

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Single Family Residence
in the Conservation District,
Wa'awa'a, Puna Hawai'i
TMK: (3) 1-4-028:009
Puna District, Hawai'i Island, State of Hawai'i

APPLICANT:

Edward s. and Mari Vann Bilinsky
78-7045 Kaluna St. #105
Kailua-Kona, HI 96741

APPROVING AGENCY:

State of Hawai'i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

CONSULTANT:

Island Planning
1405 Waianuenue Ave.
Hilo, HI 96720

CLASS OF ACTION:

Use of Conservation Land to construct a single-family residence

This document is prepared pursuant to:

The Hawai'i Environmental Policy Act,
Chapter 343, Hawai'i Revised Statutes (HRS), and
Title 11, Chapter 200, Hawai'i Department of Health Administrative Rules (HAR).

TABLE OF CONTENTS

PART 1:	PROJECT DESCRIPTION, PURPOSE AND NEED AND E.A. PROCESS	2
1.1	Project Description, Location and Property Ownership	2
1.2	Environmental Assessment Process	7
1.3	Public Involvement and Agency Coordination	7
PART 2:	ALTERNATIVES.....	8
2.1	Action Alternatives	8
2.2	No Action Alternative	8
2.3	Relocate the Home	8
2.4	Build in Ag District only	8
2.5	Revise House Plans	8
PART 3:	ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES ...	9
3.1	Physical Environment	9
3.1.1	Climate, Geology, Soils and Geologic Hazards	9
3.1.2	Drainage, Water Features and Water Quality	10
3.1.3	Flora, Fauna and Ecosystems	10
3.1.4	Air Quality, Noise and Scenic Resources	13
3.1.5	Hazardous Substances, Toxic Waste and Hazardous Conditions	14
3.2	Socioeconomic and Cultural	14
3.2.1	Socioeconomic Characteristics	14
3.2.2	Cultural Resources	15
3.2.3	Recreation	19
3.3	Infrastructure	19
3.3.1	Utilities	19
3.3.2	Roadways	19
3.4	Secondary and Cumulative Impacts	19
3.5	Required Permits and Approvals	20
3.6	Consistency With Government Plans and Policies	20
3.6.1	Hawai'i State Plan	20
3.6.2	Hawai'i County General Plan and Zoning	21
3.6.3	Puna Community Development Plan	21
3.6.4	Hawai'i State Land Use Law	22
PART 4:	DETERMINATION.....	23
PART 5:	FINDINGS AND REASONS	24
REFERENCES	28
LIST OF FIGURES		
FIGURE A	Project Location Map	3
FIGURE B	TMK Map	3
FIGURE C	Proposed House Plans and Site Plan	4
FIGURE D	Certified Shoreline Map and LUC Boundary Map	5
FIGURE E	Project Site Photograph.....	6
FIGURE F	Project Site Photograph.....	6
FIGURE G	Vegetation and Proposed Improvement Map.....	12
FIGURE H	Shoreline Photograph.....	13
FIGURE I	Archaeological Site Map.....	18
APPENDIX 1	Comments in Response to Early Consultation	
APPENDIX 2	Archaeological Report (PHRI) and SHPD Letter of No Further Action	
APPENDIX 3	SMA Approval Letter	

**SUMMARY OF THE PROPOSED ACTION,
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

**PART 1: PROJECT DESCRIPTION, PURPOSE AND NEED
AND ENVIRONMENTAL ASSESSMENT PROCESS**

1.1 Project Description, Location and Property Ownership

The applicant proposes to construct a single-family residence inside the coastal Conservation District in Wa'awa'a, Puna, Hawaii. The parcel contains 0.894 acres (38,942 SF) and lies on the makai side of Government Beach Road that runs between Kapoho and Hawaiian Beaches as shown in Figures A and B.

The property is owned by the Applicants Edward S. and Mari Vann Bilinsky. Both have been educators their entire careers and currently work as contractual consultants to the Department of Education in the field of school restructuring. The proposed home will be their permanent and primary residence.

The home is proposed to be one story with a total 2,940 SF of improvements, including three bedrooms, two baths, carport, living space, and lap pool. Adjoining the home will be a fenced open-air patio area with a 236 SF lap pool and an area for landscaping. The Applicant proposes to construct a gravel driveway from Government Beach Road, including several small retaining walls, and install a water tank for catchment purposes on the property. Solar voltaic panels will provide electrical energy with solar water heating and LP gas for cooking. Figure C contains a site plan and building elevations for the proposed project. Also on Figure C is a summary calculation of the included spaces per Chapter 13-5-41, Single Family Residential Standards.

The residentially related improvements will impact approximately forty percent of the total parcel area (est. 15,800 SF). The remainder will be retained in the existing lauhala forest and coastal naupaka strand. The Applicant proposes to eliminate the invasive exotic species from the existing lauhala grove and encourage native and indigenous plans whenever possible.

The subject property is long and narrow with 100' of road frontage and between 300' and 370' of depth from the road to the shoreward edge of the property. There is approximately 8,000 SF of Beach Reserve between the subject parcel and the shoreline. A Shoreline Survey was conducted and certified by the Department of Land and Natural Resources in November 2007, a copy of which is attached as Exhibit D. The State Land Use Commission also delineated the boundary of the Conservation District in 2008. That line is also shown on Figure D.

The parcel is zoned A-3a by the County of Hawaii (three acre minimum lot sizes). The parcel was subdivided prior to the adoption of the current County Zoning Code and State Land Use law. As a result, zoning and State Land Use designations have been laid over the existing subdivision after it was legally created.

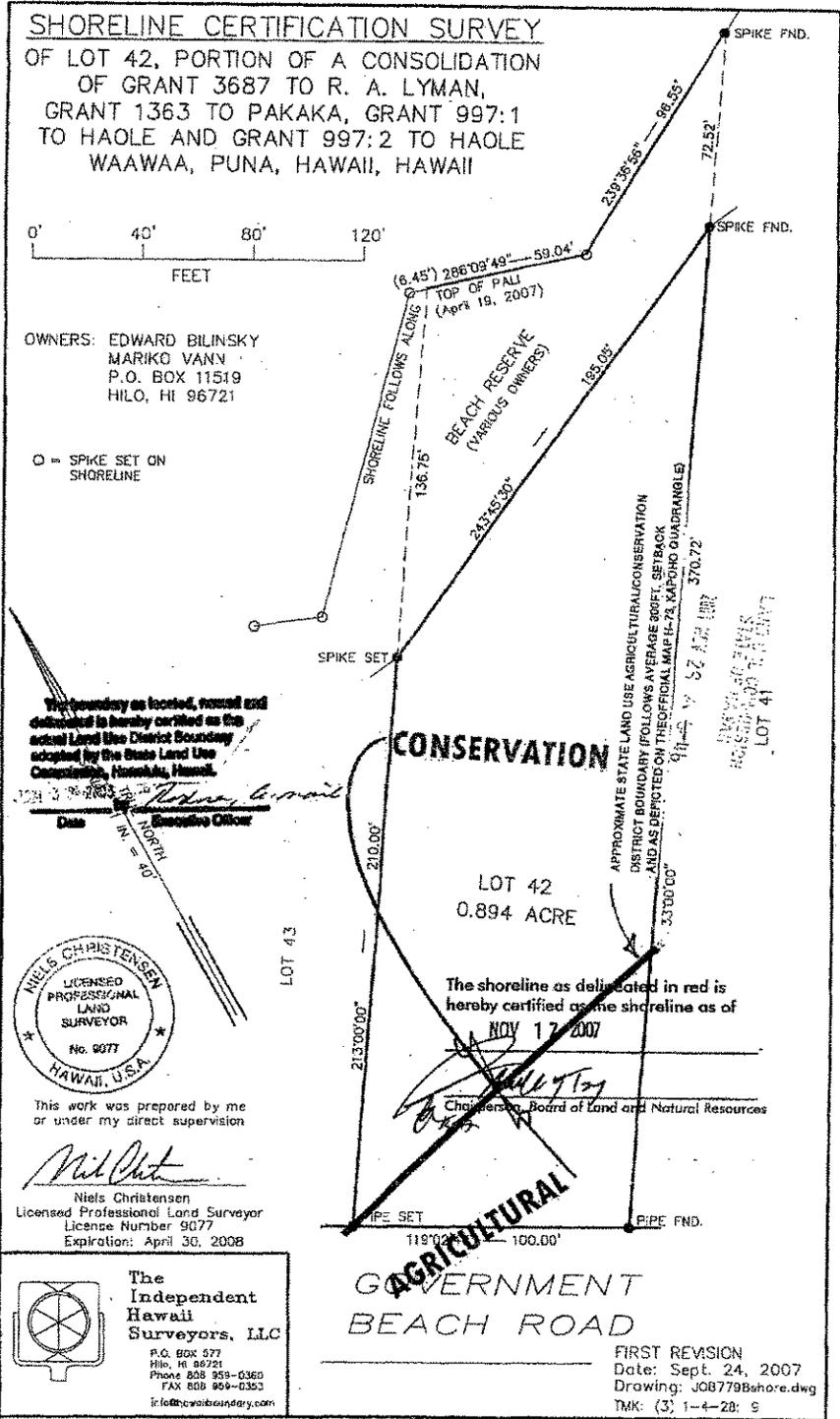


Figure D: Certified Shoreline Map showing the formal interpretation of the Conservation District Boundary

Project Site Photographs



Figure E: View of property looking makai. Note neighboring residence under construction.



Figure F: View of subject parcel looking mauka from Beach Reserve

1.2 Environmental Assessment Process

This Environmental Assessment (EA) is being conducted in accordance with Chapter 343 of the Hawai'i Revised Statutes (HRS). This law, along with its implementing regulations, Title 11, Chapter 200, of the Hawai'i Administrative Rules (HAR), is the basis for the environmental impact process in the State of Hawai'i. According to Chapter 343, an EA is prepared to determine impacts associated with an action, to develop mitigation measures for adverse impacts, and to determine whether any of the impacts are significant according to thirteen specific criteria. Part 4 of this document states the anticipated finding that no significant impacts are expected to occur; Part 5 lists each criterion and presents the preliminary findings for each made by the Hawai'i State Department of Land and Natural Resources, the approving agency. If, after considering comments to the Draft EA, the approving agency concludes that, as anticipated, no significant impacts would be expected to occur, then the agency will issue a Finding of No Significant Impact (FONSI), and the action will be permitted to occur. If the Agency concludes that significant impacts are expected to occur as a result of the Proposed Action, then an Environmental Impact Statement (EIS) will be prepared.

1.3 Public Involvement and Agency Coordination

The following agencies and organizations were consulted in development of the environmental assessment:

State:

- Department of Land and Natural Resources
- Office of Conservation and Coastal Lands
- Department of Health
- Division of Forestry and Wildlife, Na Ala Hele Program
- Office of Hawaiian Affairs

County:

- Planning Department
- Public Works Department
- Police Department
- Fire Department
- Civil Defense

Private:

- Sierra Club of Hawaii

Copies of communications received during early consultation are contained in Appendix 1a.

PART 2: ALTERNATIVES

2.1 Action Alternatives

Alternatives to the proposed project include:

1. No action
2. Relocating the home closer to the road
3. Build in the Agricultural District only
4. Making revisions to the building design to reduce site coverage

2.2 No Action

The applicant purchased the property for the purpose of constructing their retirement home. From the Applicant's perspective the No-Action alternative is not a preferred option. In the event that no action took place, the property would remain unimproved. The existing emergent stands of octopus tree and strawberry guava would become permanently established on the property and would eventually out-compete existing native flora. The Applicant's retirement investment would be compromised and they would sell the property and look elsewhere.

2.3 Relocate the Home on the Property

Relocating the home on the subject property closer to Government Beach Road would have a similar cumulative impact as the proposed alternative. Approximately half of the existing hala trees would be impacted. This alternative would have significantly more visual impact on the travelers along the Government Beach road and would reduce the sense of privacy for the homeowner. It would also directly impact an historic site on the property that the owner would choose to keep intact as was suggested by the archaeologist. The site is a small platform that may have seen residential use or been used for observation purposes. Investigation determined that it was not used for burial purposes. The Applicant would prefer not to disrupt this site if possible.

2.4 Build in the Agricultural District only

There are approximately 5,000 SF of land in the mauka-Kapoho corner of the property that is in the State Land Use Agriculture District. Given building setback requirements, there is insufficient area to retain all desired improvements in the Ag district. The residence would also have maximum visual impact from Government Beach Road, as there would be no vegetative buffer.

2.5 Revise the House Plans

The alternative of revising the house plans has been considered and the current plans reflect those reconsiderations. Due to the narrow nature of the lots in this area (100') and the side yard setbacks of 15' on either side, it is difficult to site a home in a way that does not require the clearing of the land across the entire width of the property. The Applicant has considered larger house plans and has settled on the current rendition as a reasonable compromise solution. Further reducing the size of the proposed building was considered but the proposed structure is what best meets the modest needs of the Applicant. The proposed lap pool could also be

eliminated but the Applicant would still propose to grade and improve that area for outdoor use so the disrupting impacts would be the same whether the pool is installed or not.

PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Basic Geographic Setting

3.1 Physical Environment

3.1.1 Climate, Geology, Soils and Geologic Hazards

Environmental Setting

Rainfall in the project area is estimated to be 100 to 125 inches (254 to 318 cm) per year, and generally greater during the period December to April. The mean annual temperature is approximately 72 to 73 degrees F. (Armstrong 1983:63-64). The area does not have a central water system and therefore there is a limited capacity to fight fires that might occur in the surrounding overgrowth. The Civil Defense Agency identified wild land fires as one of the hazards in the area due to periodic drought conditions

For the most part, terrain in the project area is rough and broken, with rugged lava hummocks that consists of exposed *pâhoehoe* lava with small pockets of soil included in the lava flows. These are well-drained, thin soils that have accumulated over lava flows in the northeastern portion of the Puna District (Sato et al. 1973:4). More specifically, the small pockets of soil in the project area consist of Opihikao extremely rocky muck (3-25% slopes), representing the Opihikao Series of well-drained, thin organic soils that have developed over *pâhoehoe* lava bedrock. They are found from sea level to 1,000 ft (305 m), and are rapidly permeable, with slow run-off, and a slight erosion hazard (Sato et al. 1973:43).

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. Volcanic hazard in Wa'awa'a area is Zone 2 on a scale of ascending risk from 1 to 9, as determined by the United States Geological Survey, (Heliker 1990:23). The high risk is based on the fact that Kilauea is an active volcano and the northeast rift of Kilauea has been active many times in the last century. Volcanic hazard zone 2 areas are close enough to the Kilauea rift zone to be subject to lava flows that follow the surrounding slope to the shoreline. The most recent lava flow in the area touched the shoreline between Hawaiian Beaches subdivision and Wa'awa'a in 1840, less than a mile north of the subject property.

In terms of seismic risk, the entire Island of Hawai'i is rated Zone 4 Seismic Probability Rating (*Uniform Building Code, 1997 Edition, Figure 16-2*). Zone 4 areas are at risk from major earthquake damage, especially to structures that are poorly designed or built. The project site does not appear to be subject to subsidence, landslides or other forms of mass wasting.

Impacts and Mitigation Measures

In general, geologic conditions impose no significant constraints on the Proposed Action. The applicant is aware of the inherent risks associated with building in the lava hazard zone 2 and will join 100's of other island residents who already live comfortably in the area. If lava does threaten the area in the future, there is generally adequate notice to relocate in advance of slow moving lavas. The applicant is aware of possible mortgaging and insurance issues associated with investments in this area.

Appropriate seismic standards would be followed during any building construction as required by the Building Code.

3.1.2 Drainage, Water Features and Water Quality

Existing Environment

The Flood Insurance Rate Maps (FIRM) 1551661400C (9/16/1988) show that the project site is in Flood Zone X, outside of the 500-year floodplain. No known areas of local (non-stream related) flooding are present on the project site. Maps printed by the Pacific Tsunami Warning Center and the Hawai'i County Civil Defense Agency locate the parcel in the area that should be evacuated during a tsunami warning (<http://www.hawaii.gov/tsunami/maps.asp>).

Impacts and Mitigation Measures

The applicant will construct their home more than 150' back from the shoreline and well back of any known historical wave impact areas. Aside from a high intensity hurricane event, there is every reason to believe that the project will be well out of harm's way from any predictable coastal hazard event. There is no recorded event of a hurricane landfall along the Puna coastline, but there is a risk that such an event might occur in the future. In the event of a hurricane warning or a tsunami event, the applicant is well aware of the need to evacuate the coastal area and seek higher ground.

3.1.3 Flora, Fauna and Ecosystems

Existing Environment

The parcel has had no prior development. The inland two thirds of the parcel is covered with hala (*Pandanus odoratissimus*) with a mixed under story, primarily lauae fern (*Scolopendria Plypodium*), sword fern (*Nephrolepis exaltata*) and sprouting hala seedlings. There are several ama'u ferns (*Sadleria cyatheoides*) in the area, one noni (*Morinda citifolia*) and several common ti (*Coldyline esculenta*). There are also a number of invasive exotic plants on the property including Octopus Tree (*Schefflera actinophylla*), Strawberry guava (*Psidium cattleianum*), Wedelia (*Sphagneticola trilobata*) and cane grass (*Pennisetum purpureum*) on the parcel.

OCCL staff asked that particular attention be paid the potential presence of the federally listed *Ischaemum byrone*, or Hilo Beach Grass. Further investigation by the project's landscape architect and comparison of collected samples of existing grasses on the site with photographs of this listed grass indicated that this species was not present on the parcel.

The coastal third of the property is almost exclusively covered in naupaka (*Scaevola taccada*) overlaying pahoehoe lava that extends to a cliff nearer the shoreline. Ocean frontage is dominated by rough lava cliffs of 10' to 20' that occur frequently along the Puna shoreline. The Beach Reserve parcel along the shoreline is made up of unvegetated boulders and lava cliffs.

The coastal strand vegetation fronting the property is common along the Puna shoreline and will not be impacted by the project. The lowland hala and ohia forest ecosystem that extends for several thousand acres in this area of Puna still has significant areas that remain intact. This ecosystem has experienced the cumulative impacts of hundreds of new residential and agricultural improvements over the last century. The proposed project will have an incremental impact on that ecosystem and the applicant has committed to retaining a significant portion of their property in its native forest cover once the house is installed.

Fauna in the area is made up primarily of exotic bird and rodent species. Common exotic species of cardinals, doves, sparrows and finches of several varieties frequent the area. Several species of rats and mongoose are also known in the area. Several species of migratory sea and shore birds are also known along the Puna shoreline although none are known to nest or otherwise reside in the area.

The predominant native fauna includes the Hawaiian Hawk (*Buteo solitarius*) and the Hoary Bat (*Lasirus cinereus semotus*). Both species are known to forage in the area and to travel over large areas following daily and seasonal patterns. There are no nests for either species on the subject property. Neighboring residents have not witnessed bats in the area and several trips conducted in the evenings to watch for signs of bats in the area turn up no sightings. Hawks are seen frequently in the area but there are no sustained sightings that would suggest nesting or frequent returning behavior that would suggest habitat use of the subject property.

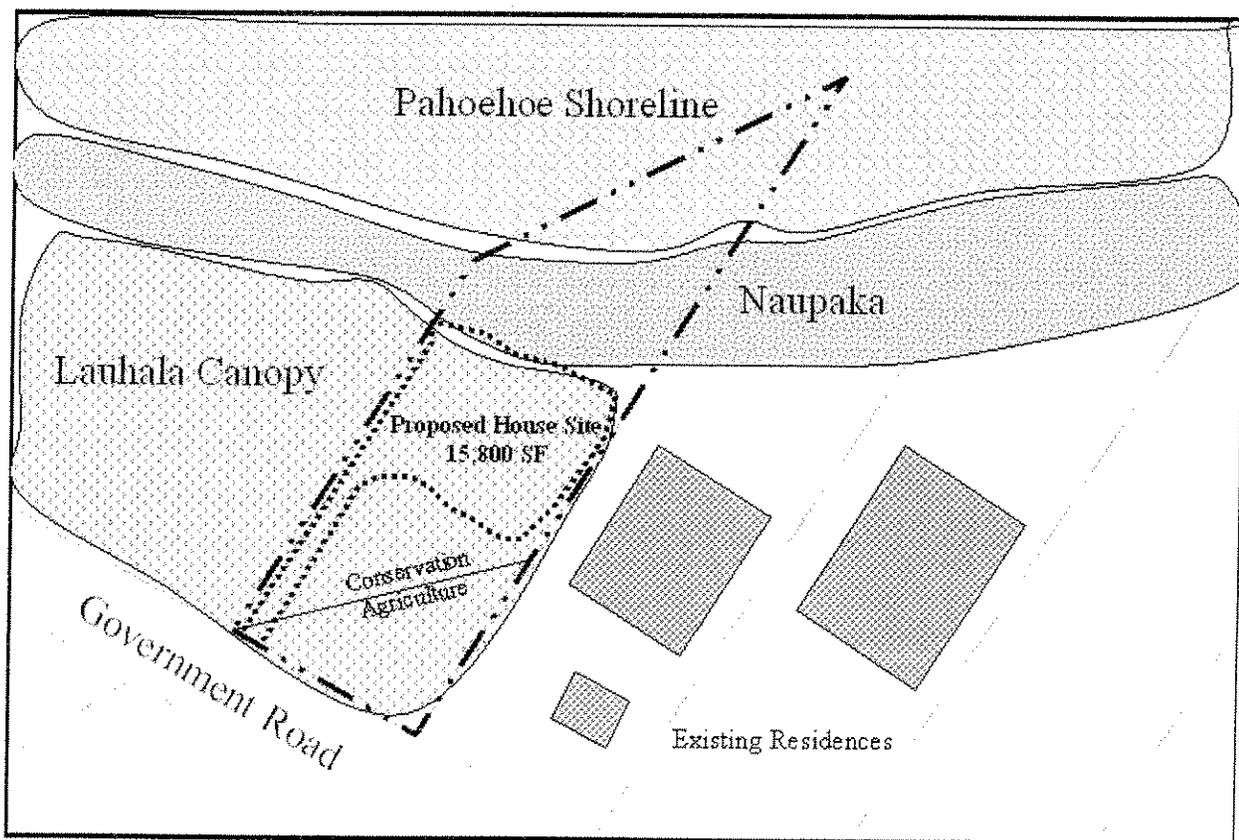
Impacts and Mitigation Measures

The proposed project will require the leveling of a house pad and a road from the adjoining public road. This will involve approximately 15,800 SF and necessitate the removal of approximately 45 hala trees (>6' in diameter). These trees are 25'-35' in height. In addition to the hala, some under story plants including lauae fern will be disrupted. This area will be hand cleared prior to the use of machinery to insure that as few of the existing trees are removed as possible. The remaining native vegetation will be retained and managed for its native plant values. Exotic species including guava and octopus tree will be removed from the remaining area and not allowed to compete with the native flora. A map of the impacted area is displayed in Figure G.

The coastal strand currently has a thick growth of naupaka between the lauhala and the shoreline. This coastal vegetation will remain unchanged. A small walking path from the house site to the shoreline already exists and will be retained and maintained. The existing naupaka provides an excellent groundcover along the entire coastline in the area and will be retained for that purpose.

The project will have not significant impact on the broader Puna lowland forest ecosystem. A small area of hala forest will be removed to locate the dwelling and the remainder will be retained and protected in its current form. There will be a small, incremental impact on the overall forest cover and this impact is cumulative with the impact of other homes either already built or to be built in the future in the Wa'awa'a and Hawaiian Beaches subdivision.

The Applicant has prepared a landscape plan to depict the plant selection to be installed surrounding the residence. Native plants will be used as depicted in the Landscape Plan provided below.



Vegetation and Proposed Improvements

Figure G

3.1.4 Air Quality, Noise and Scenic Resources

Environmental Setting

The project area is exposed to moderate trade winds most of the year and air quality is excellent. During periods of Kona winds, portions of the Puna District are impacted by vog that is produced by eruptive activity from Kilauea volcano and lava entry into the ocean near Kalapana. Generally speaking, however, the Puna shoreline, where this project is located, enjoys excellent air quality year round.

Ambient noise levels in the area of the project stem almost entirely from natural sources: waves crashing on the shore, wind in the trees, bird sounds, etc. Traffic on the old government road fronting the project is light but is the main source of introduced sound in the area. Periodic home construction sounds are also common in the area, as is the sound of electrical generators used to power tools and lights at individual homes nearby.

The area is overgrown with dense vegetation that limits scenic expanses along most of the coastal government road. There is little in the way of inland, mauka views in the region, due to this heavy vegetation. Most scenic opportunities come from areas where the road comes close to the shoreline or by walking out to the shoreline beyond the vegetation. Views along the rough, rocky shoreline are dramatic throughout the day and sun rises in the area are particularly dramatic.



Figure H: View along the shoreline below the property

Impacts and Mitigation Measures

Sound associated with the construction of the improvements will be intermittent and will be limited to daylight hours for the duration of nine month construction period. Vegetation on the site currently obstructs a clear view of the shoreline from the County road due to the growth of hala and other tree and grass species. The visual impact of the house will be mitigated by the retention of an existing stand of vegetation that will serve as a buffer between from passing travelers on the road. The house will be set in a natural depression in the land some 125' from the road. The proposed project will not have significant impacts on air quality, noise levels or scenic views.

3.1.5 Hazardous Substances, Toxic Waste and Hazardous Conditions

Environmental Setting, Impacts and Mitigation Measures

There has been no prior development on the property and therefore no existing contaminants are known to exist. The proposed home will be constructed in a standard fashion and will not employ any unusual chemicals or contaminants that would not be normally associated with a single-family residence.

The only hazardous condition known to exist in the area is associated with the ocean and rough lava cliff line that defines the Puna coast. High wave conditions and slippery rocks can be hazardous to people along the shoreline. The subject parcel is separated from the ocean by a beach reserve parcel that is 70' to 130' in width. The house will be setback an additional 50'-75' from the beach reserve.

3.2 Socioeconomic and Cultural

3.2.1 Socioeconomic Characteristics

The project is located in the Puna district and is part of the Hawaiian Beaches Census Designated Place (CDP). In the 2000 Census, Puna had a resident population of 31,335 and Hawaiian Beaches contained a population of 3,709 in 1,192 households. The bulk of the population in this CDP is in the Hawaiian Beaches/Hawaiian Shores subdivisions several miles north of the project area. In the past 10 years, the Puna area generally and the Hawaiian Beaches area specifically have experienced higher than average growth. The affordable nature of land and housing in the area has prompted an upswing in new construction and in-migration. Most of the population in the area is middle to lower income families living in modest homes. New construction has also seen the construction of larger homes, particularly along the shoreline where land is more desirable and therefore more expensive.

The immediate community surrounding the subject property is referred to as the Wa'awa'a Subdivision, a 170-lot large lot (average 3.0 ac. size) development that was created in the 1960's. Wa'awa'a can be characterized as a under developed with unimproved gravel roads and scattered

houses. Approximately 25% of the lots in the Wa'awa'a subdivision have houses on them currently. There is no municipal water or sewer service and electrical service does not yet extend into the area. Residents of Wa'awa'a elect to live in this remote setting and are generally defensive of their privacy and unconventional lifestyle.

Impacts

The proposed addition of one single family residence will have no significant impact on the social character of the area. The Applicants plan to retire to the property and produce no negative impacts on the region or their immediate community.

3.2.2 Cultural Resources

Existing Environment

The archaeological inventory survey was conducted in March 2008 by Paul H. Rosendahl, PhD Inc. (PHRI). This survey reviewed the cultural history of the Wa'awa'a area and summarized the prior archaeological work conducted in the area and on the subject property. The inventory survey was conducted in accordance with the standards contained in the SHPD Administrative Rules Chapter 276 *Rules Governing Standards for Archaeological Inventory Surveys and Reports*; Hawai'i Administrative Rules; Title 13, DLNR; Subtitle 13, SHPD (effective December 2003). A copy of the final report is submitted as Appendix 2 to this report. Excerpts of the PHRI are summarized below. The specific objectives of the survey were fourfold: (a) to identify all potentially significant archaeological remains present within the parcel; (b) to collect information sufficient to evaluate and document the potential significance of all identified remains; (c) to evaluate the potential impacts of any proposed land use upon any identified significant remains; and (d) to recommend appropriate measures that would mitigate any adverse impacts upon identified significant remains.

Two previous archaeological surveys have been conducted within the current subject property. The first was an archaeological field inspection performed by Haun and Associates in January 2004 (Haun 2004). Their inspection identified a platform (current Feature A), and several modified outcrops. The modified outcrops were thought to represent potential agricultural clearing features similar to other agricultural features identified during surveys of nearby parcels (Haun 2004). It was also thought that the platform might contain a burial. It was recommended, based on these findings, that an archaeological inventory survey be conducted in the project area (Haun 2004).

The second archaeological assessment survey took place in May 2004 and was conducted by PHRI. This survey identified a rough terrace or crude platform (current Feature A) situated atop a prominent lava hummock in the central inland portion of the project area. It was recommended, in consultation with the then current SHPD Hawai'i Island Archaeologist Ms. MaryAnne Maigret, that two courses of action could be taken to satisfy state requirements for future use and development of the current subject property. One of the options was inventory survey work and

avoidance of the possible burial platform, should testing reveal the presence of a burial within Feature A platform. The second option was long-term preservation of the platform through avoidance and protection (Rosendahl 2004). Subsequently, the first option was selected. During the course of the field survey, one archaeological site complex, Site 26465, was identified. The site consisted of three features (A, B, and C).

Feature A is a prehistoric stone platform, roughly triangular in plan view. It measures 4.01 m north-south by 3.34 m east-west and is roughly faced on the east side for a length of c. 0.95 m. The platform is stacked 3 to 4 courses high. Portions of the west side consist of bedrock. Rock sizes range from c. 0.10 to 0.50 m in diameter, with most being 0.30 to 0.40 m. The height of the platform surface ranges from c. 0.50 m at the sides of the platform, to 2.4 m, with most of the height of the surface between 0.80 to 1.0 m. There is a large pandanus tree growing through the south end of the platform.

The platform, which was thought to be a possible burial platform (Rosendahl 2004; Haun 2004), was dismantled during the current fieldwork in order to determine the presence/absence of human skeletal remains. The dismantling revealed that most of the platform is natural bedrock. No human skeletal remains were present. The feature most likely represents a temporary habitation structure, or perhaps a viewing platform.

Feature B is a roughly piled, stone clearing mound. It measures approximately 2.0 m northeast to southwest and 0.90 m northwest to southeast. The height of the clearing mound ranges from 0.20 m at the sides to 0.80 m at the middle. Rock sizes range from 0.15 to 0.25 m in diameter. There is a pandanus tree growing through the feature on the western side. Prehistoric clearing mounds are created when land is cleared of stones prior to use.

Feature C is a low, stone, C-shaped wall located on slightly sloping ground. The feature is 14.5 m east-west by c. 0.75 m north-south. It curves slightly inward to the south. The wall is slightly faced on the northwest side for a span of c. 0.40 m. The height of the wall ranges from c. 0.20 m on the sides to 0.80 m in the approximate middle, and the wall consists of stones stacked 3 to 4 courses high. Most of the stones are 0.30 to 0.40 m in diameter. Several pandanus trees are growing on the feature. The feature may have been a windbreak, or it may have been used for agriculture.

A significance assessment has been made for Site 26465 based on Rules Governing Procedures for Historic Preservation Review to Comment on Chapter 6E-42, Hawaii Revised Statutes, Hawai'i Administrative Rules; Title 13, Department of Land and Natural Resources; Subtitle 13, State Historic Preservation Division Rules (2001). The DLNR-SHPD uses these criteria for evaluating cultural resources. The site was assessed for integrity of location, design, setting, materials, workmanship, feeling, and association and in terms of the following criteria:

- (A) It must be associated with events that have made a significant contribution to the broad patterns of our history;
- (B) It must be associated with the lives of persons significant in the past;

- (C) It must embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value or represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) It must have yielded or may be likely to yield, information important in prehistory or history.

Based on the above significance criteria, Site 26465 is assessed as significant solely for information content (Criterion D). The site has been recorded to inventory-level standards, and its research potential has been exhausted.

PHRI's attached report discusses the general cultural history of the site and surrounding area. It establishes a contextual history for the area and discusses prior archaeological work in the area. There are no known cultural practices that take place on or near the property. Coastal fishing activity does occur from time to time on the beach reserve fronting the parcel. The project will not impact these practices or any other cultural activities in the area.

Impacts and Mitigation Measures

On August 12, 2008, the State Historic Preservation Division (SHPD) issued a letter of "no effect on historic properties" based on the inventory survey conducted by PHRI. The applicant will retain Feature A, a residential or observation platform, and integrate it into native landscaping in the surrounding hala forest. Features B and C, both possible agricultural features, will be removed in the process of clearing for the house site. Both have been fully recorded as required by the SHPD.

In the unlikely event that archaeological resources or human remains are encountered during future development activities within applicant's property, work in the immediate area of the discovery should be halted and DLNR-SHPD contacted as outlined in Hawai'i Administrative Rules 13§13-275-12.

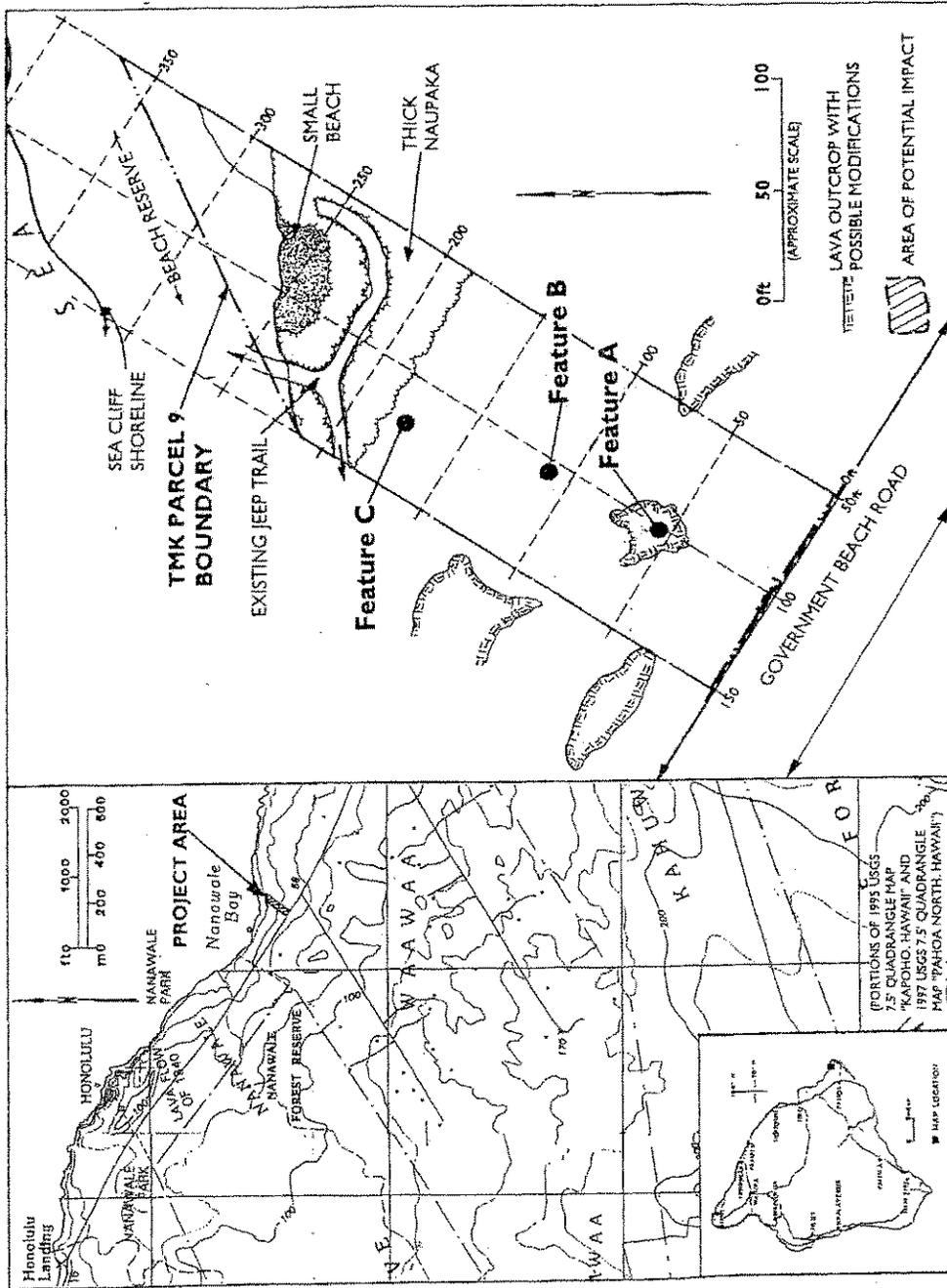


Figure 1. Project Area and Feature Location Map

3

Figure I: Archaeological Site Map (PHRI)

3.2.3 Recreation

Existing Environment, Impacts and Mitigation Measures

The shoreline constitutes the most significant public recreational asset in the Puna region. The shoreline in front of the subject parcel is used infrequently by fishermen and gatherers. Coastal users access the property on foot from informal trails leading from the Old Government Road through other properties to the shore. There is what appears to be a former jeep trail along a portion of the shoreline fronting the subject parcel. In recent years, however, adjoining landowners have blocked the informal vehicular accesses over their property with large stones. Fishermen now park on the public road and walk the short distance to the beach reserve and shoreline over an informal trail on adjoining property.

The proposed residential project will have no impact on the use of the shoreline. There is more than adequate lateral access to the coastline within the beach reserve parcel and the Applicant has no reason to want to interrupt coastal use by members of the public.

3.3 Infrastructure

3.3.1 Utilities

The property is not currently served by any electrical or cable services and there is no municipal water system in the area. The Applicant plans to install a photovoltaic system with a back up generator for electrical service, LP gas for cooking, and solar collectors for hot water. Water will be collected from the roof and stored in a catchment tank on site. Wastewater will be disposed of in a Department of Health approved septic system on site.

3.3.2 Roadways

The property is accessed via the Old Government Road that runs along much of the Puna shoreline. The road is unimproved and maintained periodically by the County of Hawaii. Impacts on this road from the proposed project will be limited to construction related traffic during the construction period of 8-12 months. Once complete, traffic impacts will be limited to 1-2 round trips per day. Current traffic on the road is light and slow moving due to the unimproved condition of the road.

3.4 Secondary and Cumulative Impacts

Neither the Proposed Action nor any alternative would involve any secondary impacts, such as population changes or effects on public facilities.

3.5 Required Permits and Approvals

The Proposed Action requires granting of a Special Management Area Permit from the County of Hawaii, a copy of which is attached as Appendix 3, and a Conservation District Use Permit from the Board of Land and Natural Resources. A Building Permit will be required from the County of Hawaii's Department of Public Works and Final Plan Approval will be required by the Planning Department.

In the event that the Applicant elects to pursue a water well, they will need to obtain a well permit from the Commission on Water Resource Management.

3.6 Consistency With Government Plans and Policies

3.6.1 Hawai'i State Plan

Adopted in 1978 and last revised in 1991 (Hawai'i Revised Statutes, Chapter 226, as amended), the Plan establishes a set of themes, goals, objectives and policies that are meant to guide the State's long-run growth and development activities. The three themes that express the basic purpose of the *Hawai'i State Plan* are individual and family self-sufficiency, social and economic mobility and community or social well-being. The Proposed Action would not in any way be detrimental to these goals.

3.6.2 Hawai'i County General Plan and Zoning

The *General Plan* for the County of Hawai'i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai'i. The plan was adopted by ordinance in 1989 and revised in 2005 (Hawai'i County Department of Planning). The *General Plan* itself is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussions of the specific applicability of each element to the nine districts comprising the County of Hawai'i. Most relevant to the Proposed Action are those related to Natural Resources and Shoreline and the following Goals and Policies, and Courses of Action:

Section 8: Natural Resources and Shoreline

8.2 GOALS

- (a) Protect and conserve the natural resources from undue exploitation, encroachment and damage.*
- (b) Provide opportunities for recreational, economic, and educational needs without despoiling or endangering natural resources.*
- (c) Protect and promote the prudent use of Hawaii's unique, fragile, and significant environmental and natural resources.*

(d) Protect rare or endangered species and habitats native to Hawaii.

(e) Protect and effectively manage Hawaii's open space, watersheds, shoreline, and natural areas.

(f) Ensure that alterations to existing land forms, vegetation, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of an earthquake.

8.3 POLICIES

(a) Require users of natural resources to conduct their activities in a manner that avoids or minimizes adverse effects on the environment.

(d) Protect the shoreline from the encroachment of man-made improvements and structures.

Discussion

The proposed project is not inconsistent with the County General Plan. The Applicant has made efforts to minimize the impact of the project on the shoreline and does not encroach on the coastal Beach Reserve parcel along the shore. This area will remain open and unimproved with no impacts on the existing use of the shoreline by the public. The project is also not within any designated area for coastal inundation or subsidence. Alterations of existing vegetation will be minimized and the remainder of the existing foliage will be managed to retain native plant material to the extent feasible.

Hawai'i County General Plan: Land Use Pattern Allocation Guide (LUPAG).

The County LUPAG map shows the subject parcel roughly split between Open and Extensive Agriculture. The Open boundary generally follows along the shoreline roughly approximating the Conservation district boundary. The General Plan defines uses in the Open district in the LUPAG as follows: "*Open: Parks and other recreational areas, historic sites, and open shoreline areas.*" The property is zoned A-3 and a Special Management Area Permit has been granted by the County based on the rule that a single family residence does not fall under the definition of Development for SMA purposes.

Hawai'i County Zoning.

The parcel is zoned A-3a (Agricultural 3 acre minimum lot size).

3.6.3 Puna Community Development Plan (CDP)

The newly adopted Puna CDP does not directly address the future use of the subject property. As it relates to Growth Management, the Plan focuses on village and commercial growth patterns and less on existing subdivisions. The Historic, Cultural and Scenic Resource section the Plan seeks to establish a local government agency to control impacts on cultural resources. Such an

agency has been authorized by the County Council but is not yet in operation. These relevant sections provide no specific guidance that is useful in this application.

As it relates to shoreline activities within the region, the Plan does recommend that areas of Puna that are subject to coastal subsidence, such as the Kapoho area, be subject to increase scrutiny with regards to future development. The Plan also seeks to reduce the amount of residential and commercial exposure to natural hazards such as high surf and volcanic activities.

The following are Goals, Objectives and Actions proposed in Section 2.4 Shoreline:

2.4.1 Goals

b. Shoreline biological, historical and cultural resources are adequately protected.

2.4.2 Objectives

b. Expand the scope of regulations and review procedures for shoreline development to consider dynamic and interrelated potential hazards to development.

c. Strengthen the capacity of the County to identify important shoreline resources and evaluate development regulations and proposed developments in the shoreline area.

2.4.3 Actions

c. Conduct historical and biological surveys, either permit-by-permit or on a region-wide basis, to improve the quality of decision-making on SMA and SLSB applications and State Shoreline Certifications. Do not grant SMA permits to subdivide property when it is probable under current trends and projections that it will be submerged at high tide within 100 years.

Discussion

The proposed project is consistent with the quoted sections of the Puna CDP. Several studies are proposed to help identify areas that are subject to subsidence. The proposed project, while located near the shoreline, is not in an area that has been previously identified as being subject to subsidence, and the elevation of the project is well above other areas in Puna, such as Kapoho, where subsidence is an identified issue. No subdivision of land is being proposed in this application and the County of Hawaii has already approved an SMA.

3.6.4 Hawai'i State Land Use Law

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, pursuant to Chapter 205, HRS. The property is in the State Land Use Conservation District. The proposed use is an identified land use in the Resource Subzone of the Conservation district and requires the approval of the Board of Land and Natural Resources.

The proposed residential structure also conforms to Chapter 13-5-41 Single Family Residences: Standards as depicted in Exhibit 4 of that Chapter.

PART 4: DETERMINATION

The applicant anticipates that the State Department of Land and Natural Resources will determine that the Proposed Action will not significantly alter the environment, as impacts will be minimal, and that this agency will accordingly issue a Finding of No Significant Impact (FONSI). This determination will be reviewed based on comments to the Draft EA, and the Final EA will present the final determination. This EA will be used to support Board of Land and Natural Resource consideration of a Conservation District Use Permit for the proposed single family improvements.

PART 5: FINDINGS AND REASONS

Chapter 11-200-12, Hawai'i Administrative Rules, outlines those factors agencies must consider when determining whether an action has significant effects:

1. *The proposed project will not involve an irrevocable commitment or loss or destruction of any natural or cultural resources.*

The proposed single-family residence will require the clearing of 15,800 SF of currently undeveloped land for a house site and access driveway. This loss of native lowland hala forest is unavoidable but will be offset by efforts by the applicant to remove invasive exotic tree species from the remainder of the property and preserve the remaining hala, naupaka and other native plants on site.

An archaeological site survey conducted by PHRI in 2008 identified three possible features on the site. Investigations determined that none of them are burial related. One may have been associated with residential use or used for observation purposes. The other two were most likely associated with agricultural use of some sort. SHPD has provided a letter of no effect based on the applicant's wishes to retain the largest of the sites and to record and then remove the agricultural features where the house will be located.

2. *The proposed project will not curtail the range of beneficial uses of the environment.*

The proposed improvements will not have any direct impact on existing public use of the shoreline or on trails currently used to access the shoreline. The beach reserve on the makai side of the property will not be impacted by the development. This beach reserve parcel is held in common by owners of the Wa'awa'a subdivision and is used by the general public in association with fishing and shoreline gathering. Public use of this coastal area will not be interrupted as a result of the proposed project.

3. *The proposed project will not conflict with the State's long-term environmental policies.*

The project will not be contrary to any State rules or policies.

4. *The proposed project will not substantially affect the economic or social welfare of the community or State.*

The project will have a small positive economic impact during the construction period and will result in an increase in real property taxes resulting from the proposed improvements. The project will not have any negative affects on the economic or social welfare of the surrounding community or the State of Hawaii.

5. *The proposed project does not substantially affect public health in any detrimental way.*

The proposed single-family residence will not have any negative impact on public health. All improvements will be done in conformance with State and County rules, and all required permits will be secured prior to construction.

6. *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities.*

The project will involve the relocation of one family from one house to another on the island and will have no cumulative impact on population or public facilities.

7. *The proposed project will not involve a substantial degradation of environmental quality.*

The project will have no substantial degrading impact on environmental quality. Impacts will be isolated to the specific area where improvements are proposed and efforts will be made to preserve the surrounding environment, to suppress invasive species and to upkeep and beautify the area where possible.

8. *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.*

There are no rare, threatened or endangered species on the subject property so there will be no direct affect on these species as a result of the project. There are two endangered species known to forage in the vast lowland forests of Puna, the Hawaiian Hawk (Buteo solitarius) and the Hoary Bat (Lasiurus cinereus semotus). Both cover large areas and neither is known to inhabit the subject property in any specific way. Hawks (or Io) are seen almost daily in the area as they travel and forage along the coastal region. Hoary Bats (or Opeapea) are seen less frequently along the Puna coast and are known to roost upside down in trees during the day and forage for moths and other night insects in the evening hours. They forage over large areas of the coastal and inland region. The Applicant and their immediate neighbors have never witnessed either bats or hawks that were nesting or even resting for long periods on, or nearby, the subject property.

Neither the bat nor the hawk will be impacted in any discernable way as a result of the proposed project.

9. *The proposed project is not one which is individually limited but cumulatively may have considerable effect upon the environment or involves a commitment for larger actions.*

This project is located on one of over 50 coastal parcels at Wa'awa'a that were subdivided in the 1960's. About 15 of these have been built on for residential purposes. All of these parcels have Conservation lands along their coastal frontage. Approximately 10 of the Wa'awa'a lots are smaller than the rest due to the coastal road alignment and are therefore more significantly impacted by the Conservation district designation that runs some 300' from the water's edge along the entire Puna coast. The subject property is one of the Wa'awa'a lots that lie primarily

in the Conservation district. Of these Wa'awa'a Conservation district lots, this proposal will be the first to be developed for residential purposes. Applications submitted by others may follow. DLNR will need to review the impacts of each of these future projects and determine if they are being proposed in such a way as to minimize their individual environmental impacts.

10. *The proposed project will not detrimentally affect air or water quality or ambient noise levels.*

This project will have no impact on air quality in the region. No emissions, beyond periodic barbeque fires, are anticipated. There are no fresh water surface streams or bodies of water in the area and the basal water aquifer is vast and untapped. Coastal waters are exposed to major windward conditions and currents which circulate vast amounts of ocean water on a daily basis; hence, offshore water quality remains robust. The project will retain any drainage from hardened surfaces on-site and a small amount of wastewater from household use will be disposed of in a DOH approved septic system and leach field. This is not expected to have any detrimental affect on surrounding water quality. Noise impacts from the project will occur during the construction period only and be confined to daylight hours.

11. *The project does not affect nor would it likely to be damaged as a result of being located in environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal area.*

The house is sited along a rough coastline that is subject to periodic high wave events, tsunami activity and possible hurricane force winds. Wave velocities along this shoreline are high. The site is not within any designated flooding or tsunami inundation area and the improvements will be located well back, and above from the shoreline. Volcanic hazards in the lower Puna area are also to be considered. The young nature of the lava substrate in the area makes erosion impacts unlikely.

There are inherent risks in any coastal oriented development and the applicant is well aware of those risks. They are also aware of the lack of impelling historical evidence that this site will be subject to natural hazards in the future. The risk of natural disasters in the area is something the applicant has considered and is prepared should they occur.

12. *The project will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies.*

The Proposed Action will adversely affect no scenic vistas and viewplanes identified in the Hawai'i County General Plan. The house will be set back from the public road with a buffer of existing hala forest between the road and the house. No views of the coastline will be disrupted by the project. The home will be visible from offshore and by those who walk along the shore and look inland.

13. *The project will not require substantial energy consumption.*

The proposed single-family residence will be built off-grid. Energy will be created on-site with solar voltaic and passive solar units. Propane gas will be delivered to the site and stored in small tanks. The applicant and their guests will use gasoline and diesel to travel to and from the property. No electrical grid connections are available in the area and none are proposed.

For the reasons above, the Proposed Action 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.

REFERENCES

- Armstrong, R.W. (editor) 1983 *Atlas of Hawaii*. Honolulu: University of Hawaii Press. (Second edition)
- Bird, I. 1964. *Six Months in the Sandwich Islands*. University of Hawai'i Press, Honolulu.
- Gagne, W., and L. Cuddihy. 1990. "Vegetation," pp. 45-114 in W.L. Wagner, D.R. Herbst, and S.H. Sohmer, eds., *Manual of the Flowering Plants of Hawai'i*. 2 vols. Honolulu: University of Hawai'i Press.
- Handy, E.S.C., and E. Handy. 1972. *Native Planters in Old Hawai'i*. B.P. Bishop Museum Bulletin 233. Bishop Museum Press, Honolulu. (With M.K. Pukui).
- Haun, A. 2004 Archaeological Field Inspection, TMK: (3) 1-4-28:009, Land of Waawaa, Puna District, Island of Hawaii. Project 332. Prepared for Nancy Hutchinson.
- Hawai'i County Planning Department. 2005. *The General Plan, County of Hawai'i*. Hilo.
- Heliker, C. 1990. *Volcanic and Seismic Hazards on the Island of Hawai'i*. Washington: U.S. GPO.
- Kamakau, S. 1961. *Ruling Chiefs of Hawai'i*. Honolulu: The Kamehameha Schools Press.
- Rosendahl, P.H. 2004 Archaeological Assessment Survey, Waawaa Coastal Parcel, Land of Waawaa, District of Puna, Island of Hawai'i (TMK:3-1-4-28:9). PHRI Letter Report 2424-051004. Prepared for Dr. Len Horowitz.
- Sato, H. H., W. Ikeda, R. Paeth, R. Smythe, and M. Takehiro, Jr., 1973 Soil Survey of the Island of Hawai'i, State of Hawai'i. U.S. Department of Agriculture-Soil Conservation Service and University of Hawai'i Agriculture Experiment Station. Government Printing Office, Washington, D.C.
- U.S. Dept. of Commerce, Bureau of the Census. 2001. <http://factfinder.census.gov/>.
- U.S. Soil Conservation Service. 1973. *Soil Survey of Island of Hawai'i, State of Hawai'i*. Washington: USDA Soil Conservation Service.
- University of Hawai'i at Hilo, Dept. of Geography. 1998. *Atlas of Hawai'i*. 3rd ed. Honolulu: University of Hawai'i Press.
- U.S. Fish and Wildlife Service (USFWS). 2000. *Threatened and endangered plants in Hawai'i*. Washington: GPO.
- Wolfe, E.W., and J. Morris. 1996. *Geologic Map of the Island of Hawai'i*. USGS Misc. Investigations Series Map i-2524-A. Washington, D.C.: U.S. Geological Survey.

APPENDIX 1

COMMENTS IN RESPONSE TO EARLY CONSULTATION

APPENDIX 2
Archaeological Inventory Survey
SHPD No Further Action Letter



APPENDIX 1

COMMENTS IN RESPONSE TO EARLY CONSULTATION

Harry Kim
Mayor



Darryl J. Oliveira
Fire Chief

Glen P.I. Honda
Deputy Fire Chief

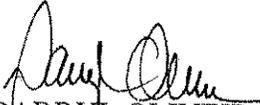
County of Hawai'i
HAWAII FIRE DEPARTMENT
25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720
(808) 981-8394 • Fax (808) 981-2037

July 31, 2008

Mr. Jeffrey Melrose
Island Planning
1405 Waianuenue Ave.
Hilo, Hawaii 96720

RE: ENVIRONMENTAL ASSESSMENT PREPARATION NOTICE FOR
CONSTRUCTION OF SINGLE-FAMILY RESIDENCE IN THE
CONSERVATION DISTRICT
WA'A WA'A, PUNA, HAWAII
TAX MAP KEY (3) 1-4-028:009

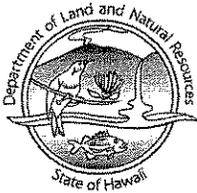
In that the catchment system will also be used for fire protection, it is recommended that the fire department connection to the tank be located in an area accessible by fire apparatus.


DARRYL OLIVEIRA
Fire Chief

JCP:lpc



LINDA LINGLE
GOVERNOR OF HAWAII



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

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAIHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LAND
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF:OCCL:TM

Correspondence: HA 09-18

Jeffrey Melrose
1405 Waiianuenue Ave.
Hilo, Hawaii 96720

AUG - 7 2008

Dear Mr. Melrose,

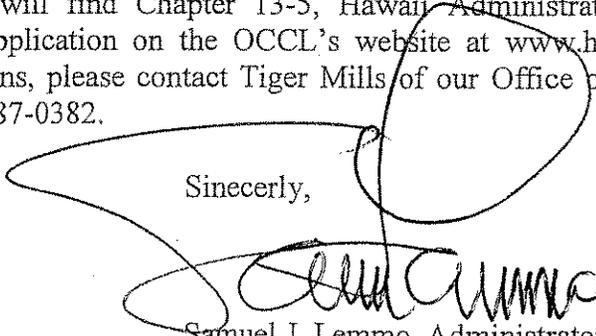
SUBJECT: Environmental Assessment (EA) Preparation Notice for a Proposed Single Family Residence (SFR) Located at Waawaa, Puna, Hawaii Island, TMK:(3) 1-4-028:009

The Office of Conservation and Coastal Lands (OCCL) is in receipt of your correspondence regarding the proposed EA for a SFR. The subject parcel does appear to be partially located within the Conservation District Resource subzone. A Single Family Residence (SFR) is an identified land use within the Resource Subzone pursuant to §13-5-24, R-8, SINGLE FAMILY RESIDENCE, D-1, "a single family residence that conforms to design standards as outlined in this chapter." This requires a Board permit.

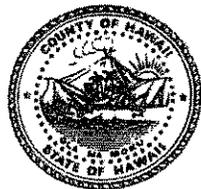
The OCCL notes, a SFR needs to comply with §13-5-41, SINGLE FAMILY RESIDENCES; STANDARDS (a) "single family residential uses approved by the Board shall comply with the design standards contained in Exhibit 4, entitled "Single Family Residential Standards, dated September 6, 1994." Ultimately, the decision to approve or deny any application is at the discretion of the Board of Land and Natural Resources.

For your information, you will find Chapter 13-5, Hawaii Administrative Rules and the Conservation District use Application on the OCCL's website at www.hawaii.gov/dlnr/occl. Should you have any questions, please contact Tiger Mills of our Office of Conservation and Coastal Lands staff at (808) 587-0382.

Sincerely,


Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

c: HDLO
County of Hawaii, Planning Department



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 96720-4224
(808) 961-8288 • FAX (808) 961-8742

August 14, 2008

Mr. Jeffrey Melrose
Island Planning
1405 Waiuanuenue Avenue
Hilo, HI 96720

Dear Mr. Melrose:

Subject: Pre-Consultation on Environmental Assessment
Landowner: Edward and Mariko Vann Bilinsky
Project: Single-Family Dwelling and Related Improvements
Tax Map Key: 1-4-28:9, Waawaa, Puna, Hawaii

This is in response to your July 25, 2008 letter requesting our comments on the above-referenced project.

We have the following to offer:

1. The subject .894 acre parcel is designated Agricultural and Conservation by the State Land Use Commission.
2. For areas that are designated Conservation by the State Land Use Commission, there is no County zoning per se.
3. The area designated Agricultural by the State Land Use Commission is zoned Agricultural (A-3a) by the County
4. Although it is located within the County's Special Management Area, TMK: 1-4-28:51 is makai of the subject parcel.
5. We note that there is a jeep trail that traverses the subject property. We recommend that you contact Na Ala Hele to discuss the status of this trail.

Mr. Jeffrey Melrose
Island Planning
Page 2
August 14, 2008

6. A Special Management Area Use Permit Assessment Application will be required for any construction activity or improvements on the subject parcel. For your information, Planning Department Rule 11 -5(a) states that "*Except as otherwise provided in this section, all lots which abut the shoreline shall have a **minimum** shoreline setback line of forty feet*". (emphasis supplied) The establishment of shoreline setback lines is based on a **minimum** of forty feet. In some cases, due to coastal erosion and undercutting of the seacliff, additional setbacks have been imposed to ensure the health and safety of the residents.
7. The submittal of a current certified shoreline survey will be required as part of the Special Management Area Use Permit Assessment Application if any structures and/or activities are located close to the minimum forty feet shoreline setback line.

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

Sincerely,


CHRISTOPHER J. YUEN
Planning Department

ETI:cs

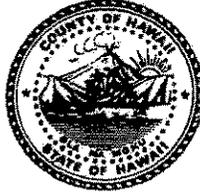
P:\wpwin60\ETI\EA\draftPre-consul\Melrose Belinsky 1-4-28-9.doc

Enclosure

xc: Long Range Planning

Mr. Irv Kawashima
Na Ala Hele Trails & Access Specialist
Department of Land & Natural Resources
19 East Kawili Street
Hilo, Hawaii 96720

Harry Kim
Mayor



County of Hawai'i

CIVIL DEFENSE AGENCY

920 Ululani Street • Hilo, Hawai'i 96720-3958
(808) 935-0031 • Fax (808) 935-6460

Quince Mento
Administrator

John T. Drummond
Administrative Officer

William Hanson
Administrative Officer

August 28, 2008

Jeffery Melrose
Island Planning
1405 Wainuenue Avenue
Hilo, Hawai'i 96720

Dear Mr. Melrose,

This letter is in response to your inquiry regarding Civil Defense concerns related to a single family residence planned for construction on TMK (3)1-4-028:009, Wa'awa'a, Puna, Hawai'i.

The Hawai'i County Civil Defense Agency, at this time, recognizes three areas of concern: 1) The parcel is located within the tsunami evacuation zone. 2) The area is susceptible to wildland fires. 3) Access to the property is through Old Government Road which is not paved or regularly maintained.

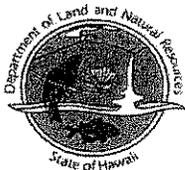
Thank you,

Quince Mento
Civil Defense Administrator



APPENDIX 2
Archaeological Inventory Survey
SHPD No Further Action Letter

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

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

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

August 12, 2008

Jeffrey Melrose
Island Planning
1405 Waianuenue Ave.
Hilo, Hawaii 96720

LOG NO: 2008.3186
DOC NO: 0808MD49
Archaeology

Dear Mr. Melrose:

**SUBJECT: Chapter 6E-42 Historic Preservation Review –
Request for Comment prior to Preparing an Environmental Assessment for a 0.894
acre Parcel off the Red Road
Waawaa Ahupua'a, Puna District, Island of Hawai'i
TMK: (3) 1-4-028:009**

Thank you for the opportunity to comment on the aforementioned project, which we received on July 30, 2008.

We determine that **no historic properties will be affected** by this project because:

- Intensive cultivation has altered the land
- Residential development/urbanization has altered the land
- Previous grubbing/grading has altered the land
- An accepted archaeological inventory survey (AIS) found no historic properties
- SHPD previously reviewed this project and mitigation has been completed
- Other: *An approved Archaeological Inventory Survey has been completed for this parcel (Corbin 2008; PHRI Report 2735-040308) and SHPD has concurred that no further work is required (Log No. 2008.2738, Doc No. 0808MD48).*

In the event that historic resources, including human skeletal remains, cultural materials, lava tubes, and lava blisters/bubbles are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Hawaii Island Section, needs to be contacted immediately at (808) 981-2979.

If you have questions about this letter please contact Morgan Davis at (808) 981-2979.

Aloha,

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

Report 2735-040308

Archaeological Inventory Survey Waawaa Coastal Parcel

Land of Waawaa, Puna District
Island of Hawai'i

The logo for the Pacific Heritage Research Institute (PHRI) is located at the bottom left of the page. It consists of the letters 'PHRI' in a bold, black, sans-serif font. The letters are positioned to the right of a vertical decorative element made of many thin, parallel black lines that runs down the left side of the page.

Report 2735-040308

Archaeological Inventory Survey Waawaa Coastal Parcel

Land of Waawaa, Puna District
Island of Hawai'i (TMK:3-1-4-28:9)

BY

Alan B. Corbin, M.A. • Supervisory Archaeologist

PREPARED FOR

Diana Schommer, CRS, GRI, RB
Pahoa Properties, LLC

APRIL 2008

PHRI

Paul H. Rosendahl, Ph.D., Inc.
Archaeological • Historical • Cultural Resource Management Studies & Services

HAWAII: 224 Waiānūenue Avenue • Hilo, Hawaii 96720 • (808) 969-1763 • GUAM: P.O. Box 23305 • G.M.F., Guam 96921 • (671) 472-3117

SUMMARY

At the request of Diana Schommer, CRS, GRI, RB, of Paho Properties, LLC, Paul H. Rosendahl, Ph.D., Inc. (PHRI) recently conducted an archaeological inventory survey of the approximately 38,493 square foot Waawaa Coastal Parcel (TMK:3-1-4-28:9) project area, situated immediately seaward of the old Government Beach Road (locally referred to as the "Red Road"), on the southeast shore of Nanawale Bay, in the Land of Waawaa, Puna District, Island of Hawai'i. The survey was conducted in connection with potential development planning and subsequent permit applications that would be made to the Hawai'i County Department of Public Works and/or Planning Department, and/or the Hawai'i State Department of Land and Natural Resources. The overall purpose of the survey was to meet the historic preservation requirements of the Department of Land and Natural Resources - State Historic Preservation Division (DLNR-SHPD).

During the course of the survey, one archaeological site complex, Site 26465, was identified. The site consists of three features - a platform, a clearing mound, and a C-shaped wall. All the identified features are assessed as being related to agricultural use of the area.

Based on federal/state evaluation criteria, Site 26465 is assessed as significant solely for information content (Criterion D). During the current project the site was recorded to inventory-level standards. No further archaeological work is recommended.

Contents

INTRODUCTION ■ 1

Background ■ 1

Purpose and Objectives ■ 1

Scope of Work ■ 1

Project Area Description ■ 2

Previous Archaeological Work in the General Vicinity of the Current Project Area ■ 4

Previous Archaeological Work Within the Current Project Area ■ 6

Historical Documentary Research ■ 7

Field Methods ■ 8

FINDINGS ■ 9

CONCLUSION ■ 16

Discussion ■ 16

General Significance Assessments and Recommended General Treatments ■ 16

REFERENCES CITED ■ 17

Figures

Figure 1. Project and Feature Location Map ■ 3

Figure 2. Feature A, Plan View ■ 10

Figure 3. Photograph of Feature A, View to Southwest ■ 11

Figure 4. Feature B, Plan View ■ 12

Figure 5. Photograph of Feature B, View to North ■ 13

Figure 6. Feature C, Plan View ■ 14

Figure 7. Photograph of Feature C, View to Northwest ■ 15

INTRODUCTION

BACKGROUND

At the request of Diana Schommer, CRS, GRI, RB, of Paho Properties, LLC, Paul H. Rosendahl, Ph.D., Inc. (PHRI) recently conducted an archaeological inventory survey of the approximately 38,493 square foot Waawaa Coastal Parcel (TMK:3-1-4-28:9) project area, situated immediately seaward of the old Government Beach Road (locally referred to as the "Red Road"), on the southeast shore of Nanawale Bay, in the Land of Waawaa, Puna District, Island of Hawai'i. The survey was conducted in connection with potential development planning and subsequent permit applications that would be made to the Hawai'i County Department of Public Works and/or Planning Department, and/or the Hawai'i State Department of Land and Natural Resources.

PURPOSE AND OBJECTIVES

The overall purpose of the survey was to meet the historic preservation requirements of the Department of Land and Natural Resources - State Historic Preservation Division (SHPD). The inventory survey was conducted in accordance with the standards contained in the SHPD Administrative Rules Chapter 276 *Rules Governing Standards for Archaeological Inventory Surveys and Reports*; Hawai'i Administrative Rules; Title 13, DLNR; Subtitle 13, SHPD (effective December 2003).

The specific objectives of the survey were fourfold: (a) to identify all potentially significant archaeological remains present within the parcel; (b) to collect information sufficient to evaluate and document the potential significance of all identified remains; (c) to evaluate the potential impacts of any proposed land use upon any identified significant remains; and (d) to recommend appropriate measures that would mitigate any adverse impacts upon identified significant remains.

SCOPE OF WORK

Based on (a) the findings of our earlier archaeological assessment survey (Rosendahl 2004), (b) prior PHRI work within the general project vicinity, and (c) our familiarity with both the general project area and the current regulatory review requirements of the SHPD and the HCPD, the following tasks were determined to constitute an appropriate scope of work for the survey:

1. Conduct appropriate archaeological and historical documentary background review and research;
2. Mobilization – including all field work preparations, field crew travel time, and demobilization;
3. Conduct fieldwork – detailed recording (written descriptions, scaled maps, and photographs) of all identified sites and features;
4. Conduct fieldwork – limited subsurface testing at selected sites and features, including a previously identified terrace or platform that might possibly be a burial feature;
5. Conduct post-field analysis of fieldwork and other research data;

6. Prepare appropriate draft and final reports – including general significance assessments and recommended general mitigation treatments, as appropriate, for all potentially significant sites and features; and
7. Coordinate and consult with client, client representatives, local informants, regulatory agency staff, etc. (as appropriate and/or required).

PROJECT AREA DESCRIPTION

The project area is bounded on the northeast (seaward) end by a shoreline beach reserve and the Pacific Ocean; on the northwest and northeast by undeveloped lots; and on the southwest (inland) end by the old Government Beach Road (Figure 1). The project area rises in elevation from c. 5-10 feet above mean sea level (AMSL) at its seaward end to an estimated c. 50-55 ft AMSL at its inland end. The inland end of the parcel is c. 315 to 425 feet from the low sea cliff shoreline. With the exception of the existing unpaved jeep trail across the coastal end of the parcel, which apparently obliterated the physical remains of any earlier coastal foot trail, the project area does not appear to have been modified in recent historic times.

The project area is part of the Hilo Lava Plain, an uncliffed volcanic coast defined by Armstrong (1983:37) as coastline with little or no cliff along the shoreline. Basaltic lava flows of the Puna Volcanic Series of Kilauea Volcano, which may be Recent to Latest Pleistocene in age, formed the surface of the project area and immediate vicinity. In general, these lava flows are highly permeable, but carry brackish water along the coast (Stearns and MacDonald 1946:103,105). For the most part, terrain in the project area is rough and broken, with rugged lava hummocks, and consists largely of exposed *pāhoehoe* lava with small pockets of soil included in the lava flows association. These are soils which are well-drained and somewhat excessively drained, thin soils over lavas in the northeastern portion of the Puna District (Sato et al. 1973:4). More specifically, the small pockets of soil in the project area consist of Opihikao extremely rocky muck (3-25% slopes), representing the Opihikao Series of well-drained, thin organic soils that have developed over *pāhoehoe* lava bedrock; they are found on uplands from sea level to 1,000 ft (305 m), and are rapidly permeable, with slow run-off, and a slight erosion hazard (Sato et al. 1973:43). Rainfall in the project area is estimated to be c. 100 to 125 inches (254 to 318 cm) per year, and generally greater during the period December to April, and the mean annual temperature is approximately 72 to 73 degrees F. (Armstrong 1983:63-64).

Vegetation within the project area varies in density from moderate to heavy, and is dominated for the most part by the indigenous *hala* (*Pandanus odoratissimus*), which is present throughout the project area, with thicker stands near the shoreline and smaller stands and individual specimens distributed within the more inland portion of the project area. The introduced exotic guava (*Psidium sp.*) is also present. Thick, low-lying growths of the indigenous *naupaka-kahakai* (*Scaevola sericea*) are found in the seaward portion of the project area-near the shoreline, while scattered specimens of the indigenous ti (*Cordyline terminalis*) were observed scattered throughout the project area.

Figure 1. Project Area and Site Location Map

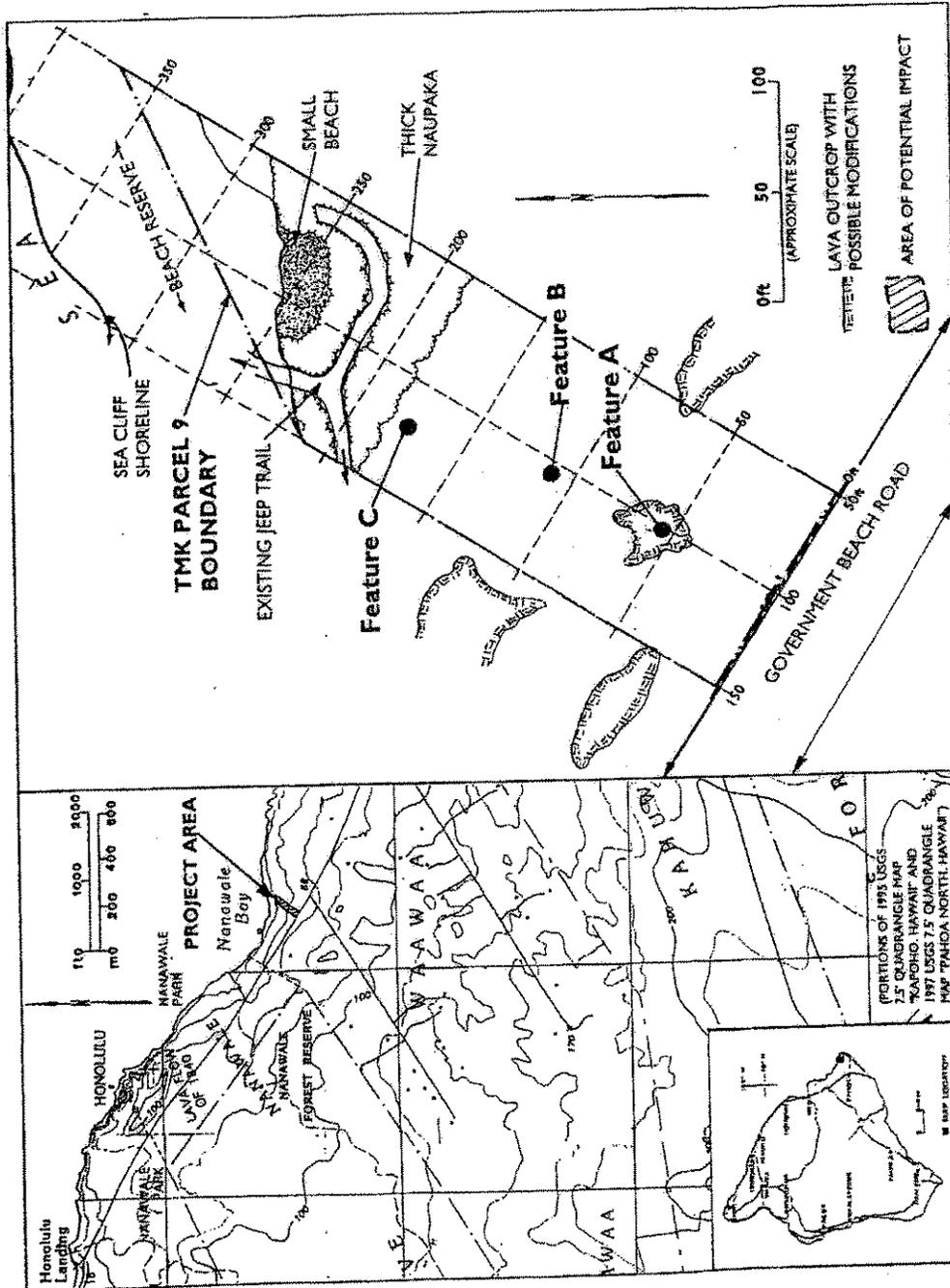


Figure 1. Project Area and Feature Location Map

PREVIOUS ARCHAEOLOGICAL WORK IN THE GENERAL VICINITY OF THE CURRENT PROJECT

Several previous archaeological studies have been conducted in the northeastern coastal portion of Puna, in the general vicinity of the current project area; however, many of these have been on relatively small parcels of land. Compared to other regions of the Hawaiian Islands, there have been few archaeological investigations in East Hawaii on large areas of land, especially in the Puna area. In the Puna District most recent studies have been conducted in connection with geothermal development in south Puna, on the rift zone, and these projects were largely limited to surveys of varying levels of intensity. There have been even fewer formal investigations in north Puna, and these are of uneven quality and scope. In addition to these more formal surveys non-professionals and interested lay persons over the years have amassed a significant body of historical and archaeological data for Puna, most of which exists as field notes or unpublished manuscripts, and much of which is not easily accessible. The following are summaries of the published studies most relevant to the current investigation; they are in order of date of publication.

Hudson (1932)

In the early 1930s Alfred E. Hudson surveyed and inventoried archaeological sites on the east coast of Hawai'i Island, from Waipio to Ka'u. A wide variety of structural remains were recorded, including *heiau*, platforms, caves, trails, and agricultural features. Hudson's data is available only in a draft typescript, and descriptions of the sites are very brief and lack detail. Concerning the general project area, Hudson reported that, at Honolulu landing, most of the sites had been nearly obliterated and completely concealed by heavy vegetation. He reported finding three poorly preserved house platforms, a perfectly spherical stone ball, a flat stone slab, and an anvil-shaped stone. He also reported, along the shore of Nanawale Bay, several fragments of an old trail, closely following the shoreline and extending a little over a quarter of a mile. The trail consists of smooth beach boulders laid end to end. No evidence was seen of the trail within the current project area; it may have been obliterated in this section by an existing jeep trail running through the northwest portion of the project area (see *Figure 1*). He also notes, along the shore at Nanawale Bay, fragments of many walls indicating the site of the former village of Nanawale, just northwest of the current project area, most of which was destroyed by the lava flow of 1840 (Hudson 1932:310-312). Nevertheless, the features noted within the current project area may be remnants of this village.

Ewart and Luscomb (1974)

In late 1973 Bishop Museum conducted a pedestrian survey of a proposed Kalapana-Keaukaha highway corridor; the corridor was 16 miles long, 2,000 feet wide, and extended from the Hilo-Puna district boundary through upper Puna to the Waiakahiula-Honolulu *ahupua'a* boundary. One hundred-eighteen sites were located within the corridor. Unfortunately, the scope of the project was limited, and the survey report includes only brief site descriptions and preliminary significance assessments. The accompanying site maps lacked the detail necessary to make locational correlations based on known landmarks; moreover, not all the sites encountered during the survey were plotted on the maps. Despite this, the authors made several interesting observations. It was suggested that prehistoric settlement patterns may have varied among the several *ahupua'a* in the survey corridor, and that settlement pattern differences may have been due to variations of local topography, in particular the availability of canoe-landings, ground water from springs, natural wells, and low-lying areas. The authors concluded that the study area offered excellent research potential in terms of addressing Hawaiian economic patterns. As the reasons for the high research potential were not always made explicit in the survey report, they are enumerated below:

1. There has been comparatively little destruction of archaeological sites in the survey area [such that the archaeological record may be presumed to be intact];
2. Sites within the survey area appeared to include both prehistoric and historic indigenous features, thus offering a unique opportunity to study the effects of western impact and the processes of cultural change;
3. The variations observed among the *ahupua'a* suggest that comparative studies would greatly enhance our understanding of the relationships between the natural environment, patterns of aboriginal settlement and resource exploitation, and economic practices.

McEldowney (1979)

In 1979 Bishop Museum conducted an archaeological and historical literature review in order to define and evaluate potential cultural resources in the Hilo region (resources that would be affected by proposed lava diversion alternatives). The scope of work included: (a) a literature and data review, (b) an inventory of identified historic and prehistoric sites, (c) formulation of a predictive model for unidentified cultural resources, and (d) a research design and methodology for future archaeological work. McEldowney's regional settlement model was a basic guide for further research, but was limited in terms of site descriptions.

Komori (1987)

In February of 1987 Bishop Museum conducted a pedestrian survey of alternate routes for a proposed Pohoiki-Keaau transmission line corridor in Puna. The scope of work included the identification and evaluation of archaeological resources found in the proposed corridors. In keeping with the research design developed for the east Hawaii region, prehistoric sites encountered during survey were referenced to the predictive model for aboriginal settlement proposed by McEldowney (1979). All of the proposed transmission-line routes were within the area defined by McEldowney as Zone II, Upland Agriculture (approximately 50-1,000 ft AMSL).

In all, five agricultural sites, including walls, terraces, clearings, ditches, and modified outcrops, were encountered, and all were on or adjacent to ash or *a'a* deposits dated to 1500+ BP. Other sites, including burial and refuge caves, petroglyphs and platforms, were on the more recent *pāhoehoe* flows that have been dated to 350-500 BP. The author concluded that the settlement pattern model proposed by McEldowney was generally supported by the results of the survey, in that the predicted extensive agricultural fields and adaptation patterns were found to be closely related to physiographic features. In concluding remarks, Komori suggested that period of occupation of the sites was circa AD 1450 to the present, spanning the latter part of the Expansion Period (AD 1100-1650) and the Proto-historic period (AD 1650-1795), as defined by Kirch (1985). The establishment of agricultural complexes distant from primary areas of settlement on the coast sometime after AD 1450 was found to be consistent with Kirch's model for the evolution of Hawaiian culture.

Franklin et al. (1992)

In February 1992 PHRI conducted an intensive survey, including aerial reconnaissance, surface survey, recording, and subsurface testing, of a 200-acre parcel in the *ahupua'a* of Waikahekahe and Waikahekahe Nui, North Puna District, in connection with proposed golf course development. The project area was entirely within the land-use region defined as Zone II, Upland Agriculture, by McEldowney (1979). Although there was evidently an extensive lava-tube system associated with the relatively recent bare *pāhoehoe* lavas surrounding the project area, no lava tube openings were located on the property. Two sites were recorded for the parcel; both were agricultural features located on Keaukaha soils, rather than bare *pāhoehoe*. They were estimated to be 150-350 years old. The authors suggested that the proximity of several lava tube entrances to the agricultural sites suggested these features were used, and concluded that forested sections of the surrounding area would have provided an important part of the subsistence base for Hawaiians using the caves.

Corbin (2001)

Finally, in 2001, PHRI conducted an archaeological inventory survey of the Kalapana Road Realignment Project, located in the Lands of Kauaea, Kaueleau, and Kamaili, District of Puna. The project area comprised realignment sites 3, 4, and 5, which are within portions of several TMK. During the fieldwork, one site was identified (Site 22500), a prehistoric agricultural complex consisting of numerous walls and mounds. On the basis of the project findings, Site 22500 was assessed as provisionally significant for information content (Criterion D) and cultural value (Criterion E). The only feature at the site assessed as significant for cultural value was Feature AF, a large rock mound thought to be a possible burial or religious structure. That feature was outside the project area and would thus be preserved by avoidance. All other features of the site were assessed as significant solely for information content.

PREVIOUS ARCHAEOLOGICAL WORK WITHIN THE CURRENT PROJECT

Two previous archaeological surveys have been conducted within the current subject property. The first was an archaeological field inspection performed by Haun and Associates in January 2004 (Haun 2004). Their inspection identified a platform (current Feature A), and several modified outcrops. The modified outcrops were thought to represent potential agricultural clearing features similar to other agricultural features identified during surveys of nearby parcels (Haun 2004). It was also thought that the platform might contain a burial. It was recommended, based on these findings, that an archaeological inventory survey be conducted in the project area (Haun 2004).

The second archaeological assessment survey took place in May 2004 and was conducted by PHRI. This survey identified a rough terrace or crude platform (current Feature A) situated atop a prominent lava hummock in the central inland portion of the project area. It was recommended, in consultation with the then current SHPD Hawai'i Island Archaeologist Ms. MaryAnne Maigret, that two courses of action could be taken to satisfy state requirements for future use and development of the current subject property. One of the options was inventory survey work and avoidance of the possible burial platform, should testing reveal the presence of a burial within Feature A platform. The second option was long-term preservation of the platform through avoidance and protection (Rosendahl 2004). Subsequently, the first option was selected (the current work).

HISTORICAL DOCUMENTARY RESEARCH

In comparison to other areas of Hawai'i Island, such as the Kona area, or Hilo area, little has been written about Puna, much less specifically about Waawaa. PHRI has conducted historical documentary research on lands near the project area. The most relevant research was done by former PHRI Cultural Resource Specialist Lehua Kalima, who researched the Puna area in general. Below are excerpts from her research, the complete text being available as Appendix C in Charvet-Pond and Rosendahl (1993).

Barrere (1959:15), speculating on the lack of traditional political history, states that Puna as a political unit was insignificant in shaping the course of history of Hawai'i Island. Unlike the other districts, Puna lacked a great family whose support the chiefs seeking power could depend on for success. Puna lands were sought, but their control rested on the control of the adjacent districts of Ka'u or Hilo. Puna's history is often bound up with the fortunes of the ruling families on either side of her.

Several legends speak of the general Puna area. One legend tells of a chief of Puna, Keliikuku, who was very proud of his homeland. While on O'ahu he boasted to a prophet of Pele, Kaneakalau, of the abundance and verdure of Puna. The prophet ridiculed him, and told him that Pele had desolated the area. Keliikuku headed home and climbed the highest point for a view of Puna. He saw its fertile plains covered with lava, and the forests burning as clouds of smoke poured out of the volcano. Pele had heard of his boasts and demonstrated that the land around her fire pit was dependent upon her will (Westervelt 1963:31-32).

Many of the legends of Puna deal with Pele. Numerous legends describe her anger, which caused lava to cover large areas or small sections of the region. It has been implied by tradition that Puna "was once Hawai'i's richest agricultural region and that it is only in relatively recent time that volcanic eruption has destroyed much of its best land" (Handy and Handy 1972:542). Lava flows in historic times have definitely covered more good gardening land here than in any other district, but Handy and Handy feel the present desolation was largely brought about by the gradual abandonment of the country by Hawaiians after sugar and ranching came in rather than by volcanic activity.

The uplands of Puna extend back toward the great heights of Mauna Loa, and in the past its lands have been built, and covered over, and built again by lava flows (Handy and Handy 1972:539). In the long intervals between flows, vegetation took hold, beginning with tiny mosses and lichens, then ferns and hardier shrubs, until the uplands became green and forested and good earth and soil covered much of the lava-strewn terrain, making interior Puna a place of great beauty.

The fern-covered plains between the forest and coast in northeast Puna used to be planted in taro. Hawaiians used the burning-over, digging-up, and planting processes of taro cultivation (Handy and Handy 1972:540). Of sweet potatoes, which were usually grown in drier areas, Handy says "too little sun or too much rain quickly spoils the potato," which infers that they might have been planted only in the dry season. He also mentions that despite the fact that sweet potatoes were planted almost universally and many patches are still maintained, the Puna natives seemed uninterested in this vegetable, probably because they prided themselves on and relished their breadfruit, and also because "potato was nowhere and at no time the staple for this rain-swept district" (Handy 1940:165).

The Reverend William Ellis, who toured the island of Hawaii in 1823, gives his impressions of Keaau:

...Soon after five p.m. we reached Kaau (Keaau), the last village in the division of Puna. It was extensive and populous, abounding with well cultivated plantations of taro, sweet potatoes, and sugar-cane; and probably owes its fertility to a fine rapid stream of water, which descending from the mountains, runs through it into the sea. It was the second stream we had seen on the island (Ellis 1963:212).

Ellis' observation regarding sweet potatoes is contrary to Handy's theory that Puna people were not interested in the vegetable. Perhaps Handy's statement refers to the people of southern Puna rather than the northern Puna area to which Ellis refers.

In 1848, when the Great Mahele took place, only 14 land awards were recorded in the entire Puna area (Komori 1987:2), and the *ahupua'a* of Halona, Popoki, and Maku'u were set aside as government lands. No *kuleana* were awarded within the *ahupua'a*; thus, no testimony revealing land use of those areas exists for that time period. Cordy, however, predicts a high concentration of permanent habitation sites in the more populated coastal areas of the vicinity (up to 1.75 miles inland), with agricultural areas nearby. Farther inland he predicts few sites, with burials or temporary campsites in lava tube caves or walled shelters (Cordy 1986).

In 1974, Ewart and Luscomb conducted an archaeological study in the vicinity for the proposed Kapoho-Keaukaha Highway. Although the study did not include the current project area, the study noted that within Maku'u, the settlement pattern demonstrated by the archaeological remains seemed directly related to the coastal elevation in the area. Ewart and Luscomb predicted virtually continuous settlement in the low lying coastal fraction, which became more dispersed as the elevation rose (1974:25). Eighteen sites were recorded for the area, most of which represented historic settlement. The sites included petroglyph fields, trails, burials, and walls. An informant, Quentin Gandall, reported that Maku'u had a population of more than 2,000 as recently as 1910. No reference to confirm this population figure was located.

Historic land use in the general Puna area includes sugar and coffee cultivation. In the 1890s, coffee plantations were established in the Olaa area. In 1899, the incorporation of the Olaa Sugar Plantation marked the beginning of sugar cultivation in the Puna District. In the Olaa area, the company took over land formerly covered with coffee and *ohi'a* forests (Peterson 1987:A-7). By 1900, the plantation consisted of 19,500 acres, one of the largest sugar plantations in the territory. With the advent of sugar came the Railroad Company, which operated in Puna from 1899 to 1946. The railroad ran from Hilo to Olaa and on to Pahoia in the early 1900s. In 1907, Hawaiian Mahogany Lumber Company of Pahoia cleared *ohi'a* forests on Puna Sugar Company land, and in 1909 the cleared land was taken over by Pahoia Lumber Company. By 1910, the railroad was serving Pahoia Lumber Mill. From 1908 to 1925 the railroad also carried rock from quarries in Kapoho to Hilo for the Hilo breakwater (Peterson 1987:A-8).

FIELD METHODS

The inventory survey was conducted on March 5, 2008 by PHRI Supervisory Archaeologist Alan B. Corbin, M.A., assisted by Leonard Kubo, B.A., in capacity of Field Technician. The project area was subjected to 100% pedestrian survey, with surveyors spaced approximately 10.0 meters apart. Survey transects were walked in a northeast-southwest direction. All identified features were assigned feature designations (Features A, B, C) under one site number (SIHP Site 26465). The features were marked with blue flagging and cleared of all vegetation prior to recordation in detail (including photographs).

FINDINGS

During the course of the field survey, one archaeological site complex, Site 26465, was identified. The site consisted of three features (A, B, and C).

Feature A is a prehistoric stone platform (*Figures 2 and 3*), roughly triangular in plan view. It measures 4.01 m north-south by 3.34 m east-west and is roughly faced on the east side for a length of c. 0.95 m. The platform is stacked 3 to 4 courses high. Portions of the west side consist of bedrock. Rock sizes range from c. 0.10 to 0.50 m in diameter, with most being 0.30 to 0.40 m. The height of the platform surface ranges from c. 0.50 m at the sides of the platform, to 2.4 m, with most of the height of the surface between 0.80 to 1.0 m. There is a large pandanus tree growing through the south end of the platform.

The platform, which was thought to be a possible burial platform (Rosendahl 2004; Haun 2004), was dismantled during the current fieldwork in order to determine the presence/absence of human skeletal remains. The dismantling revealed that most of the platform is natural bedrock. No human skeletal remains were present. The feature most likely represents a temporary habitation structure, or perhaps a viewing platform.

Feature B is a roughly piled, stone clearing mound (*Figures 4 and 5*). It measures approximately 2.0 m northeast to southwest and 0.90 m northwest to southeast. The height of the clearing mound ranges from 0.20 m at the sides to 0.80 m at the middle. Rock sizes range from 0.15 to 0.25 m in diameter. There is a pandanus tree growing through the feature on the western side. Prehistoric clearing mounds are created when land is cleared of stones prior to use.

Feature C is a low, stone, C-shaped wall located on slightly sloping ground. The feature is 14.5 m east-west by c. 0.75 m north-south. It curves slightly inward to the south (*Figures 6 and 7*). The wall is slightly faced on the northwest side for a span of c. 0.40 m. The height of the wall ranges from c. 0.20 m on the sides to 0.80 m in the approximate middle, and the wall consists of stones stacked 3 to 4 courses high. Most of the stones are 0.30 to 0.40 m in diameter. Several pandanus trees are growing on the feature. The feature may have been a windbreak, or it may have been used for agriculture.

Figure 2. Feature A, Plan View

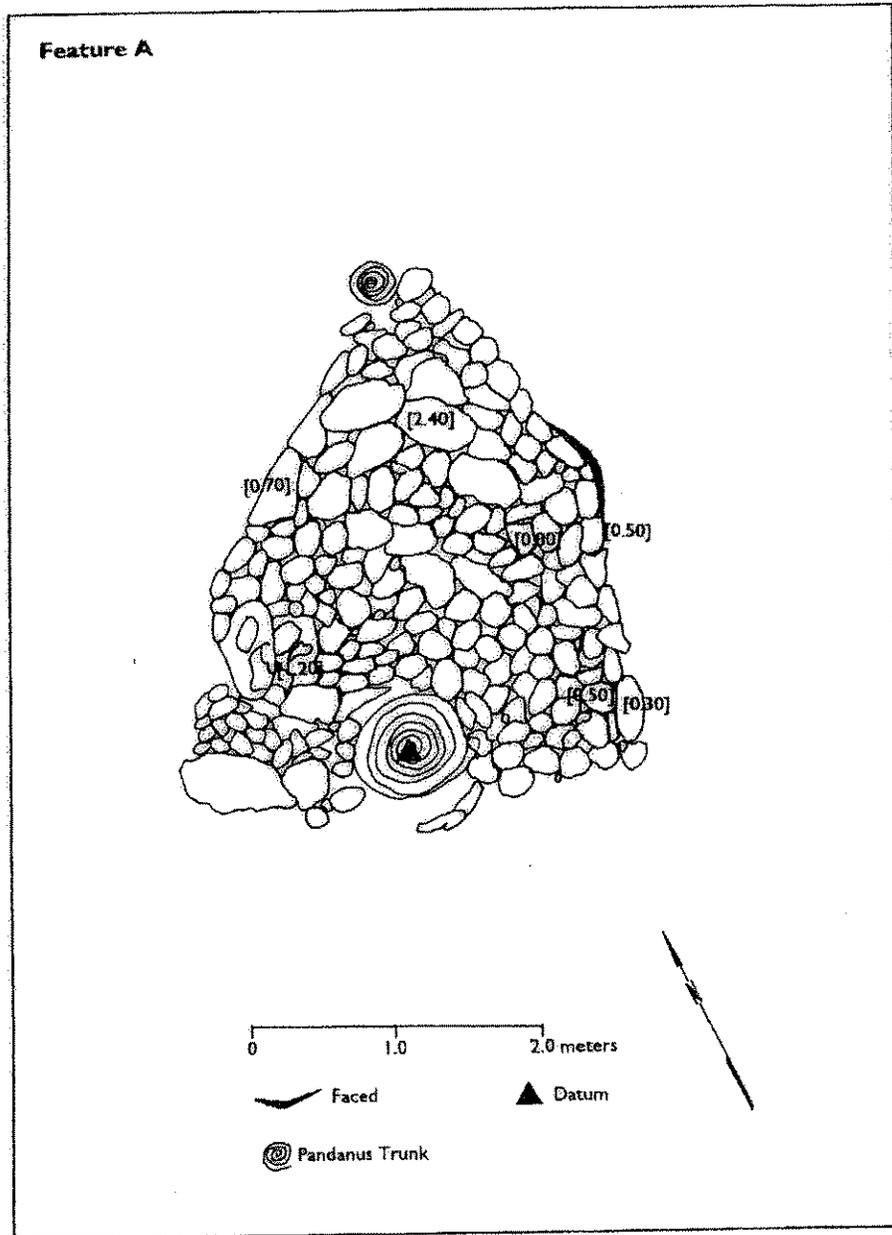


Figure 2. Feature A, Plan View

Figure 3. Photograph of Feature A, View to Southwest

Figure 3. Photograph of Feature A, View to Southwest

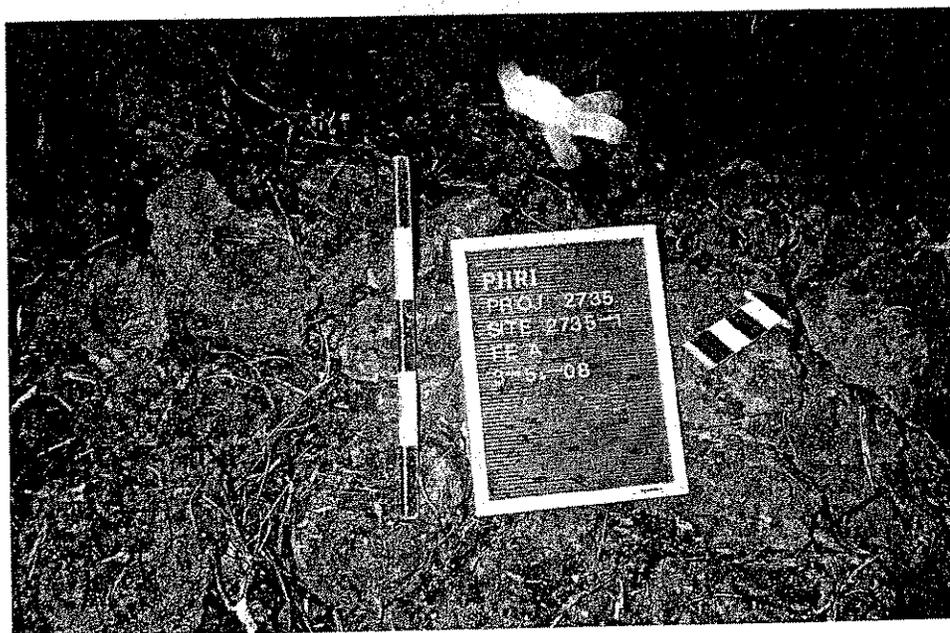


Figure 4. Feature B, Plan View

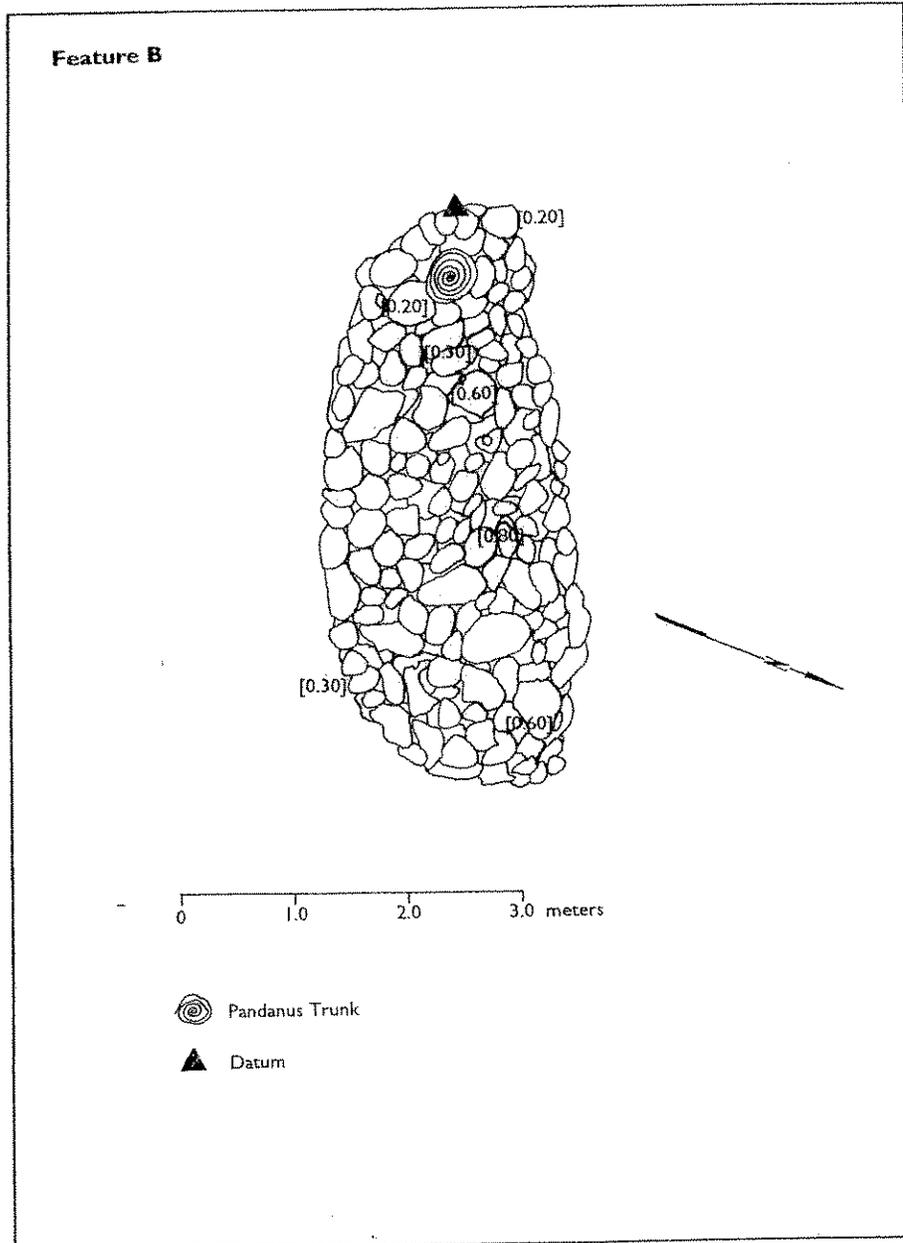


Figure 4. Feature B, Plan View

Figure 5. Photograph of Feature B, View to North

Figure 5. Photograph of Feature B, View to North



Figure 6. Feature C, Plan View

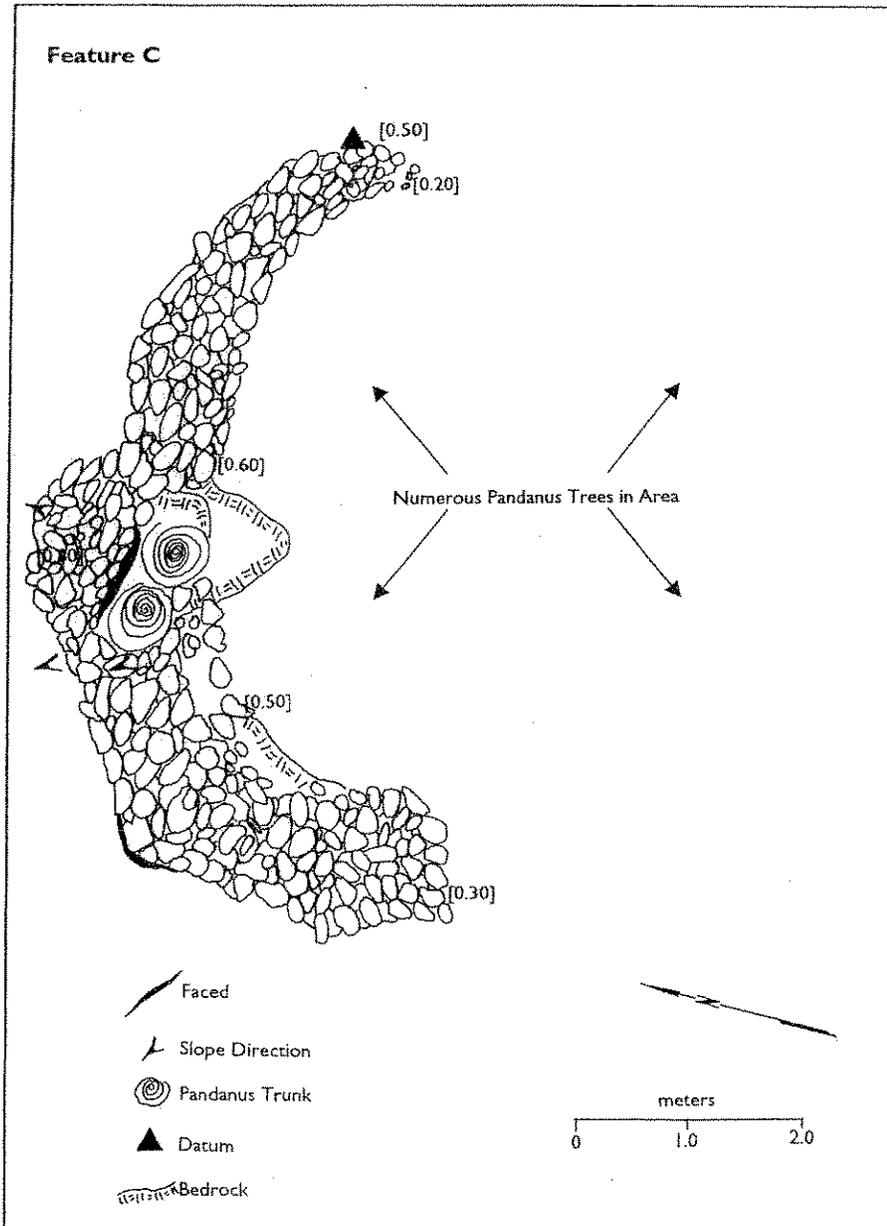


Figure 6. Feature C, Plan View

Figure 7. Photograph of Feature C, View to Northwest

Figure 7. Photograph of Feature C, View to Northwest



CONCLUSION

DISCUSSION

The C-shaped wall (Feature C), the clearing mound (Feature B), and the possible habitation structure or perhaps a viewing platform (Feature A) within the current project area are assessed as being related to agricultural use of the area. The fact that two agricultural features were identified within a relatively small area (c. 0.89 acres) suggests that prior to the development of modern housing in the area more such structures existed. The known inventory surveys of larger areas closest to the current project area also identified clearing mounds and platforms (Rosendahl 1993 [3.6 acres] and Corbin 2001 [road alignment routes in which 25 clearing mounds were identified]). Historic documents also document that Puna in general was an intensely cultivated agricultural area. Historical documents note Nanawale Village in the general vicinity, most of which was destroyed by the lava flow of 1840. The current remains may have been associated with this village.

GENERAL SIGNIFICANCE ASSESSMENTS AND RECOMMENDED GENERAL TREATMENTS

A significance assessment has been made for Site 26465 based on Rules Governing Procedures for Historic Preservation Review to Comment on Chapter 6E-42, Hawaii Revised Statutes, Hawai'i Administrative Rules; Title 13, Department of Land and Natural Resources; Subtitle 13, State Historic Preservation Division Rules (2001). The DLNR-SHPD uses these criteria for evaluating cultural resources. The site was assessed for integrity of location, design, setting, materials, workmanship, feeling, and association and in terms of the following criteria:

- (A) It must be associated with events that have made a significant contribution to the broad patterns of our history;
- (B) It must be associated with the lives of persons significant in the past;
- (C) It must embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value or represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) It must have yielded or may be likely to yield, information important in prehistory or history.

Based on the above significance criteria, Site 26465 is assessed as significant solely for information content (Criterion D). The site has been recorded to inventory-level standards, and its research potential has been exhausted. Therefore, it is recommended that no further archaeological work be conducted.

It should be noted, however, that there is always the possibility, though somewhat remote, that potentially significant, as yet unidentified, cultural remains could be encountered in the course of future development in the project area. In this situation, archaeological consultation should be sought immediately.

REFERENCES CITED

- Armstrong, R.W. (editor)
1983 *Atlas of Hawaii*. Honolulu: University of Hawaii Press. (Second edition)
- Barrere, D.B.
1959 Natural and Cultural History Report on the Kalapana Extension of the Hawai'i National Park. Manuscript. Department of Anthropology, B.P. Bishop Museum.
- Charvet-Pond, A. and P.H. Rosendahl
1993 Archaeological Inventory Survey, Vaughan Residential Parcel (TMK:3-1-5-10:29), Lands of Maku'u, Popoki, and Halona, Puna District, Island of Hawaii. PHRI Report 1240-112992. Prepared for Susan K. Vaughan.
- Corbin, A.B.
2001 Archaeological Inventory Survey, Kalapana Road Realignment Project, Lands of Kamaili, Kauaea, and Kaueleau, District of Puna, Island of Hawai'i (TMK:3-1-3-02;03;04). PHRI Report 1999-011101. Prepared for SSFM International.
- Cordy, R.
1986 Chapter 6E, Historic Preservation Review, Hawaiian Homelands Project (Maku'u). Division of State Parks, Dept. of Land and Natural Resources, State of Hawaii. (Memorandum).
- Ellis, W.
1963 *Journal of William Ellis, Narrative of a Tour of Hawaii, or Owhyee...* Honolulu: Advertiser Publishing Co.
- Ewart, N.D., and M.L.K. Luscomb
1974 Archaeological Reconnaissance of Proposed Kapoho-Keaukaha Highway, District of Puna, Island of Hawai'i. Manuscript 020574. B.P. Bishop Museum, Honolulu. Prepared for Sam O. Hirota, Inc., and County of Hawai'i, Department of Public Works.
- Franklin, L.J., and P.H. Rosendahl
1992 Archaeological Inventory Survey, Ainaloa Project, Lands of Waikahekahe Nui and Waikahekahe, Puna District, Island of Hawaii (TMK:3-1-6-04:21,57). PHRI Report 1213-043092. Prepared for Mr. Bob Awana, President, Ainaloa Development Corporation. (With L. Kalima)
- Handy, E.S.C
1940 *The Hawaiian Planter: His Plants, Methods and Areas of Cultivation*. B.P. Bishop Museum Bulletin 161. Bishop Museum Press, Honolulu.
- Handy, E.S.C., and M.K. Pukui
1972 *Native Planters in Old Hawai'i*. B.P. Bishop Museum Publication 233. Department of Anthropology, B.P. Bishop Museum. (With Mary Kawena Pukui)
- Haun, A.
2004 Archaeological Field Inspection, TMK: (3) 1-4-28:009, Land of Waawaa, Puna District, Island of Hawaii. Project 332. Prepared for Nancy Hutschinson.

- Hudson, A.E.
1932 Archaeology of East Hawaii. Manuscript. Department of Anthropology, B.P. Bishop Museum, Honolulu.
- Kirch, P.V.
1985 *Feathered Gods and Fishhooks: An Introduction to Hawaiian Archaeology and Prehistory*. Honolulu: University of Hawaii Press.
- Komori, E.K.
1987 Cultural and Biological Resources Survey of the Pohoiki to Puna - Substation 69 kV Transmission Corridor, Kapoho to Kea'au, Puna, Hawaii Island, Final Report: Archaeological Survey. Department of Anthropology, Bishop Museum.
- McEldowney, H.
1979 Archaeological and Historical Literature Search and Research Design. On file, State Historic Preservation Office, Department of Land and Natural Resources.
- Peterson, I.
1987 Appendix A *In* Komori 1987.
- Rosendahl, P.H.
2004 Archaeological Assessment Survey, Waawaa Coastal Parcel, Land of Waawaa, District of Puna, Island of Hawai'i (TMK:3-1-4-28:9). PHRI Letter Report 2424-051004. Prepared for Dr. Len Horowitz.
- Sato, H. H., W. Ikeda, R. Paeth, R. Smythe, and M. Takehiro, Jr.
1973 Soil Survey of the Island of Hawai'i, State of Hawai'i. U.S. Department of Agriculture-Soil Conservation Service and University of Hawai'i Agriculture Experiment Station. Government Printing Office, Washington, D.C.
- Stearns, H.T., and G.A. MacDonald
1946 Geology and Ground-Water Resources of the Island of Hawaii. Hawaii Division of Hydrography *Bulletin* 9. Territory of Hawaii, Honolulu.
- Westervelt, T.
1963 *Hawaiian Legends of Volcanoes*. Tokyo: Charles E. Tuttle Company.

Appendix 3
SMA Approval Letter

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 96720-4224
(808) 961-8288 • FAX (808) 961-8742

August 14, 2008

Mr. Jeffrey Melrose
Island Planning
1405 Waiianuenue Avenue
Hilo, HI 96720

Dear Mr. Melrose:

Special Management Area (SMA) Use Permit Assessment Application (SAA 08-000344)
Applicant: Jeffrey Melrose
Land Owner: Edward and Mariko Vann Bilinsky
Request: Construction of a Single Family Dwelling and Related Improvements
Tax Map Key: 1-4-28:9, Waayaa, Puna, Hawaii

This is to acknowledge receipt on June 16, 2008 of your application for the construction of a single family dwelling and related improvements on the subject parcel.

Also acknowledged is receipt of a 30-day time extension, or until August 15, 2008, in which to render a decision. The extension of time was granted so comments on the archaeological inventory survey could be obtained from the Department of Land and Natural Resources, State Historic Preservation Division.

This .894 acre parcel is zoned Agricultural (A-3a) by the County and designated Agricultural and Conservation by the State Land Use Commission. TMK: 1-4-28:51 is makai of the subject parcel.

Since a portion of the improvements will be located within the State Land Use Conservation District, the proposed project triggers the review under Chapter 343, HRS, relating to Environmental Impact Statements. It is our understanding that you will be filing a Conservation District Use Application and Draft Environmental Assessment with the State Board of Land and Natural Resources for its decision.

Mr. Jeffrey Melrose
Island Planning
Page 2
August 14, 2008

In reviewing the submittal, three potential historic sites were referenced in the archaeological inventory survey of the subject parcel. However, in an August 13, 2008 telephone conversation with Department of Land and Natural Resources, State Historic Preservation Division archaeologist Morgan Davis, staff was informed that a "no effect" letter is currently being processed.

According to Chapter 205A-22, Hawaii Revised Statutes and Planning Commission Rule 9-4(10)B(i) relating to Special Management Area, "development" does not include "*Construction of a single-family residence that is not part of a larger development*". Therefore, we have determined that the proposed single family dwelling and related improvements are exempt from the definition of "development". In addition, since the proposed improvements will be over 160 feet from the shoreline, the requirement of a certified shoreline survey is waived. Also, the proposed improvements will not have an adverse effect on the environment.

However, denoted on the Site Plan is an "Existing Jeep Trail". Although all structural improvements will be located mauka of this trail, we recommend that you contact Na Ala Hele regarding the status of this trail and provide us a copy of their response.

While further review of the construction of the proposed improvements against the Special Management Area rules and regulations will not be required, all other applicable Zoning and Building Code requirements must be satisfied. Additionally, this determination of exemption from the SMA definition of development is subject to compliance with the following conditions:

1. The applicant, its successors or assigns shall be responsible for complying with all stated conditions of approval.
2. The applicant shall comply with all applicable requirements of all Federal, State and County of Hawaii departments and agencies.
3. Prior to the submittal of the Building Permit, provide a copy of Na Ala Hele comments on the status of the jeep trail for our record.
4. The Building Permit for the proposed single-family dwelling shall be secured within one (1) year from the date of approval of the Conservation District Use Permit.

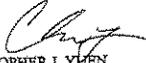
Mr. Jeffrey Melrose
Island Planning
Page 3
August 14, 2008

5. Artificial light from exterior lighting fixtures, including, but not necessarily limited to floodlights, uplights or spotlights used for decorative or aesthetic purposes shall be prohibited if the light directly illuminates, or is directed to project across property boundaries toward the shoreline and ocean waters, except as may otherwise be permitted pursuant to Section 205A-71(b), Hawaii Revised Statutes.
6. Discovery of any unidentified sites or remains, such as artifacts, shell, bone or charcoal deposits, human burials, rock or coral alignments, pavings or walls will require that all work in the immediate area shall cease. The Planning Director shall be immediately notified. Work may proceed with an archaeological clearance from the Planning Director. The archaeological clearance requires a finding that sufficient mitigative measures are taken for the discovery; with written guidance from the State Historic Preservation Division of the Department of Land and Natural Resources.
7. An extension of time for the performance of the conditions contained herein may be granted by the Planning Director upon the following circumstances:
 - a) The non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence;
 - b) Granting of the time extension would not be contrary to the original reasons for the granting of the determination; and
 - c) The time extension granted shall be for a period of not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended up to one additional year).
8. The Planning Director shall initiate procedures to revoke this determination should any of the conditions not be met or substantially complied with in a timely fashion.

Mr. Jeffrey Melrose
Island Planning
August 14, 2008
Page 4

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

Sincerely,


CHRISTOPHER J. YUEN
Planning Director

ETLcs
Filepath:69C2MISM4A\0208\AA 08-344 Bellery Melrose.rtf

cc: Long Range Planning

Mr. Samuel J. Lemme
DLNR, Office of Conservation and Coastal Lands
P. O. Box 621
Honolulu, HI 96809

Mr. Irv Kawashima
Na Ala Hele Trails & Access Specialist
Department of Land & Natural Resources
19 East Kawili Street
Hilo, HI 96720

Mr. Jeffrey Melrose
Island Planning
Page 3
August 14, 2008

5. Artificial light from exterior lighting fixtures, including, but necessarily limited to floodlights, uplights or spotlights used for decorative or aesthetic purposes shall be prohibited if the light directly illuminates, or is directed to project across property boundaries toward the shoreline and ocean waters, except as may otherwise be permitted pursuant to Section 205A-71(b), Hawaii Revised Statutes.
6. Discovery of any unidentified sites or remains, such as artifacts, shell, bone or charcoal deposits, human burials, rock or coral alignments, pavings or walls will require that all work in the immediate area shall cease. The Planning Director shall be immediately notified. Work may proceed with an archaeological clearance from the Planning Director. The archaeological clearance requires a finding that sufficient mitigative measures are taken for the discovery; with written guidance from the State Historic Preservation Division of the Department of Land and Natural Resources.
7. An extension of time for the performance of the conditions contained herein may be granted by the Planning Director upon the following circumstances:
 - a) The non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence;
 - b) Granting of the time extension would not be contrary to the original reasons for the granting of the determination; and
 - c) The time extension granted shall be for a period of not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended up to one additional year).
8. The Planning Director shall initiate procedures to revoke this determination should any of the conditions not be met or substantially complied with in a timely fashion.

Mr. Jeffrey Melrose
Island Planning
August 14, 2008
Page 4

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

Sincerely,



CHRISTOPHER J. YUEN
Planning Director

ETI:cs

P:\wpwin60\CZMSMAA\2008\SA 08-344 Belinsky Melrose.rtf

xc: Long Range Planning

Mr. Samuel J. Lemmo
DLNR, Office of Conservation and Coastal Lands
P. O. Box 621
Honolulu, HI 96809

Mr. Irv Kawashima
Na Ala Hele Trails & Access Specialist
Department of Land & Natural Resources
19 East Kawili Street
Hilo, HI 96720