DAVID Y. IGE
GOVERNOR OF HAWAII

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APR 08 2016

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COMMISSION ON WATER RESOURCE MANAGEMENT

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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

March 15, 2016

Ref. No.: LODS-27,712
Author: LD-WTM

MEMORANDUM:

TO: Scott Glenn, Interim Director
Office of Environmental Quality Control

FROM: Suzanne D. Case, Chairperson
Board of Land and Natural Resources

SUBJECT: Draft Environmental Assessment and Anticipated Finding of No Significant Impact for Modifications to Existing Hawaii Electric Light Company Easement Identified as Land Office Deed No. S-27,712, for Access Roadway Purposes Over State Lands at Puuwaawaa, North Kona, Hawaii, Tax Map Key: (3) 7-1-002: Portion of 013.

The Department of Land and Natural Resources, Land Division, has reviewed the enclosed draft environmental assessment (DEA) for the above referenced project and anticipates a negative declaration determination.

Please publish the notice on availability for this project on the next scheduled edition of the OEQC Environmental Notice.

We have enclosed a completed OEQC Bulletin Publication Form, one (1) copy of the DEA, and one (1) copy of the DEA on CD ROM.

Should you or your staff have any questions, please feel free to call Wesley Matsunaga, at the Hawaii District Land Office at (808) 961-9590. Thank you.

Enclosures

cc: Land Board Member
Central Files
District Files

RECEIVED
'16 MAR 24 P12:50
OFC. OF ENVIRONMENTAL QUALITY CONTROL

APPLICANT PUBLICATION FORM

Project Name:	Hawai'i Electric Light Easement Modification and Access Road Construction on State Land at Pu'uwa'awa'a
Project Short Name:	Hawaii Electric Light Easement Pu'uwa'awa'a
HRS §343-5 Trigger(s):	Use of State Land
Island(s):	Hawai'i
Judicial District(s):	North Kona
TMK(s):	(3) 7-1-002:013 (por.)
Permit(s)/Approval(s):	BLNR approval of the easement Review and approval of plans by the DLNR Engineering Division
Approving Agency:	Hawai'i State Department of Land and Natural Resources c/o Land Division, Hawaii District 75 Aupuni Street, Room 204
Contact Name, Email, Telephone, Address	Wesley T. Matsunaga, Land Agent, Wesley.T.Matsunaga@Hawaii.Gov 808-961-9590 75 Aupuni Street, Room 204, Hilo HI 96720
Applicant:	Hawaii Electric Light
Contact Name, Email, Telephone, Address	Leila Beals, Land Agent leila.beals@hawaiielectriclight.com 808-969-0263 54 Halekauila St, Hilo, HI 96720
Consultant:	Geometrician Associates
Contact Name, Email, Telephone, Address	Ron Terry, rterry@hawaii.rr.com 808-969-7090 PO Box 396, Hilo HI 96721

Status (select one)	**Submittal Requirements**
__x__ DEA-AFNSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.
____ FEA-FONSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
____ FEA-EISPN	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
____ Act 172-12 EISPN ("Direct to EIS")	Submit 1) the approving agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
____ DEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
____ FEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.

____ FEIS Acceptance Determination	The approving agency simultaneously transmits to both the OEQC and the applicant a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
____ FEIS Statutory Acceptance	The approving agency simultaneously transmits to both the OEQC and the applicant a notice that it did not make a timely determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and therefore the applicant's FEIS is deemed accepted as a matter of law.
____ Supplemental EIS Determination	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
____ Withdrawal	Identify the specific document(s) to withdraw and explain in the project summary section.
____ Other	Contact the OEQC if your action is not one of the above items.

Project Summary
Provide a description of the proposed action and purpose and need in 200 words or less.

Hawai'i Electric Light is applying to the BLNR for a modification of one of its 69kV transmission line easements over State land at Pu'uwa'awa'a to allow construction of a 15-foot wide, 450-foot long unpaved road so that it can replace and maintain a power pole. Hawai'i Electric Light is currently replacing its aging poles along Māmalahoa Highway with upgraded, sturdier poles capable of bearing the area's wind loads. Adequate road access is essential for replacement and future maintenance. Standard best management practices will be implemented to minimize erosion and the risk of wildfire. No archaeological, cultural or biological resources are present. The corridor already has poles and wires and the ground surface is not highly visible from public locations, and scenic impacts would be negligible.

DRAFT ENVIRONMENTAL ASSESSMENT

Hawai‘i Electric Light Easement Modification and Access Road Construction on State Land at Pu‘uwa‘awa‘a

TMK (3) 7-1-002:013 (por.), Pu‘uwa‘awa‘a
North Kona District, Hawai‘i Island, State of Hawai‘i

April 2016

Prepared for:
State of Hawai‘i
Department of Land and Natural Resources

DRAFT ENVIRONMENTAL ASSESSMENT

Hawai‘i Electric Light Easement Modification and Access Road Construction on State Land at Pu‘uwa‘awa‘a

TMK (3) 7-1-002:013 (por.), Pu‘uwa‘awa‘a
North Kona District, Hawai‘i Island, State of Hawai‘i

APPLICANT:

Hawai‘i Electric Light
PO Box 1027
Hilo, HI 96721-1027

APPROVING AGENCY:

State of Hawai‘i
Department of Land and Natural Resources
PO Box 621
Honolulu, HI 96809

CONSULTANT:

Geometrician Associates LLC
PO Box 396
Hilo, HI 96721

CLASS OF ACTION:

Use of State Land

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).

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Hawaiʻi Electric Light is applying to the Board of Land and Natural Resources for a modification of one of its 69kV transmission line easements over State land at Puʻuwaʻawaʻa to allow construction of a 15-foot wide, 450-foot long unpaved road so that it can replace and maintain a power pole. The current 25-foot wide easement allows construction and maintenance of utility structures, but not road construction, under the utility line route to Pole P-199. Hawaiʻi Electric Light is currently replacing its aging poles along Māmalahoa Highway with upgraded, sturdier poles capable of bearing the wind loads that the area sometimes receives. Adequate road access is essential for replacement and future maintenance. If a high wind event or wildfire here damages the pole or lines and causes a power outage, the lack of access will lengthen outage times. Standard best management practices will be implemented to minimize erosion and the risk of wildfire. No archaeological, cultural or biological resources are present. The corridor already has poles and wires and the ground surface is not highly visible from public locations, and scenic impacts would be negligible.

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

1.1 Project Location, Description and Purpose and Need

The Hawai‘i Electric Light supplies electricity for more than 83,000 residential, commercial and institutional customers in the County of Hawai‘i. Peak electrical demand in 2015 was 195.1 megawatts (MW). Hawai‘i Electric Light’s power generation system presently has a total firm capacity of 286.2 MW, produced by its own power plants or purchased from other generators, including geothermal, wind, solar and hydroelectric facilities.

There are two levels of transmission voltages to transfer power between areas on the Big Island. The main transmission voltage is 69kV. HELCO has four 69kV cross-island transmission lines. The existing distribution system consists of several different voltage levels. The distribution system basically consists of overhead pole lines and underground systems. Because of the vastness of the Big Island, the majority of the distribution system consists of overhead pole lines. The utility also operates major switching stations used to transfer the flow of power between different transmission circuits at critical locations around the island. These transmission switching stations provide greater system flexibility and increase system reliability in supplying power to the various distribution substations and eventually, to customers. Distribution substations, which transform voltages to distribution voltages, are also located island-wide in proximity to communities and other developments.

Hawai‘i Electric Light’s 69kV transmission line runs parallel to Māmalahoa Highway (State Highway 190) from Waimea to Kailua-Kona. Hawai‘i Electric Light has a number of easements on State and private land allowing for utility structures and/or access along this route. These easements here and elsewhere allow Hawai‘i Electric Light to operate and maintain its facilities, which is of vital importance to its customers.

As the 69kV transmission line corridor passes south through the Pu‘uanahulu-Pu‘uwa‘awa‘a area, rather than following the curving course of Māmalahoa Highway as it descends the *pali* at Pu‘uanahulu, it takes a direct line south across a rocky area of pastures (see Figure 1 and Figure 3c). The subject property is State land identified as TMK 7-1-002:013, which is encumbered under Executive Order 4203 to the Division of Forestry and Wildlife (DOFAW). The first pole south of the *pali* is P-199, a two-pole wooden structure placed in the 1956 without providing a road for future access. Part of a Grant of Non-Exclusive Easement (see Appendix 3) granted by the Board of Land and Natural Resources (BLNR) for the property and registered with the Bureau of Conveyances on November 18, 1988, was Perpetual Non-Exclusive Utility Easement 1. This 25-foot wide easement allows construction and maintenance of utility structures, but not road construction, under the utility line route to Pole P-199. Hawai‘i Electric Light is currently replacing its aging poles along Māmalahoa Highway with upgraded, sturdier poles capable of bearing the wind loads that the area sometimes receives. Adequate road access is essential for replacement and future maintenance. If a high wind event or wildfire here damages the pole or lines and causes a power outage, the lack of access will lengthen outage times.

Figure 1. Project Location Map

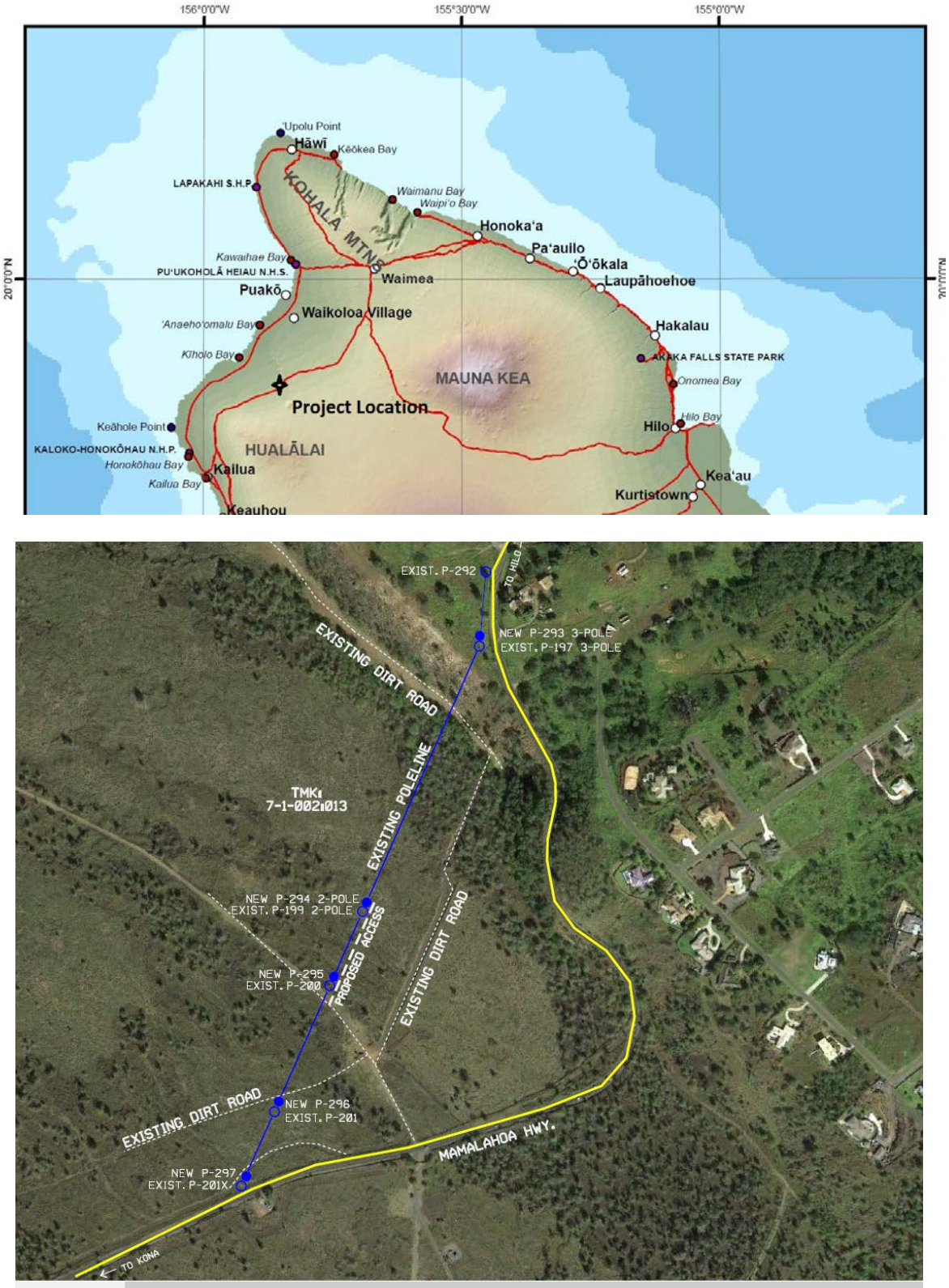
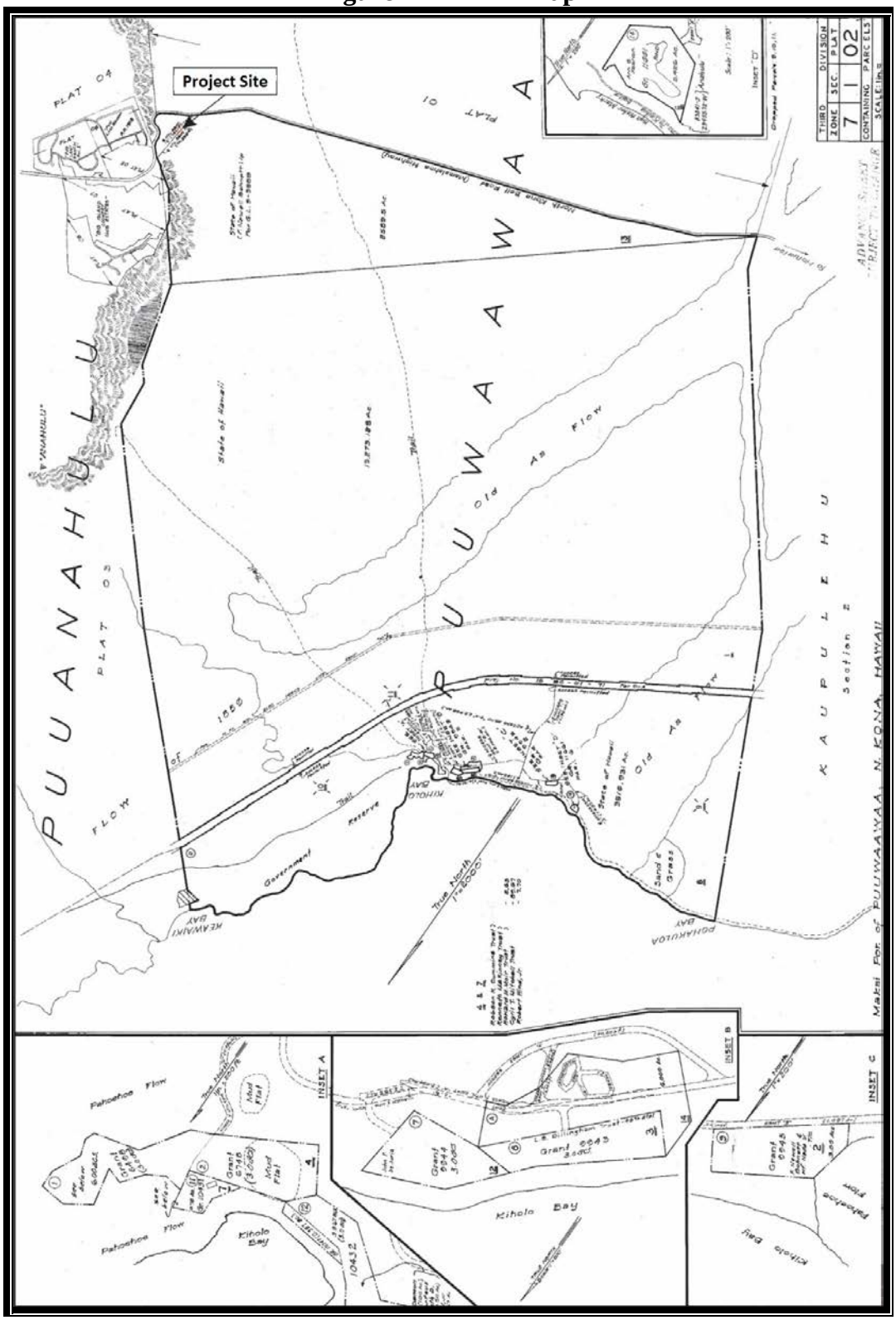


Figure 2 TMK Map



Source: Hawai‘i County Tax Maps. Note: Some labels removed/moved

Figure 3 Project Site Photographs

3a. Easement area under transmission lines ▲ ▼ 3b. Pole is faintly visible from Māmalahoa Highway

Photo from Google Earth Street View ©

The proposed project consists of: 1) an administrative action by the BLNR revising the Grant of Easement to expand its purpose to permit construction and maintenance of a roadway within a portion of the easement; and 2) a physical action by Hawai‘i Electric Light to construct the roadway. The project would facilitate removal of 2-pole structure Pole P-199, which would then be replaced with a new 2-pole wood structure. The new pole would be designated P-294 to conform to the current pole numbering system for this transmission line route. As shown in Figure 1, the revised easement would have the same width and centerline but would expressly include access for a length of approximately 450 feet between an existing ranch road and the location of the existing/ future power pole within the easement. The planned roadway within the modified easement would be approximately 15 feet in width and would not be paved. This would be sufficient for power pole removal and replacement and for future maintenance, which is critical to ensuring reliable distribution of electric power to Hawai‘i Electric Light’s customers.

The land is currently used for pasture, and inspections by archaeologists and biologists have concluded that no cultural or natural resources are present. The proposed project would not interfere with use or management of the property by DLNR.

Once the EA process is complete, the proposal will be forwarded to the Board of Land and Natural Resources (BLNR) for consideration. The project would begin immediately after BLNR approval of the easement amendment.

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 proceed towards necessary permits and approvals. If the agency concludes that significant impacts are expected to occur as a result of the proposed project, 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
- Department of Health
- Office of Hawaiian Affairs

County:
- Planning Department
- Police Department
- Fire Department
- County Council

Private:
- Sierra Club
- Pu‘uanahulu Community Association
- Pu‘uwa‘awa‘a Advisory Council

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

PART 2: ALTERNATIVES

2.1 Proposed Project Alternative

The proposed project is described above in Section 1.1 and the project site is depicted in Figures 1 to 3.

2.2 Alternative Sites or Actions

Because the transmission line and poles are already in place within the existing easement, there is no environmental, financial, or other reason to seek an alternative location for these facilities. It would be feasible to provide an access easement to the pole from a different ranch road. In fact, a route that is as close as 260 feet (as compared to the 450-foot length of the proposed roadway on the current easement) is potentially available. As with the proposed easement, no archaeological or biological features appear to be present. However, this alternative route would expand the footprint of Hawai‘i Electric utility easements and facilities on this DLNR property, and it is not being considered at this time.

2.3 No Action Alternative

Under the No Action Alternative, the easement would not be modified and the access road under the power lines would not be constructed. This would be unsatisfactory for community interests because if high wind event or wildfire damages the already deteriorated pole and/or lines and causes a power outage, the lack of access will considerably lengthen outage times. However, the No Action Alternative would avoid any ground disturbance. The No Action Alternative is considered in this EA for the purposes of comparison with the proposed project.

PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

The 450-foot by 25-foot wide, 0.25-acre easement area that is the location for the proposed project is referred to throughout this EA as the *project site*. The term *project area* is used to describe the general environs of this part of North Kona and Pu‘uwa‘awa‘a[1].

3.1 Physical Environment

3.1.1 Climate, Geology, Soils and Geologic Hazards

Environmental Setting

The project site is located at 2,030 feet in elevation about 1,500 feet south of the community of Pu‘uanahulu and two miles *makai* of Pu‘uwa‘awa‘a. This very prominent regional landmark is a large cone of trachyte pumice that erupted a type of viscous lava that is little known elsewhere on the surface of Hualālai Volcano. It is the only place in the Hawaiian Island where large chunks of obsidian have been found (McDonald et al 1983).

The average annual rainfall here is about 23 inches (Giambelluca et al 2014). Temperatures are generally mild (66-76°F.) and exhibit a definite but moderate seasonal variability. Tradewinds are often blocked by the bulk of the Mauna Kea and Hualālai volcanoes as well as Pu‘uwa‘awa‘a and Pu‘uanahulu. Winds are thus generally light and upslope in the day and downslope at night. Higher wind episodes do occur, particularly during kona storms, when winds may blow from the southwest. This is also the time of the most intense episodes of rainfall (UH Hilo Dept. of Geography 1998).

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. Volcanic hazard in the project area is assessed by the U.S. Geological Survey as 4 on a scale of ascending risk 9 to 1 (Heliker 1990:23). The hazard risk is based on the fact that Hualālai has steep slopes and is the third most historically active volcano on the island. Volcanic hazard zone 4 areas have had about 5 percent of the area covered with lava since 1800 and less than 15 percent of the area covered in the past 750 years.

The Island of Hawai‘i experiences high seismic activity and is at risk from major earthquake damage (USGS 2000), especially to structures that are poorly designed or built, as the 6.7-magnitude quake of October 15, 2006 demonstrated. The project site has a low regional slope, is located a minimum of 700 feet from the Pu‘uanahulu *pali*, and does not appear to be subject to subsidence, landslides or other forms of mass wasting,

[1] The place name Pu‘uwa‘awa‘a has at least five different spellings. This document uses one of the most common, and except where providing direct quotes or document names with other spellings, has attempted to be consistent.

Impacts and Mitigation Measures

Geologic conditions impose no constraints on the use of the project site for an unpaved access road. No mitigation measures should be required.

3.1.2 Drainage, Water Features and Water Quality

Existing Environment

No water bodies such as streams, lakes or ponds exist at or near the project site. FEMA has not prepared Flood Insurance Rate Maps (FIRM) for the area and there are no mapped flood hazards on or near the project site. The area is therefore considered within Flood Zone X, outside of the 500-year floodplain. Reconnaissance of the site indicates there are no areas of local (non-stream related) flooding present on the project site.

In the Hawaiian Islands, precipitation that is not lost through evapotranspiration or conducted through streams into the ocean percolates into the ground to collect in the aquifers under the island before slowly making its way to the sea. As streams in Hawaiʻi are generally flashy or even ephemeral, underground water is the most reliable source of water supply, because there is little daily or seasonal change in water tables. Water may be trapped between vertical confining layers such as dikes or perched above horizontal confining layers such as volcanic ash soil, forming high level aquifers. This water may overflow, creating natural streams or springs.

If water continues to diffuse through the layers of rock, sand, soil and gravel, it will reach sea level. Fresh water has a lower density than seawater and will float on the salt water in a body that is shaped like a lens and is called the basal aquifer. Due to the difference in densities, for every foot the lens extends above sea level it extends 40 feet below sea level, although the lower areas contain a zone of mixing. As a result, most of the fresh water in a basal aquifer lies below sea level. Basal water tables have inland gradients that can rise as much as four feet per mile in high rainfall areas. This fresh water is the source of much of the groundwater available in the State. The State Commission on Water Resources Management (CWRM) classifies aquifers for groundwater regulatory purposes. The aquifer below the project site is classified as the Kiholo Aquifer System, Code 80902.

Impacts and Mitigation Measures

Risks for flooding or impacts to water quality associated with the proposed project are negligible. The construction of the roadway will require only minor grading of about a quarter acre, and no grading permit will be required. However, the contractor is required to implement the practices specified in the *State of Hawaii, Dept. of Transportation, Highways Division, Construction Best Management Practices Field Manual* (Jan. 2008 ed.). Because of its very small scale and context within a lightly vegetated lava field that readily absorbs runoff, the project would impose minimal risk to the quality of surface waters or the underlying aquifer.

3.1.3 Flora, Fauna and Ecosystems

Existing Environment, Impacts and Mitigation Measures

Geometrician Associates conducted a botanical survey of the project site in January 2016. It is important to note that certain other areas of Puʻuwaʻawaʻa contain important native species including some endangered plants, within a dry forest ecosystem that in many places has high habitat value. As noted in the *Management Plan for the Ahupuaʻa of Puʻuwaʻawaʻa and the Makai Lands of Puʻu Anahulu* and by the U.S. Forest Service's Hawaii Experimental Tropical Forest, the tropical dry forest found at Puʻuwaʻawaʻa is one of the most endangered forest types in the world, threatened by wildfire, invasive species, and land cover changes. Although Puʻuwaʻawaʻa has both highly degraded as well as intact forests, it includes an elevational gradient that supports all the major dry and mesic forest types in Hawaiʻi. Large areas of Puʻuwaʻawaʻa are designated as critical habitat for various organisms, and the pasture section that is the project site has been designated as critical habitat for *Manduca blackburnii* (Blackburn's sphinx moth, discussed below). Biological research in this forest found a great diversity of plants, land snails, arthropods, and birds, both native and non-native. Seventeen species of endangered plants are present, along with eleven endangered bird species and one insect (Hawaiʻi DLNR 2003; U.S. Forest Service: http://www.hetf.us/page/puu_waa_waa/).

The project site itself is located within a fairly degraded area of semi-natural dry forest that has been heavily impacted by grazing (see photos in Figure 3). Within 300 feet of the corridor are a few native trees, including ʻōhiʻa (*Metrosideros polymorpha*) and lama (*Diospyros sandwicensis*), but none are present in the corridor itself. The dominant plant by far is the invasive fountain grass (*Cenchrus setaceus*). Relatively few other plants are present, but the most common are the non-natives jacaranda (*Jacaranda mimosifolia*), lantana (*Lantana camara*), chandelier plant (*Kalanchoe tubiflora*), glycine (*Neonotonia wightii*), Natal redtop grass (*Melinus repens*), coat-buttons (*Tridax procumbens*), hairy spurge (*Euphorbia hirta*), coffee senna (*Senna occidentalis*), ragweed (*Parthenium hysterophorus*) and fireweed (*Senecio madagascariensis*). There are also a few individuals of the common natives ʻuhaloa (*Waltheria indica*) and ʻilima (*Sida fallax*). One clump of a sword fern that may be either native, non-native or a hybrid was also present (*Nephrolepis* sp.). Conversion of this portion of the grazing area to a roadway will not affect ecologically sensitive vegetation.

This area has very limited habitat value for native fauna. The Short-eared Owl (*Asio flammeus sandwichensis*), an endemic sub-species of this near-cosmopolitan diurnal owl species, could hunt in the area. In addition, the Pacific Golden Plover (*Pluvialis fulva*) is an indigenous migratory species regularly seen in grass areas and pastures throughout the State between August and April each year. It should be noted that areas of Puʻuwaʻawaʻa away from the ranch headquarters that are forested with native trees may support a large variety of native birds. At the project site, a few non-native birds are present, including Black Francolin (*Francolinus francolinus*), Skylark (*Alauda arvensis)*, Zebra Dove (*Geopelia striata*) and Common Myna (*Acridotheres tristis*).

In the larger North Kona project area, there are a number of wide-ranging threatened or endangered birds that are sometimes present, including Hawaiian Petrel or *ua‘u* (*Pterodroma sandwichensis*), Newell’s Shearwater or *‘a‘o* (*Puffinus auricularis newelli*), Hawaiian Hawk or ‘Io (*Buteo solitarius*), and Nēnē (*Branta sandvicensis*). None of the nesting or roosting habitat requirements for these species is found at the project site, which is short-grass pasture with no trees or shrubs. Nēnē nest in deep grass and there are several locations in the general Pu‘uwa‘awa‘a area where they may occasionally nest. They forage widely throughout the project area. The short grass of the pasture does not offer nesting habitat, and during the biological survey, no Nēnē nests were observed. Grading of a quarter acre of land beneath the transmission lines would not affect regional Nēnē foraging. Hawaiian Hawks nest in tall trees, usually away from significant sources of disturbance. No tall trees are present in the area. The hawks forage widely on a variety of native and non-native birds as well as small, non-native mammals. The easement area does not represent valuable forage area for this hawk.

The endangered Hawaiian hoary bat or ope‘ape‘a (*Lasiurus cinereus semotus*) is present in many areas on the island of Hawai‘i and has been observed in a variety of vegetation in Kona. The bats may forage for flying insects over the project site on a seasonal basis. Bats roost in trees or shrubs taller than 15 feet and can be vulnerable during the pupping season from June 1 to September 15 each year. There are no trees or large shrubs on the project site, and the project would have no effect on Hawaiian hoary bats.

With the exception of Hawaiian hoary bats, all terrestrial mammals, reptiles and amphibians in Hawai‘i are alien. Based on observations of the project site and nearby areas in the past, horses (*Equus c. caballus*), domestic cattle (*Bos taurus*), feral goats (*Capra hircus)*, feral but semi-domesticated sheep or mouflon (*Ovis aries* or *Ovis gmelini musimon*) and pigs (*Sus scrofa*) are likely to at least occasionally be within the area. Feral cats (*Felis catus*), pet dogs (*Canis f. familiaris*), small Indian mongooses (*Herpestes a. auropunctatus*), various species of rat (*Rattus* spp.) and European house mice (*Mus domesticus*) could also be present. No reptiles or amphibians were observed, although some may be present at times in this pasture. None of these animals is of conservation concern.

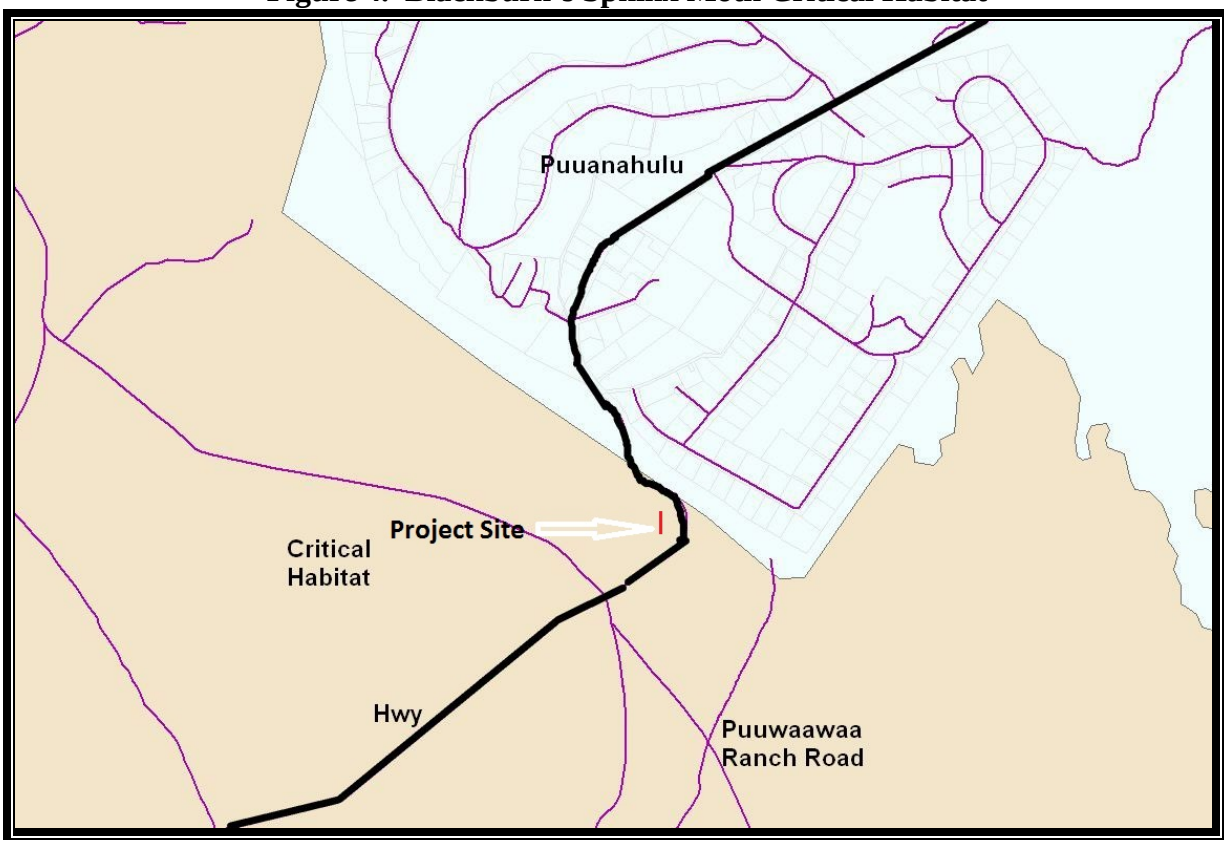
The endangered Blackburn’s sphinx moth (*Manduca blackburnii*) may be present as eggs, pupae or larvae on annual or semi-perennial plants in the Pu‘uwa‘awa‘a region, which is part of the area designated as critical habitat for this species. This close relative of the tomato hornworm of North America was formerly common on all Hawaiian Islands. Its populations were drastically reduced because of the decline of its principal natural host plant, the native tree *‘aiea* (*Nothocestrum* spp.). Blackburn’s sphinx moth has since been found to occasionally utilize non-native host plants including: *Nicotiana glauca* (tree tobacco), *N. tabacum* (commercial tobacco), *Solanum melongena* (eggplant), *Lycopersicon esculentum* (tomato), and possibly *Datura stramonium* (Jimson weed). According to the U.S. Fish and Wildlife Service, the full range of the taxa that Blackburn’s sphinx moth larvae may feed on is not known. However, larvae of a close relative of Blackburn’s sphinx moth, *Manduca sexta*, feed on a wide variety of taxa in the Solanaceae family including: *Capsicum* (sweet and chili pepper), *Cestrum* (ornamental plants), *Cymphomandra* (tomatillo), *Datura* (Jimson weed, loco weed), *Lycium* (ornamental plants used for Chinese herbal medicines), *Lycopersicum* (tomato), *Petunia* (petunia), *Physalis* (tomatillo

and ground cherry), *Solandra* (ornamental vines) and *Solanum* (potato, eggplant, Christmas cherry, nightshade).

These weedy members of the Solanaceae family are found widely distributed throughout the Hawaiian Islands. None of these plants are present in the easement area (although Apple of Sodom is found nearby and throughout this area). If large *Nicotiana glauca* plants emerge on the pasture prior to implementation of the project, DLNR and USFWS will be consulted to determine the appropriate protocol for inspecting the plants for eggs, pupae or larvae. In the unlikely event that they are found, they can be transferred to appropriate host plants in nearby areas that are unlikely to be removed, or there may be other appropriate mitigation.

Because of the scattered presence of the native ʻaiea in the area and particularly the possibility to recover this host species, a large area of Puʻuwaʻawaʻa and Puʻuanahulu was designated by the USFWS as critical habitat for Blackburn's sphinx moth, within "Unit 6, Puuwaawaa-Hualālai" (Figure 4). It is important to remember that critical habitat is a tool for recovery of endangered species on projects or land with a federal nexus, and not a mechanism to block utilization of land. The project has no federal nexus, and in any case would not adversely modify habitat of any native species. No aspect of the project is in conflict with the recovery of endangered species, including Blackburn's sphinx moth, at Puʻuwaʻawaʻa.

Figure 4. Blackburn's Sphinx Moth Critical Habitat



3.1.4 Air Quality, Noise and Scenic Resources

Environmental Setting

Air quality in Pu‘uwa‘awa‘a is periodically degraded due to volcanic emissions of sulfur dioxide from Kilauea, which convert into particulate sulfate and produce a volcanic haze (vog). This pollution drifts around the south side of Mauna Loa and become caught in Kona’s local land breeze-sea breeze circulation. Pu‘uwa‘awa‘a is far enough north in Kona to remain free of haze many days each year, particularly during times when the island of Hawai‘i is experiencing strong trade winds. The occasional range fire also produces smoky, polluted conditions. Manmade air pollution is nearly absent.

The principal noise source in the project area is highway operations, which generate very minor levels of noise at the project site, which is about 600 feet from the highway.

The Hawai‘i County General Plan (Hawai‘i County 2005:7-12) notes regarding scenic resources in North Kona that:

> “North Kona, in the area called Kekaha, is characterized by a sense of openness created by expansive areas of lava flows. Vegetation on the lava is comprised of low pockets of grasses and scrub trees. From the coastline, the land climbs slowly to the distant saddle plateau between Mauna Kea and Mauna Loa. This long natural grade also contributes to the sense of openness and space. The rest of North Kona is dominated by Hualālai. Its steep slopes provide a green backdrop when viewed from the coast, or spectacular views of the coastline, ocean and horizon from higher elevations. Part of Kona’s natural beauty is also due to the wide range of climatic conditions in a relatively short distance. Such variations extending from the coastal areas to the higher elevations are evidenced by changes in vegetation, producing a wide scope of different physical environments.”

The only specific scenic resource or viewplane called out as a Natural Beauty Site in the General Plan in this area is the Pu‘uwa‘awa‘a cinder cone itself, which is two miles away.

Impacts and Mitigation Measures

Minor noise generation will occur during grading the unpaved road. Road construction can generate sound levels exceeding 95 decibels at the construction site, but these levels rapidly drop off with increasing distance. For projects in which construction noise is expected to exceed the Department of Health’s (DOH) “maximum permissible” property-line noise levels, contractors are required to obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction. DOH reviews the proposed activity, location, equipment, project purpose, and timetable in order to decide upon conditions and mitigation measures, such as restriction of equipment type, maintenance requirements, restricted hours, and portable noise barriers. However, in this case, the property boundary lies a minimum of over 800 feet from the project site. There are no sensitive receptors such as homes, schools, or churches within 1,200 feet, and thus no actual noise impacts are foreseen.

Short-term direct and indirect impacts on air quality could occur during construction, principally through fugitive dust from vehicle movement and soil excavation, and also due to exhaust emissions from onsite construction equipment. The State of Hawai‘i Air Pollution Control Regulations (Chapter 11-60, HAR) prohibit visible emissions of fugitive dust from construction activities beyond the property line. Hawai‘i Electric Light will direct the contractor to keep the area free of dust nuisances and to conduct all work in conformance with Chapter HAR 11-60.1, “Fugitive Dust.”

The construction of a narrow, unpaved road under existing powerlines, in a utilitarian landscape area where other such roads exist (see Figures 1 and 3b), would not detract from the scenic character of the area. The project would not affect public views of scenic sites recognized in the Hawai‘i County General Plan or other important public views. No mitigation measures are required for visual impacts.

3.1.5 Hazardous Substances, Toxic Waste and Hazardous Conditions

Environmental Setting, Impacts and Mitigation Measures

No professional evaluation such as a Phase I Environmental Site Assessment was conducted for the easement area. Hawai‘i Electric Light is not aware of the presence any toxic waste or hazardous materials or conditions. There are no distribution transformers and no PCBs near existing poles or replacement poles. Visual surveys of the project site and its surroundings, which is a pasture, did not indicate the presence of structures, equipment or storage containers that might indicate hazardous material use. Therefore, based upon prior and present use, no hazardous substances, toxic wastes or hazardous conditions are expected to be present on the project site.

The proposed project would not involve any impacts related to production of, or exposure to, such substances or conditions, and no mitigation measures are expected to be required for construction or use of the unpaved road.

3.1.6 Wildfire

Existing Environment

In modern times, wildfire has come to pose a grave threat to Hawaiian ecosystems by converting native habitats into grasslands or shrublands dominated by nonnative species (Cuddihy and Stone 1990). Fires in Hawai‘i are usually caused by human activity. Unlike many other areas in the world, the majority of dryland native Hawaiian plants are not adapted to wildfires, and they generally perish when exposed to fire. Native shrubs and trees may recover from fire to some degree, but native plant communities are often overwhelmed by more aggressive alien species after fires. Many nonnative species are pyrophytic (adapted to fire) and thrive in the aftermath of wildfires. Unlike native shrubs and trees, many alien grasses recover quickly, increasing in ground cover and biomass after a fire. Fires encourage non-native grass by stimulating growth

from the base of clumps and encouraging seed production. The establishment of pyrophytic grasses increases the threat of additional fires. Two-thirds of the dry forest cover of the Big Island have been lost, primarily due to wildfire carried by invasive grasses (HWMO 2007). Wildfires furthermore may lead to injuries and death to people and wildlife, as well as property losses and soil erosion, with consequent impacts to water and air quality.

As elsewhere in Northwest Hawai‘i, wildfire is a significant threat to the ecological patterns and processes at Pu’uwa’awa’a. Because of the accumulated fuel load in the area, which has increased significantly with the removal of large scale grazing, the potential for a wildfire disaster is high. Maps of wildfires from 1954-2005 compiled by the Hawaii Wildfire Management Organization show that eight wildfires have originated in the Pu‘uanahulu-Pu‘uwa‘awa‘a area. Most of the non-bare lava surface between Waimea and Pu‘uwa‘awa‘a has burned, much of it multiple times, as has the land southwest of Pu‘uwa‘awa‘a and makai of Māmalahoa Highway (HWMO 2007). As recently as February 2016, a series of fires apparently set by an arsonist occurred in the northern portion of Pu‘uanahulu.

*Impacts and Mitigation Measure*s

Construction of the road will involve heavy equipment, fuel and other sources of ignition. To reduce fire risk, all staging will be conducted in areas where the ground surface is maintained in a bare condition. Hawaii Electric Light requires contactors to employ BMPs to avoid fire starts and respond to fires if they occur. Contractors will have a water truck onsite for both dust and fire start control.

3.2 Socioeconomic and Cultural

3.2.1 Socioeconomic Characteristics

Environmental Setting

The project is located on a 2,589.5-acre State property formerly leased to Pu‘uwa‘awa‘a Ranch, parts of which are in use for cattle production and hunting. The nearest residential community is Pu‘uanahulu, which is not measured by census records but has perhaps several hundred residents. This small community is centered around ranches that leased large tracts of government land in and around Pu‘uwa‘awa‘a and homesteads that date from more than a century ago. The homesteaders, many of whom worked on the large cattle ranches, were direct descendants of the native tenants of Pu‘uanahulu and Pu‘uwa‘awa‘a, and the community has strongly traditional foundations. Subsequent owners and State land lessees have continued to ranch, with more intense grazing on a smaller land base. The late 20th century also saw the development of Big Island Country Club, a private golf course around which there are plans for a residential community, and the Pu‘u Lani Ranch subdivision, a gated residential community.

Impacts and Mitigation Measures

The project site is over 1,200 feet from the nearest residence. Neither construction nor occasional use for maintenance would pose a nuisance to the local community, as there would be no disruption of local traffic patterns, effects to neighborhood character or integrity, relocation of businesses or homes, or any other social impacts. If not implemented, however, maintenance of the pole would continue to be difficult and could potentially lead to long downtimes during a power outages caused by issues on this stretch of transmission line. In this sense, the proposed project represents a benefit to this community.

3.2.2 Cultural Resources

The information in this section relies on historical research provided in the archaeological letter report authored by ASM Affiliates, Inc., contained in Appendix 2, various other published and unpublished sources, and consultation with Puʻuwaʻawaʻa and Puʻuanahulu residents and organization officials conducted for the EA and/or as part of the ASM research for this project or other recent projects in the area (Geometrician Associates 2009, 2015).

Cultural Background for Era Prior to Western Contact

The settlement of Hawaiʻi resulted from voyages taken across the open ocean. For many years, researchers have proposed that early Polynesian settlement voyages between Kahiki (the ancestral homelands of the Hawaiian gods and people) and Hawaiʻi were underway by A.D. 300, with long distance voyages occurring fairly regularly through at least the thirteenth century. It has been generally reported that the sources of the early Hawaiian population – the Hawaiian Kahiki – were the Marquesas and Society Islands. Recent work summarized by Kirch (2012) indicates a later settlement date of about 1000 A.D.

For generations following initial settlement, communities were clustered along the watered, windward (*koʻolau*) shores of the Hawaiian Islands. Along the *koʻolau* shores, streams flowed and rainfall was abundant, and agricultural production became established. The *koʻolau* region also offered sheltered bays from which deep sea fisheries could be easily accessed, and near shore fisheries, enriched by nutrients carried in the fresh water, could be maintained in fishponds and coastal waters. It was around these bays that clusters of houses where families lived could be found. In these early times, Hawaiʻi's inhabitants were primarily engaged in subsistence level agriculture and fishing.

Over a period of several centuries, areas with the richest natural resources became populated and perhaps crowded, the population began expanding to the *kona* (leeward side) and upland areas such as Waimea (Kirch 2012). Over the generations, the ancient Hawaiians developed a sophisticated system of land and resources management. By the time ʻUmi-a-Līloa rose to rule the island of Hawaiʻi in ca. 1525, the island (*mokupuni*) was divided into six districts or *moku-o-loko*. On Hawaiʻi, the district of Kohala is one of six major *moku-o-loko* within the island. Kohala like other large districts on Hawaiʻi, was subdivided into ʻ*okana* or *kalana* (regions of land smaller than the *moku-o-loko*, yet comprising a number of smaller units of land). The *moku-*

o-loko and *ʻokana* or *kalana* were further divided into manageable units of land, and were tended to by the *makaʻāinana* (people of the land). Of all the land divisions, perhaps the most significant management unit was the *ahupuaʻa*. *Ahupuaʻa* are generally wedge-shaped pieces of land that radiate out from the center of the island, extending to the ocean fisheries fronting the land unit. They were usually marked by an altar with an image or representation of a pig placed upon it (thus the name *ahu-puaʻa* or pig altar).

The *ahupuaʻa* were also divided into smaller individual parcels of land (such as the *ʻili*, *kōʻele*, *māla*, and *kīhāpai,* etc.), generally oriented in a *mauka-makai* direction, and often marked by stone alignments (*kuahiwi*). In these smaller land parcels the native tenants tended fields and cultivated crops necessary to sustain their families, and the chiefly communities with which they were associated. As long as sufficient tribute was offered and *kapu* (restrictions) were observed, the common people who lived in a given *ahupuaʻa* had access to most of the resources from mountain slopes to the ocean. These access rights were almost uniformly tied to residency on a particular land, and earned as a result of taking responsibility for stewardship of the natural environment, and supplying the needs of the *aliʻi*.

Entire *ahupuaʻa*, or portions of the land were generally under the jurisdiction of appointed konohiki or lesser chief-landlords, who answered to an *aliʻi-ʻai-ahupuaʻa* (chief who controlled the *ahupuaʻa* resources). The *aliʻi-ʻai-ahupuaʻa* in turn answered to an *aliʻi ʻai moku* (chief who claimed the abundance of the entire district). Thus, *ahupuaʻa* resources supported not only the *makaʻāinana* and *ʻohana* who lived on the land, but also contributed to the support of the royal community of regional and/or island kingdoms. This form of district subdividing was integral to Hawaiian life and was the product of strictly adhered to resources management planning. In this system, the land provided fruits and vegetables and some meat in the diet, and the ocean provided a wealth of protein resources.

The project site is located on the Island of Hawaiʻi within the District of North Kona in the *ahupuaʻa* of Puʻuwaʻawaʻa. Kona is one of six major *moku-o-loko* (districts), and extends from the shore across the entire volcanic mountain of Hualālai, and continues to the summit of Mauna Loa. Like other large districts on Hawaiʻi, Kona was further divided into *ʻokana* or *kalana* (regions of land smaller than the *moku-o-loko*, yet comprising a number of smaller units of land). In the region now known as Kona *ʻakau* (North Kona), there are several ancient regions (*kalana*) as well. The southern portion of North Kona was known as "Kona *kai ʻōpua*" (interpretively translated as: Kona of the distant horizon clouds above the ocean), and included the area extending from Lanihau (the present-day vicinity of Kailua Town) to Puʻuohau (often called Red Hill). The northern-most portion of North Kona was called "Kekaha" (descriptive of an arid coastal place). Native residents of the region affectionately referred to their home as *Kekaha-wai-ʻole o nā Kona* (Waterless Kekaha of the Kona District), or simply as the *āina kaha*. Puʻuwaʻawaʻa Ahupuaʻa is located within a smaller district of Kekaha known as Nāpuʻu, literally translated as "the hills" (Pukui et al. 1974).

Clark (1987) offered a regional settlement pattern model for the Pre-Western Contact use of nearby Waikoloa that included four elevationally delimited environmental zones: Coastal Zone, Intermediate Zone, Kula Zone, and Wilderness Zone. The Coastal Zone extends up to about 150

feet elevation, and was used for permanent and temporary habitation, coastal resource exploitation, and limited agriculture. The Intermediate Zone extends from the Coastal Zone to about 1,900 feet elevation. This zone was used primarily for seasonal agriculture with associated short-term occupation, typically situated near intermittent drainages. The Kula Zone extends from the Intermediate Zone to about 2,700 feet elevation (and to 3,200 feet in certain areas). This was the primary agricultural and residential area, with extensive formal fields and clustered residential complexes. The Wilderness Zone extends above the Kula Zone to the mountaintops, and was a locus for the collection of wild floral and faunal resources. Puʻuwaʻawaʻa crosses several environmental zones that are generally referred to as *wao* in the Hawaiian language. These environmental zones include the near-shore fisheries and shoreline strand (*kahakai*) and the *kula kai*/*kula uka* (shoreward/inland plains). These regional zones were greatly desired as places of residence by the natives of the land.

Continuing into the *kula uka* (inland slopes), the environment changes as elevation increases. The zones called the *wao kanaka* (region of man) and *wao nahele* (forest region) in Puʻuwaʻawaʻa are generally situated between the 1,800 to 2,400 foot elevations, and are crossed by the present-day Māmalahoa Highway. The highway is situated not far below the ancient *ala loa*, or foot trail, also known as Ke-alaʻehu, and was part of a regional trail system passing through Kona from Kaʻū to Kohala. Within the forest region, rainfall increases to 30 or 40 inches annually, and taller forest growth occurred. This region provided native residents with shelter for residential and agricultural uses, and a wide range of natural resources that were of importance for religious, domestic, and economic purposes.

Hawaiians see all things within their environment as being interrelated. That which was in the uplands shared relationships with that which was in the lowlands, coastal region, and even in the sea, and the *ahupuaʻa* as a land unit was the thread that bound all things together in Hawaiian life. In an early account written by Kihe (in *Ka Hōkū o Hawaiʻi*, 1914-1917), with contributions by John Wise and Steven Desha Sr., the significance of the dry season in Kekaha and the custom of the people departing from the uplands for the coastal region is further described:

> *…ʻOia ka wā e neʻe ana ka lā iā Kona, hele a maloʻo ka ʻāina i ka ʻai kupakupa ʻia e ka lā, a o nā kānaka, nā liʻi o Kona, pūheʻe aku la a noho i kahakai kāhi o ka wai e ola ai nā kānaka* – It was during the season, when the sun moved over Kona, drying and devouring the land, that the chiefs and people fled from the uplands to dwell along the shore where water could be found to give life to the people. (*Ka Hōkū o Hawaiʻi*, April 5, 1917)
> "Ola aku la ka ʻāina kaha, ua pua ka lehua i ke kai — The natives of the Kaha lands have life, the lehua blossoms are upon the sea!" (*Ka Hoku o Hawaii*, February 21, 1928)

The *lehua* blossoms are likened to canoes returning to the sea. Puʻuwaʻawaʻa was a favorable place to live in North Kona because of the freshwater springs and brackish pools along the coast and the more favorable agricultural land in the uplands. The coastal area of Puʻuwaʻawaʻa contains the protected bay at Kīholo and was the location of a significant fishpond, as well as numerous springs and water caves. The land provided sheltered canoe landings, deep sea and nearshore fisheries, and important salt making resources. The inland agricultural field systems

and diverse forest and mountain resources also attracted native residents to the area. Through these diverse resources, the native families were sustained on the land.

There are numerous native and historical accounts that mention Puʻuwaʻawaʻa specifically, and even more that encompass the greater Kekaha region. Perhaps one of the earliest datable traditions that reference the Nāpuʻu-Kekaha region was collected by Abraham Fornander (1916-1917) titled "*The Legend of Kaulanapokii*". The legend speaks of traveling through the uplands, viewing Kīholo and Kapalaoa from Huʻehuʻe, and describes the practice of salt making at Puakō (also important in the coastal lands of Puʻuwaʻawaʻa). By association with Hīkapōloa, chief of Kohala at the time of the events described in this story, the *moʻolelo* dates to around the thirteenth century. Native historian Samuel Kamakau (1961) recorded that during the reign of Lono-i-ka-makahiki, Kamalālāwalu (the king of Maui) made plans to invade the island of Hawaiʻi. Kamalālāwalu (Kama) sent spies to determine how many people lived on the island. The spies "landed at Kawaihae," and one of them, Ka-uhi-o-ka-lani, traveled the trail between Kawaihae to Kanikū (Kamakau 1961:56). Returning to his companions, Ka-uhi-o-ka-lani reported "I went visiting from here to the lava bed and pond that lies along the length of the land." He was told, "Kaniku is the lava bed and Kiholo, the pond" (Kamakau 1961:56).

In another historical account, Kamakau described eighteenth century events in the Kekaha region, with particular emphasis on the lands of Puʻuwaʻawaʻa and Kaʻūpūlehu. When Alapaʻi-nui—ruler of Hawaiʻi—died in 1754, and his son Keaweʻōpala was chosen as his successor (Kamakau 1961:78). In the years preceding that time, the young chief Kalaniʻōpuʻu, had been challenging Alapaʻi's rule. The challenge continued after Alapaʻi's death, and following a short reign, Kalaniʻōpuʻu killed Keaweʻōpala and secured his rule over Hawaiʻi.

One of the most prolific native writers of the late nineteenth and early twentieth centuries, lived on the island of Hawaiʻi at Puʻuanahulu. His name was John Whalley Hermosa Isaac Kihe, who also wrote under the penname Kaʻohuhaʻaheoinākuahiwiʻekolu (The proud mist on the three mountains). Born in 1853, Kihe's parents came from Honokōhau and Kaloko. During his life, Kihe taught at various schools in the Kekaha region, served as legal counsel to native residents applying for homestead lands, and worked as a translator on the Hawaiian Antiquities collections of A. Fornander. In the later years of his life, Kihe lived at Puʻuanahulu with his wife, Kaimu (Puʻu Anahulu Homestead Grant No. 7540), and served as the postman of Nāpuʻu. Kihe, who died in 1929, was also one of the primary informants to Eliza Maguire, who translated some of Kihe's writings, publishing them in abbreviated form in her book "*Kona Legends*" (Maguire 1926).

In the series of articles entitled "*Na Hoonanea o ka Manawa, Kekahi mau Wahi Pana o Kekaha ma Kona*" (P*leasant Passing of Time [Stories] About Some of the Famous Places of Kekaha at Kona*), Kihe presented detailed narratives of native traditions of Nāpuʻu and Kekaha (*Ka Hoku o Hawaii*; Dec. 6th 1923 to Feb. 21st 1924). Kihe described some of the famous places (*wahi pana*), and how they came to be named. He also identified some of the early residents of the region, and practices associated with water catchment and agriculture. The account of the priest Moemoe, and the shark-man, ʻĪwahaʻouʻou, from *Ka Hoku o Hawaii*; January 3, 1924 includes several important place names in the lowlands of Puʻuwaʻawaʻa. Significantly, there are named

caves and sites, and descriptions of cultivating practices in the uplands of Nāpuʻu. The former residence of sharkman, ʻĪwahaʻouʻou, is situated near the Puʻuwaʻawaʻa-Puʻuanahulu boundary several miles from the project site, and overlooks the *kula* (plains). This site is still pointed out by elder *kamaʻāina* of the land.

Post-Western Contact Cultural and Historical Background

Captain James Cook and his crew first arrived in the Hawaiian Islands on January 18, 1778, on board the *H.M.S. Resolution* and *Discovery*, prior to sailing north and searching fruitlessly for the Northwest Passage. Returning a year later, he spent a month in Kealakekua Bay, where he was killed in February 1779 over a dispute involving one of the ship's skiffs. With the arrival of foreigners in the islands, Hawaiʻi's culture and economy underwent drastic changes. Demographic trends during the early part of the nineteenth century indicate population reduction in some areas, due to war and disease, yet increase in others, with relatively little change in material culture. At first there was a continued trend toward craft and status specialization, intensification of agriculture, *aliʻi* controlled aquaculture, upland residential sites, and the enhancement of traditional oral history (Kent 1983). Later, as the Historic Period progressed, Kamehameha I died, the *kapu* system was abolished, Christianity established a firm foothold in the islands, and introduced diseases and global economic forces began to have a devastating impact on traditional life-ways. Some of the work of the commoners shifted from subsistence agriculture to the production of foods and goods that they could trade with early Western visitors. Introduced foods often grown for trade with Westerners included yams, coffee, melons, Irish potatoes, Indian corn, beans, figs, oranges, guavas, and grapes (Wilkes 1845). The arrival of foreigners in Hawaiʻi signified the end of the Precontact Period, and the beginning of the Historic Period, and the end of an era of uniquely Hawaiian culture.

Of singular importance for the upland areas of Kekaha as well as Kohala was the proliferation of cattle. Brought by Captain Vancouver in 1793 and 1794, and protected by a *kapu* placed on them by Kamehameha, they multiplied rapidly. By the time the *kapu* was lifted a few years later, wild cattle had become rampant throughout the island, disturbing native gardens and damaging streams, grasslands and forests. Foreign bullock hunters were then employed to keep the herds under control. Although the meat was eaten, the main economic products were the hides. Foraging cattle wreaked havoc on the agricultural fields and were responsible for a flurry of wall building as people tried to keep the feral cattle out of their fields and homes. John Parker worked for Governor Kuakini as a bullock hunter in 1831, and before long had founded the famous ranch that still bears his name.

There are few if any early 19th century accounts of the uplands of Puʻuwaʻawaʻa by Westerners, although the British missionary William Ellis did travel the coast in 1823 and provided accounts of the fishponds there (Ellis 1963). Later missionaries and other visitors also confined their descriptions (and probably most activities) to the coast.

In 1848, the Hawaiian system of land tenure was radically altered by the *Māhele ʻĀina*. The *Māhele* (division) defined the land interests of Kamehameha III (the King), the high-ranking chiefs, and the *konohiki*. As a result of the *Māhele*, all land in the Kingdom of Hawaiʻi came to

be placed in one of three categories: (a) Crown Lands (for the occupant of the throne); (b) Government Lands; and (c) Konohiki Lands. Laws in the period of the *Māhele* record that ownership rights to all lands in the kingdom were "subject to the rights of the native tenants;" those individuals who lived on the land and worked it for their subsistence and the welfare of the chiefs.

The Board of Commissioners oversaw the program and administered the *kuleana* as Land Commission Awards (LCAw.). Claims for *kuleana* had to be submitted during a two year period that expired on February 14, 1848 to be considered. All of the land claimants were required to provide proof of land use and occupation, which took the form of volumes of native registry and testimony. The claims and awards were numbered, and the LCAw. numbers, in conjunction with the volumes of documentation, remain in use today to identify the original owners and their use of the *kuleana* lands. The work of hearing, adjudicating, and surveying the claims required more time than was prescribed by the two year term, and the deadline was extended several times, not for new claims, but for the Land Commission to finish its work (Maly and Maly 2002). As the new owners of the lands on which the *kuleana* were located began selling parcels to foreigners, questions arose concerning the rights of the native tenants and their ability to access and collect the resources necessary for sustaining life. The "*Kuleana* Act," passed by the King and Privy Council on December 21, 1849, clarified the native tenant's rights to the land and its resources, and also the process by which they could apply for, and be granted fee-simple interest in their *kuleana*. The volumes of native registry and testimony collected for the *kuleana* claims provide a snap-shot of life in Hawaiʻi during the middle part of the nineteenth century. Information recorded in the these volumes contains the names of smaller land divisions (*ʻili*, *moʻo*, etc.) within the *ahupuaʻa*, ties individual claimants and their families to specific locations within those land divisions, provides background information about when, and from whom, the claimants received their lands, and gives accounts of the land use at that certain time and place.

Mikahela Kekauonohi (a granddaughter of Kamehameha I) claimed Puʻuwaʻawaʻa Ahupuaʻa during the *Māhele*; however, the *ahupuaʻa* was relinquished to the government perhaps in lieu of commutations for other lands awarded. Five *kuleana* claims, all in the coastal portion of the *ahupuaʻa* near Kiholo Bay, were made, but none were granted (Maly and Maly 2006). As Puʻuwaʻawaʻa was retained as crown land during the *Māhele*, it was not until 1873 that its boundaries were surveyed. The boundary testimonies and survey records provide a good summary of traditional knowledge of places, and identify localities ranging from the shore to the upper most boundaries of the *ahupuaʻa*. The narratives described trails and forest resources of Puʻuwaʻawaʻa; the occurrence of historical features, including residences and agricultural fields; the practice of salt making; and many place names.

The first formal leases in the area were issued in 1863 and involved the *ahupuaʻa* of Puʻu Anahulu. The lessees, three Oʻahu residents, sold their interests two years later to Francis Spencer for incorporation into the holdings of the Waimea Grazing and Agricultural Company. During the next several decades, ranching operations spread to more than 120,000 acres of Puʻu Anahulu and Puʻuwaʻawaʻa. In 1893, a new lease for 40,000 acres of Puʻuwaʻawaʻa was granted to an apparent partnership involving Robert Hind and Eben Low, who happened to be the son-in-law of Governor Sanford Dole. The terms of the 25-year lease included the preservation of the

forest there and the restriction of further expansion of the lantana plant. Over the next year or so, Hind and Low reported to the commissioners of Crown Lands on the status of their lease enterprise, noting that dry times and a lack of springs were taking a toll on their effort to grow trees and raise cattle. They said it was taking a prodigious effort to control lantana and other invasive species.

When the Hawaiian Kingdom began issuing homesteads in the late 1800s, those seeking lands began competing with Pu‘uwa‘awa‘a Ranch for desirable crop and grazing land. By 1914, Robert Hind began acquiring title to lots in Pu‘u Anahulu from homesteaders who, according to terms of the homesteading application process, needed to prove they had jobs, and the only ones available in the area were those offered by the ranch. Hind’s growing sociopolitical influence led to his appointment in 1916 as Hawai‘i Territorial Senator, a position he held for several years. By this time the ranch’s primary residence had been built. The home became known as Pihanakalani, which translated as “gathering place [of] high supernatural beings,” and was visited by dignitaries from around the world. Over the next two decades the corporation “Robert Hind, Limited” was created to consolidate his interests, which by then consisted of 120,000 acres ranging up to 6,000 feet in elevation, with all but 300 acres involving leased government lands. They included 100,000 acres covered with lava flows, with only about 1,500 acres of the remainder considered good grazing land – mostly around the 5,000-foot elevation. Another 100 acres were planted in crops. In 1929 the ranch contained 30 miles of fences, half stone and half wire, and 2,000 head of cattle. It was at this time that efforts were undertaken to reduce the number of goats that were competing with the cattle for forage. In the mid-1930s, changes were made to the leases to exclude private parcels, including many along the coast. The leases for Pu‘u Anahulu and Pu‘uwa‘awa‘a were again put up for auction in 1937 with Hind retaining them, but at a much higher cost. Robert Hind died in 1938 and his operations continued under a trust overseen by Trustee John K. Clarke until Clarke’s death in 1951.

In 1955, the Commissioner of Public Lands removed 500 acres at Pu‘uwa‘awa‘a from the lease and granted them to Volcanite, Limited, also known as Hawaiian Ornamental Concrete Products, Ltd., for use as a quarry for a period of 21 years. Volcanite, Ltd. voluntarily surrendered the lease in 1967 following complaints of violations but then obtained a series of revocable permits to continue operations until 1988.

In 1958 the officers of Robert Hind Ltd. had decided it could not maintain operations without prohibitively expensive investments in water systems and other range improvements and sold its fee simple holdings to Dillingham Ranch. Two years later, Dillingham was the high bidder on a 40-year lease for the government properties, which it transferred to F. Newell Bohnett in 1972. In 1984, the State Board of Land and Natural Resources removed 84,397 acres from the Pu‘uwa‘awa‘a Ranch lease.

Bohnett’s lease on the remaining property expired in 2000. In 2002 the BLNR transferred all State-managed lands in the *ahupua‘a* of Pu‘uwa‘awa‘a from the Department of Land and Natural Resources’ Land Division to the Division of Forestry and Wildlife and State Parks (Giffin 2003). The agencies were directed to develop a management plan to provide for the restoration of native ecosystems and preservation of cultural resources, as discussed elsewhere in this document.

In 1993 the fee-simple parcel containing the ranch homes and HQ was sold by Bohnett to Puʻuwaʻawaʻa Ranch. In 2000 the ranch sold the property to Jerry R. King, who in turn sold most of it on April 13, 2006 to Henk and Akemi Rogers, who still hold the property and reside there part-time.

Consultation

To gain any further possible insights about the project area and the specific site of the proposed project, this CIA draws on early consultation work conducted for both this EA and other environmental documents involving consultations with a variety of individuals for nearby projects[2]. Work on nearby projects did not indicate a high likelihood for cultural practices on the project site, which is located on ranch land with no identified resources or specific historical or cultural associations. As part of the EA early consultation process, the Office of Hawaiian Affairs, the Puʻuanahulu Community Association, and the Puʻuwaʻawaʻa Advisory Council were also contacted about the action (see Appendix 1a for responses). No specific cultural practices, resources or sites were identified to date.

Existing Cultural Resources or Practices

Inspection of the rocky strip of pasture that constitutes project site by professional archaeologists and biologists (see Section 3.2.1 and 3.2.3) revealed no evidence of structures, unique natural features or activities that would be valuable for gathering, ceremonial, or access purposes. No agency or group identified any natural, cultural or historical resources or expressed concern about potential cultural impacts.

Impacts and Mitigation Measures

It is reasonable to conclude that, based upon the lack of resources on the easement, which has been used for pasture for over a century and currently lies under a 69kV transmission line, the exercise of native Hawaiian rights related to gathering, access or other customary activities will not be affected, and there will be no adverse effect upon cultural practices or beliefs. Various parties including the Puʻuanahulu Community Association, the Puʻuwaʻawaʻa Advisory Council, the Office of Hawaiian Affairs and the State Historic Preservation Division have been supplied the EA in order to assess this preliminary conclusion.

3.2.3 Historic Properties and Archaeological Sites

[2] These include the *Environmental Assessment, Na Puʻu Water Inc. Easement on State Land for Solar Photovoltaic Array* (2015) for a project near the Puʻuwaʻawaʻa Ranch HQ; and a federal Categorical Exclusion for the *Māmalahoa Highway Drainage Improvements, Vicinity of Puʻuwaʻawaʻa Ranch Road* (2015) that included Section 106 consultation with the Puʻuanahulu and Puʻuwaʻawaʻa community for the area directly adjacent on Māmalahoa Highway.

On January 7, 2016, ASM archaeologists Robert B. Rechtman, Ph.D. and Matthew R. Clark, B.A., conducted an archaeological field inspection. The walking surface survey included a 50-foot wide corridor centered on the 25-foot wide easement that is the project site. In order to thoroughly examine the corridor, the transects were spaced at five-meter intervals. Ground visibility was excellent throughout the study area. No rock walls, terraces, mounds or other historic properties were encountered.

Impacts and Mitigation Measures

Based on the lack of findings, the archaeologists concluded that the proposed project would have no effect on historic properties. The archaeologists wrote a letter report to the State Historic Preservation Division (SHPD), which is contained in full in Appendix 2. In the January 19, 2016 letter, they requested that SHPD issue a written determination of "no historic properties affected" in accordance with HAR 13§13-284-5(b)1. The Final EA will report on the status of SHPD review.

As a precaution, the applicant proposes to include as a condition of the easement that in the unlikely event that any unanticipated archaeological resources are unearthed during development activities, in compliance with HAR 13§13-280 work in the immediate vicinity of the finds should be halted and SHPD contacted.

3.3 Roadway, Utilities and Public Facilities and Services

Roads and Access

The project site is accessed by several unnamed roads that access pastures and cattle pens in the immediate area, and hunting areas further *makai* (see Figure 1). Construction of the unpaved road and replacement of Pole P-199 require intermittent use of the road by a bulldozer and various trucks and equipment during a period of approximately a week. All equipment, materials and supplies can easily be trailered onto the site with no need for road improvements or special traffic control. Maintenance of the road and power pole will be minimal once the project is completed and no significant traffic impacts are expected.

Electricity, Telephone and Cable

Construction of the road will not disrupt electrical service, and during pole replacement, Hawai‘i Electric Light will switch and isolate the line segment so that area so customers are not affected by work in the area.

No CATV or telephone lines are attached to this pole and there would be no effect on these services.

Other Public Utilities, Services and Facilities

The proposed project will not adversely affect or increase demand on any other public utilities, including water supply or wastewater treatment, or public services or facilities, including police protection, fire protection, recreational facilities, or social services. As discussed above in Section 3.4.6, the construction of the road will involve mitigation measures to reduce the possibility of fire ignition and provide for response if a fire should occur. The nearest station for the Hawaiʻi Fire Department is on Palani Road in Kailua-Kona, about 17 miles away. A volunteer Fire Department is present in Puʻuanahulu, and additional County stations are located in Waikoloa and Waimea.

3.4 Secondary and Cumulative Impacts

The proposed project would not lead to any adverse secondary impacts, such as population changes or effects on public facilities. The project is intended simply to allow Hawaiʻi Electric Light to maintain its equipment and would not lead to increased regional growth.

Cumulative impacts result when implementation of several projects that individually have limited impacts combine to produce more severe impacts or conflicts in mitigation measures. At the current time, there are several utility, conservation and highway improvement projects that require examination for potential impact interaction.

- DLNR-DOFAW and the U.S. Forest Service are actively managing more than 40,000 acres in Puʻuwaʻawaʻa for research and conservation of natural and cultural resources. Although these projects may occasionally involve built structures or other actions such as firebreak construction or outplanting, all such actions are generally located at a distance from the proposed project.
- DLNR-Engineering Division is currently in planning to decommission Poohohoo Reservoir No. 2, an abandoned earthen reservoir located on the *makai* flanks of a cinder cone named Poohohoo. The site is an isolated area at 3,800 feet in elevation in the Puʻuwaʻawaʻa area (G. Ching, DLNR, pers. comm. to R. Terry Feb. 2016). As the reservoir is currently unused and not suitable for future use, it will be decommissioned by removing the remnants of the liner and excavating and breaching the embankments that were built when the reservoir was originally constructed. The earthmoving is expected to require one or more bulldozers and excavators. Although the project area is five miles distant from the Hawaiʻi Electric Company project, both projects will utilize the intersection of Māmalahoa Highway and Puʻuwaʻawaʻa Ranch Road. An Environmental Assessment for the project is currently in the final stages of preparation.
- The Hawaiʻi Department of Transportation is planning drainage improvements on the "big bend" on Māmalahoa Highway between Puʻuanahulu and Puʻuwaʻawaʻa over the course of the next year (Ramon Acob, HDOT, pers. comm., July 2015).
- Napuʻu Water Inc. (NWI), a small, non-profit, community based, and member-owned water system serving the local residents of Puʻuanahulu-Puʻuwaʻawaʻa area, is constructing a ground-mounted solar photovoltaic array consisting of approximately 800 monocrystalline solar panels and a flywheel energy storage system capable of storing 400 kWhrs of energy. NWI owns, maintains, and operates two 2,500-foot deep groundwater

wells that are sufficient for local community needs. The cost for electricity to pump water from these deep wells burdens the local residents and ranchers. The project's goal is to provide renewable energy facilities would reduce reliance on fossil fuel energy and stabilize and reduce pumping costs on the Puʻuwaʻawaʻa Well (*OEQC Environmental Notice*, February 23, 2015).

Cumulative impacts result when implementation of several projects that individually have limited impacts combine to produce more severe impacts or conflicts in mitigation measures. It is important to note that the adverse effects of the proposed easement adjustment, road construction and pole replacement project are very limited in severity, nature and geographic scale. They are basically restricted to minor traffic impacts related to staging of equipment and material. There is potential for interaction of traffic impacts as State workers or contractors building fuel breaks, fences, solar panels, as well as the contractors for the proposed reservoir decommissioning project, share the narrow access roads within Puʻuwaʻawaʻa. As a mitigation measure, DLNR proposes the following:

- Prior to construction, Hawaiʻi Electric Light will contact with DLNR and DOFAW officials and determine if construction or marshalling schedules for other projects pose a potential conflict for road uses, and will negotiate scheduling to ensure that all parties are able to have appropriate road access that minimizes inconvenience to DLNR, residents and the public.

3.5 Required Permits and Approvals

The proposed project requires BLNR approval of the easement, review and approval of plans by the DLNR Engineering Division.

3.6 Consistency With Government Plans and Policies

3. 6. 1 Hawaiʻi State Plan

Adopted in 1978 and last revised in 1991 (Hawaiʻi 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 *Hawaiʻi State Plan* are individual and family self-sufficiency, social and economic mobility and community or social well-being. The proposed project would not in any way be detrimental to these goals and would help fulfill goals related to the economy and well-being, by ensuring maintenance of essential public utility facilities.

3.6.2 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 Agricultural District. The proposed project, which involves maintenance of utility poles and lines, is consistent with intended uses for this land use district and is a permissible use.

3.6.3 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 judicial districts comprising the County of Hawai‘i. Most relevant to the proposed project are the following Goal, Policies, Standards and Courses of Action:

ECONOMIC GOALS

(d) Provide an economic environment that allows new, expanded, or improved economic opportunities that are compatible with the County’s cultural, natural and social environment.

ENVIRONMENTAL QUALITY POLICIES

(a) Take positive action to further maintain the quality of the environment for residents both in the present and in the future.

ENVIRONMENTAL QUALITY STANDARDS

(a) Pollution shall be prevented, abated, and controlled at levels that will protect and preserve the public health and well being, through the enforcement of appropriate Federal, State and County standards.
(b) Incorporate environmental quality controls either as standards in appropriate ordinances or as conditions of approval.

HISTORIC SITES GOALS

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

HISTORIC SITES POLICIES

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

FLOODING AND OTHER NATURAL HAZARDS GOALS

(a) Protect human life.
(b) Prevent damage to man-made improvements.
(c) Control pollution.
(d) Prevent damage from inundation.
(e) Reduce surface water and sediment runoff

FLOODING AND OTHER NATURAL HAZARDS POLICIES

(q) Consider natural hazards in all land use planning and permitting.

FLOOD CONTROL AND OTHER NATURAL HAZARDS STANDARDS

(a) Applicable standards and regulations of Chapter 27, "Flood Control," of the Hawaii County Code.
(b) Applicable standards and regulations of the Federal Emergency Management Agency (FEMA).
(c) Applicable standards and regulations of Chapter 10, "Erosion and Sedimentation Control," of the Hawaii County Code.

NATURAL BEAUTY

(a) Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.
(b) Protect scenic vistas and view planes from becoming obstructed.
(c) Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.

NATURAL RESOURCES AND SHORELINES GOALS

(a) Protect and conserve the natural resources of the County of Hawaii from undue exploitation, encroachment and damage.
(f) Ensure that alterations to existing land forms and vegetation, except crops, 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 earthquake.

PUBLIC UTILITIES GOALS

(a) Ensure that properly regulated, adequate, efficient and dependable public and private utility services are available to users.
(b) Maximize efficiency and economy in the provision of public utility services.
(c) Design public utility facilities to fit into their surroundings or concealed from public view.

PUBLIC UTILITIES POLICIES

(a) Public utility facilities shall be designed to complement adjacent land uses and shall be operated to minimize pollution or disturbance.
(b) Provide utilities and service facilities that minimize total cost to the public and effectively service the needs of the community.
(c) Utility facilities shall be designed to minimize conflict with the natural environment and natural resources.

PUBLIC UTILITIES POLICIES FOR ELECTRICAL FACILITIES

(a) Power distribution shall be placed underground when and where practical. Encourage developers of new urban areas to place utilities underground.

PUBLIC UTILITIES STANDARDS FOR ELECTRICAL FACILITIES

(a) There shall be minimal obstruction of scenic views and vistas by electrical facilities.

Discussion: The proposed project occurs within a 25-foot wide, 450-foot long strip of land under an existing electrical transmission line. It would protect the environment through avoiding areas that are sensitive from a biological, archaeological, cultural, hydrological or scenic perspective. It provides a critical utility service facility that minimizes total cost to the public and effectively service the needs of the community.

The *Hawai‘i County General Plan Land Use Pattern Allocation Guide (LUPAG)*. The LUPAG map component of the *General Plan* is a graphic representation of the Plan’s goals, policies, and standards as well as of the physical relationship between land uses. It also establishes the basic urban and non-urban form for areas within the planned public and cultural facilities, public utilities and safety features, and transportation corridors. The project site is designated as Extensive Agriculture in the LUPAG (see letter from Planning Department in Appendix 1a). The proposed project is consistent with this designation.

Hawai‘i County Zoning and Special Management Area. The project site is zoned A-5a (Agriculture, minimum lot size 5 acres). The proposed project is a permitted and intended use within this designation. The project site is outside the Special Management Area (SMA).

3.6.4 Kona Community Development Plan

The Kona Community Development Plan (CDP) encompasses the judicial district of North and South Kona, and was developed under the framework of the February 2005 County of Hawai‘i General Plan. Community Development Plans are intended to translate broad General Plan Goals, Policies, and Standards into implementation actions as they apply to specific geographical regions around the County. CDPs are also intended to serve as a forum for community input into land-use, delivery of government services and any other matters relating to the planning area.

The General Plan now requires that a Community Development Plan shall be adopted by the County Council as an “ordinance,” giving the CDP the force of law. This is in contrast to plans created over past years, adopted by “resolution” that served only as guidelines or reference documents to decision-makers. The Kona CDP was adopted in September 2008 by the County Council. The version referenced in this Environmental Assessment is at: http://www.hcrc.info/community-planning/north-and-south-kona-cdp/cdp-final-drafts/Final%20KCDP_Sept%202008_text.pdf

The purposes of the Kona CDP are to:

- Articulate Kona’s residents’ vision for the planning area.
- Guide regional development in accordance with that vision, accommodating future growth while preserving valued assets.
- Provide a feasible infrastructure financing plan to improve existing deficiencies and proactively support the needs of future growth.
- Direct growth in appropriate areas.
- Create a plan of action where government and the people work in partnership to improve the quality of life in Kona to live, work, and visit.
- Provide a framework to monitor the progress and effectiveness of the plan and to make changes and update, if necessary.

The draft CDP states that:

> “Outside of the Urban Area, the character of the rural areas should prevail. This means that limited future growth should be directed to the existing rural towns and villages in a way that revitalizes and enhances the existing rural lifestyle and culture of those communities. Outside of these towns and villages, the protection of important agricultural land is a priority objective. Protecting these lands requires regulations and incentives that will keep these lands available for agricultural use. Any development outside of the rural towns and villages should be directed to suitable areas that are not important for agriculture, in clustered patterns that will optimize the preservation of rural open space.”

The proposed project would not affect viewplanes, agricultural uses, open space, or the rural character of this part of Kona.

The Plan has many elements and wide-ranging implications, but there are several major strategies that embody the guiding principles related to the economy, energy, environmental quality, flooding and other natural hazards, historic sites, natural beauty, natural resources and shoreline, housing, public facilities, public utilities, recreation, transportation and land use.

The proposed project is consistent with all aspects of the Kona CDP. It is in keeping with the plan's guiding principles in Chapter 3, including particularly item No. 1:

> *Protect Kona's natural resources and culture.*

It also conforms with item No. 7:

> *Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.*

The Kona CDP also notes that critical habitat designated by the U.S. Fish and Wildlife Service (see Section 3.1.3) is a sensitive resource, per Policy ENV-1.5. As discussed in Section 3.1.3, above, a very large area of Pu‘uwa‘awa‘a including the project site is within designated critical habitat for the Blackburn's sphinx moth. It is important to remember that critical habitat is a tool for recovery of endangered species on projects or land with a federal nexus, and not a mechanism to block utilization of land. No aspect of the project is in conflict with the recovery of endangered species at Pu‘uwa‘awa‘a.

3.6.5 Pu‘uwa‘awa‘a Management Plan

On January 25, 2002 the Board of Land and Natural Resources transferred responsibility for State managed lands within the *ahupua‘a* of Pu‘uwa‘awa‘a and Pu‘u Anahulu from the Land Division to the Divisions of Forestry and Wildlife (DOFAW) and State Parks. Subsequently, DOFAW and State Parks worked with the Pu‘uwa‘awa‘a Advisory Council to develop the *Management Plan for the Ahupua‘a of Pu‘uwa‘awa‘a and the Makai Lands of Pu‘u Anahulu* – an area comprising approximately 40,711 acres. The plan states that these lands represent a remarkable diversity of historical, natural, cultural and recreational resources: archaeological and cultural sites, a rich history of ancient and contemporary human use, historic coastal trails, an undeveloped coastline environment (approximately 8.5 miles long), good swimming beaches, anchialine ponds, uncommon ecosystems that are highly unique in their species composition, livestock grazing and hunting.

DOFAW initiatives led to the establishment and official designation of the Pu‘uwa‘awa‘a Forest Bird Sanctuary. The plan also aspired to emulate the traditional concept of *ahupua‘a* management in a contemporary context. This plan presented 62 unique objectives that were intended to support the complex array of resource management needs and community interests that applied. These set the framework for management of this area for a 10-year period beginning in July 2003. Although most of the objectives, which had a budget of over $26 million, were not achieved the 10-year period, the plan recognized the need to actively seek additional resources

through grants, cooperative agreements and partnerships. DLNR and the Pu‘uwa‘awa‘a Advisory Council continue to seek to implement the plan.

The following discussion of the consistency of the proposed project with the objectives of the *Management Plan for the Ahupua‘a of Pu‘uwa‘awa‘a and the Makai Lands of Pu‘u Anahulu* is restricted to those applicable in some way to the proposed project.

Objective 6. Reduce fire hazard at Pu‘uwa‘awa‘a using prevention measures.

The proposed project will incorporate fire prevention measures during construction.

Objective 12. Protect isolated occurrences of rare and endangered species
Objective 16: Preserve and protect unique native invertebrate populations at Pu‘u Wa‘awa‘a and the makai lands of Pu‘u Anahulu.
Objective 17: Protect and enhance native bird populations and their habitat.

The project site contains only a few very common native plants and does not represent habitat for native animal species. No adverse impact on native species will occur.

Objective 42. Survey and develop historic trails within and adjacent to the ahupua‘a for public use.

The proposed site does not involve a historic trail or any other historic property and does not affect public access in any way.

Objective 48. Conduct a comprehensive cultural and archaeological survey of Pu‘u Wa‘awa‘a and the makai portion of Pu‘u Anahulu.
Objective 49. Protect and Restore Cultural Sites.

An archaeological survey of the project site was conducted, which determined that archaeological resources were not present. Consultation as part of the archaeological survey and EA consultation process indicated that the area does not have cultural resources or support cultural practices that could be adversely affected by the proposed project.

PART 4: DETERMINATION

The applicant expects that the State of Hawai‘i, Department of Land and Natural Resources will determine that the proposed project 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.

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.* Natural or cultural resources have been fully inventoried. No threatened or endangered species or cultural sites are present, and none would be committed or lost.
2. *The proposed project will not curtail the range of beneficial uses of the environment.* The proposed project does not curtail beneficial uses of the environment in any meaningful way, as the land could be utilized for other purposes if for some reason the transmission line corridor is relocated or no longer used.
3. *The proposed project will not conflict with the State's long-term environmental policies*. The State’s long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. The proposed project is environmentally benign and ensures the efficient provision of electricity for Big Island customers, a critical component of social and economic wellbeing. It is thus consistent with all elements of the State’s long-term environmental policies.
4. *The proposed project will not substantially affect the economic or social welfare of the community or State.* The proposed project will not adversely affect the social welfare of the community in any adverse way.
5. *The proposed project does not substantially affect public health in any detrimental way.* The proposed project will not affect public health in any way.
6. *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities*. The proposed project would not lead to any adverse secondary impacts, such as population changes or effects on public facilities.
7. *The proposed project will not involve a substantial degradation of environmental quality*. The proposed project is minor and environmentally benign, and would thus not contribute to environmental degradation.
8. *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.* The project site is pasture with primarily non-native vegetation. No impacts to rare, threatened or endangered species of flora or fauna will occur.
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.* The adverse effects of the proposed project are basically limited to potential traffic impacts that could potentially accumulate with those from other nearby projects, if their schedules overlap. Prior to construction, the contractor will contact DLNR officials and determine if construction or marshalling schedules for other projects pose a potential conflict for road uses, and will negotiate scheduling to ensure that all parties are able to have appropriate road access.
10. *The proposed project will not detrimentally affect air or water quality or ambient noise levels.* No adverse effects on these resources would occur.

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.* Although the project site is in an area with some volcanic and seismic risk, the entire Island of Hawai‘i shares this risk, and the proposed project is not imprudent to undertake.
12. *The project will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies.* The proposed project would not affect public views of scenic sites recognized in the Hawai‘i County General Plan, or other important public views.
13. *The project will not require substantial energy consumption*. The proposed project will not require any substantial amount of energy.

For the reasons above, the proposed project will not have any significant effect in the context of Chapter 343, Hawai‘i Revised Statues and section 11-200-12 of the State Administrative Rules.

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ENVIRONMENTAL ASSESSMENT

Hawai‘i Electric Light Easement Modification and Access Road Construction on State Land at Pu‘uwa‘awa‘a

APPENDIX 1a
Comments in Response to Early Consultation

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William P. Kenoi
Mayor

Harry S. Kubojiri
Police Chief

Paul K. Ferreira
Deputy Police Chief

County of Hawai'i

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

January 13, 2016

Mr. Ron Terry
Principal
Geometrician Associates, LLC
P.O. Box 396
Hilo, Hawai'i 96721

SUBJECT: EARLY CONSULTATION ON ENVIRONMENTAL ASSESSMENT FOR HAWAI'I ELECTRIC LIGHT EASEMENT MODIFICATION AND ACCESS ROAD CONSTRUCTION ON STATE LAND AT PU'UWA'AWA'A, TMK 7-1-002:013, NORTH KONA, ISLAND OF HAWAI'I

Dear Mr. Terry:

This is in response to your letter dated January 8, 2016, regarding a request for information and comments on the above-referenced project.

We have no comments or objections to offer at this time.

Should you have any questions or concerns, please contact Captain Randal M. Ishii, Commander of the Kona District, at 326-4646, extension 299.

Sincerely,

HARRY S. KUBOJIRI
POLICE CHIEF

PAUL H. KEALOHA, JR.
ASSISTANT POLICE CHIEF
AREA II OPERATIONS

RMI/jaj
RS160025

William P. Kenoi
Mayor

Darren J. Rosario
Fire Chief

Renwick J. Victorino
Deputy Fire Chief

County of Hawai'i
HAWAI'I FIRE DEPARTMENT
25 Aupuni Street • Suite 2501 • Hilo, Hawai'i 96720
(808) 932-2900 • Fax (808) 932-2928

January 19, 2016

Ron Terry, Principal
Geometrician Associates, LLC
P.O. Box 396
Hilo, Hawai'i 96721

Dear Mr. Ron Terry:

SUBJECT: Early Consultation on Environmental Assessment for Hawai'i electric Light Easement Modification and Access Road Construction on State Land at Pu'uwa'awa'a, TMK 7-1-002:013, North Kona, Island of Hawai'i .

We are in receipt of your letter dated January 9, 2016 in regards to an early consultation on Environmental Assessment and Anticipated finding of no significant Impact for the above listed subject.

The Hawai'i Fire Department has no issues or comments with regards to the request for an early consultation on Environmental Assessment and Anticipated finding of no significant Impact as noted above.

If you should have any questions, please feel free to contact my office at (808)323-4761.

Mahalo,

DARREN J. ROSARIO
Fire Chief

KT/ds

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
EMD/CWB

01040PNN.16

January 26, 2016

Mr. Ron Terry
Principal
Geometrician Associates, LLC
P.O. Box 396
Hilo, Hawaii 96721

Dear Mr. Terry:

SUBJECT: Comments on the Early Consultation for the Environmental Assessment for Hawaii Electric Light Easement Modification and Access Road Construction on State Land at Puuwaawaa TMK: (3) 7-1-002:013 North Kona, Island of Hawaii, State of Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated January 8, 2016, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/05/Clean-Water-Branch-Std-Comments.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55).

For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the applicable form ("CWB Individual NPDES Form" or "CWB NOI Form") through the e-Permitting Portal and the hard copy certification statement with the respective filing fee ($1,000 for an individual NPDES permit or $500 for a Notice of General Permit Coverage). Please open the e-Permitting Portal website located at: https://eha-cloud.doh.hawaii.gov/epermit/. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the appropriate form. Follow the instructions to complete and submit the form.

3. If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 835-4303) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

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

5. It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:

   a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project planning must recognize storm water as an asset that sustains and protects natural ecosystems and traditional beneficial uses of State waters, like

community beautification, beach going, swimming, and fishing. The approaches necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.

b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g., minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.

c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.

d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation, to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.

e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Particular consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

NN:ak

c: DOH-EPO [via e-mail Noella.Narimatsu@doh.hawaii.gov only]
EPO #16-011

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

February 5, 2016

Geometrician Associates, LLC
Attention: Mr. Ron Terry
P.O. Box 396
Hilo, Hawaii 96721

via email: rterry@hawaii.rr.com

Dear Mr. Terry:

SUBJECT: Early Consultation on Environmental Assessment for Hawaii Electric Light Easement Modification and Access Road Construction at Pu'uwa'awa'a

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

At this time, enclosed are comments from the (a) Engineering Division and (b) Land Division – Hawaii District on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

'16 JAN 14 PM01:29 ENGINEERING

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
LAND DIVISION
2016 JAN 29 PM 3:00
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

January 14, 2016

MEMORANDUM

TO: FR: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
X Engineering Division
___Div. of Forestry & Wildlife
___Div. of State Parks
___Commission on Water Resource Management
___ Office of Conservation & Coastal Lands
X Land Division – Hawaii District
TO: X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Early Consultation on Environmental Assessment for Hawaii Electric Light Easement Modification and Access Road Construction at Pu'uwa'awa'a
LOCATION: Pu'uwa'awa'a, N. Kona, Island of Hawaii; TMK: (3) 7-1-002:013
APPLICANT: Hawaii Electric Light

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments by **February 4, 2016.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

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

Signed: _____

Print Name: Carty S. Chang, Chief Engineer
Date: 1/25/16

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: Early Consultation on Environmental Assessment for Hawaii Electric Light Easement Modification and Access Road Construction at Pu'uwa'awa'a, North Kona, Hawaii Hawaii.006

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

(X) The project site according to the Preliminary Flood Insurance Rate Map (FIRM), is located in Zones X and D. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X. The Northeast portion of the parcel is in Zone D, where flood hazards are undetermined.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

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

( ) Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
( ) Mr. Carter Romero (Acting) at (808) 961-8943 of the County of Hawaii, Department of Public Works.
( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.
( ) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.

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

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

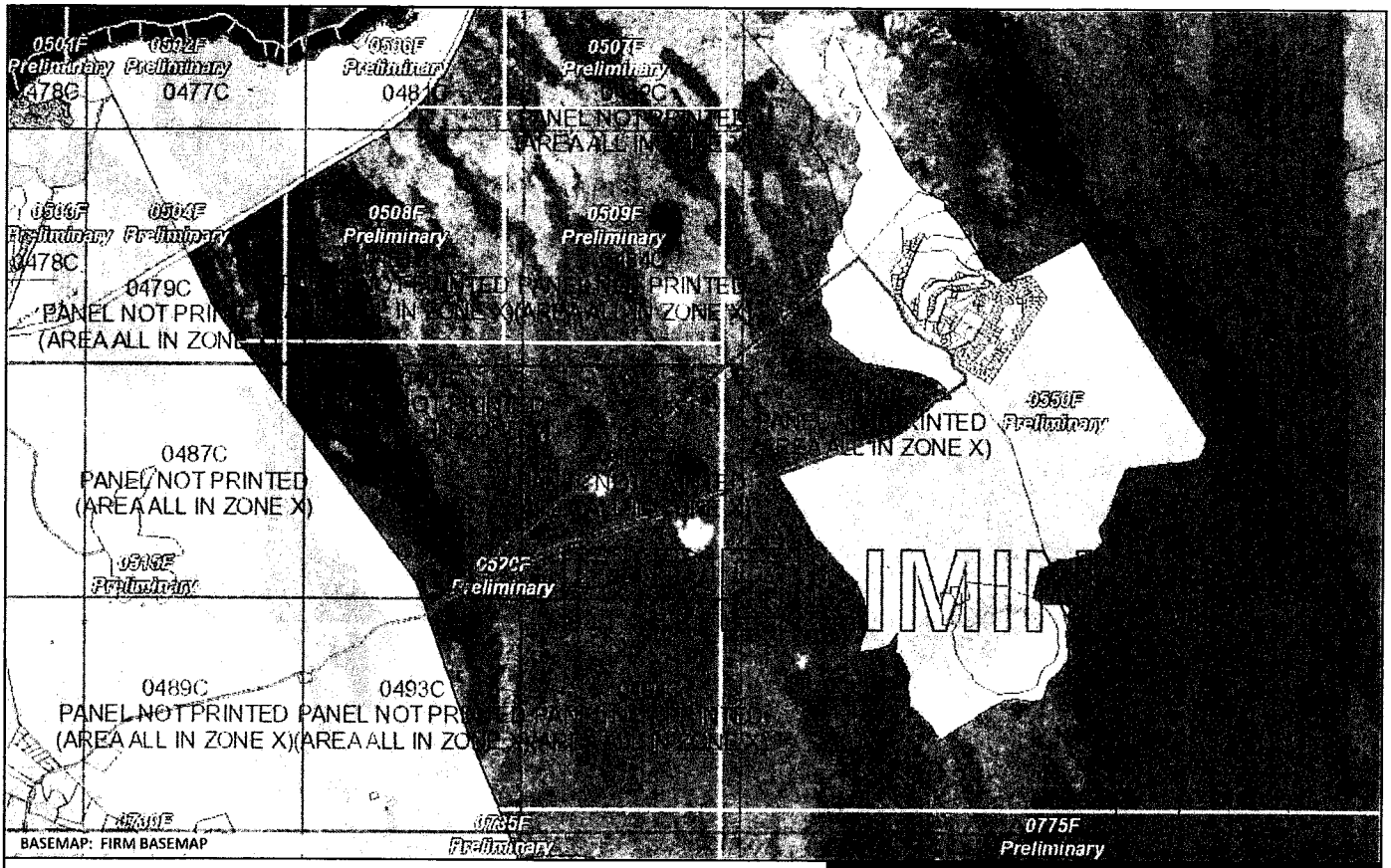
( ) Additional Comments: _____

( ) Other: _____

Should you have any questions, please call Mr. Rodney Shiraishi of the Planning Branch at 587-0258.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 1/22/06



Flood Hazard Assessment Report

www.hawaiinfip.org

HI Elec Light Easemt

Property Information

COUNTY:	HAWAII
TMK NO:	(3) 7-1-002:013
WATERSHED:	KIHOLO
PARCEL ADDRESS:	UNKNOWN ADDRESS KAILUA KONA, HI 96740

Notes:

Flood Hazard Information

FIRM INDEX DATE:	APRIL 02, 2004
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL - EFFECTIVE DATE:	1551660484C - PANEL NOT PRINTED 1551660491C - PANEL NOT PRINTED 1551660492C - PANEL NOT PRINTED 1551660493C - PANEL NOT PRINTED 1551660525C - PANEL NOT PRINTED

THIS PROPERTY IS WITHIN A TSUNAMI EVACUTION ZONE: NO
FOR MORE INFO, VISIT: http://www.scd.hawaii.gov/

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: NO
FOR MORE INFO, VISIT: http://dlnreng.hawaii.gov/dam/

0 1 2 mi

Disclaimer: The Hawaii Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use, accuracy, completeness, and timeliness of any information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR, its officers, and employees from any liability which may arise from its use of its data or information.

If this map has been identified as 'PRELIMINARY', please note that it is being provided for informational purposes and is not to be used for flood insurance rating. Contact your county floodplain manager for flood zone determinations to be used for compliance with local floodplain management regulations.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND
(Note: legend does not correspond with NFHL)

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

	Zone A: No BFE determined.
	Zone AE: BFE determined.
	Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
	Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
	Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

	Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

	Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 14, 2016

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_X_Engineering Division
___Div. of Forestry & Wildlife
___Div. of State Parks
___Commission on Water Resource Management
___ Office of Conservation & Coastal Lands
_X_Land Division – Hawaii District
_X_Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Early Consultation on Environmental Assessment for Hawaii Electric Light Easement Modification and Access Road Construction at Pu'uwa'awa'a
LOCATION: Pu'uwa'awa'a, N. Kona, Island of Hawaii; TMK: (3) 7-1-002:013
APPLICANT: Hawaii Electric Light

Transmitted for your review and comment is information on the above-referenced project. Please submit any comments by **February 4, 2016.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

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

Signed: _____

Print Name: GORDON C. HEIT
Date: 1/20/16

cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

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

January 20, 2016

MEMORANDUM

TO: Russell Y. Tsuji, Administrator

FROM: Gordon C. Heit, Hawaii District Land Agent

SUBJECT: Early Consultation on Environmental Assessment for Hawaii Electric Light Company, Inc., Easement on State Land for Access Road Construction Purposes.

LOCATION: Puu Waawaa, North Kona, Island of Hawaii, TMK: (3) 7-1-001:006 por.

APPLICANT: Geometrician Associates, LLC for Hawaii Electric Light Company, Inc.

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

The property identified above is encumbered under E.O 4203 to the Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW). Any easement over this land will require the concurrence of DOFAW.

Please contact me should you have any questions.

William P. Kenoi
Mayor

Duane Kanuha
Director

Bobby Command
Deputy Director

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

County of Hawai'i

PLANNING DEPARTMENT

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

February 4, 2016

Mr. Ron Terry
Geometrician Associates, LLC
P.O. Box 396
Hilo, HI 96721

Dear Mr. Terry:

SUBJECT: Pre-Consultation on Draft Environmental Assessment
Applicant: Hawai'i Electric Light
Project: Easement Modification and Access Road Construction
Tax Map Key: (3) 7-1-002:013, Pu'uwa'awa'a, N. Kona, Hawai'i

This is to acknowledge receipt of your January 8, 2016, letter requesting comments from this office regarding the preparation of a Draft Environmental Assessment (DEA) for the subject project.

Hawai'i Electric Light's proposed revision to its perpetual Non-Exclusive Utility Easement 1 would allow for the construction and maintenance of an unpaved roadway within the easement and for the replacement of a 2-pole wood power structure.

The subject 2,589.5 acre parcel is designated Agricultural by the State Land Use Commission and zoned Agricultural (A-5a) by the County. In addition, the Hawai'i County General Plan Land Use Pattern Allocation Guide (LUPAG) Map designates the parcel as Extensive Agriculture. It is not located in the Special Management Area (SMA).

In the DEA, please describe how the proposed activity is consistent with the policies, standards, and courses of action of the County of Hawai'i General Plan. Further, as the project site is located in the Kona Community Development Plan (CDP) planning area, consistency of the project with their goals, objectives, policies and actions must also be discussed.

Finally, as the subject parcel is in an area that has been designated a critical habitat, describe how the project will impact the endangered or threatened species and their ecosystem.

Thank you for the opportunity to provide preliminary comments on the proposed project.

Please provide our department with a copy of the DEA for our review and comment.

If you have questions, please feel free to contact Esther Imamura of our office at 961-8139.

Sincerely,

for DUANE KANUHA
Planning Director

ETI:klt
P:\Wpwin60\ETI\Eadraftpre-Consul\Terry Puuwaawaa Hawaii Electric 7-1-2-13.Rtf

cc: Planning Department - Kona

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

EPO 16-011

February 16, 2016

Mr. Ron Terry
Geometrician Associates, LLC
P.O. Box 396
Hilo, Hawaii 96721
Email: rterry@hawaii.rr.com

Dear Mr. Terry:

SUBJECT: Early Consultation (EC) on Environmental Assessment for Hawaii Electric Light Easement Modification and Access Road Construction on State Land at Puuwaawaa, North Kona, Hawaii TMK: 7-1-002:013

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your EC to our office on January 8, 2016. Thank you for allowing us to review and comment on the proposed project. The EC was routed to the District Health Office on Hawaii and the Clean Water Branch. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments and available strategies to support sustainable and healthy design provided at: http://health.hawaii.gov/epo/landuse. Projects are required to adhere to all applicable standard comments.

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal. The portal provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings. The Portal is continually updated. Please visit it regularly at: https://eha-cloud.doh.hawaii.gov

We request that you utilize all of this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design.

Mahalo nui loa,

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

LM:nn

Attachments: OEQC viewer - http://eha-web.doh.hawaii.gov/oeqc-viewer

c: DHO Hawaii, CWB {via email only}

hawaii.gov

OEQC Viewe

puuwaawaa

0 sites found

Results | Filter

Map Location

Puu Waawaa State Wildlife Sanctuary, Kailua-Kona, HI 96740, USA

Show sites with no location

Hybrid

Report a map er

PHONE (808) 594-1888

FAX (808) 594-1938

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAI'I 96817

HRD 16-7731

February 9, 2016

Ron Terry
Geometrician Associates, LLC
P.O. Box 396
Hilo, Hawai'i 96721

Re: Early consultation on Environmental Assessment for Hawai'i Electric Light Easement Modification and Access Road Construction on State Land at Pu'uwa'awa'a
Pu'uwa'awa'a Ahupua'a, Kona Moku, Hawai'i Mokupuni
TMK: (3) 7-1-002:013

Aloha Mr. Terry:

The Office of Hawaiian Affairs (OHA) received your letter dated January 8, 2016, requesting comments on the above-titled project. Given the project descriptions provided, our agency has no comments at this time. Should you have any questions, please contact Everett Ohta at 594-0231 or everetto@oha.org.

'O wau iho nō me ka 'oia 'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC: rg

**Please address replies and similar, future correspondence to our agency:*
Dr. Kamana'opono Crabbe
Attn: OHA Compliance Enforcement
560 N. Nimitz Hwy., Ste. 200
Honolulu, Hawai'i 96817

ENVIRONMENTAL ASSESSMENT

Hawai‘i Electric Light Easement Modification and Access Road Construction on State Land at Pu‘uwa‘awa‘a

APPENDIX 2
Archaeological Letter Report

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ASM affiliates
Archaeology • History • Ethnography • Architectural History

January 19, 2016

Sean Nāleimaile
Assistant Hawai‘i Island Archaeologist
DLNR-SHPD
Email: sean.p.naleimaile@hawaii.gov

Subject: Archaeological Field Inspection of a portion of an Existing HELCO Pole Line across TMK: (3) 7-1-002:013 (por.), Pu‘uwa‘awa‘a Ahupua‘a, North Kona District, Island of Hawai‘i

Dear Sean:

On behalf of Ron Terry, Ph.D., of Geometrician Associates, LLC, ASM Affiliates (ASM) conducted an archaeological field inspection of a portion of TMK: (3) 7-1-002:013 in Pu‘uwa‘awa‘a Ahupua‘a, North Kona District, Island of Hawai‘i (Figures 1 and 2). The purpose of this inspection was to determine if undocumented historic properties were present within an existing HELCO pole line corridor that extends across State-owned land following an established utility easement. HELCO is proposing to bulldoze a roughly 25-foot (7.6-meter) wide by 250-foot (76.2-meter) long path between poles P-295 and P-294 of the corridor to allow their trucks to access pole P-294 (Figure 3). For most of its length the utility corridor follows the alignment of Māmalahoa Highway (HWY 190), but in the vicinity of the current study area the line leaves the highway and extends across open pasture from a HELCO substation in Pu‘uwa‘awa‘a Ahupua‘a to the top of the Pu‘uanahulu *pali*, avoiding the sharp turn and steep grade of the road as it traverses that *pali*. Four existing utility poles hold the power lines aloft as they cross this section of pasture (P-294 to P-297); all but pole P-294 are accessible for maintenance purposes by existing dirt roads (see Figure 3). The proposed undertaking will allow HELCO to access pole P-294 by truck for maintenance purposes.

The study area is located at an elevation of approximately 2,040 feet (622 meters) above sea level on the northwestern flank of Hualālai Volcano. The survey corridor crosses an undulating, 1,500 to 3,000 year old *pāhoehoe* flow (Wolfe and Morris 1996), classified as part of the Puuiki-Lava flows complex, that in some areas exhibits a thin (2 to 5 inch) layer of very cobbly, decomposed plant material over bedrock (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx). Vegetation on this lava flow, in the vicinity of the study area, is limited primarily to fountain grass (*Pennisetum setaceum*) with scattered jacaranda (*Jacaranda acutifolia*) and silver oak (*Grevillea robusta*) trees. The lands encompassed by the study area have been used as pasture for more than a century, and are currently leased from the State for cattle ranching purposes.

Pu‘uwa‘awa‘a Ahupua‘a, which takes its name from a prominent local geological feature, a *pu‘u* (cinder cone) marked by deep *wa‘awa‘a* (furrows), is comprised of approximately 40,000 acres. The *ahupua‘a* extends from Kīholo Bay across several environmental zones or *wao* before terminating at elevations between 5,762 and 5,950 feet near the summit of Hualālai. The *wao* of

Puʻuwaʻawaʻa include the near-shore fisheries and roughly 5 miles of shoreline frontage or *kahakai*, the arid lowland (coastal) plains or *kula kai*, and the upper (inland) slopes or *kula uka*, which supported a dryland forest. These regional zones were greatly desired as places of residence in ancient times. People developed small permanent settlements along the coast and in the uplands to an elevation of 3,000 feet, where fields could be planted under the dryland forest canopy. The forest region (*wao nahele*) was also known as the region of the gods (*wao akua*), where people gathered highly valued resources such as feathers from for use in chiefly adornments and *kauila* wood for use in *heiau* and other specialized functions. A network of trails connected these two residential zones, the *wao kanaka* (region of man) and the *wao nahele* (forest region). During the wet months of the year, residents of the *ahupuaʻa* lived in the uplands and would move to the coastal lowland plains during the drier months. As a result, archaeological features such as temporary shelters (modified outcrops and caves), burials, and water catchments are often found in the arid lowland plains.

Puʻuwaʻawaʻa Ahupuaʻa was retained as Crown Land during the *Māhele ʻĀina* of 1848. Five *kuleana* were claimed by native tenants during the *Māhele*, all in the coastal portion of the *ahupuaʻa* near Kīholo Bay, but none were awarded (Maly and Maly 2006). Boundary Commission testimonies, collected for the *ahupuaʻa* in 1873, provide accounts of the trails and forest resources of Puʻuwaʻawaʻa, the occurrence of historical features, including residences and agricultural fields, the practice of salt making, and name many localities on the land (please refer to Maly and Maly 2006 for a comprehensive review of this documentation). On March 20, 1863, the entire *ahupuaʻa* of Puʻuanahulu was leased to three Hawaiians—G. Kaukuna, M. Maeha, and S. Kanakaole, listed as residents of Honolulu, Oʻahu (State Archives files – General Lease No. 106; DLNR2- Vol. 15). Two years later, the three men sold their interests in the *ahupuaʻa* to Francis Spencer for incorporation into the holdings of the Waimea Grazing and Agricultural Company. By 1894, Robert Hind, and his partner Eben Low, had acquired the lease for 40,000 acres of land in Puʻuwaʼawaʻa which, with a starter herd of 200 head of cattle, they used to establish the Puʻuwaʼawaʻa Ranch (Maly and Maly 2006). By 1902, Hind had become the sole proprietor of the ranch, and following his death in December of 1938, its ownership shifted to Robert Hind, Ltd. Corporation, under the direction of Trustee John K. Clarke.

Paddocks of the ranch (both older walled pastures and newer fenced pastures) as they exist in the present-day were basically in place by the 1940s (Maly and Maly 2006). The paddocks ranged from approximately the 1,000 foot elevation, through the forest lands, to the upper boundary of Puʻuwaʻawaʻa, and also included in the rich *kula* lands of Puʻuanahulu that surround the historic homestead lots in that *ahupuaʻa*. In 1948, the ranch contracted surveyor, Charles Murray to prepare a map of the ranch paddocks and fencing projects that were underway. The map (Figure 4) identifies the names of the paddocks as they were remembered by the *kamaʻāina* cowboys. The current study area falls within the "Puuloa Paddock."

On July 1, 1958, Puʻuwaʻawaʻa Ranch was sold to Dillingham Ranch, Inc. (Bureau of Conveyances Liber 3469:478-485). In subsequent public bidding for the State leases to the ranch land, at an auction on March 4, 1960, Dillingham Ranch, Inc. was the highest bidder and secured State Lease No. 3589 for the period of forty years, expiring August 14, 2000 (Maly and Maly 2006). On September 15, 1972, State Lease No. 3589 was assigned to F.N. Bohnett. Upon termination of Bohnetts' lease (August 14, 2000), the State of Hawaiʻi entered into short-term leases for sections of Puʻuwaʻawaʻa (including the current study area), while it worked with an

Advisory Committee made up of native families of the region, and various parties including neighboring land owners, and others with interests in conservation, hunting, recreation, and business, to come up with plan for the public use of the State-owned *ahupuaʻa*.

In 1999, as State Lease No. 3589 for Puʻuwaʻawaʻa Ranch was about to expire, Scientific Consultant Services, Inc. conducted an archaeological reconnaissance of 22,000 acres within Puʻuanahulu and Puʻuwaʻawaʻa Ahupuaʻa for The Nature Conservancy (on behalf of Hui ʻOhana Mai Puʻuanahulu a me Puʻuwaʻawaʻa) that included the current study area (McGerty and Spear 2000). As a result of the reconnaissance survey, which included several transects sweeps, but did not systematically examine the entire area, four previously recorded sites and thirty-two new sites were encountered. The identified sites included cave features (temporary habitations and burials), agricultural features (mounds, terraces, and enclosures), cairns, and nineteenth and early twentieth century ranching features (enclosures, rock and a mortar building with water tank). McGerty and Spear (2000) did not identify any sites in the vicinity of the current study area, however. More recent archaeological surveys of the Highway 190 right-of-way, conducted by ASM (Rechtman 2014; Rechtman et al. 2014) to the east of the current study area, identified sections of the former Waimea-Kona Belt Road and the old Māmalahoa Highway, and sections of walls associated with both of those former road alignments. None of these sites extend into the current study area.

On January 7, 2016, ASM archaeologists, Robert B. Rechtman, Ph.D. and Matthew R. Clark, B.A., conducted an archaeological field inspection of the current study area in accordance with HAR 13§13-275. The pedestrian surface survey included a 50-foot (15.2-meter) wide corridor that extended northeast in a straight line for roughly 250-feet (76.2 meters) from the existing dirt access road located 20 feet (6 meters) southwest of pole P-295 (Figure 5) to a point roughly 20 feet (6 meters) northeast of P-294 (Figure 6). In order to thoroughly examine the corridor, the pedestrian transects were spaced at five-meter intervals. Ground visibility was excellent throughout the study area; no historic properties were encountered. Based on the lack of findings, it is concluded that the proposed bulldozing of an access road between poles P-294 and P-295 of the existing HELCO pole line within the utility easement across a portion of TMK: (3) 7-1-002:013 in Puʻuwaʻawaʻa Ahupuaʻa, North Kona District, Island of Hawaiʻi will have no effect on historic properties. Based on these negative findings, on behalf of our client, we are requesting that DLNR-SHPD issue a written determination of "no historic properties affected" in accordance with HAR 13§13-284-5(b)1.

In the unlikely event that archaeological resources are encountered during grubbing and grading activities within the current study area, work in the immediate area of the discovery will be halted and DLNR-SHPD contacted as outlined in Hawaiʻi Administrative Rules 13§13-275-12.

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

Sincerely,

Bob Rechtman, Ph.D.
Principal Archaeologist

Reference Cited

Maly, K., and O. Maly
2006 He Mahi Moʻolelo No Puʻuʻwaʻawaʻa Me Nāpuʻu O Na Kona-A Collection of Cultural and Historical Accounts of Puʻuʻwaʻawaʻa and the Napuʻu Region-District of Kona on the Island of Hawaiʻi. Kumu Pono Associates LLC. HIHTEF116-Puʻuʻwaʻawaʻa (123006a). Prepared for The Institute of Pacific Islands Forestry USDA Forest Service, Hilo, Hawaiʻi.

McGerty, L., and R. Spear
2000 An Archaeological Reconnaissance of Acres of Land Within the Ahupuaʻa of Puʻuanahulu and Puʻuwaʻawaʻa, District of North Kona, Hawaiʻi Island, Hawaiʻi (TMK 7-1-01:04, 7-1-01:06, 7-1-02:13, 7-1-03:16, and 7-1-04:18). Scientific Consultant Services, Inc. Project Number 174-2. Prepared for The Nature Conservancy, Hawaiʻi on behalf of the Hui ʻOhana Mai Puʻuanahulu a me Puʻuwaʻawaʻa.

Rechtman, R.
2014 Archaeological Inventory Survey of a HDOT Right-of-Way Corridor TMK: (3) 7-1-001/002. Puʻuwaʻawaʻa Ahupuaʻa, North Kona District, Island of Hawaiʻi. ASM Report No. 21820 prepared for Ron Terry, Ph.D., Geometrician Associates, LLC, Hilo, HI.

Rechtman R., J. Nelson, and B. Barna.
2014 Archaeological Inventory Survey of a HDOT Right-of-Way Corridor, TMK (3) 7-1-001/002, Puʻuwaʻawaʻa Ahupuaʻa, North Kona District, Island of Hawaiʻi. ASM Report Number 21820. Prepared for Ron Terry, Ph.D., Geometrician Associates, LLC, Hilo, Hi.

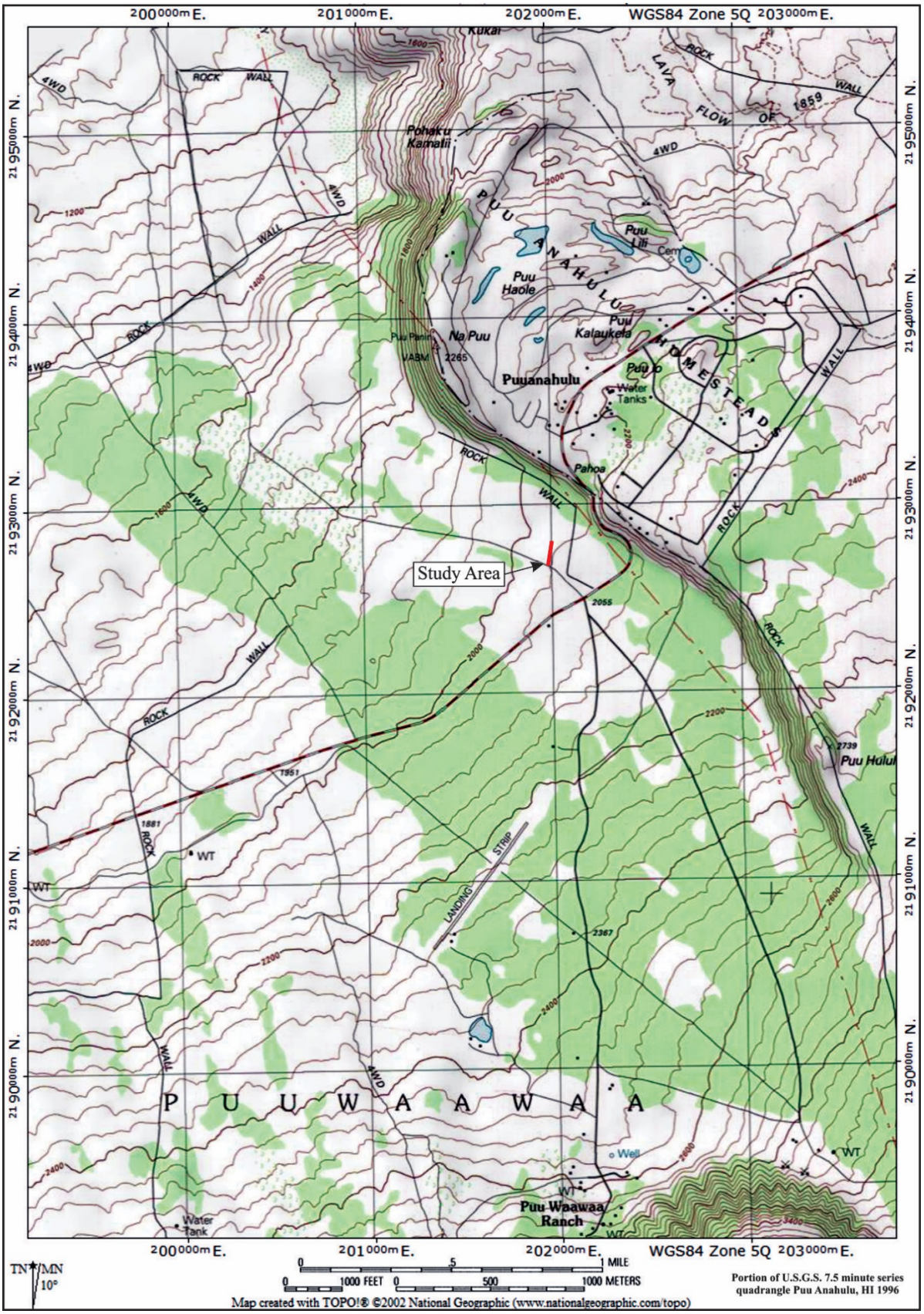

Figure 1. Study area location.

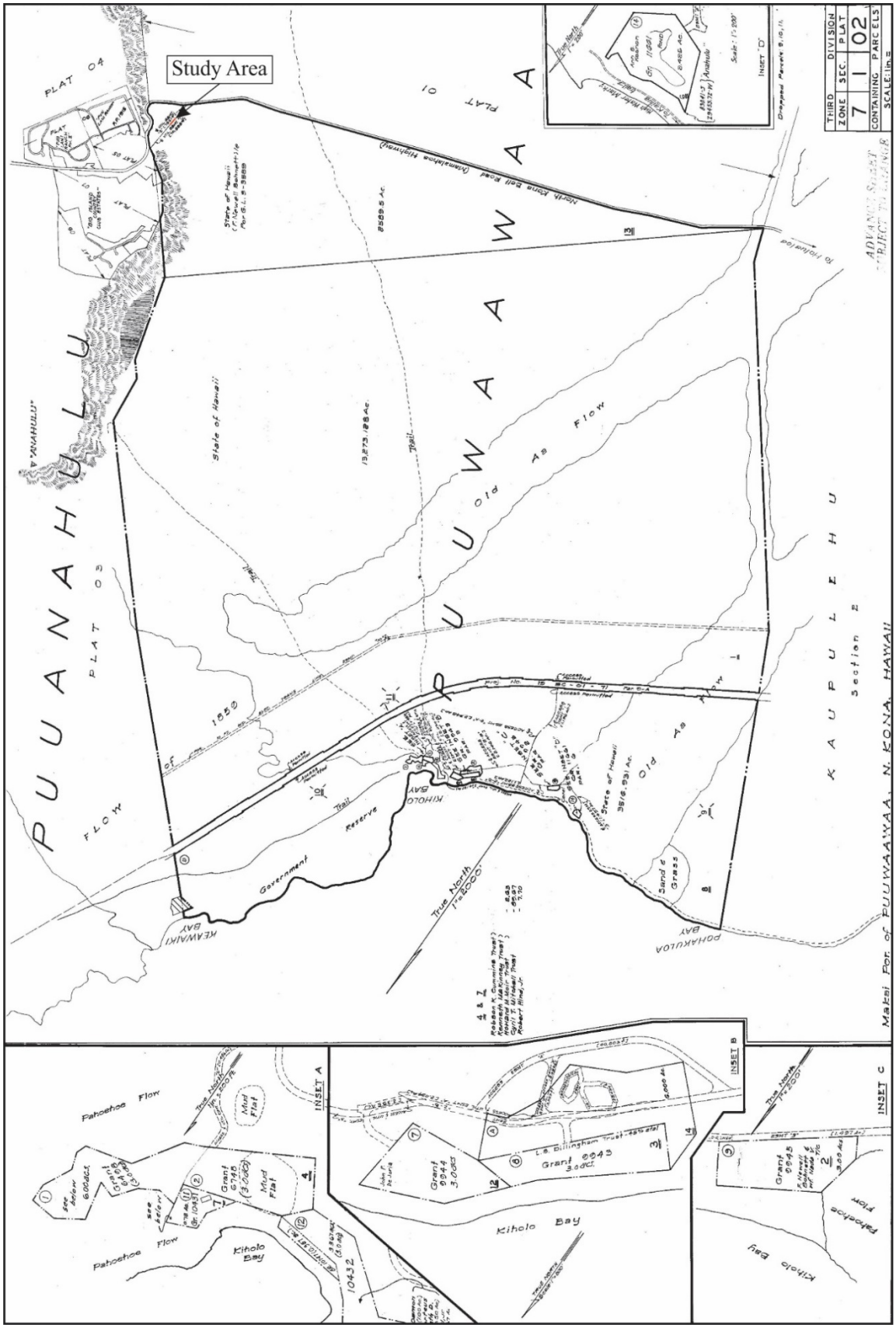

Figure 2. Tax Map Key: (3) 7-1-02 showing the study area (por. of Parcel 013) in red.

Figure 3. Google Earth image showing the poles P-294 and P-295 and the study area.

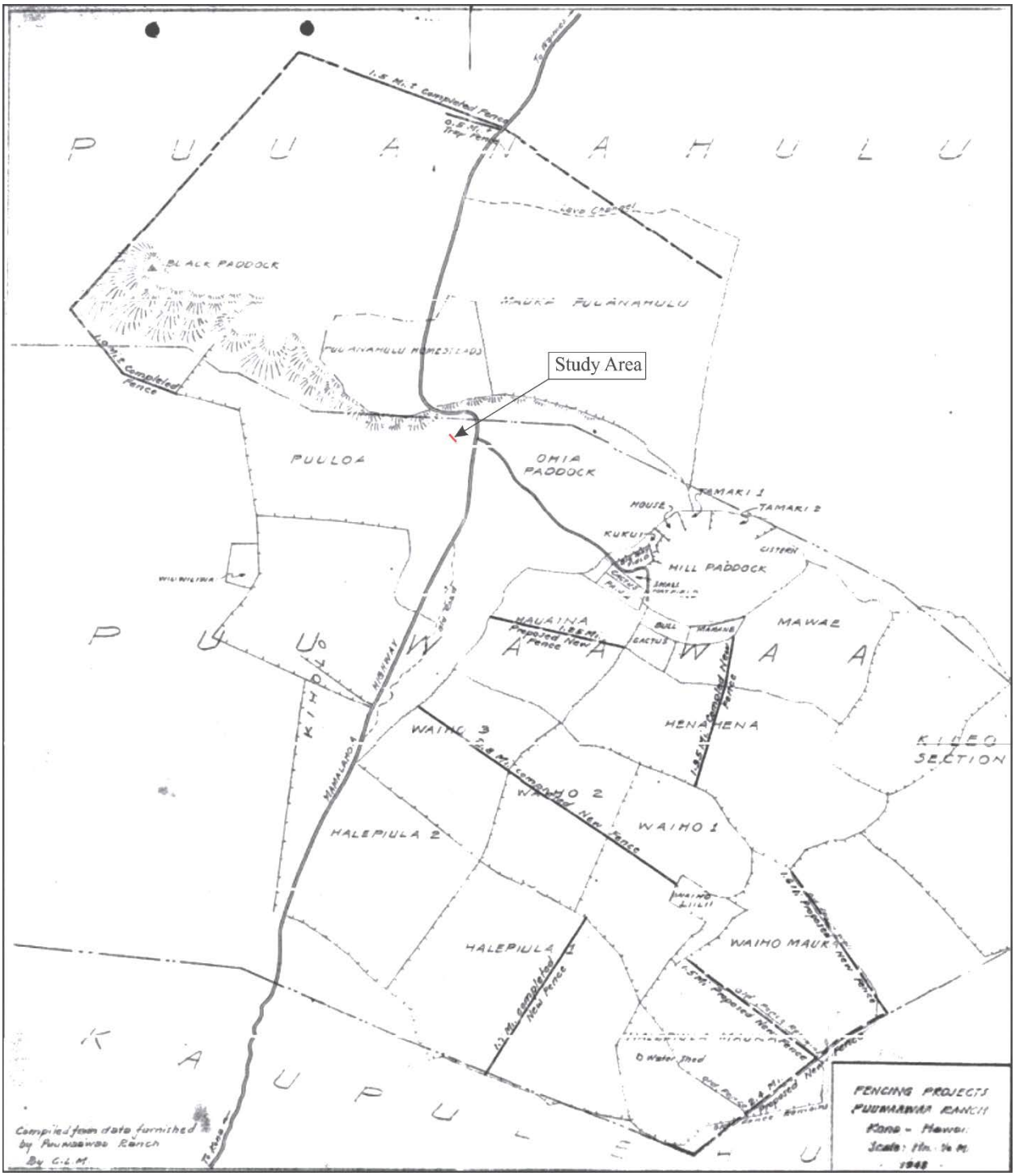

Figure 4. Fencing projects and paddocks of Pu‘u Wa‘awa‘a Ranch with approximate location of current study area (reduction of map compiled by Chas. L. Murray, 1948).

Figure 5. Study area, view to the north with the existing access road and pole P-295 in the foreground.

Figure 6. Study area, view to the southeast with pole P-294 in the foreground.

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ENVIRONMENTAL ASSESSMENT

Hawai‘i Electric Light Easement Modification and Access Road Construction on State Land at Pu‘uwa‘awa‘a

APPENDIX 3
Existing Easement Documents

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DOC # 00-237

RECORDATION REQUESTED BY:)
DEPT OF LAND AND NATURAL RESOURCES
LAND MANAGEMENT DIVISION)
AFTER RECORDATION, RETURN TO:)
DEPT OF LAND AND NATURAL RESOURCES
LAND MANAGEMENT DIVISION)
RETURN BY: MAIL ( ) PICKUP (X))

FILE ORIGINAL OF THE DOCUMENT
RECORDED AS FOLLOWS:
STATE OF HAWAII
OFFICE OF
BUREAU OF CONVEYANCES
Received for record this NOV 18 1988
day of ....., A.D., 19...
at 8:01 o'clock A.M. and
recorded in Liber 22574
Page 423

GRANT OF NON-EXCLUSIVE EASEMENT

THIS INDENTURE, made and entered into this 25th day of October, 1988, by and between the STATE OF HAWAII, by its Board of Land and Natural Resources, pursuant to the provisions of Section 171-95(a)(3), Hawaii Revised Statutes, hereinafter referred to as the "GRANTOR," and HAWAII ELECTRIC LIGHT COMPANY, INC., a Hawaii corporation, whose post office address is P.O. Box 1027, Hilo, Hawaii 96721-1021, hereinafter referred to as the "GRANTEE."

WITNESSETH THAT:

The GRANTOR, for and in consideration of the sum of SEVEN HUNDRED FORTY-SIX AND NO/100 DOLLARS ($746.00), the receipt whereof is hereby acknowledged, and of the terms, conditions and covenants herein contained and on the part of the GRANTEE to be observed and performed, does hereby grant unto the GRANTEE, its successors and permitted assigns, the following non-exclusive and perpetual easement rights:

> Right, privilege and authority to construct, reconstruct, use, maintain and repair electric transmission and distribution lines, poles and anchors, including the right to trim and keep trimmed any trees in the way of its appliances and equipment,

over, under and across those certain parcels of land situate at Puuwaawaa and Puuanahulu, North Kona, Island of Hawaii, Hawaii,

DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF LAND MANAGEMENT
P. O. BOX 621
HONOLULU, HAWAII 96809

EXEMPT—HAWAII CONVEYANCE TAX
CERTIFICATE NOT REQUIRED

designated "Perpetual Non-Exclusive Utility Easements" as follows:

> EASEMENT 1: containing an area of 70,535 square feet;
>
> EASEMENT 2: containing an area of 7,661 square feet; and
>
> EASEMENT 3: containing and area of 764 square feet.
>
> Said Easements 1 - 3 are all more particularly described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made parts hereof, said exhibits being, respectively, a survey description and survey map prepared by the Survey Division, Department of Accounting and General Services, State of Hawaii, designated C.S.F. No. 20,545 and dated April 20, 1987.
>
> EASEMENT 4: containing an area of 3.602 acres, all more particularly described in Exhibit "C" and delineated on Exhibit "D", both of which are attached hereto and made parts hereof, said exhibits being, respectively, a survey description and survey map prepared by the Survey Division, Department of Accounting and General Services, State of Hawaii, designated C.S.F. No. 20,546 and dated April 20, 1987.

TOGETHER WITH, the right from time to time and at all reasonable times to enter upon the easement areas for the above-mentioned purposes AND, ALSO, the right of ingress, egress and regress over all State roads leading to the easement areas and, subject to the notification of any affected Lessee, Permittee or Licensee of the State, across adjacent State lands.

TO HAVE AND TO HOLD the easement rights unto the GRANTEE, its successors and permitted assigns in perpetuity; SUBJECT, HOWEVER, to the following terms, conditions and covenants:

1. GRANTEE shall maintain its appliances and equipment in a good and safe condition and repair, and shall at all times with respect to the easement areas use due care for public safety and agrees to defend, hold harmless and indemnify

the GRANTOR, its officers, agents and employees or any person acting for and on its behalf, from and against all claims or demands for damage, including claims for property damage, personal injury or death, arising on, about or in connection with the easement areas, caused directly or proximately by any failure on the part of the GRANTEE to use the easement areas and maintain its appliances and equipment in the easement areas in accordance with the terms and conditions of this Indenture, or arising out of or caused by any act or omission of the GRANTEE.

2. The GRANTOR reserves unto itself, its successors the full use and enjoyment of the easement areas, and to grant to others rights and privileges for any and all purposes affecting the easement areas, provided, however that the rights herein reserved shall not be exercised by the GRANTOR or any agent, representative or assign of the GRANTOR, in a manner which interferes unreasonably with the GRANTEE in the use of the easement areas for the purposes for which these easements are granted.

3. All improvements placed in or upon the easement areas by the GRANTEE shall be done without cost or expense to the GRANTOR and shall remain the property of the GRANTEE and may be removed or otherwise disposed of by the GRANTEE at any time; provided, that the removal shall be accomplished with minimum disturbance to the easement areas, which shall be restored to its original state, or as close thereto as possible to the satisfaction of the GRANTOR, within a reasonable time after removal.

4. Upon completion of any work performed in or upon the easement areas, the GRANTEE shall remove therefrom all equipment and unused or surplus materials, if any, and shall

leave the easement areas in a clean and sanitary condition satisfactory to the GRANTOR.

5. This easement or any rights granted herein shall not be sold, assigned, conveyed, leased, mortgaged or otherwise transferred or disposed of, directly or by operation of law, except with the prior written consent of the GRANTOR, provided, however, that the GRANTEE may, without such consent, assign its rights hereunder to the trustee for the bondholder of the GRANTEE.

6. The GRANTEE shall keep the easement areas and its improvements therein in a clean, sanitary and orderly condition, and its appliances and equipment in good and safe condition and repair, and shall not make, permit, or suffer any waste, strip, spoil, nuisance or unlawful, improper, or offensive use of the easement areas.

7. The use and enjoyment of the easement areas herein conveyed shall not be in support of any policy which discriminates against anyone based upon race, creed, sex, color, national origin or a physical handicap.

8. It is understood that the GRANTEE has inspected the easement areas and knows the conditions thereof and fully assumes all risks incident to its use.

9. Should future development necessitate a relocation of the easements granted herein, or any portion thereof, the relocation shall be accomplished at the GRANTEE'S own cost and expense; provided, however, that if other lands of the GRANTOR are available, the GRANTOR will grant to the GRANTEE without payment of any money consideration, a substitute easement of similar width within the reasonable vicinity of the original alignment, which substitute easement shall be subject

to the same terms and conditions as that herein granted and as required by law.

10. The GRANTEE, in the exercise of the rights granted herein, shall comply with all of the requirements of all municipal, state, and federal authorities and observe all municipal ordinances and state and federal statutes, pertaining to the easement areas, now in force or which may hereinafter be in force.

11. These easement rights shall cease and terminate, and the easement areas shall revert to the GRANTOR, without any action on the part of the GRANTOR, in the event of non-use or abandonment by the GRANTEE of the easement areas, or any portion thereof, for a continuous period of one (1) year.

12. Upon termination of the use, the easement areas shall be restored to its original state, or as close thereto as possible, within a reasonable time and at the expense of the GRANTEE.

13. This Grant of Easement shall be subject to disapproval by the Legislature by two-thirds vote of either the Senate or the House of Representatives or by majority vote of both, in any regular or special session next following the date of this disposition.

IN WITNESS WHEREOF, the STATE OF HAWAII, the GRANTOR herein, by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and these presents to be duly executed this 16th day of November, 1988, and HAWAII ELECTRIC LIGHT COMPANY, INC., the GRANTEE herein, has caused its corporate seal to be affixed hereto and its corporate name to be signed by its proper officers thereto duly authorized by its Board of

Directors this 25th day of October, 1988, effective as of the day, month and year first above written.

STATE OF HAWAII

By _____
Chairperson and Member
Board of Land and
Natural Resources

And By _____
Member, Board of Land
and Natural Resources

GRANTOR

Approved by the Board of
Land and Natural Resources
at its meeting held on
March 25, 1986

HELCO
Approved:
Eng.
HKK
Land

HAWAII ELECTRIC LIGHT COMPANY, INC.

By _____
Its President

By _____
Its Assistant Secretary

GRANTEE

APPROVED AS TO FORM:

_____
Deputy Attorney General

Dated: October 7, 1988

STATE OF HAWAII)
) SS.
COUNTY OF HAWAII)

On this 25th day of October, 1988, before me appeared Norman A. Oss and William J. Stormont, to me personally known, who, being by me duly sworn, did say that they are the President and Assistant Secretary, respectively, of HAWAII ELECTRIC LIGHT COMPANY, INC., and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said Norman A. Oss and William J. Stormont acknowledged said instrument to be the free act and deed of said corporation.

L.S.

Mark K. Yoshida
Notary Public, State of Hawaii
My commission expires: 2/4/89

STATE OF HAWAII
SURVEY DIVISION
DEPT. OF ACCOUNTING AND GENERAL SERVICES
HONOLULU

C.S.F. No. 20,545

April 20, 1987

PERPETUAL NON-EXCLUSIVE UTILITY EASEMENTS

EASEMENTS 1, 2 AND 3

Puuwaawaa and Puuanahulu, North Kona, Island of Hawaii, Hawaii

EASEMENT 1

Being portions of the Government Lands of Puuwaawaa and Puuanahulu.

Beginning at the southwest corner of this easement and on the northwest side of Hawaii Belt Road, Federal Aid Project 10-A, the coordinates of said point of beginning referred to Government Survey Triangulation Station "PUUWAAWAA" being 11,764.41 feet North and 4781.96 feet West, thence running by azimuths measured clockwise from True South:-

1.	188° 32'	462.37 feet	along the remainder of the Government Land of Puuwaawaa;
2.	111° 25'	16.14 feet	along the remainder of the Government Land of Puuwaawaa;
3.	201° 25'	5.00 feet	along the remainder of the Government Land of Puuwaawaa;
4.	291° 25'	15.00 feet	along the remainder of the Government Land of Puuwaawaa;
5.	188° 32'	973.69 feet	along the remainder of the Government Land of Puuwaawaa;
6.	188° 24'	1215.00 feet	along the remainders of the Government Lands of Puuwaawaa and Puuanahulu;
7.	170° 50'	30.00 feet	along the remainder of the Government Land of Puuanahulu;
8.	295° 28'	71.45 feet	along Grant 7548 to Harry Haina;
9.	86° 00'	29.27 feet	along the remainder of the Government Land of Puuanahulu;

EXHIBIT "A"

10.	8° 40'	1216.42 feet	along the remainders of the Government Lands of Puuanahulu and Puuwaawaa;
11.	8° 32'	1411.85 feet	along the remainder of the Government Land of Puuwaawaa;
12.	48° 58' 30"	38.54 feet	along the northwest side of Hawaii Belt Road, F.A.P. 10-A to the point of beginning and containing an AREA OF 70,535 SQUARE FEET.

EASEMENT 2

Being a portion of the Government Land of Puuwaawaa.

Beginning at the southwest corner of this easement and on the northwest side of Hawaii Belt Road, Federal Aid Project 10-A, the coordinates of said point of beginning referred to Government Survey Triangulation Station "PUUWAAWAA" being 11,867.53 feet North and 4661.51 feet West, thence running by azimuths measured clockwise from True South:-

1.	171° 42'	272.13 feet	along the remainder of the Government Land of Puuwaawaa;
2.	188° 32'	86.34 feet	along the remainder of the Government Land of Puuwaawaa;
3.	351° 42'	340.86 feet	along the remainder of the Government Land of Puuwaawaa;
4.	Thence along the northwest side of Hawaii Belt Road, F.A.P. 10-A on a curve to the left with a radius of 1025.00 feet, the chord azimuth and distance being: 52° 36' 44" 28.61 feet to the point of beginning and containing an AREA OF 7661 SQUARE FEET.		

EASEMENT 3

Being a portion of the Government Land of Puuwaawaa.

C.S.F. No. 20,545

April 20, 1987

Beginning at the north corner of this easement, at the west corner of Grant S-13704 to Hilo Electric Light Company, Limited, and on the southeast side of Hawaii Belt Road, Federal Aid Project 10-A, the coordinates of said point of beginning referred to Government Survey Triangulation Station "PUUWAAWAA" being 11,722.45 feet North and 4754.00 feet West, thence running by azimuths measured clockwise from True South:-

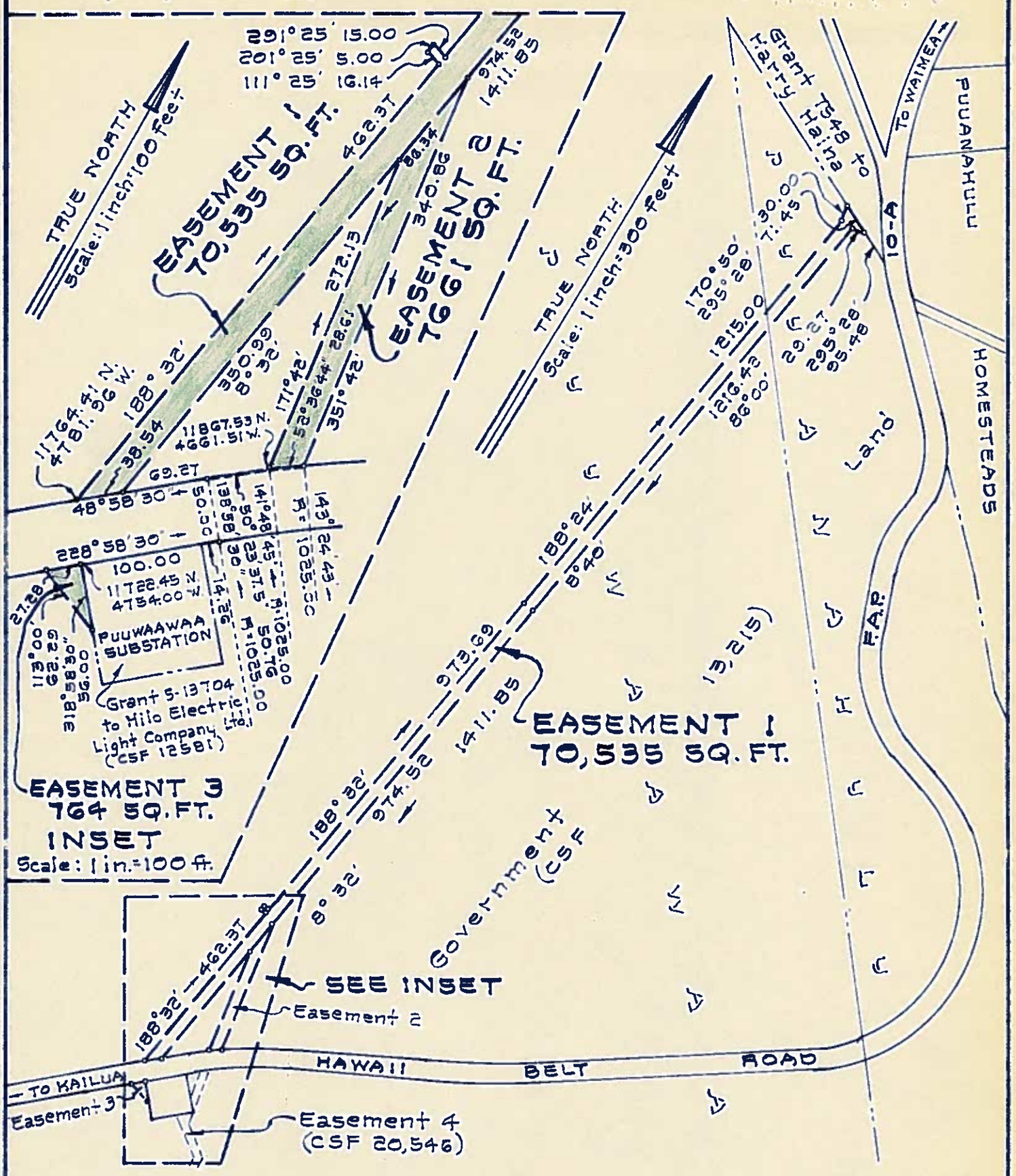
1.	318° 58' 30"	56.00 feet along Grant S-13704 to Hilo Electric Light Company, Limited;
2.	113° 00'	62.29 feet along the remainder of the Government Land of Puuwaawaa;
3.	228° 58' 30"	27.28 feet along the southeast side of Hawaii Belt Road, F.A.P. 10-A to the point of beginning and containing an AREA OF 764 SQUARE FEET.

SURVEY DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
STATE OF HAWAII

By: Raymond S. Nakamura
Raymond S. Nakamura
Land Surveyor

pt

Compiled from map furn.
by Hilo Engineering, Inc.
and Govt. Survey Records.



PERPETUAL NON-EXCLUSIVE UTILITY EASEMENTS
EASEMENTS 1, 2 AND 3

Puuwaawaa and Puuanahulu, North Kona, Island of Hawaii, Hawaii

Scale: 1 inch = 300 feet

JOB H-74 (BT)
C. BK T (R.S.N.)

Coordinates referred to "PUUWAAWAA" △

TAX MAP: T-1-01 & 02

SURVEY DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
STATE OF HAWAII

EXHIBIT "B"

C. S. F. No. 20,545

R.S.N. April 20, 1987

STATE OF HAWAII
SURVEY DIVISION
DEPT. OF ACCOUNTING AND GENERAL SERVICES
HONOLULU

C.S.F. No. 20,546

April 20, 1987

PERPETUAL NON-EXCLUSIVE UTILITY EASEMENT

EASEMENT 4

Puuwaawaa, North Kona, Island of Hawaii, Hawaii

Being a portion of the Government Land of Puuwaawaa.

Beginning at the northeast corner of this easement and on the south side of Hawaii Belt Road, Federal Aid Project 10-A, the coordinates of said point of beginning referred to Government Survey Triangulation Station "PUU PANINI" being 4750.78 feet South and 2004.68 feet East, thence running by azimuths measured clockwise from True South:-

1.	349°	13'	147.61 feet along the remainder of the Government Land of Puuwaawaa;
2.	305°	57'	73.95 feet along the remainder of the Government Land of Puuwaawaa;
3.	178°	03'	11.43 feet along the remainder of the Government Land of Puuwaawaa;
4.	268°	03'	5.00 feet along the remainder of the Government Land of Puuwaawaa;
5.	358°	03'	15.32 feet along the remainder of the Government Land of Puuwaawaa;
6.	305°	57'	8.08 feet along the remainder of the Government Land of Puuwaawaa;
7.	268°	03'	15.12 feet along the remainder of the Government Land of Puuwaawaa;
8.	358°	03'	5.00 feet along the remainder of the Government Land of Puuwaawaa;
9.	88°	03'	16.73 feet along the remainder of the Government Land of Puuwaawaa;
10.	358°	03'	2035.85 feet along the remainder of the Government Land of Puuwaawaa;

EXHIBIT "C"

11.	353°	50'	10"	2420.59 feet	along the remainder of the Government Land of Puuwaawaa;
12.	351°	28'		2670.07 feet	along the remainder of the Government Land of Puuwaawaa;
13.	274°	27'		13.22 feet	along the remainder of the Government Land of Puuwaawaa;
14.	4°	27'		5.00 feet	along the remainder of the Government Land of Puuwaawaa;
15.	94°	27'		12.64 feet	along the remainder of the Government Land of Puuwaawaa;
16.	1°	52'	30"	597.37 feet	along the remainder of the Government Land of Puuwaawaa;
17.	318°	23'	30"	1475.00 feet	along the remainder of the Government Land of Puuwaawaa;
18.	207°	50'		11.15 feet	along the remainder of the Government Land of Puuwaawaa;
19.	297°	50'		5.00 feet	along the remainder of the Government Land of Puuwaawaa;
20.	27°	50'		13.03 feet	along the remainder of the Government Land of Puuwaawaa;
21.	318°	23'	30"	5.34 feet	along the remainder of the Government Land of Puuwaawaa;
22.	27°	50'		5.34 feet	along the remainder of the Government Land of Puuwaawaa;
23.	318°	23'	30"	12.93 feet	along the remainder of the Government Land of Puuwaawaa;
24.	48°	23'	30"	5.00 feet	along the remainder of the Government Land of Puuwaawaa;
25.	138°	23'	30"	11.05 feet	along the remainder of the Government Land of Puuwaawaa;
26.	27°	50'		632.06 feet	along the remainder of the Government Land of Puuwaawaa;
27.	296°	40'		13.22 feet	along the remainder of the Government Land of Puuwaawaa;
28.	26°	40'		5.00 feet	along the remainder of the Government Land of Puuwaawaa;
29.	116°	40'		13.32 feet	along the remainder of the Government Land of Puuwaawaa;
30.	27°	50'		4.63 feet	along the remainder of the Government Land of Puuwaawaa;

31.	113°	41'		314.84 feet	along the remainder of the Government Land of Puuwaawaa;
32.	180°	00'	19"	16.38 feet	along Grant 6266 to Robert Hind;
33.	293°	41'		307.46 feet	along the remainder of the Government Land of Puuwaawaa;
34.	207°	50'		628.03 feet	along the remainder of the Government Land of Puuwaawaa;
35.	138°	23'	30"	1480.65 feet	along the remainder of the Government Land of Puuwaawaa;
36.	65°	59'		25.73 feet	along the remainder of the Government Land of Puuwaawaa;
37.	155°	59'		5.00 feet	along the remainder of the Government Land of Puuwaawaa;
38.	245°	59'		27.69 feet	along the remainder of the Government Land of Puuwaawaa;
39.	181°	52'	30"	600.18 feet	along the remainder of the Government Land of Puuwaawaa;
40.	171°	28'		2667.93 feet	along the remainder of the Government Land of Puuwaawaa;
41.	78°	38'		24.60 feet	along the remainder of the Government Land of Puuwaawaa;
42.	168°	38'		5.00 feet	along the remainder of the Government Land of Puuwaawaa;
43.	258°	38'		24.93 feet	along the remainder of the Government Land of Puuwaawaa;
44.	173°	50'	10"	2417.71 feet	along the remainder of the Government Land of Puuwaawaa;
45.	89°	46'		25.50 feet	along the remainder of the Government Land of Puuwaawaa;
46.	179°	46'		5.00 feet	along the remainder of the Government Land of Puuwaawaa;
47.	269°	46'		25.22 feet	along the remainder of the Government Land of Puuwaawaa;
48.	178°	03'		2032.07 feet	along the remainder of the Government Land of Puuwaawaa;
49.	125°	57'		69.77 feet	along the remainder of the Government Land of Puuwaawaa;
50.	349°	13'		12.77 feet	along the remainder of the Government Land of Puuwaawaa;

51. 79° 13' 5.00 feet along the remainder of the Government Land of Puuwaawaa;

52. 169° 13' 18.08 feet along the remainder of the Government Land of Puuwaawaa;

53. 125° 57' 34.72 feet along the remainder of the Government Land of Puuwaawaa;

54. 228° 58' 11" 36.92 feet along Grant S-13704 to Hilo Electric Light Company, Ltd.;

55. 138° 58' 11" 26.80 feet along Grant S-13704 to Hilo Electric Light Company, Ltd.;

56. 169° 13' 84.26 feet along the remainder of the Government Land of Puuwaawaa;

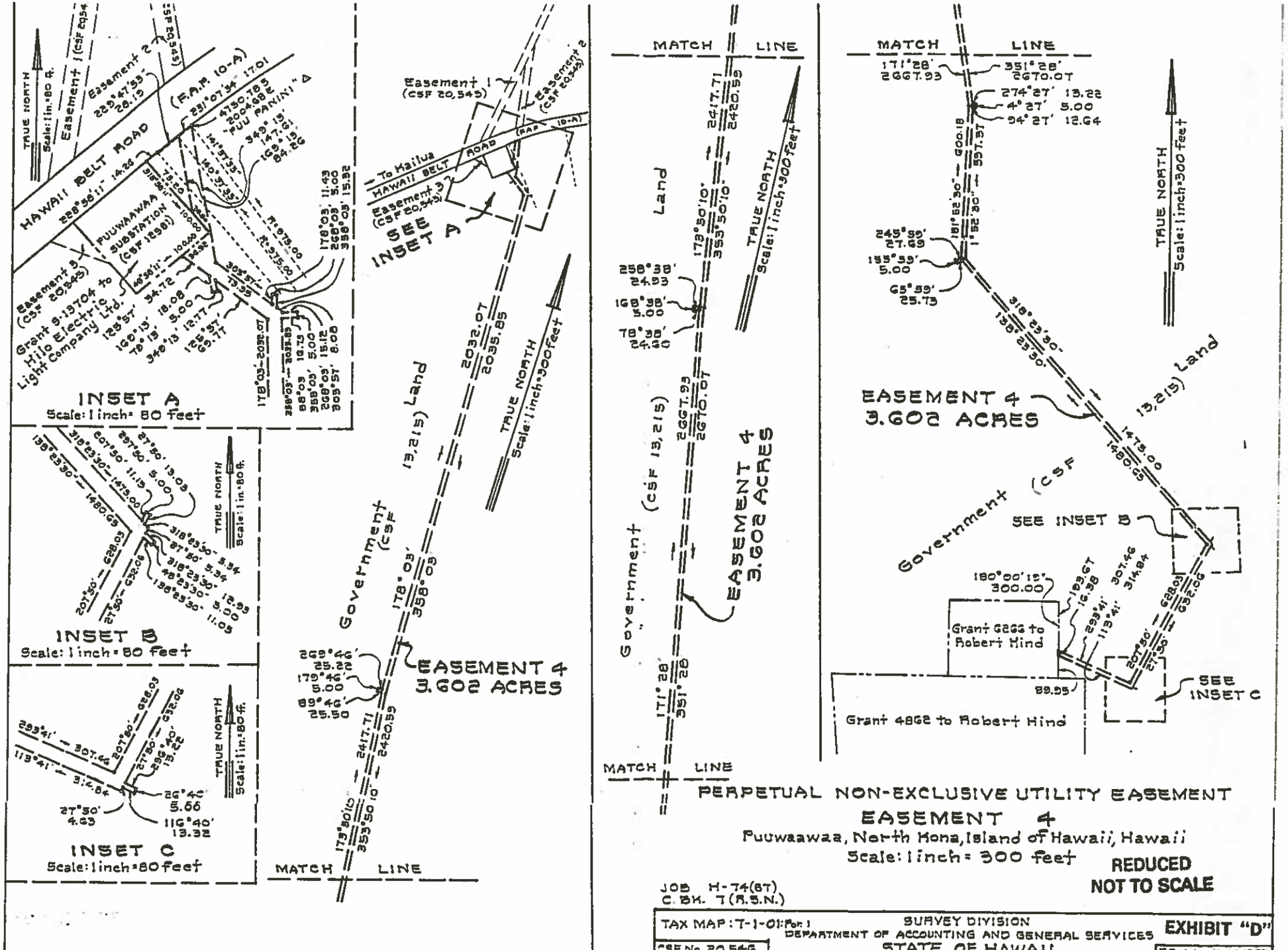
57. Thence along the south side of Hawaii Belt Road, Federal Aid Project 10-A on a curve to the right with a radius of 975.00 feet, the chord azimuth and distance being:
231° 07' 34" 17.01 feet
to the point of beginning and containing an AREA OF 3.602 ACRES.

SURVEY DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
STATE OF HAWAII

By: Raymond S. Nakamura
Raymond S. Nakamura
Land Surveyor

pt

Compiled from map furn. by
Wes Thomas & Assoc., Inc.
and Govt. Survey Records.



PERPETUAL NON-EXCLUSIVE UTILITY EASEMENT

EASEMENT 4

Puuwaawaa, North Kona, Island of Hawaii, Hawaii

Scale: 1 inch = 300 feet

REDUCED
NOT TO SCALE

JOB H-74(8T)
C. BK. 7 (R.S.N.)

TAX MAP: T-1-01: Por. 1

CSF No. 20,546

SURVEY DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
STATE OF HAWAII

EXHIBIT "D"

R.S.N. April 20, 1987

13" X 17" = 1.5 SQ. FT.

ADDITIONAL SECURITY MORTGAGE AND FINANCING STATEMENT

KNOW ALL MEN BY THESE PRESENTS:

That in order to comply with the provisions of Sections 506-2 and 506-3, Hawaii Revised Statues, and the Uniform Commercial Code and intending to create a mortgage lien under real property law and a security interest under the Uniform Commercial Code, and to further secure and comply with the after-acquired property clause in that certain First Mortgage and Deed of Trust executed on May 1, 1941, on file in the Office of the Assistant Registrar of the Land Court of the State of Hawaii as Document No. 58,114 and recorded in the Bureau of Conveyances of the State of Hawaii in Liber 1636 at page 139, as the same has been and may hereafter be amended, hereinafter referred to as the trust mortgage, which said trust mortgage was last amended by instrument dated August 12, 1981, on file as Document No. 1080034, and recorded in said Bureau of Conveyances in Liber 15745 at page 369, HAWAII ELECTRIC LIGHT COMPANY, INC., a Hawaii corporation, whose business and post office address is 1200 Kilauea Avenue, Hilo, Hawaii 96720, Mortgagor in said trust mortgage a transmitting utility, Grantee in the Grant to which this instrument is attached, does hereby grant, bargin, sell, convey transfer, assign, mortgage, confirm, warrant, set over and deliver unto BISHOP TRUST COMPANY, LIMITED, a Hawaii Corporation, whose business and post office address is 140 South King Street, Honolulu, Hawaii 96813, Successor Trustee by way of merger, effective April 1, 1970, with The First Trust Company of Hilo, Limited, the Trustee named in said trust mortgage, as such Trustee under said trust mortgage, as amended, and unto its successors in trust and assigns, all of its right, title and interest in and to said document to which this instrument is attached and in and to the property affected thereby, together with all goods which are or are to become fixtures thereon and all improvements now or hereafter placed thereon, and all additions, purchases and substitutions thereto and therefor, and the reversions, rents, issues, profits and proceeds thereof;

TO HAVE AND TO HOLD the same, together with all rights, easements, privileges and appurtenances thereunto or to any part thereof belonging or appertaining unto the said successor Trustee and its successors in trust and assigns:

IN TRUST, NEVERTHELESS, under the trusts and subject to the conditions and provisions, including the defeasance clause set forth in said trust mortgage, as amended, and as the same may from time to time hereafter be amended.

IN WITNESS WHEREOF, said HAWAII ELECTRIC LIGHT COMPANY, INC. has caused these presents to be executed in its corporate name by its proper officers and its corporate seal to be hereunto affixed, all at Hilo, County and State of Hawaii, the 25th day of October 19 88.

HAWAII ELECTRIC LIGHT COMPANY, INC.

By Norman A. Oss
Its President

By William J. Stormont
Its Assistant Secretary

STATE OF HAWAII)
) SS:
COUNTY OF HAWAII)

On this 25th day of October 19 88, before me appeared Norman A. Oss and William J. Stormont to me personally known, who being by me duly sworn, did say that they are the President and Assistant Secretary respectivelly of HAWAII ELECTRIC LIGHT COMPANY, INC. and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said Norman A. Oss and William J. Stormont acknowledged said instrument to be the free act and deed of said corporation.

L.S.

Mark K. Sushiken
Notary Public,
State of Hawaii

My Commission expires: 2/4/89