts and Mitigation Measures*

As part of the current study, an effort was made to obtain information about any potential traditional cultural properties and associated practices that might be present, or have taken place in the Waikoloa ahupua'a. The Office of Hawaiian Affairs (West Hawai'i) was contacted but had no information relative to the existence of traditional cultural properties in the immediate vicinity of the current project area; nor did they provide any information indicating current use of the area for traditional and customary practices.

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As no resources or practices of a potential traditional cultural nature (i.e., landform, vegetation, etc.) appear to be present on or near the project site, and there is no evidence of any traditional gathering uses or other cultural practices, the proposed construction would not appear to impact any culturally valued resources or cultural practices.

### **3.3.6 Historic Sites/Archaeological Resources**

#### *Existing Environment*

A letter report providing cultural and archaeological information for the project site, including its context in the ahupua'a of Waikoloa, was written by Rechtman Consulting, Inc. It is attached as Appendix 2 and summarized in this and the preceding section.

A number of prior archaeological studies conducted in this general area have determined that activities in the inland resource zone of South Kohala and the Kekaha portion of North Kona mainly involved use of temporary shelters by people traveling between the coastal and upland zones, and the temporary and extended residential occupation by people engaged in marine and other exploitation activities along the coast. Features found include trails, petroglyphs, limited dryland agricultural features, and temporary habitations and shelters.

Three previous archaeological studies (Kennedy 1987; Moore et al. 2002; Shilz and Shun 1991) were performed within study areas that included the portion of the project corridor located on TMKs 6-8-1:37 and 38 (see Appendix 2, Fig. 2). Collectively, these studies recorded a number of archaeological sites with feature types that included cairns, mounds, C-shaped enclosures, alignments, a lava tube, and a rock overhang. The lava tube, located about 0.6 miles south of the project corridor, contained human skeletal remains (Schilz and Shun 1991); the rock overhang was interpreted as being used for Precontact habitation purposes (Moore et al. 2002); several of the C-shaped shelters, mounds, and alignments were interpreted as being used for Precontact temporary habitation purposes (Moore et al. 2002), while several others were thought to be remnants of World War II military training (Schilz and Shun 1991); finally, most of the cairns were thought to be Historic/Modern in age, and to mark 4WD road routes or old fence lines (Kennedy 1987; Moore et al. 2002; Shilz and Shun 1991).

Archaeologists carefully reviewed site location maps from each of these previous archaeological studies and interviewed personnel who worked on the studies and determined that none of the recorded sites are located in the vicinity of the project corridor. The sites that are the closest to the project corridor all consist of *ahu* (cairns) that have approved treatments of no further work.

In May 2006 Rechtman Consulting performed a surface inspection of the mauka-most portion of the project corridor closest to Waikoloa Village (i.e., within parcel TMK 6-8-2:19, the area that had not been surveyed as part of the Bridge Aina Le'a project). This surface inspection of the area revealed that the project corridor does not contain archaeological resources.

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### *Impacts and Mitigation Measures*

The archaeological study conducted by Rechtman Consulting concluded that no archaeological sites are present in the project corridor and that the likelihood of encountering subsurface resources in the project corridor is extremely remote. Therefore, a determination of “no adverse effect” was requested from the State Historic Preservation Officer (SHPO), in accordance with HAR 13§13-284-5(b)1, and on July 14, 2006, the SHPO concurred with this finding (see letter in App. 1).

Notwithstanding the low probability of encountering resources during construction, should archaeological features or human skeletal remains be encountered during road construction or operation, work in the immediate area of the discovery will be halted and DLNR-SHPD contacted as outlined in Hawai‘i Administrative Rules 13§13-275-12.

### **3.3.7 Agricultural Land**

Consultation of maps of important farmland provided by the U.S. Natural Resources Conservation Service (USNRCS) determined that no lands identified as Other Important Lands in the *Agricultural Lands of Importance to the State of Hawaii* (ALISH) map series are present. Field inspection determined that no farming or animal husbandry operations are present within the corridor, therefore no farming operations would be adversely impacted by the project.

### **3.3.8 Hazardous Materials and Toxic Substances**

#### *Existing Environment*

Other than possible use by the military as discussed below, it appears that the project corridor was used for pasture, and there appear to be no other sources of hazardous materials and toxic substances.

The project corridor is part of the former Waikoloa Maneuver Area (WMA). Through a licensing agreement with Richard Smart of Parker Ranch, the U. S. Navy acquired 91,000 acres in Waikoloa in December of 1943. The area was bordered by Pohakuloa Training Area, the sea, Kawaihae Road and the North Kona-South Kohala border. It was used as an artillery firing range on which live ammunition and other explosives were employed, with the remaining acreage utilized for troop maneuvers and the largest military encampment on the island of Hawai‘i.

Property comprising the Waikoloa Maneuver Area was surrendered to Parker Ranch in September 1946 after the Marines had departed. Prior to 2000, at least two ordnance clearance efforts had been conducted, one in 1946 just prior to the departure of the 5th Marine Division, and the other in 1954 following accidental detonation of a dud fuse or shell killing two civilians and seriously injuring three others. The 1954 effort detected as many as 400 dud items including

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hand grenades, 60 and 81 mm mortars, 75 mm shells, 105 and 155 mm shell fuses, 31 mm anti-tank cannon shells, and 4.2 inch mortars.

Live ordnance, ranging from grenades and bazooka rounds to hedgehog missiles, continues to be found in the former WMA as land development progresses. Artillery rounds have caused at least nine accidental deaths since the end of World War II. Unexploded ordnance has even been found near Waimea Middle School. This setting and the presence of 20,000 persons who live, work, or go to school within the boundaries of the former WMA, as well as that of numerous visitors, has caused the COE to rank the former WMA high in its national risk assessments.

In order to address this problem, the U.S. Army Engineering and Support Center, Huntsville (CEHNC), and the U.S. Army Corps of Engineers (USACE), Honolulu District (CEPOH), teamed to produce a *Phase II Engineering Evaluation/Cost Analysis (EE/CA) for the Former Waikoloa Maneuver Area and Nansay Sites, Island of Hawai'i, Hawai'i* (U.S. Army Corps of Engineers 2002). The report documented the decision process to determine the most appropriate ordnance and explosives (OE) response actions for the Former Waikoloa Maneuver Area and Nansay Sites.

The project site was divided into 13 sectors based on past military usage, current and future land uses and other factors. Visual reconnaissance surveys, surface clearance, geophysical mapping, visual surface searches, anomaly investigation, and intrusive OE sampling were all conducted in order to characterize the areas. A total of 16,499 acres were investigated during the Phase II EE/CA field investigation. As a result of the Phase II EE/CA field investigation, 38 unexploded ordnance (hazardous) items and 2,160 OE scrap (inert and nonhazardous) items were recovered. Thirty-six of the 38 unexploded ordnance items and 1,963 of the 2,160 OE scrap items were recovered on the surface. The unexploded ordnance items were recovered at depths up to 6 inches below ground surface. OE scrap was recovered at depths up to 20 inches below ground surface. Although OE scrap is inert and nonhazardous, it does indicate the potential presence of unexploded ordnance (Ibid: Exec. Summ, p. 2). The project has been expanded from 123,000 acres to 135,000 acres in recognition of concern over OE between Queen Ka'ahumanu Highway and the sea, where resorts continue to develop (<http://www.poh.usace.army.mil/waikoloa/eecafinal.html>).

The U.S. Army COE awarded a five-year, \$50 million contract to a private firm to initiate removal of the OE in the WMA. The COE oversaw completion of the first phase of ordnance clearance on 927 acres in Waikoloa, Waimea and Lalamilo in August 2004. The second phase involves more than 1,000 acres in Waikoloa, Waimea and 'Ouli. According to COE officials, by early summer 2005 more than 650 live rounds had been discovered and no injuries have been reported. Even after the current five-year contract to remove OE is complete, it is unlikely that all unexploded ordnance will have been removed.

The Waikoloa Emergency Road project corridor passes through Sectors 5 and 11, where both live OE and OE scrap have been detected, though mostly far to the north of the project corridor.

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### *Impacts and Mitigation Measures*

No accidents related to OE have been reported in or near the project corridor, and the threat of unexploded OE in the specific area appears to be relatively low. Nevertheless, as part of the OE removal project, the COE has offered construction support for projects within the former WMA. The County of Hawai'i requested this support as part of its survey efforts, and contractors for COE accompanied County personnel while they surveyed the corridor. No live OE was discovered. COE will continue to provide support to the County as the project progresses.

Based on this support and evaluation, there will be minimal risk of OE-related accidents during construction or use of the road. It should be noted that additional evaluation efforts may be advisable for Bridge Aina Le'a as they develop in and around the project corridor.

### **3.3.9 Transportation**

#### *Existing Conditions*

Waikoloa Road, a two-lane County of Hawai'i facility, extends between Queen Ka'ahumanu Highway (SR 19) and the Mamalahoa Highway (SR 190) and is the *only* route in and out of Waikoloa Village. Waikoloa Road has therefore served as the only emergency evacuation route for Waikoloa Village. When the upper portion of the road was closed and impassable during the August 2, 2005 brush fire, the lower portion was the only route available to evacuate Waikoloa Village (Honolulu Star-Bulletin 2005).

#### *Impacts and Proposed Mitigation Measures*

Use of the project corridor for emergency evacuation of Waikoloa Village would require traffic control at the intersection with Queen Ka'ahumanu Highway and would be the responsibility of the Department of Public Works. It is expected that traffic congestion on Queen Ka'ahumanu Highway would be adversely affected at these times, but this would be managed by the presence of traffic control personnel.

The No-Build Alternative would leave Waikoloa Village cut-off and unable to evacuate to safety should a natural disaster, or road closure due to accidents or other unforeseen event, render Waikoloa Road impassable.

Construction-phase impacts to transportation and traffic congestion are discussed in Section 3.4.4.

### **3.3.10 Secondary and Cumulative Impacts**

Construction projects sometimes have the potential to induce secondary physical and social impacts that are only indirectly related to the project. For example, construction of a new recreation facility can lead to changes in traffic patterns that produce impacts to noise and air quality for a previously unimpacted neighborhood. In this case, most of the lands surrounding the project corridor are planned for urban development and are designated as such in the Hawai'i County General Plan. As discussed above, a number of developments are either planned or already in progress for Waikoloa Village. The consequent population increase in the project area only emphasizes the critical need for emergency access for Waikoloa Village. The proposed project would provide an emergency evacuation route for Waikoloa Village. Because the project would only be used during emergencies, the project is not expected to promote use or growth of the area.

Cumulative impacts result when implementation of several projects that individually have minor impacts combine to produce more severe impacts or conflicts among mitigation measures. The Bridge Aina Le'a project will be constructed during and/or after the proposed project, and without coordination the two projects could interact in such a way as to induce unmitigated cumulative impacts. For this reason, DPW is closely coordinating with the developers to ensure that plans for mitigation of impacts related to erosion and sedimentation, wildfire, and State Highway access is integrated.

Farther from the project corridor, but still within Waikoloa, are a number of major proposed projects including Castle and Cooke's projects; Waikoloa Ma Lai/Waikoloa Heights; Sunset Ridge; Waikoloa Highlands, and the County's 1,500-unit Waikoloa Affordable Housing project. Cumulatively, these will build thousands of residential units, more than five golf courses and parks, and a large extent of commercial acreage. Including developments planned in Waimea, according to the Waimea Community Development Plan committee, there may be entitlements for as many as 7,000 new residences in South Kohala, in comparison to an inventory of only 5,348 in 2000. ([http://www.waimeaplan.org/resources/land\\_owner/index.html](http://www.waimeaplan.org/resources/land_owner/index.html)). As would be expected, the skyrocketing growth in the area has led to a number of associated projects for public facilities, including highways, parks, schools, and utility infrastructure. Although these projects taken together will dramatically increase traffic and demand for public facilities, no aspect of the Waikoloa Emergency Road is expected to contribute impacts that would adversely accumulate with impacts from the other projects. All adverse impacts of the current project related to native species/habitat, wetlands, water quality, erosion, historic sites, and other areas of concern are either non-existent or extremely restricted in geographic scale, negligible, and capable of mitigation through proper enforcement of permit conditions. Therefore, such adverse impacts would not tend to be cumulative in relation to this or other projects.

### **3.4 Construction-Phase Impacts**

Construction of the proposed project would last approximately six months. During this period construction vehicles, power tools and heavy equipment would generate noise, traffic congestion, exhaust emissions and the potential for soil erosion.

#### **3.4.1 Sediments, Water Quality and Flooding**

##### *Impacts*

Uncontrolled excess sediment from soil erosion during and after road construction can impact natural watercourses, water quality and flooding potential. Contaminants associated with heavy equipment and other sources during construction may also impact receiving stream, ocean and ground water.

##### *Mitigation Measures*

Because of the limited scale of construction and the environmental setting, the risks for flooding or impacts to water quality are negligible. No impacts to stream banks or stream waters will occur. However, in order to ensure that any impact is minimized, the contractor shall perform all earthwork and grading in conformance with Chapter 10, Erosion and Sediment Control, Hawai'i County Code. Because the project will disturb more than one acre of soil, a National Pollutant Discharge Elimination System (NPDES) permit must be obtained before the project commences. This permit requires the completion of a Storm Water Pollution Prevention Plan (SWPPP). In order to properly manage storm water runoff, the SWPPP will describe the emplacement of a number of best management practices (BMPs) for the project. These BMPs are expected to include the following measures:

- Silt Fences
- Gravel Check Dams
- Stabilized Construction Entrances
- Sediment Basins
- Protected Stockpile / Storage Area

#### **3.4.2 Air Quality**

##### *Impacts*

Construction can cause short-term direct and indirect air quality impacts through fugitive dust from vehicle movement and soil excavation, as well as exhaust emissions from on-site construction equipment.

Fugitive dust emissions may arise from the grading and dirt-moving activities associated with site clearing and preparation work. The State of Hawai'i Air Pollution Control Regulations

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(Chapter 11-60, HAR) prohibit visible emissions of fugitive dust from construction activities beyond the property line. Thus, an effective dust control plan for the project construction phase is essential.

### *Mitigation*

A dust control plan will be developed for construction activities. Adequate fugitive dust control can usually be accomplished by the establishment of a frequent watering program to keep bare-dirt surfaces in construction areas from becoming significant sources of dust. In dust-prone or dust-sensitive areas, other control measures such as limiting the area that can be disturbed at any given time, applying chemical soil stabilizers, mulching and/or using wind screens may be necessary. Control regulations further stipulate that open-bodied trucks be covered at all times when in motion if they are transporting materials that could be blown away. Haul trucks tracking dirt onto paved streets from unpaved areas is often a significant source of dust in construction areas. Some means to alleviate this problem, such as road cleaning or tire washing, may be appropriate. Paving of parking areas and/or establishment of landscaping as early in the construction schedule as possible can also lower the potential for fugitive dust emissions.

On-site mobile and stationary construction equipment also would emit air pollutants from engine exhausts. The largest of this equipment is usually diesel-powered. Nitrogen oxide emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the standard for nitrogen dioxide is set on an annual basis and is not likely to be violated by short-term construction equipment emissions. Carbon monoxide emissions from diesel engines, on the other hand, are low and should be relatively insignificant, considering the setting far from sensitive uses.

In addition, to avoid air quality impacts from slow-moving construction vehicles traveling to and from the site on major roadways, heavy construction equipment should be moved on-site during periods of low traffic volume.

### **3.4.3 Noise**

#### *Impacts*

Construction would result in noise from grading, compressors, vehicle and equipment engines, and other sources. Construction activities may exceed 95 decibels (dB) at times.

#### *Mitigation*

The State of Hawai'i requires contractors engaged in road construction activities to conform with Title 11, Chapter 46, HAR (Community Noise Control). The Hawai'i State Department of Health's (HDOH) Noise, Radiation and Indoor Air Quality Branch issues permits for construction activities which may generate noise. The permit is applied for during the construction phase. HDOH will review the type of activity, location, equipment, project

## *Waikoloa Emergency Road Environmental Assessment*

purpose, and timetable in order to decide upon conditions and mitigation measures. Possible measures include restriction of equipment type, maintenance requirements, restricted hours, and portable noise barriers. The precise combination of mitigation measures, if any, shall be specified by HDOH prior to construction.

### **3.4.4 Traffic Congestion**

#### *Impacts*

The proposed action would require construction vehicles needed for grading, hauling fill and construction access the project sites during a period of several months. For short intervals during the construction period, transportation of construction equipment, trucks, and worker vehicles may temporarily impede traffic on certain internal roads in Waikoloa Village.

#### *Mitigation*

The project, being relatively small in scale and located primarily in areas distant from residential areas, would not be expected to cause traffic congestion in Waikoloa Village. During the construction period equipment would be stored on site, and during this time traffic associated with project construction would be limited to worker traffic, as well as gravel trucks hauling waste and fill to and from the site.

### **3.4.5 Public Facilities and Utilities**

#### *Environmental Setting and Impacts*

Electricity and water service are available at both the mauka and makai ends of the project corridor. Only negligible electricity consumption would be required for construction of the project and would likely be provided by generators. Water required for dust suppression would be transported by truck to the project corridor from a central location.

Construction would involve short-term generation of solid waste typical of road construction activities, particularly rock, vegetation and other debris produced by land clearing. The project design seeks to minimize the need for cut and fill and to balance the two. DPW will remove all debris and properly dispose of it in conformance with County regulations. Because of the small scale of the project, no substantial impact on County solid waste facilities, which are located nearby at the West Hawai'i Sanitary Landfill in Pu'uana'hulu, is expected.

*Waikoloa Emergency Road Environmental Assessment*

**3.5 Required Permits and Approvals**

Several permits and approvals are required to implement this project. They are listed here under their granting agencies.

*State Historic Preservation Officer*

- a. Finding of No Adverse Effects or No Effects to Significant Historic Sites

*State Department of Health:*

- a. National Pollutant Discharge Elimination System Permit
- b. Community Noise Control Construction Noise Permit (tbd)

*State Department of Transportation, Highways Division*

- a. Permit to Work Within State Highway Right-of-Way
- b. State Highway Driveway Access Approval

*County Department of Public Works:*

- a. Permits for Grading, Grubbing, and Stockpiling

*Waikoloa Emergency Road Environmental Assessment*

**4 LIST OF DOCUMENT PREPARERS**

This Environmental Assessment was prepared for the County of Hawai'i, Department of Public Works by Geometrician Associates. Individuals involved included the following:

Ron Terry, Ph.D., Lead Scientist  
B.A., 1980, University of Hawai'i, Geography  
Ph.D., 1988, Louisiana State University, Geography

Graham Paul Knopp, Ph.D., Environmental Scientist  
B.S., 1992, University of Wisconsin-Madison, Physics  
Ph.D., 1997, University of Hawai'i, Astronomy

## 5 STATE OF HAWAI'I ENVIRONMENTAL ASSESSMENT FINDINGS

Section 11-200-12 of the State Administrative Rules sets forth the criteria by which the significance of environmental impacts shall be evaluated. The following discussion paraphrases these criteria individually and evaluates the project's relation to each.

1. *The project will not involve an irrevocable commitment or loss or destruction of any natural or cultural resources.* No significant natural resources are present or affected. The State Historic Preservation Officer has concurred that no effect to historic sites would occur as a result of the proposed project.

2. *The project will not curtail the range of beneficial uses of the environment.* No future beneficial use will be affected in any way by the proposed project. The project will be an asset to public safety through provision of an emergency evacuation route and access for fire fighting.

3. *The project will not conflict with the State's long-term environmental policies.* The State's long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. A number of specific guidelines support these goals. No aspect of the proposed project conflicts with these guidelines. The project supports a number of guidelines, including those calling for maintenance of an integrated system of State land use planning which coordinates State and County plans, and encouraging transportation systems in harmony with the lifestyle of the people and the environment. In the event of a natural disaster, such as wildfire, the project would substantially benefit the quality of life by providing an alternative evacuation route for Waikoloa Village residents.

4. *The project will not substantially affect the economic or social welfare of the community or State.* The project would benefit the social and economic welfare of Waikoloa Village through provision of a secondary evacuation route.

5. *The project does not substantially affect public health in any detrimental way.* No effects to public health are anticipated.

6. *The project will not involve substantial secondary impacts, such as population changes or effects on public facilities.* No adverse secondary effects are expected. The project will not enable development in any way.

7. *The project will not involve a substantial degradation of environmental quality.* Permits mandating implementation of best management practices for activities during construction will ensure that the project will not degrade environmental quality in any substantial way.

*Waikoloa Emergency Road Environmental Assessment*

8. *The project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.* No endangered species of flora or fauna are known to exist within the project corridor or would be affected in any way by the project.

9. *The project is not one which is individually limited but cumulatively may have considerable effect upon the environment or involves a commitment for larger actions.* All adverse impacts of the project related to native species/habitat, wetlands, water quality, erosion, historic sites, and other areas of concern are either non-existent or restricted in geographic scale, negligible, and capable of mitigation through proper enforcement of permit conditions. Therefore, such impacts would not tend to accumulate in relation to this or other projects.

10. *The project will not detrimentally affect air or water quality or ambient noise levels.* Short-term construction-related air and noise quality impacts due to construction vehicle traffic would occur, but no sensitive receivers are present, and no long term effects would occur.

11. *The project will not affect or will likely be damaged as a result of being located within an environmentally sensitive area such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters.* The project would not affect environmentally sensitive areas such as floodplains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters. Although the project is located in a zone exposed to some earthquake and volcanic hazards, there are no reasonable alternatives.

12. *The project will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies.* No scenic vistas and viewplanes identified in county or state plans or studies are present in the area to be affected.

13. *The project will not require substantial energy consumption.* Construction of the roadway would require short-term, minor inputs of energy.

For the reasons above, and in consideration of the comments received on the Draft EA, the Hawai'i County Department of Public Works has determined that the proposed project will not have any significant effect in the context of Chapter 343, Hawai'i Revised Statutes and section 11-200-12 of the State Administrative Rules, and therefore has issued a Finding of No Significant Impact (FONSI).

*Waikoloa Emergency Road Environmental Assessment*

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*Waikoloa Emergency Road Environmental Assessment*

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**WAIKOLOA EMERGENCY ROAD  
SOUTH KOHALA, HAWAI'I  
ENVIRONMENTAL ASSESSMENT**

**APPENDIX 1A**

**COMMENTS IN RESPONSE TO PRE-CONSULTATION**



LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGE  
  
ROBERT K. MASUDA  
DEPUTY DIRECTOR - LAND  
  
DEAN NAKANO  
ACTING DEPUTY DIRECTOR - WATER  
  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGE  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCE  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISS  
LAND  
STATE PARKS

July 14, 2006

Dr. Robert Rechtman  
Rechtman Consulting, LLC  
HC 1 P.O. Box 4149  
Kea'au, Hawaii 96749

LOG NO: 2006.2383  
DOC NO: 0607JT34  
Archaeology

Dear Dr. Rechtman:

**SUBJECT: Chapter 6E-42 Historic Preservation Review--  
No Historic Properties Affected Request  
Waikoloa Ahupua'a, South Kohala District, Island of Hawai'i  
TMK: (3) 6-8-001: por. 019, 035, por. 037**

Thank you for your letter requesting that we evaluate the proposed emergency access road corridor for Waikoloa Village for any effect historic properties.

We believe that no historic properties will be affected by this undertaking because:

- a) intensive cultivation has altered the land
- b) residential development/urbanization has altered the land
- c) previous grubbing/grading has altered the land
- d) an acceptable archaeological assessment or inventory survey found no historic properties
- e) this project has gone through the historic review process, and mitigation has been completed
- f) other: *Previous archaeological surveys (Kennedy 1987, Moore et al. 2002, Shilz & Shun 1991) as well as your survey reported in your letter RC-0402 have found no historic properties within the proposed road corridor.*

In the event that historic resources, including human skeletal remains, 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, Hawai'i Section, needs to be contacted immediately at (808) 327-3691.

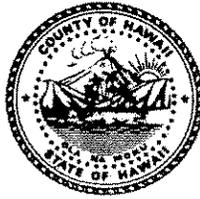
Aloha,

Melanie Chinen, Administrator  
State Historic Preservation Division

JT:jen

c: Chris Yuen, Planning Director

Harry Kim  
Mayor



Lawrence K. Mahuna  
Police Chief

Harry S. Kubojiri  
Deputy Police Chief

## County of Hawaii

### POLICE DEPARTMENT

349 Kapiolani Street • Hilo, Hawaii 96720-3998  
(808) 935-3311 • Fax (808) 961-2389

June 6, 2006

Mr. Ron Terry  
Geometrician Associates  
HC2 Box 9575  
Keaau, Hawaii 96749

Dear Mr. Terry:

RE: Environmental Assessment for Construction of Proposed Segment of Waikoloa  
Emergency Evacuation Road, S. Kohala, Island of Hawaii, TMK: 6-8-02:19

Staff has reviewed the Environmental Assessment for the construction of the proposed segment of the Waikoloa Emergency Evacuation Road in South Kohala and has no objections or comments to offer at this time.

Thank you for the opportunity to comment. Should you have any questions, please contact Captain Kenneth Vieira, the South Kohala District Commander, at 887-3080.

Sincerely,

LAWRENCE K. MAHUNA  
POLICE CHIEF

  
RONALD T. NAKAMICHI  
ASSISTANT CHIEF  
AREA II OPERATIONS

KV:dmv

cc: Captain Kenneth Vieira

**Harry Kim**  
Mayor



**Darryl J. Oliveira**  
Fire Chief

**Desmond K. Wery**  
Deputy Fire Chief

## County of Hawai'i

### FIRE DEPARTMENT

25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720  
(808) 961-8297 • Fax (808) 961-8296

June 9, 2006

Mr. Ron Terry, Principal  
Geometrician Association  
HC2 Box 9575  
Keaau, Hawaii 96749

Dear Mr. Terry:

**SUBJECT: ENVIRONMENTAL ASSESSMENT FOR CONSTRUCTION OF  
PROPOSED SEGMENT OF WAIKOLOA EMERGENCY  
EVACUATION ROAD, SOUTH KOHALA, ISLAND OF HAWAII,  
TMK 6-8-02:19.**

This responds to your request for comments regarding the Environmental Assessment for the above-referenced project.

We have no comments to offer at this time concerning this proposal.

Thank you for the opportunity to participate in the planning stages of the project.

Sincerely,

  
**DARRYL OLIVEIRA**  
Fire Chief

AY:lk



PHONE (808) 594-1888

FAX (808) 594-1865



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

HRD06/2434

June 16, 2006

Ron Terry  
Geometrician Associates  
HC 2 Box 9575  
Keaau, HI 96749

**RE: Pre- Environmental Assessment for the Proposed Construction of the Waikoloa  
Emergency Evacuation Road, South Kohala, Hawai'i Island, TMK 6-8-02: 19.**

Dear Mr. Terry,

The Office of Hawaiian Affairs (OHA) is in receipt of your May 24, 2006 request for comment on the above-listed submission. OHA offers the following comments:

Our staff recommends that the applicant contact Fred Cachola, Desiree Yamamoto of the Hawaiian Civic Club of Kohala and Ruby McDonald of OHA's Kailua-Kona office. These individuals will likely be of great help in developing the consultation component of your Environmental Assessment.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck, Native Rights Policy Advocate, at (808) 594-0239 or [jessey@oha.org](mailto:jessey@oha.org).

'O wau iho nō,

A handwritten signature in cursive script, appearing to read "Clyde W. Nāmu'o".

Clyde W. Nāmu'o  
Administrator

CC: Ruby McDonald  
OHA Community Affairs Coordinator (Kailua-Kona)  
75-5706 Hanama Pl., Suite 107  
Kailua-Kona, HI 96740



**Harry Kim**  
Mayor

**Christopher J. Yuen**  
Director

**Brad Kurokawa, ASLA**  
LEED® AP  
Deputy Director

**County of Hawaii**  
**PLANNING DEPARTMENT**

101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043  
(808) 961-8288 • FAX (808) 961-8742

June 13, 2006

Mr. Ron Terry, Principal  
Geometrician Associates, LLC  
HC 2 Box 9575  
Kea`au, HI 96749

Dear Mr. Terry:

**Subject:        Pre-Environmental Assessment Consultation for Construction  
of Proposed Segment of Waikoloa Emergency Evacuation Road  
TMK: (3) 6-8-002:019, South Kohala, Hawai`i Island**

This is in response to your letter of May 22, 2006 informing our office of the Draft Environmental Assessment (EA) being prepared for the above-mentioned project. The subject property is nearly 4,908 acres in size and:

1. zoned "Open" by the County;
2. has the State Land Use designation of "Agriculture;"
3. is designated "Open" in the County's General Plan of 2005's Land Use Pattern Allocation Guide map;
4. has been given two Special Permits (SPP) – SPP No. 690 to legitimize an existing sewage treatment plant and allow for expansion of the facility on January 31, 1989, and SPP No. 778 on June 6, 1991 to allow construction of a wastewater treatment plant and related improvements; and
5. is not in the Special Management Area.

Mr. Ron Terry  
Page 2  
June 13, 2006

Please send our office a copy of the Draft EA. Should you have questions, please contact Deborah Chang of my staff at 961-8288, Ext. 254.

Sincerely,



CHRISTOPHER J. YUEN  
Planning Director

DLC:cd

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**WAIKOLOA EMERGENCY ROAD  
SOUTH KOHALA, HAWAI'I  
ENVIRONMENTAL ASSESSMENT**

**APPENDIX 1B**

**COMMENTS TO DRAFT EA AND RESPONSES;  
PUBLIC INVOLVEMENT MATERIALS**



August 4, 2006

Geometrician Associates  
HC 2 Box 9575  
Keeau HI 96749  
Attn: Ron Terry

RE: Draft Environmental Assessment – Waikoloa Emergency Road

I would like to offer the following comments in support of the proposed construction of the Waikoloa Emergency Road between Hulu Street in Waikoloa and Queen Ka'ahumanu Highway. The primary purpose in itself is sufficient to warrant the project. The proposed corridor is reasonable and introduces a minimum of environmental impacts. This project should move forward as expeditiously as possible.

However, it will be necessary to adjust the exhibits in the EA (Figure 1-3, Appendix 2 page 5, Appendix 2 page 6) that do not reflect the proposed alignment (Figure 1-2). The exhibits either identify different alignments at Queen Ka'ahumanu Highway or show a connection to Puwalu Street instead of Hulu Street in Waikoloa Village.

1. The County should consider expanding the scope of this EA for proposed project in the event that improvements to all or a portion of the Waikoloa Emergency Road are required in the future.
  - A single EA can cover multiple phases and future alterations and improvements.
  - The specific findings of an EA that could result in a FONSI do not lapse over time.
  - Expanding the scope of uses and design now could save a year or more in the future.
  - The potential cost of an additional EA performed at some time in the future would be avoided.
  - The Bridge Aina Le'a project may or may not proceed as anticipated or as scheduled.
  - The progress of other projects in the area may warrant changes to the Waikoloa Emergency Road in the future.
  - The costs associated with inclusion of modest scope changes in this EA should be negligible.
  - Amending the scope of the EA should not have a significant impact on the findings.
  - Minor changes in the scope at this stage should not delay completing the assessment or the project.

2. The EA should identify non-motorized traffic as an interim use of the Waikoloa Emergency Road on a continuing basis.
  - The County General Plan implores the availability of a variety of transportation modes.
  - The only existing route from the coast to Waikoloa does not have adequate bicycle or pedestrian facilities.
  - The Waikoloa Emergency Road would provide safe and efficient access for hiking and cycling.
  - Pedestrian access provides constant de facto inspection of the facility to assure continuous availability its primary use.
  - Pedestrian use would have negligible impact on the environment and surrounding land use.
  - The use by pedestrians and bicyclists would require virtually no incremental costs to the project.
  - The topographical features of the proposed alignment make this one of the better mauka-makai routes for cycling.
  - With an average gradient of 5 percent this corridor is one of the few pedestrian paths that is substantially ADA compliant.
  - This would enhance recreational access and provide a unique commuting opportunity.
  
3. The EA should consider other specific uses that are not inconsistent with the project as proposed.
  - Evacuations other than just from Waikoloa could occur and should be identified in the final EA.
  - Temporary use may be warranted if Waikoloa Road is closed due to an accident or property damage.
  - Alternate use as a detour route during paving or maintenance projects should be considered to avoid delays and added costs.
  - Routine emergency response for Fire and EMT could be significantly reduced under certain circumstances.
  - Options for limited mass transit and school transportation should not be overlooked.
  
4. An all-weather surface, as well as a wider traveled way should be considered in the EA. This may not be required immediately, but could be needed for future uses, if alternative routes are delayed.
  - The limited use, short design life and low percentage of trucks would allow consideration of lower cost surface alternatives.
  - An improved surface would assure full functionality if an evacuation were required during or after heavy rains.
  - A surface other than just gravel would provide greater protection of the road when not in use.
  - The problems due to dust during emergency use and the need for mitigation would be eliminated.
  - An improved traveled way would allow a higher capacity at the time it may be needed most.

Integrating these comments may or may not be imperative to the successful completion of the project to meet its primary purpose. We must, however, realize that fiscal constraints necessitate that we must maximize the utility of all available infrastructure resources.

Thank you for your consideration,

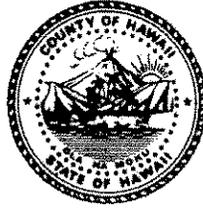


**Robert Ward**  
**Kailua Kona**

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

**Cc: Hawaii County Department of Public Works**  
**101 Pauahi Street, Suite 7**  
**Hilo, HI 96720**  
**Attn: Jiro Sumada**

Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

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

October 11, 2006

Robert Ward  
77-6526 Hoolaupai Street  
Kailua-Kona HI 96740

**Subject: Draft Environmental Assessment for Waikoloa Emergency Road,  
TMKs 6-8-2:19, 6-8-1:37 and 38**

Thank you for your comment letter dated August 4, 2006, on the Draft EA. Your support for the project is acknowledged and appreciated. In answer to your specific comments:

a. *Mapping of proposed alignment.* Upon review of the document, we find that the Figure 1-3 of the EA and the figure in Appendix 2 on page 6 are correct. The figure on page 5 of Appendix 2 was indeed in error and has been corrected in the Final EA.

1. *Use of the EA to cover multiple planned improvements.* It is important to first note that the road is essentially a temporary solution that is very likely to be replaced as planned developments in the area create road networks that lessen Waikoloa Village's isolation. Ignoring the fact Bridge Aina Le'a is obliged as part of its development to build a future connector road from just west of Waikoloa Village to Queen Ka'ahumanu Highway, the County could conceivably take such a project on. However, doing so would require detailed engineering, traffic studies, intersection design, and right-of-way purchase. Far from speeding things up, such a plan would delay construction of the road for several years. The costs for this road would be substantial, and its funding would require evaluation by the County Council and the administration in light of competing needs throughout the County, many of which are planned, critically needed, and already designated to be high priority. Considering the high likelihood of Bridge Aina Le'a building most of the length of this very same road at its own expense, County involvement is imprudent at this time.

2. *Use of Waikoloa Emergency Road as an ADA-compliant route for bicycles and pedestrians.* We agree that additional bicycle and pedestrian routes are needed in the area, but we do not see this road as the proper avenue for these, nor does it appear to have a clear destination that would make it particularly suitable. Substantial

engineering and additional costs would be required, and our understanding with the developer that the easement would be utilized strictly for emergency use would require reconsideration, with the consequences discussed above.

3. *Other suggested uses.* The road may be opened for emergencies other than fire, such as unusually large accidents that completely close Waikoloa Road, as you mentioned. However, the road has not been and will not be planned as a convenient route to avoid delays during maintenance of Waikoloa Road. It is also doubtful that the road would provide a better route for EMT response to Waikoloa Road, and it is not at all clear that the road would assist in evacuations from areas other than Waikoloa.

4. *All-weather surface and use as a standard connector roads.* As stated above, there are many reasons that the Waikoloa Emergency Road is being planned as an emergency evacuation route and not a connector road. Given the expense of construction, paving is not required. The County believes that a gravel road would provide adequate capacity for one-way, downhill traffic, and that dust problems during emergency use would not be substantial, nor critical, given their context within a rare emergency situation.

In summary, many of the purposes and projects that you envision are worthy goals for the Waikoloa area, but they are not relevant – and in fact would detract from – the purpose that has clearly been articulated by the Waikoloa community: the need to quickly provide an alternate emergency access road from Waikoloa Village. We thank you for your comments. If you have any questions about the project, please contact Jiro Sumada of Department of Public Works at 961-8324.

  
Bruce C. McClure, P.E.  
Director

JAS/sat

LINDA LINGLE  
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185  
FACSIMILE (808) 586-4186  
E-mail: oeqc@health.state.hi.us

August 30, 2006

Mr. Bruce McClure, Director  
Department of Public Works  
101 Pauahi Street, Suite 7  
Hilo, Hawaii 96720-4224

Dear Mr. McClure:

Subject: Draft Environmental Assessment for the Waikoloa Emergency Road

Thank you for the opportunity to review and comment on the subject project. We have the following comment.

1. Please describe in more detail the emergency execution plan for this project. For example, will the gate be locked during non-emergency conditions, who will open the gate, how will this person be notified, etc.

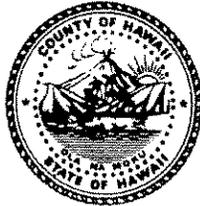
Should you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,

  
Genevieve Salmonson  
Director

c: Ron Terry

Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

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

October 11, 2006

Genevieve Salmonson, Director  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu HI 96813

**Subject: Draft Environmental Assessment for Waikoloa Emergency Road,  
TMKs 6-8-2:19, 6-8-1:37 and 38**

Thank you for your comment letter dated August 30, 2006, on the Draft EA. In answer to your specific comment:

1. *Emergency execution plan.* As stated in the Draft EA on page 1, the gated road would only be opened during emergencies, i.e., locked at all other times. Emergencies would be authorized by the County of Hawai'i Civil Defense Agency, which is in charge of emergency situations in the County of Hawai'i. The Draft EA did not specify clearly that Fire Department personnel from the Waikoloa and Mauna Lani Fire Stations, located less than a mile away, would have primary responsibility for opening the gate, and that Police and DPW personnel would also have keys and could open the gate if so directed by Civil Defense. This information has been added to the EA, along with the recommendation by the Fire Department for the gate to have a Knox Box (i.e., one Universal Key ) security system to facilitate authorized opening.

Again, thank you for your comment. If you have any questions about the project, please contact Jiro Sumada of Department of Public Works at 961-8324.

  
Bruce C. McClure, P.E.  
Director

JAS/sat

G. M. Reimer  
75-6081 Ali'i Drive RR-103  
Kailua-Kona, HI 96740

August 31, 2006

Dr. Ron Terry  
Geometrician Associates  
HC 2 Box 9575  
Keaau, HI 96749

Dear Dr. Terry:

I am pleased to submit the following commentary on the August 2006 Waikoloa Emergency Road Draft Environmental Assessment in the hope that it may in a small way improve upon the information and discussion provided by that Assessment.

Would you please see that this is included as testimony for discussions regarding the Emergency Access Road at Waikoloa?

Thank you for your attention in this matter.

Sincerely,



G. M. Reimer, Ph.D.  
Geologist, retired  
GeoMike5@att.net

CC:

Director, Office of Environmental Quality Control, 235 South Beretania St. Suite 702,  
Honolulu, HI 96813

Mr. Jiro Sumada, Deputy Director Department of Public Works, County of Hawaii, 101  
Pauahi St. Suite # 7, Hilo, HI 96720.

## Comments on the Waikoloa Emergency Road Emergency as discussed in August 2006 Draft Environmental Assessment.

### Purpose of the road.

One of the major controversial issues concerning the construction of this road is whether it is serving a legitimate need for emergency evacuation or is it just an opportunistic time to construct an alternative route that will benefit developers at county expense (Section 1.1, Draft Environmental Assessment).

The Draft Environmental Assessment (DEA) fairly mentions the possible use of the road by future developers (Sec. 1.3) but falls short of discussing the risk or peril created by that use if needed for evacuation purposes.

The need for the road is stated as providing an alternate escape route if Waikoloa Village is threatened by a natural disaster (Summary) including wildland brush fires. Section 1.2 addresses only the fire and smoke issue. Often cited is the fire of August 2005 that closed the Waikoloa makai/mauka road serving the village from the Queen Ka'ahumanu Highway approximately 3 miles makai and the Mamalahoa highway approximately 6 miles mauka. Hereinafter, this road is called the Waikoloa road. The only portion of the road that was closed from Waikoloa Village was the mauka portion; the makai section remained open for escape.

Thus, the existing Waikoloa connector road was sufficient to provide egress from the Village for those who chose to do so. One might presume from this actual recent event, that the existing Waikoloa road is sufficient in that it provides escape route in at least one of two directions and thus, an additional road is not necessary. In fact, the proposed escape road is only about 2 miles north of the existing Waikoloa road and smoke of sufficient density from a fire south of the Waikoloa road that would require closure of the makai portion of that road would, or could, also require closure of the escape road. Figures 1-2 and 1-3 of the DEA should be expanded to show this proximal relationship.

This issue should be addressed in the DEA. Some commentary on smoke distribution from various geometric sources (point source, linear source, etc.) over a few miles should be included and a series of wind rose diagrams for various seasons could be included to show the expected or probable wind direction and magnitude. It is possible that this data might be available from the nearby heliport or even a weather station if one exists in Waikoloa.

### Location of the road

The topographic map (Fig 1-2) shows a 4-wheel drive trail already exists just south of the proposed road. For a substantial portion, the proposed road comes within less than 1,000 ft. of the 4-wheel drive trail. A discussion of this trail should be included in the EIS and reasons given why it can or cannot be used as the base for the escape road. It might, in

addition to the reasons given in Sec. 2.2, present one major advantage in that its post-WWII use would indicate that it poses very low risk from unexploded ordinance.

Although there are no floodplains in the area, it would be helpful if the FEMA major Flood Insurance Map for this area would be shown as a figure. (Sec. 3.1.2).

#### Design of the road.

The road should have several areas widened so that it would provide a pullout for passing or parking for maintenance and other vehicles. This is based on the presumption that, although designated a one-way road (Sec. 1.1), utility/service use by the developers (Sec. 1.3, Bridge Aina Le'a), emergency and maintenance vehicles, require provision for two-way traffic. Also, from the photograph shown (Fig. 1-5) of typical vegetation coverage, it may be that the total width of the road including the total cleared easement of 50 feet (Sec. 1.1) is insufficient as a firebreak (Sec. 3.1.1) if the grass nearby the road catches fire in a typical windy environment. These issues should be addressed in the DEA.

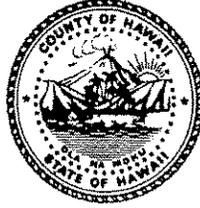
The end of the road intersecting the Queen Ka'ahumanu Highway should have an area flattened and graded so that it can be used as a staging area for individuals fleeing Waikoloa. This is not discussed in the DEA and does not seem to be part of the planning but it should be as it is an important issue. This staging area should be large enough (perhaps 10 or more acres) to provide parking for vehicles and setting up emergency services for the population and fire fighting crews to include tent housing, sanitary facilities, food service, temporary medical center, family gathering point, etc. This is preferable to dumping thousands of cars in a few-hour period onto the Highway. This area could serve numerous other purposes, such as use by the county as a base for maintenance vehicles, rest stop, and so forth.

The number of vehicles using the emergency access road should be discussed in the DEA. Given the population of 5,000 (Sec. 1.2), the number of vehicles could be anywhere from 2,000-4,000; even running in regimented convoy fashion, it could take 3-6 hours to evacuate the Village.

#### Maintenance of the road.

The emergency road should have a periodic inspection and maintenance, such as to minimize wash-boarding or washouts, especially after strong area rainstorms. While this may not seem to be an issue directly included in the DEA, it is from the standpoint that this maintenance operation will generate significant dust that, unless mitigated, may exceed the EPA standards (PM 10 or PM 2.5). These operations can be considered intermittent and thus have minimal impact. However, the issue of blowing dust during non-use times (Sec. 3.1.3) should be addressed in the DEA; there should be specific design, perhaps windbreaks, so that the constant wind in that area does not generate constant dust.

Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

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

October 11, 2006

G.M. Reimer, Ph.D.  
75-6081 Ali'i Drive, RR-103  
Kailua-Kona HI 96740

**Subject: Draft Environmental Assessment for Waikoloa Emergency Road,  
TMKs 6-8-2:19, 6-8-1:37 and 38**

Thank you for your comment letter dated August 31, 2006, on the Draft EA. In answer to your specific comments:

1. *Purpose of the road.* We are not aware that the emergency road itself is controversial. The only controversy that we have heard to date is frustration over the length of time it has taken us to complete it. The County design of a gravel, one-lane road will be of only minimal use for the developers of the property, who in fact will soon build a road to higher standards at their own expense suitable for both their use and also for evacuation purposes for the County. The County is not building the road for the developers, it is being built to meet a critical community need. In addition, because we have no control over when the developer intends to build the road, we are forced to construct to roadway ourselves.

2. *Sufficiency of existing road network for evacuation.* You state that it appears that the existing Waikoloa road was sufficient to provide egress from Waikoloa Village for those who chose to do so during the August 2005 fire. You also seem to imply that an additional route, especially one within two miles of Waikoloa Road, may also not be necessary. In fact, this distance varies from about 1.0 to 2.8 miles, which is why a map with sufficient detail to show the route along with Waikoloa Streets does not also include the full length of Waikoloa Road. An inset has been provided in the Final EA to clarify this. Our response to your larger point is that traffic during this emergency was heavily congested on Waikoloa Road, and another fire on that section of the road may have cut off access there. Letters, phone calls and testimony at meetings indicate that many residents of Waikoloa Village do not agree with your assessment that they have sufficient egress during emergencies. It is our professional judgment that their pleas to build an emergency access road are justified.

3. *Winds and smoke.* Winds in this area tend to blow from either the mauka or makai direction. Depending on the location the fire – which can start at virtually any distance from Waikoloa Village in any direction of the compass – it can bring smoke to any location within Waikoloa Village or along Waikoloa Road. This fact is easily ascertained without detailed meteorological data. This discussion has been added to the Final EA.

4. *Location of the road.* There are many possible routes that could be built out of Waikoloa Village. We did consider other routes to the north. Most of them would be more indirect, and they would also approach areas that were previously burned during the Lalamilo Fire and may burn again, making them less than ideal as potential evacuation routes. The proposed route provides the shortest, most direct route to Queen Ka'ahumanu Highway along a corridor that is free of historic sites and important native vegetation. The route is amenable to the landowner, who is donating the temporary easement, avoiding time-consuming negotiations and high land acquisition costs. The route was previously approved by the Planning Department, and it is likely that the land owner (Bridge Aina Le'a) will someday improve a major portion of the road to County-dedicable standards.

As for the 4-wheel drive road shown on the map, it is important to recognize that just because it exists does not make it an automatically preferable path for a road. Although it was generally in the right location, it did not have the characteristics or meet the needs outlined above. Please note that the route has already been cleared by the U.S. Army Corps of Engineers as free from any apparent hazard of ordinance and explosives.

5. *Road design.* The road will be wide enough for maintenance and to allow other vehicles to pass a stalled vehicle. Please note that the road is being constructed at minimal expense to be an *emergency evacuation route* and is not designed as a firebreak, utility road, bike path or other type of facility. It is very likely that the road the County builds will be succeeded in the near or mid-term future by a road constructed at developer expense that will meet some of these purposes. While your suggestions for a staging and gathering area to provide emergency services such as housing, food service, medical services, family meeting points, etc., are interesting, these would raise the budget of the project to an order of magnitude above the current projected cost. In addition, this type of land use would not likely be in harmony with the landowner's development plans for the area, and would thus require additional time and money for negotiation and considerable additional money for land purchase. We would again emphasize that the road is essentially a temporary solution that is very likely to be replaced as planned developments in the area create road networks that lessen Waikoloa Village's isolation.

The population of Waikoloa Village is currently over 8,000 and will grow considerably in the next five years. We agree that evacuating the entire village down the emergency road would be a cumbersome and time-consuming exercise. Many factors would

influence how many vehicles would actually utilize the road – time of day, time of year, location of fire, status of alternate routes – and in the face of the clear fact that an

additional evacuation route is needed and desired by Waikoloa Village residents, and that it can be built quickly, efficiently and inexpensively by the County before the next fire season, there is little to be gained by attempting to model various evacuation scenarios.

6. *Road maintenance.* A gravel road will generate minimal dust when it is not in use. When and if it requires maintenance, water trucks will be used to minimize dust. This discussion has been added to the Final EA.

Again, thank you for your comment. If you have any questions about the project, please contact Jiro Sumada of Department of Public Works at 961-8324.



Bruce C. McClure, P.E.  
Director

JAS/sat

Harry Kim  
Mayor



Darryl J. Oliveira  
Fire Chief

Desmond K. Wery  
Deputy Fire Chief

## County of Hawai'i

### FIRE DEPARTMENT

25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720  
(808) 961-8297 • Fax (808) 961-8296

August 21, 2006

Geometrician Associates, LLC  
HC 2 Box 9575  
Keaau, Hawaii 96749

SUBJECT: ENVIRONMENTAL ASSESSMENT  
PROJECT NAME: WAIKOLOA EMERGENCY ROAD, SOUTH KOHALA  
TAX MAP KEY: 3<sup>RD</sup>/6-8-01:37 & 38 AND 6-8-02:19

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We recommend the use of a Knox box-type security system to facilitate ease of access by emergency personnel and select community representatives.

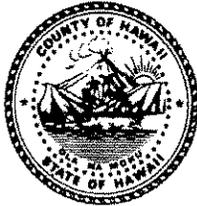
A handwritten signature in black ink, appearing to read "Darryl Oliveira".

DARRYL OLIVEIRA  
Fire Chief

DO:lpc



Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

County of Hawai'i  
DEPARTMENT OF PUBLIC WORKS

Aupuni Center  
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224  
(808) 961-8321 · Fax (808) 961-8630

October 11, 2006

Darryl Oliveira, Chief  
Hawaii County Fire Department  
25 Aupuni Street  
Hilo HI 96720

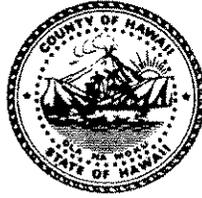
**Subject: Draft Environmental Assessment for Waikoloa Emergency Road,  
TMKs 6-8-2:19, 6-8-1:37 and 38**

Thank you for your comment letter dated August 21, 2006, on the Draft EA, in which you stated your recommendation for the gate to have a Knox Box type security system to facilitate authorized opening. DPW accepts this recommendation and this information has been added to the EA. If you have any questions about the project, please contact Jiro Sumada of Department of Public Works at 961-8324.

Bruce C. McClure, P.E.  
Director

JAS/sat

**Harry Kim**  
Mayor



**Lawrence K. Mahuna**  
Police Chief

**Harry S. Kubojiri**  
Deputy Police Chief

## County of Hawaii

### POLICE DEPARTMENT

349 Kapiolani Street • Hilo, Hawaii 96720-3998  
(808) 935-3311 • Fax (808) 961-2389

August 24, 2006

Mr. Ron Terry  
Geometrician Associates  
HC 2 Box 9575  
Keaau, Hawaii 96749

RE: Waikoloa Emergency Road, South Kohala, Hawaii  
Tax Map Key Number: 6-8-01:37 and 6-8-02:19

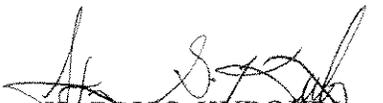
Dear Mr. Terry:

This is in response to your request for comments received by the Hawaii Police Department on August 7, 2006, concerning the Draft Environmental Assessment prepared for the above-referenced project.

Staff has reviewed your request and has no comments to offer at this time.

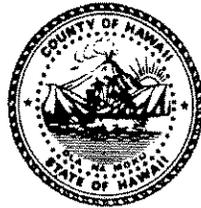
Should you have any questions, please contact Captain Lawrence Balberde, Commander of the South Kohala District, at 887-3080.

Sincerely,

  
HARRY S. KUBOJIRI  
ACTING POLICE CHIEF

LB:dmv

Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

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

October 11, 2006

Harry S. Kubojiri, Acting Police Chief  
Hawai'i County Police Department  
349 Kapiolani Street  
Hilo, Hawai'i 96720

**Subject: Draft Environmental Assessment for Waikoloa Emergency Road,  
TMKs 6-8-2:19, 6-8-1:37 and 38**

Thank you for your comment letter dated August 7, 2006, on the Draft EA, in which you stated that you had no comments to offer at this time. We appreciate your review of the document. If in the future you have any questions about the project, please contact Jiro Sumada of Department of Public Works at 961-8324.

  
Bruce C. McClure, P.E.  
Director

JAS/sat

PHONE (808) 594-1888

FAX (808) 594-1865



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

HRD06/2434

September 4, 2006

Ron Terry  
Geometrician Associates  
HC 2 Box 9575  
Keeau, HI 96749

**RE: Draft Environmental Assessment for the Waikoloa Emergency Road, South Kohala, Hawai'i Island, TMK 6-8-001:037 & 038 and 6-8-002:019.**

Dear Mr. Terry,

The Office of Hawaiian Affairs (OHA) is in receipt of your August 8, 2006 submission and offers the following comments:

Our staff has two recommendations. First, we recommend consultation with Fred Cachola and Desiree Yamamoto. The DEA (p.21) states that only one of the three consulting parties we suggested in our June 16, 2006 letter was contacted. Second, we recommend that a qualified archaeologist conduct a site visit at the start of ground disturbance to verify that the previously-marked road corridor has not changed since the reconnaissance by Rechtman Consulting, LLC.

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck, Native Rights Policy Advocate, at (808) 594-0239 or [jessey@oha.org](mailto:jessey@oha.org).

Aloha,

A handwritten signature in black ink, appearing to read "Clyde W. Nāmu'o".

Clyde W. Nāmu'o  
Administrator

CC: County of Hawai'i  
Department of Public Works  
101 Pauahi Street, Suite 7  
Hilo, HI 96720-3043

Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

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

October 11, 2006

Clyde Namu'o  
Office of Hawaiian Affairs  
711 Kapiolani Blvd., Suite 1250  
Honolulu HI 96813

**Subject: Draft Environmental Assessment for Waikoloa Emergency Road,  
TMKs 6-8-2:19, 6-8-1:37 and 38**

Thank you for your comment letter dated September 4, 2006, on the Draft EA. In answer to your specific comments:

1. *Consultation with additional individuals.* In response to your concerns that these particular individuals be contacted, our consultant contacted Desiree Yamamoto and Fred Cachola several times and requested their input, if any. To date, we have not received a response. Any information we receive from them will be taken into account as we continue to plan and construct the road.
2. *Additional archaeological work.* Although the area has already been inspected and found free of archaeological or cultural resources, in deference to your request, DPW will ensure that a qualified archaeologist inspects the route again prior to construction.
3. *Halting work if iwi or cultural remains are found.* Please be assured that this condition, which is stated explicitly in Section 3.3.6 of the EA, will be observed by the construction crew.

Again, thank you for your comment. If you have any questions about the project, please contact Jiro Sumada of Department of Public Works at 961-8324.

  
Bruce C. McClure, P.E.  
Director

JAS/sat



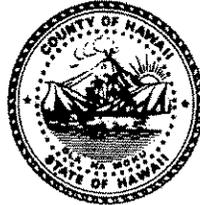
[communication received via e-mail]

Ron,

The Waikoloa Village Association considers the construction of the Emergency Access Road to be the number one priority for Waikoloa Village. After the 25,000 acre wild fire of August 2, 2005 the WVA Board of Directors expressed their deep concern regarding efforts to create a second road out of the village. The County of Hawaii held a debriefing at the Waikoloa Elementary School cafeteria a few weeks after the fire. The various officials of the County pledged that work would commence on an emergency road beginning on September 13, 2005. We are now more that a year late and we are still waiting for something to be done. Please note these comments in you environmental impact study. Waikoloa Village is just as vulnerable to wildfire as it was a year ago and we are nervously waiting for something to be done to afford additional emergency exiting from the village.

John Tarson  
General Manager  
Waikoloa Village Association

Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

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

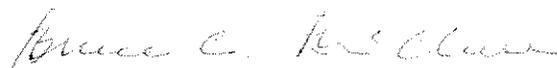
October 11, 2006

John Tarson, General Manager  
Waikoloa Village Association  
P.O. Box 383910  
Waikoloa, HI 96738-3910

**Subject: Draft Environmental Assessment for Waikoloa Emergency Road,  
TMKs 6-8-2:19, 6-8-1:37 and 38**

Thank you for your comment letter sent in an email dated September 26, 2006, on the Draft EA. We acknowledge that Waikoloa Village is extremely vulnerable to fire and understand that your organization considers the construction of the Emergency Access Road to be the number one priority for Waikoloa Village. Our agency has been working and will continue to work diligently to provide this badly needed road.

Again, thank you for your comment. If you have any questions about the project, please contact Jiro Sumada of Department of Public Works at 961-8324.

  
Bruce C. McClure, P.E.  
Director

JAS/sat

Harry Kim  
Mayor



Troy M. Kindred  
Administrator

Lanny T. Nakano  
Assistant Administrator

## County of Hawaii

### CIVIL DEFENSE AGENCY

930 Uluani Street • Hilo, Hawaii 96720-3058  
(808) 935-0951 • Fax (808) 935-6460

September 26, 2006

Mr. Ron Terry  
Geometrician Associates  
HC2 Box 9575  
Kea'au, Hawai'i 96749

Dear Mr. Terry:

SUBJECT: Waikoloa Emergency Road Environmental Assessment

This is in response to the Environmental Assessment for the above referenced project. I feel this project is well planned, and is absolutely critical to the safety of the residents of Waikoloa. This project will allow a secondary escape route for a community that has a high risk of brushfires. I support this project 100%. That being said the following relate to the proposed project and should in no way imply anything other than support for this project:

- This project lies in lava flow zone 8 and has a relatively low risk of inundation.
- While this area also has a history of un-exploded ordnance, the project site has been cleared.
- This project lies in an area of heightened Brushfires and is in fact intended to mitigate against the risk of people being trapped in the event of a brushfire.

Thank you for the opportunity to comment on this project.

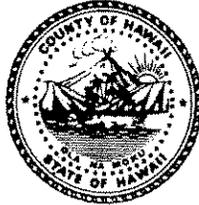
Sincerely,

A handwritten signature in black ink, appearing to read "Troy M. Kindred".

Troy M. Kindred  
Civil Defense Administrator



Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

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

October 11, 2006

Troy M. Kindred, Civil Defense Administrator  
Hawaii County Civil Defense Agency  
920 Ululani Street  
Hilo HI 96720-3958

**Subject: Draft Environmental Assessment for Waikoloa Emergency Road,  
TMKs 6-8-2:19, 6-8-1:37 and 38**

Thank you for your comment letter dated September 4, 2006, on the Draft EA. We appreciate your agency's sincere support and valuable cooperation on this project. In answer to your specific comments:

1. *Lava Flow Hazard.* Thank you for confirming the hazard zone of the area.
2. *Unexploded ordnance.* We expect to receive a report shortly detailing the finding by Corps of Engineers contractors that the area is free of surface ordnance and explosives..
3. *Wildfires.* We agree with your assessment about the wildfire hazard in Waikoloa and expect that the proposed road will help mitigate this condition.

Again, thank you for your comment. If you have any questions about the project, please contact Jiro Sumada of Department of Public Works at 961-8324.

  
Bruce C. McClure, P.E.  
Director

JAS/sat

## Waikoloa Emergency Road (HRS 343 DEA)

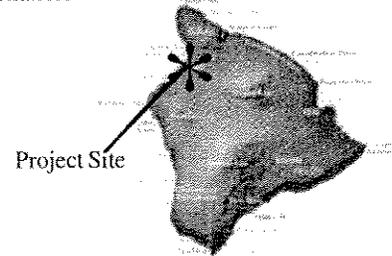
**District:** South Kohala  
**TMK:** (3) 6-8-01:37 & 38 and 6-8-02:19  
**Proposing Agency:** Hawai'i County, Department of Public Works  
 101 Pauahi St., Ste. 7, Hilo, HI 96720  
 Contact: Jiro Sumada (961-8324)

**Determination Agency:** Same as above.  
**Consultant:** Geometrician Associates  
 HC 2 Box 9575, Kea'au, HI 96749  
 Contact: Ron Terry (982-5831)

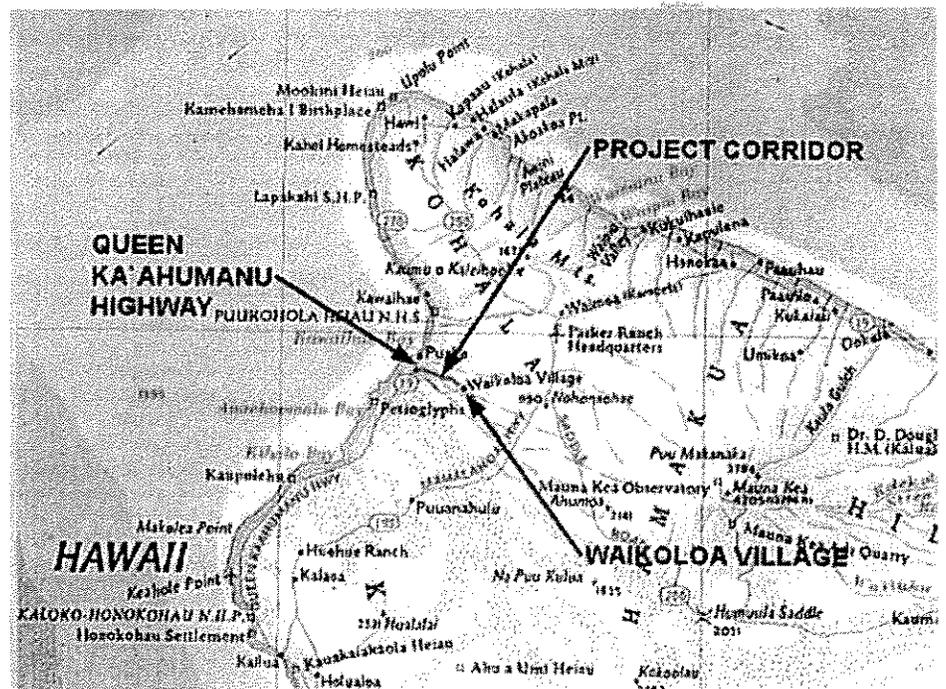
**Public Comment Deadline:** September 7, 2006  
**Status:** Draft environmental assessment (DEA) notice pending 30-day public comment. Address comments to the proposing agency with copies to the consultant and OEQC.

**Permits Required:** County (PWD): Grading, Grubbing and Stockpiling and Permits to Construct Within County ROW; State (DOH): National Pollutant Discharge Elimination System Permit (NPDES); (SHPD): No Adverse Effects Determination

lized to safely conduct traffic along and off the road onto Queen Ka'ahumanu Highway. The gravel road would be 12 to 15 feet wide, with an easement width of 50 feet and a total length of about 2.13 miles. The intersection with Queen Ka'ahumanu Highway would involve a new access point with an apron paved for 50-feet beyond the State right-of-way. The project would utilize private lands and County of Hawai'i funds, and would be field constructed by the DPW. It is likely that most of the length of the emergency road will be replaced by the permanent road system of the Bridge Aina Le'a project, which is planned for development some time in the next decade. The area has been surveyed for significant botanical and archaeological resources and none are present. Should archaeological features or human skeletal remains be encountered during road construction or operation, work in the immediate area of the discovery will be halted and DLNR-SHPD contacted.

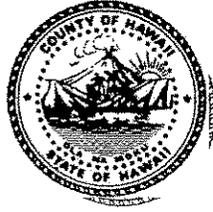


The Hawai'i County Department of Public Works (DPW) proposes to construct a single-lane, gravel-surfaced roadway that would provide a route from within Waikoloa Village to Queen Ka'ahumanu Highway for emergency evacuation of the village during natural disasters, or other emergency situations, particularly wild land brush fires. Waikoloa Village has more than 5,000 residents in addition to visitors, and because it is surrounded by dry grass in an area of high wind speeds, it is very vulnerable to brush fires. The August 2005 wildfire burned 25,000 acres and cut off the upper portion of Waikoloa Road. The gated one-way road would be opened *only during emergencies* as authorized by the County of Hawai'i Civil Defense Agency, and professional traffic control personnel would be uti-



Project Map

Harry Kim  
Mayor



Dixie Kaetsu  
Managing Director

Barbara J. Kossow  
Deputy Managing Director

## County of Hawaii

25 Aupuni Street, Room 215 • Hilo, Hawaii 96720-4252 • (808) 961-8211 • Fax (808) 961-6553  
KONA: 75-5706 Kuakini Highway, Suite 103 • Kailua-Kona, Hawai'i 96740  
(808) 329-5226 • Fax (808) 326-5663

NEWS RELEASE  
July 31, 2006

Contact Person: Bruce C. McClure, Director

### **Public Works Proposes Emergency Evacuation Road For Waikoloa Village Residents**

The Department of Public Works seeks comments from the public on a draft environmental assessment for a single lane gravel road for emergency evacuations from Waikoloa Village.

The proposed road would start at the end of Hulu Street in Waikoloa Village and run makai for 2.13 miles connecting at the 72-mile marker Queen Ka'ahumanu Highway, which is mauka of the Mauna Lani Resort entrance.

The proposed emergency road would be gated and opened **only during** emergencies, as authorized by the County of Hawai'i Civil Defense Agency.

More than 5,000 residents in addition to visitors reside in Waikoloa Village and because it is surrounded by dry grass in an area of high wind speeds, it is very vulnerable to brush fires.

In the August 2005 wildfire, 25,000 acres burned, cutting off the mauka portion of Waikoloa Road and severely congesting traffic on the makai portion of Waikoloa Road. Copies of the Draft Environmental Assessment are available at public libraries.

For an electronic version  
<http://co.hawaii.hi.us/info/nh/WaikoEmergRoadDEA.pdf>

September 7, 2006 is the postmark deadline for original comments. They should be directed to:

Ron Terry  
Geometrician Associates  
HC 2 Box 9575,  
Kea'au, Hawaii 96749

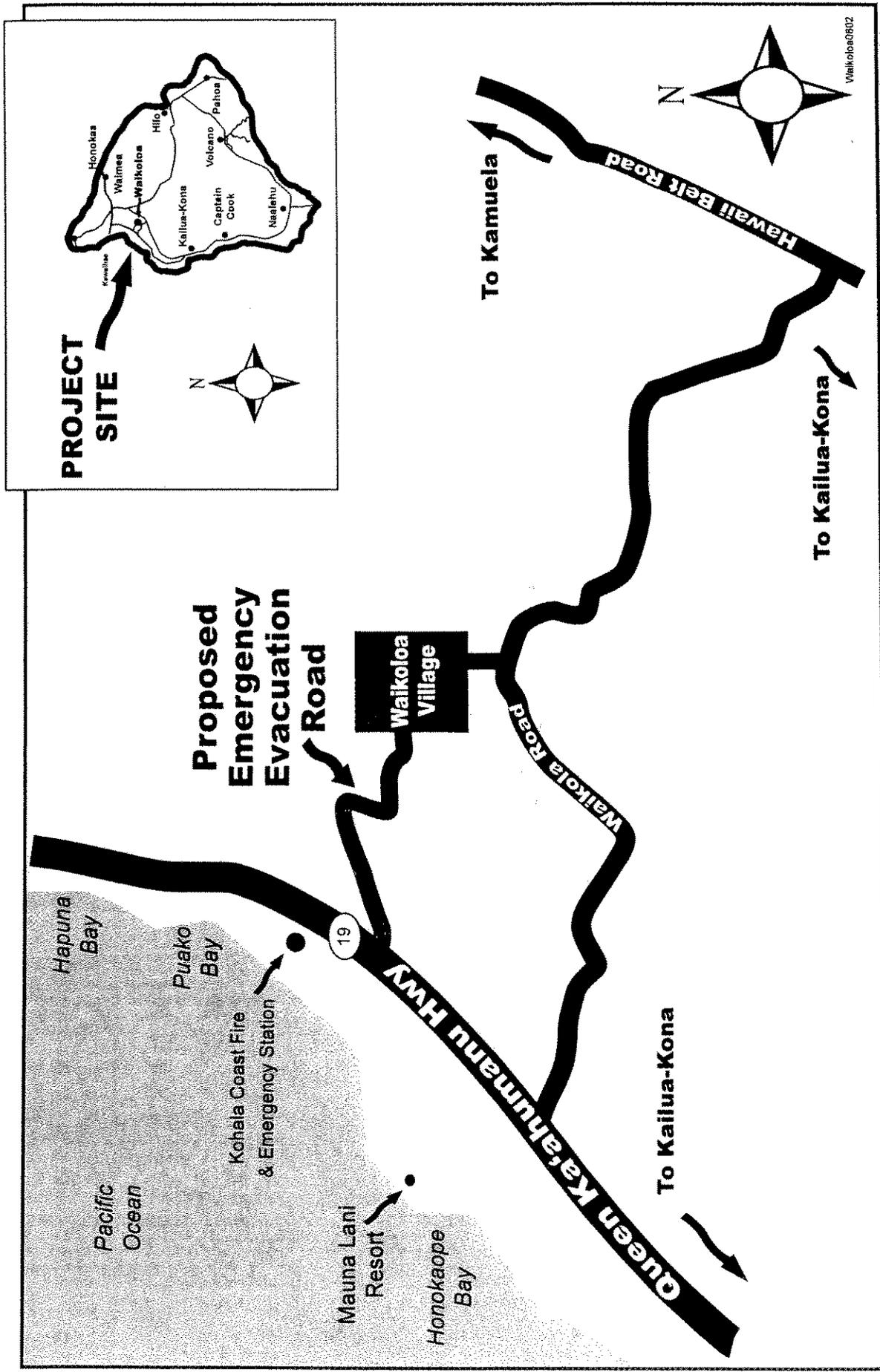
Copies of your comments should be sent to:

Director, Office of Environmental Quality Control  
235 South Beretania Street /Ste. 702  
Honolulu, Hi 96813

and

Department of Public Works, County of Hawaii  
101 Pauahi Street # 7  
Hilo, Hawaii 96720  
Attn: Jiro Sumada, Deputy Director

# County of Hawaii, Department of Public Works Proposes an Emergency Evacuation Road for Waikoloa Village



8A

**IN BRIEF | BIG ISLAND****Mandatory juror questionnaires coming out**

A total of 55,000 people on the Big Island will receive juror questionnaires in the next two weeks from the Hawaii State Judiciary.

Those who do receive questionnaires must return completed forms or face prosecution.

The forms will be used to select people who are eligible to serve as jurors during the upcoming year. People are selected randomly through driver's licenses, voter registration and income tax lists.

To be eligible, jurors must be 18, U.S. citizens, Hawaii residents and able to read and understand English.

**Public Works meeting will cover Laaloa Extension**

The Hawaii County Department of Public Works is hosting a meeting from 6 to 8 p.m. Wednesday at Kahakai Elementary School on a new process they will use to complete the Laaloa Extension to Kuakini Highway in Kona. This is the first of a series of meetings.

The meeting's focus will be new process called Context Sensitive Solutions that will be used to complete the Laaloa Extension to Kuakini Highway.

According to the Federal Highways Administration's Web site, Context Sensitive Solutions are a way of "thinking beyond the pavement" in highway design.

It is described as a "collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility," the Web site stated.

For further information, contact Cheryl Yoshida at cyoshida@ch2m.com or Deputy Director of Public Works Jiro Sumada at 961-8321.

If you require special accommodations, auxiliary aid and/or services to participate in this meeting (i.e. sign language interpreter, large print), please

call 961-8321.

**Comment sought on emergency road**

The Hawaii County Department of Public Works seeks public comment until Sept. 7 on a draft environmental assessment for a single-lane gravel road for emergency evacuations from Waikoloa Village.

The proposed road would start at the end of Hulu Street in Waikoloa Village and run makai for 2.13 miles, connecting at the 72-mile marker with Queen Kaahumanu Highway, mauka of the Mauna Lani Resort entrance.

The proposed road would be gated and opened only during emergencies as authorized by the county's Civil Defense Agency.

More than 5,000 residents, in addition to visitors, reside in Waikoloa Village, and because it is surrounded by dry grass in an area of high wind speeds, it is very vulnerable to brush fires.

In the August 2005 wildfire, 25,000 acres burned, cutting off the mauka portion of Waikoloa Road and severely congesting traffic on the makai portion of Waikoloa Road.

Copies of the Draft Environmental Assessment are available at public libraries. For an electronic version of the Draft Environmental Assessment, go to <http://co.hawaii.hi.us/info/nh/WaikoEmergRoadDEA.pdf>.

The deadline for testimony is Sept. 7 and should be mailed to: Ron Terry, Geometrician Associates, HC 2 Box 9575, Keaau, HI 96749.

Copies of all comments should also be sent to: Director, Office of Environmental Quality Control, 235 South Beretania St. Suite 702, Honolulu, HI 96813 and Jiro Sumada, Deputy Director, Department of Public Works, County of Hawaii, 101 Pauahi St. Suite # 7, Hilo, HI 96720.

**Environmental commission has vacant seat in District 3**

The Environmental Management Commission will

# WEST HAWAI'I ROAD PROJECTS

## PROJECT FACT SHEET

**PROJECT:** Waikoloa Emergency Road

**PROJECT ENGINEER:** Jiro Sumada  
Contact Telephone Number: (808) 961-8321

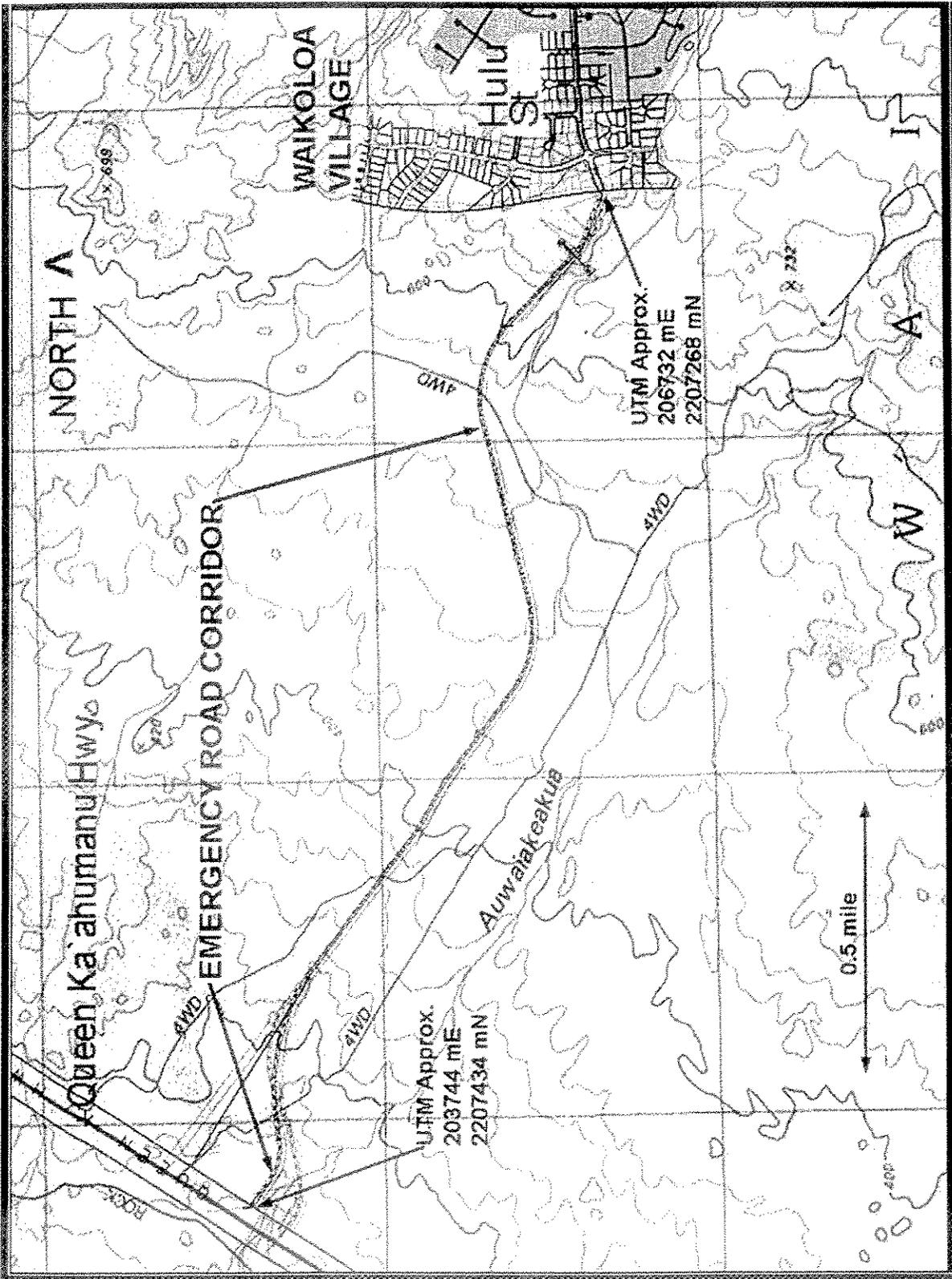
**DESCRIPTION (Scope of Work):** Construct a single-lane, gravel-surfaced roadway for emergency evacuation of Waikoloa Village to Queen Ka'ahumanu Highway, particularly for wildland brush fires. Road would be 12 to 15 feet wide, with an easement width of 50 feet and a total length of 2.13 miles. The gated, one-way road would be opened *only during emergencies* as authorized by the County of Hawai'i Civil Defense Agency. Traffic control personnel would be utilized to safely conduct traffic along the gravel road and for a right turn only onto Queen Ka'ahumanu Highway. Intersection with Queen Ka'ahumanu Highway would involve a new access point with an apron paved for 50-feet beyond the State right-of-way.

**PROJECT STATUS:** A Draft Environmental Assessment will be released on August 8. DPW has applied for a National Pollutant Discharge Elimination System Permit and is coordinating with the Hawai'i Department of Transportation regarding an access point and intersection design.

**PROJECT SCHEDULE:**

	<u>Start</u>	<u>Completion</u>
Design	September 2005	September 2006
Construction	October 2006	December 2006

(attached plan)



## **Waikoloa Open House: Looking at the Future of the Community August 4, 2006, Waikoloa Elementary School Cafeteria**

The Waikoloa Community welcomes the businesses, state and county agencies who agreed to talk with community members about upcoming projects. We community members appreciate the time and effort this takes. We hope to gather more information about the projects, and to create a positive dialogue between our guests and us.

**WE, THE WAIKOLOA RESIDENTS, WILL TREAT OUR GUESTS WITH RESPECT.**  
We residents hope to share with you some of our community needs so that you can work with county agencies and us to help us realize those goals. MAHALO to all FOR ATTENDING!

### List of Guest Participants:

Castle and Cooke- Calvin Mann  
Hawaii County Public Works-Bruce McClure  
Bridge Aina Lea- Jim Baldwin  
Hawaii State Dept. of Education: Heidi Meeker from the Planning Section  
Waikoloa Mauka – Sidney Fluk  
Hawaii County Civil Defense – Troy Kindred; Fire Department – Chief Oliveira; Workforce Housing - Rex M. Jitchaku  
Hawaii County Department of Environmental Management- Ms. Barbara Bell, Director and/or Michael Dworsky, Solid Waste Division Chief  
Hawaii County Parks and Recreation- probably Pam Mizuno  
Waikoloa Heights- Michael Rheim, Jim Zurbuchen's architect  
Kilohana Kai- Ms. Ann Lee

Next Waikoloa Informational Town Meeting to help residents become prepared to use the County Development Process (CDP) to configure their community into a vibrant, self-contained community will be held Friday, Sept. 8<sup>th</sup>. Topic: Land Use Planning by the Hawaii County Planning Department. Learn how residents can insert themselves into the process to create a better community with developers and county agencies.

For further involvement in the CDP process, or to ask questions about the process, please contact Community Liaison Sara Peck, 329-2861. Call any of the Waikoloa Logistics Team members and facilitators for small group input meetings. These meetings are vital to continue provide planners with your preferences as the community develops.

Deborah Stone-Swanson 883-9262  
Alice Tinsman 883-1049  
Lisa Yee 883-9377  
Ruth Smith 883-2042  
Tom Kelly 883-0004  
Hap Holmwood 883-2091  
Jenni Long 883-1190  
Sherry Davis 883-2748  
Councilman Pete Hoffmann 887-2043  
Ruth Bernstone 883-3809  
Margaret Tigue 883-2979  
Jan Sears 883-0583  
April Lee 883-0409

**WAIKOLOA EMERGENCY ROAD  
SOUTH KOHALA, HAWAI'I  
ENVIRONMENTAL ASSESSMENT**

**APPENDIX 2**

**ARCHAEOLOGICAL REPORT/CULTURAL IMPACT ASSESSMENT**

Highway. There is no information in the oral histories referencing what was specifically cultivated in the planting area although 'Anaeho'omalua was a favorable area for growing sweet potatoes (ibid).

There have been several prior archaeological studies conducted near the current project area location. Three of these studies resulted in negative findings with respect to archaeological resources (Rechtman 2003, 2006a, 2006b). Several other studies of dry, intermediate inland locations within or adjacent to Waikoloa Ahupua'a (i.e., Clark and Rechtman 2005; Harmon and Rechtman 2003; Jensen 1989, 1994; Kennedy 1987; Moore et al. 2002; Rosendahl 1972, 1992; Shilz and Shun 1991; Sinoto and Dashiell 2004) have determined that the land use of the inland resource zone centered around the use of temporary shelters by people traveling between the coastal and upland zones, and the temporary and extended residential occupation by people engaged in marine and other exploitation activities along the coast. Rosendahl (1972:iv) has suggested that the occurrences of primary use for this area were from c. AD 1500 through the post-1778 contact period. Studies conducted within Waikoloa Ahupua'a *mauka* of the current study area (i.e. Barrera 1990; Nees and Williams 1995; Rechtman 2001; Rechtman and Dougherty 2001; Wolforth 2000) have resulted in the identification of several Historic Period ranching features associated with Parker Ranch activities and WWII-era sites associated with the use of Camp Tarawa.

Three of these previous studies (Kennedy 1987; Moore et al. 2002; Shilz and Shun 1991) that encompassed nearly 3,000 acres of Waikaloa Ahupua'a included portions of the current survey corridor (see Figure 2). Collectively, these studies recorded a number of archaeological sites with feature types that included cairns, mounds, c-shaped enclosures, alignments, a lava tube, and a rock overhang. The lava tube contained human skeletal remains (Schilz and Shun 1991); the rock overhang was interpreted as being used for Precontact habitation purposes (Moore et al. 2002); several of the C-shaped shelters, mounds, and alignments were interpreted as being used for Precontact temporary habitation purposes (Moore et al. 2002), while several others were thought to be remnants of World War II military training (Schilz and Shun 1991); finally, most of the cairns were thought to be Historic/Modern in age, and to mark 4WD road routes or old fence lines (Kennedy 1987; Moore et al. 2002; Shilz and Shun 1991). A review of the site location maps from each of these previous archaeological studies shows that none of the recorded sites are located in the vicinity of the proposed road corridor. The sites that are the closest to the corridor all consist of cairns that have approved treatments of no further work.

Given the culture-historical background and the results of previous archaeological study in Waikoloa Ahupua'a, the archaeological expectations for the current project area are limited to possible trails and associated petroglyphs, dryland agricultural features, temporary habitation sites, and Historic Period ranching and military features.

On May 23, 2006, J. David Nelson, B.A. and Christopher S. Hand, B.A., under the direction of Robert B. Rechtman, Ph.D. performed a surface inspection of the *mauka*-most portion of the project area closest to Waikaloa Village. The field investigators thoroughly examined the proposed 100-foot wide road corridor, the centerline of which was clearly marked in the field; ground visibility was excellent. No archaeological resources were observed within the *mauka* portion of the project area and none were recorded by Kennedy (1987), Moore et al. (2002), or Shilz and Shun (1991) within the remainder of the corridor, and the likelihood of encountering subsurface resources is extremely remote. Based on these negative findings, on behalf of our client, we are requesting that DLNR-SHPD issue a written determination of "no historic properties affected" in accordance with HAR 13§13-284-5(b)1.

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

Respectfully,

Bob Rechtman, Ph.D.  
Principal Archaeologist

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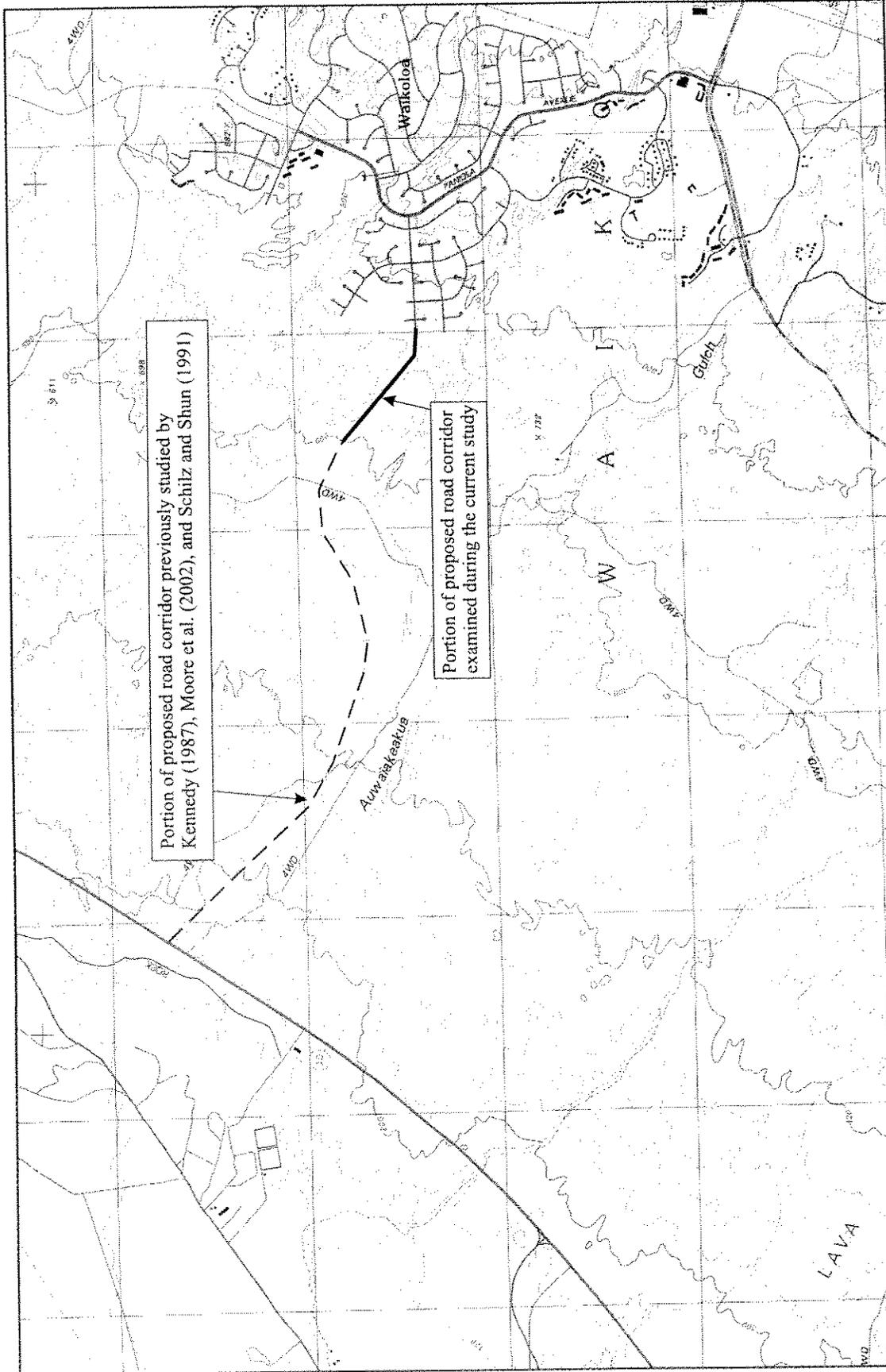


Figure 1. Project area location.





Figure 3. View to east of the survey corridor near the termination of Hulu Street.

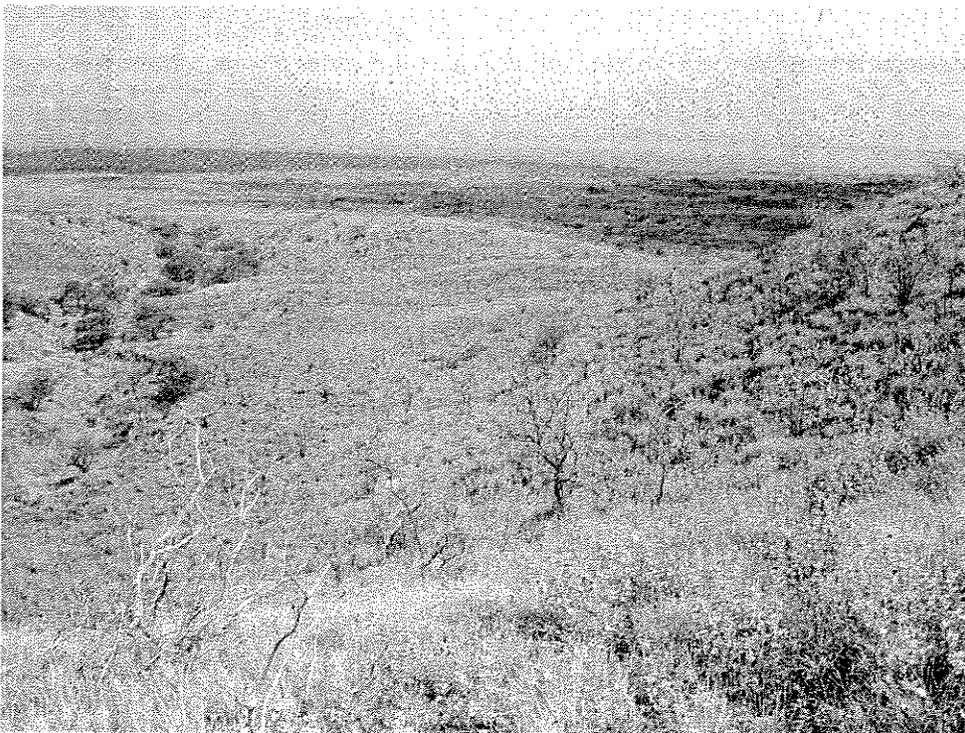


Figure 4. View to west of the typical terrain and vegetation within the survey corridor.

