

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
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*01 APR 20 P3:37

April 20, 2001

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

Ms. Genevieve Salmonson
Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: LUC Docket No. A99-729/The Newton Family Limited Partnership

At its meeting on April 19, 2001, the Land Use Commission issued a finding of no significant impact (FONSI) for the proposed action in the subject docket. ✓

In accordance with Section 343-5(c), Hawaii Revised Statutes, we are filing four copies of the FEA, one copy of the Publication Form, and a diskette with the project summary. The Commission's Order on the FONSI determination will be sent to you at a later date under separate cover.

Should you have any questions, please feel free to call me at 587-3822.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bert Saruwatari".

BERT SARUWATARI
Acting Executive Officer

Enclosures

c: OP (w/o enclosures)
County of Hawaii Planning Dept. (w/o enclosures)
A. Bernard Bays, Ewsq. (w/o enclosures)

MAY 8 2001

2001-05-08-HI-PEA-Newton Family
Subdivision

FILE COPY

LAND USE COMMISSION
STATE OF HAWAII

FINAL

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Environmental Assessment

and

Support Document for

Land Use Commission Petition

Proposed Family Subdivision
The Newton Family Property
Hilo, Hawaii

April 2001

FINAL

Environmental Assessment
and
Support Document for
Land Use Commission Petition

Proposed Family Subdivision
The Newton Family Property
Hilo, Hawaii
TMK 2-4-08:33, Third Division

Prepared for:
The Newton Family Limited Partnership
Hawaii

Prepared by:
Belt Collins Hawaii
Honolulu, Hawaii

April 2001

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I. INTRODUCTION

Petitioner

The petitioner is The Newton Family Limited Partnership, a Hawaii limited partnership (hereinafter referred to as "The Newton Family"). Its general partners are George N. Newton, Trustee of the Revocable Trust of George N. Newton dated April 5, 1976, and Mary Jo Newton, Trustee of the Revocable Trust of Mary Jo Newton dated April 5, 1976. The limited partners are the four adult children of George and Mary Jo Newton (the children and George and Mary Jo Newton are hereinafter collectively referred to as the "Newton Children"). The mailing address of The Newton Family is P.O. Box 426, Kailua, Hawaii 96734.

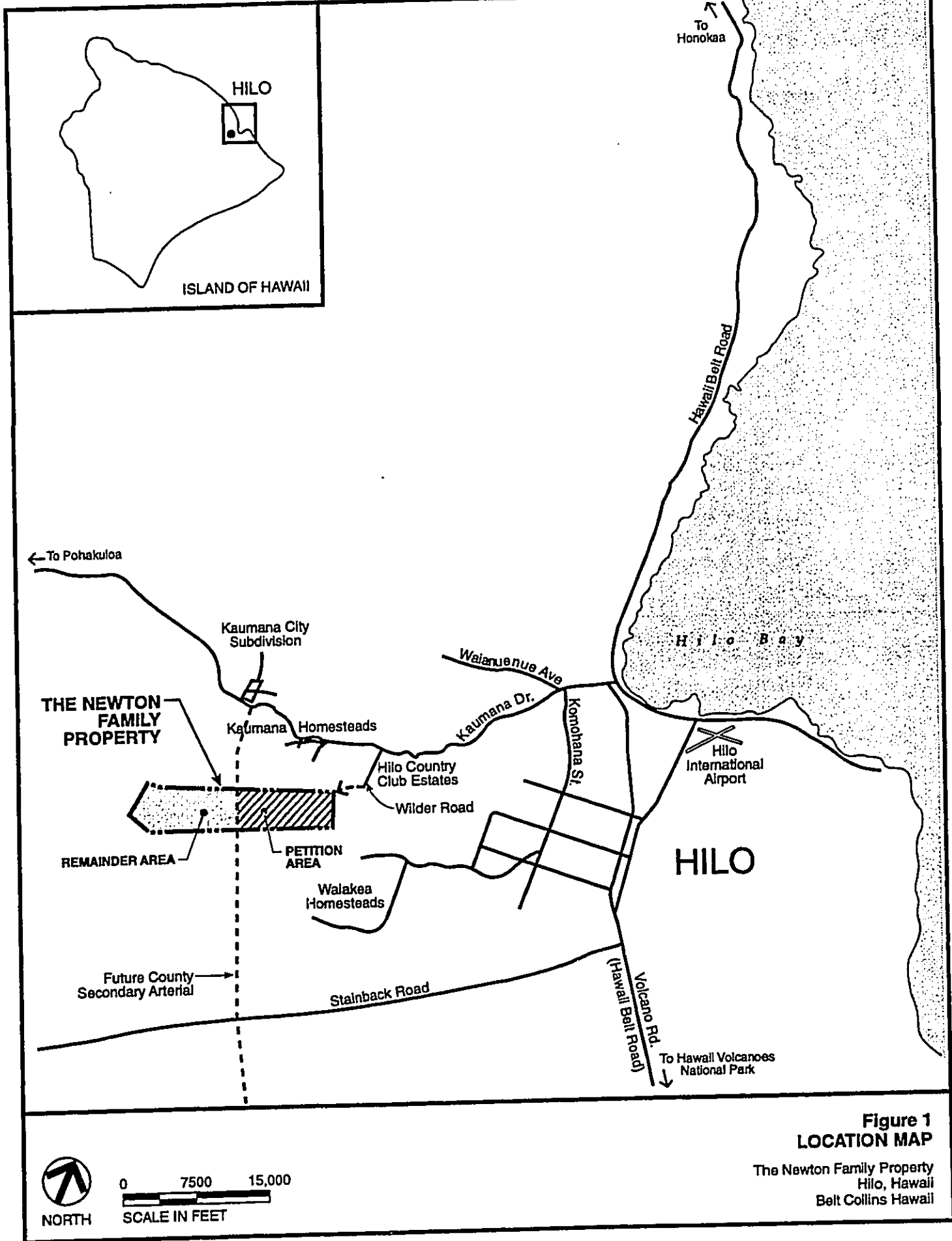
The subject property ("Property") is located in the Resource Subzone of the Conservation District. It consists of approximately 1,645.823 acres situated in Kukuau, Southwest Hilo, Island and County of Hawaii, State of Hawaii (see Figure 1). The Property is identified as Tax Map Key 2-4-08: 33, Third Division. The Newton Family has owned the Property since 1998. Prior thereto, the Property was owned by George and Mary Jo Newton for approximately 20 years.

The portion of the Property which is the subject of this Petition (hereinafter referred to as the "Petition Area") consists of approximately 885.40 acres situated on the makai side of the Property (see Figures 2 & 3). The Petition Area is located on State Land Use District (LUD) Boundaries Map No. H-21.

Authorization Being Sought

The Newton Family is requesting the State Land Use Commission (SLUC) to amend the LUD Boundary of the Conservation District in order to reclassify the Petition Area from Conservation to Agricultural. Approval of this reclassification request would enable The Newton Family to subdivide the Property (see Figure 4) into 9 parcels, consisting of 8 agricultural parcels within the Petition Area and 1 large conservation parcel being the remaining area of the Property (hereinafter the "Remainder Area").

The Newton Family will distribute 5 of the 8 agricultural parcels to the Newton Children. The three remaining agricultural parcels will be sold in the market place to third parties as a means to defray the cost of the subdivision infrastructure improvements. The selling price for the 3 parcels has not yet been determined but will be offered at the fair market value when the lots are placed on sale. The Remainder Area is intended to be kept by the Family and will be left in the Conservation District.



**Figure 1
LOCATION MAP**

The Newton Family Property
Hilo, Hawaii
Belt Collins Hawaii



NORTH



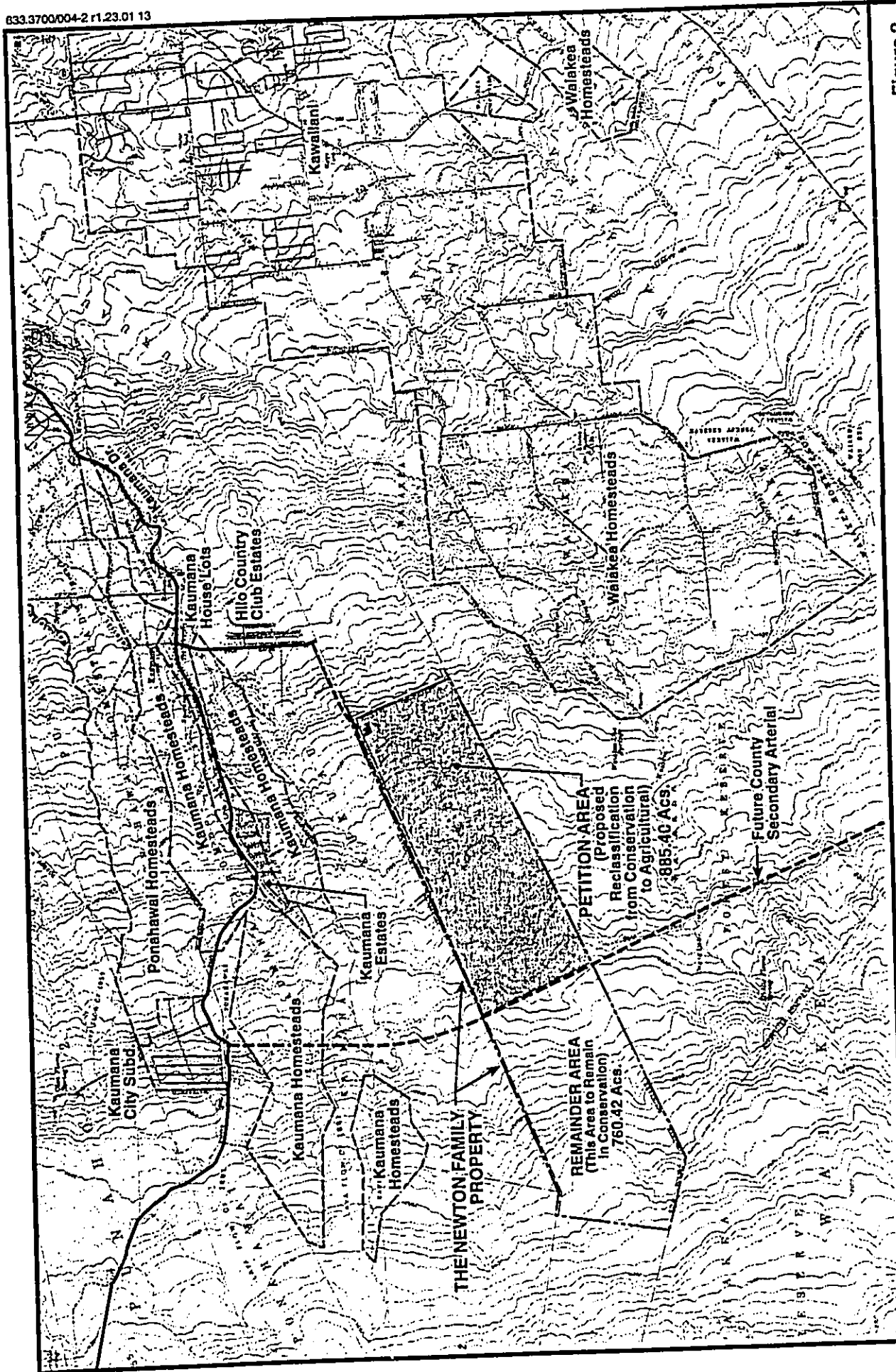
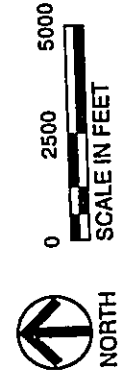
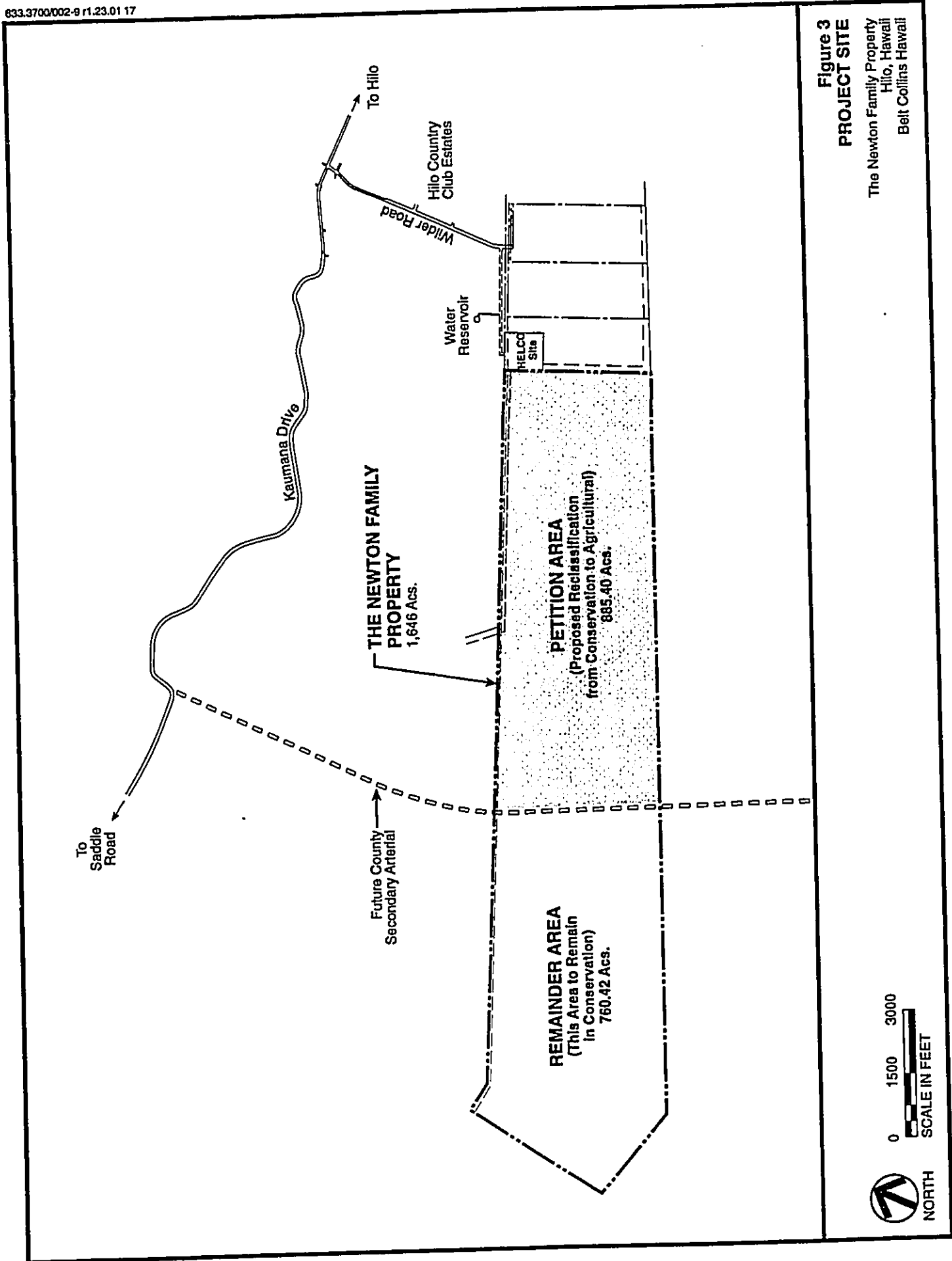


Figure 2
PROJECT VICINITY
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii





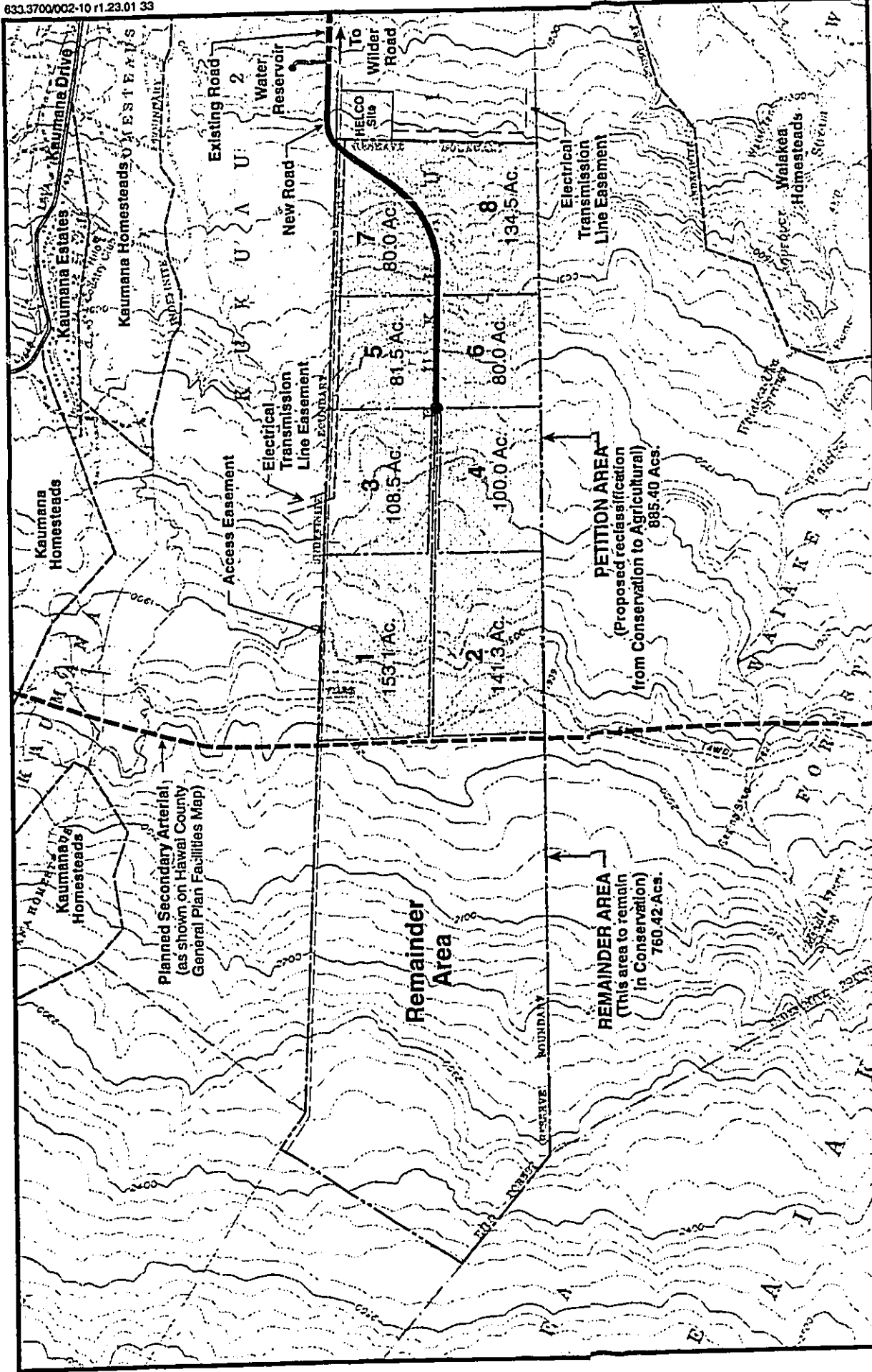
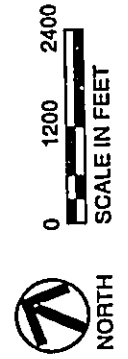


Figure 4
PROPOSED SUBDIVISION
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii



Statutory Provision Allowing Authorization

Chapter 205, Section 4.0, Hawaii Revised Statutes (HRS), specifies that "any person with a property interest in the land sought to be reclassified may petition the land use commission for a change in the boundary of a district. This section applies to all petitions for changes in district boundaries of lands within conservation districts and all petitions for changes in district boundaries involving lands greater than fifteen acres in the agricultural, rural, and urban districts, except as provided in section 201E-210." The Newton Family is the owner of the Property and desires to amend the LUD boundary of the Conservation District in order to reclassify only the Petition Area from Conservation to Agricultural.

II. APPROVING AGENCY

As provided above and in accordance with Chapter 205, Sections 1.0 and 7.0, HRS, the SLUC is authorized to process and act on a petition to amend a LUD Boundary. The SLUC is also the approving agency for the Environmental Assessment (EA) that is submitted with the petition.

III. AGENCIES, COMMUNITY GROUPS AND PRIVATE INDIVIDUALS CONSULTED

The following agencies and parties were consulted by telephone, in person or by correspondence during the preliminary preparation of the Draft EA. Those that commented on the project in writing have their letters included in Appendix A of this document. Written responses were made to those who had substantive comments on the project and are included with the comment letters in the appendices.

Federal Agencies

Fish and Wildlife Service, Department of the Interior
Natural Resources Conservation Service, Department of Agriculture
U.S. Army Corps of Engineers

State Agencies

Department of Agriculture
Department of Defense
Department of Education
Department of Hawaiian Home Lands
Environmental Planning, Department of Health
Forestry and Wildlife Division, Department of Land and Natural Resources
Land Division, Department of Land and Natural Resources
Na Ala Hele Program, Department of Land and Natural Resources

State Agencies (continued)

Office of Environmental Quality Control, Department of Health
Office of Hawaiian Affairs (Oahu and Hawaii Island Office)
Office of Planning, Department of Business Economic Development &
Tourism
Highways Division, Planning Branch, Department of Transportation
State Historic Preservation Division, Department of Land and Natural
Resources
UH Environmental Center
UH Water Resources Research Center

County Agencies

Fire Department
Parks and Recreation Department
Planning Department
Police Department
Public Works Department
Water Supply Department

Utility Companies

GTE Hawaiian Tel
Hawaii Electric Light Co Inc.

Organizations and Resource People

Hawaiian Civic Club
Housing and Community Development Corporation of Hawaii
Kanakaole Foundation
Kepa Maly
Charles Langlas, Ph.D.
Nature Conservancy
Outdoor Circle
Sierra Club

Elected Officials/Individuals

Senator David Matsuura
Representative Jerry L. Chang
Representative Eric G. Hamakawa
Councilmember Bobby Jean Leithead-Todd
M10, Inc.

IV. GENERAL DESCRIPTION OF PROPOSED ACTION'S CHARACTERISTICS

Proposed Action and Reclassification Request

The Newton Family is requesting to amend the LUD boundary of the Conservation District in order to reclassify the Petition Area from Conservation to Agricultural. This reclassification would enable The Newton Family to subdivide the Petition Area into eight large agricultural parcels ranging in size from approximately 80 acres to about 153 acres (see Figure 4). The Remainder Area will remain in Conservation and constitute a separate parcel from the Petition Area.

As will be noted later in the Flora and Fauna Sections of this document, the Remainder Area, which is proposed to be kept in the Conservation District, has been found to be a habitat for a number of native species that would warrant conservation considerations. The Newton Family had originally planned to reclassify the entire Property to Agricultural. However, after reviewing its consultant flora and fauna studies, The Newton Family has revised its original plan and is now proposing to reclassify only the Petition Area which is about one-half (in the lower area) of the Property. The Remainder Area, which is in the mauka half of the Property, will remain in the Conservation District. Any improvements in the Remainder Area will continue to be subject to the State Board or Department of Land and Natural Resource's review and approval.

Under the Agricultural District classification as proposed for the Petition Area, the parcel owners would be allowed to build farm dwellings and engage in agricultural activities. The specific agricultural activities allowed in the Petition Area will be determined by the zoning amendment adopted by the Hawaii County Council and the protective use covenants established by The Newton Family.

Under the County agricultural zone, opportunities to engage in various types of agricultural activities would be available, but a number of activities which are considered inconsistent with The Newton Family plan for the Petition Area would be prohibited by the protective use covenants, including large-scale commercial tree farming or agricultural operations, animal hospitals, campgrounds and other similar open area recreational activities, mausoleums, group living facilities, golf courses and related facilities, adult care homes, churches, community buildings, day care centers, hospitals, stadiums and other sports arenas and schools. It is also the intent of The Newton Family to maintain a low-density character on the land and avoid further development of the Petition Area. The Newton Family is committed to placing a 20-year restriction on further subdivision of each lot within the Property. The above provisions are included as part of the proposed project

and as conditions imposed on The Newton Family's Land Use District [LUD] Boundary Amendment Petition (See Appendix B).

Description of the Proposed Improvements

The proposed eight-parcel subdivision of the Petition Area is intended to provide future individual home sites for the Newton Children. Although the proposed parcels are large, the Newton Children are expected to use only a small portion of their respective parcels for a farm dwelling and possible agricultural activities leaving the large remainder of each parcel in its natural state. George and Mary Jo Newton have owned the Property since 1979 and hope that this modest subdivision of the Petition Area would allow each of the children to ultimately have a home on the Property. The present Conservation District classification allows, with the approval of the Board of Land and Natural Resources (BLNR), only one residence on the entire Property. As previously described, the proposed amendment to reclassify the Petition Area from Conservation to Agricultural will allow The Newton Family to subdivide its Property.

The proposed subdivision will be served by a private access from Wilder Road, a County right-of-way that connects with Kaumana Drive. The access, which is located within an existing easement, is unimproved, however, and will require construction of a road. Alternatively, access may be provided from an existing County Water Supply Department (WSD) service road located near The Newton Family's existing access easement. This 3,000-foot-long alternative access will traverse three private properties (see Land Tenure section) before entering the Property from the northeast. It will utilize WSD's existing 1,600-foot-long paved road that currently serves a water reservoir. The paved road is located within a 60-foot-wide waterline and road easement.

A portion of the above easement is also designated for utility and road purposes and extends mauka to Hawaii Electric Light Co Inc.'s (HELCO) 20-acre substation site at the eastern boundary of the Petition Area. The Newton Family is proposing to extend WSD's road over this easement to the HELCO site and into the Property. The new road will be constructed to County rural or agricultural standards and maintained as a private right-of-way. No curbs, gutters or sidewalks are planned.

The private owner who owns the land beneath the existing WSD road and proposed road extension has preliminarily agreed to provide an access easement to the Property. WSD and HELCO indicated that the use and extension of the present road by The Newton Family are acceptable.

In the long term, the County of Hawaii is planning to construct a cross-country secondary arterial connecting Kaumana Drive, Stainback Road and Volcano Road at Mountain View. The preliminary alignment of this new

right-of-way crosses The Newton Family Property at about its mid-point (see Figure 3). No development schedule has been projected for the right-of-way, but in the long term, it will provide another access to the Property.

Based on flora and fauna studies as described later in Section VI of this document and on the County's proposed alignment for the secondary arterial, The Newton Family believes it would be appropriate to delineate the proposed boundary between the Conservation District and Agricultural District along this future right-of-way.

While water lines for the new parcels will be underground, electrical power and telephone lines will be overhead. Private wastewater disposal units will be required for the farm dwellings. At the entrance to the subdivision and immediately mauka of Wilder Road, The Newton Family is proposing a modest landscaped entry feature consisting of a small rock wall, decorative native plants and other minor improvements.

Selling Price and Intended Market

It is the intent of The Newton Family to transfer ownership of five agricultural parcels to the Newton Children and sell the remaining three parcels in the market place to third parties as a means to defray the cost of the subdivision's infrastructure improvements.

Improvement Schedule

It is anticipated that the roadway and utilities will begin construction in the second quarter of 2001 after all land use and subdivision approvals are secured. Completion of the improvements is anticipated in the fourth quarter of 2001. Occupancy of the parcels by family members is expected to occur, depending on family and personal plans, over several years beginning in 2002.

Construction Cost

Projected construction cost is estimated to be approximately \$1.2 million (in Year 2000 dollars). This includes site preparation, installation of infrastructure and landscaping, but does not include construction of the residences or soft costs, such as engineering and design fees, subdivision and staking, permitting expenses and other consultant fees.

V. NEED FOR PROJECT

Demand for Proposed Parcels

The need for the new parcels is internally generated by The Newton Family. These parcels will be transferred to the Newton Children after the Property has been subdivided. George and Mary Jo Newton, who will retain a parcel for themselves, have four grown children, each of whom is intended to eventually occupy a parcel. Eight parcels will be in the Petition Area, and one parcel will comprise the Remainder Area.

These parcels will provide an affordable means for each family member to own an individual share of property on The Newton Family's land, to finance and build his or her own home and to engage in a limited form of agricultural activity, if desired. The transfer of property will occur after personal decisions are made by the family members.

Three of the eight agricultural parcels in the Petition Area will be sold to non-Family members to help defray the cost of the subdivision improvements. A decision on which parcels are to be sold to others will be made at a later date when all government approvals are secured for the proposed improvements. The Remainder Area, notably, is intended to be retained by The Newton Family and would not be offered for sale. The actual sale of the parcels is expected to occur after the plans for the proposed roadway and utilities are approved by the County and the bonding of the improvements is completed. Construction would begin shortly thereafter.

All eight agricultural parcels in the Petition Area will be subject to protective use covenants adopted by The Newton Family prior to the transfer or sale of any agricultural parcel. The covenants will establish guidelines for environmentally responsible use of the Petition Area, restrict further subdivision of the parcels and assure that the parcels are restricted to farm dwellings and agricultural activities (See Appendix B).

Market Absorption Rate

The sale of three agricultural parcels to non-Family members is expected to be brisk since offers of 80-acre parcels with full-fledged access and utility services are very appealing. According to Hawaii Land Company, a Hawaii-based real estate company, the real estate market improved from the time a market assessment was made to when the Draft Amended Environmental Assessment was prepared. From its years of experience and knowledge of West Hawaii, Hawaii Land Company feels that the potential market for the three lots is better today than it was a year or so ago.

Additionally, the parcels will be only minutes away from downtown Hilo via improved public roads. The supply of similar parcels is limited and offerings of such parcels in the vicinity will generate strong local interest.

VI. DESCRIPTION OF THE AFFECTED ENVIRONMENT

Regional and Project Area Setting

The Property is located on the southwestern fringe of Hilo town off of Kaumana Drive. It is situated in a rural-pasture-agricultural area where large properties are dominant and single-family residences are scattered along country roads and in a few small-lot subdivisions. There are also open lands and forest reserves as well as pasture/grazing activities.

Bordering the makai boundary of the Property is a six-lot agricultural subdivision consisting primarily of 100-acre parcels. At the northern boundary are agricultural lands zoned for 10- and 20-acre parcels.

Approximately 4,000 feet to the east of the Property are a number of rural homes along Hoaka and Alawaena Roads in the Waiakea Homesteads. To the north in the Kaumana Homesteads are properties ranging in size from about 10 acres to 20 acres. Smaller lots, 10,000 and 15,000 sq. ft. in size, are located along the nearby Kaumana Drive.

To the west and around the mauka section of the Property are vacant lands and properties in forest reserve. These lands are owned by private entities, families and the State of Hawaii.

Growth in Hilo is continuing to occur to the south in the Waiakea Homesteads and to the southwest along Saddle Road. Although this growth is slow, it has been steady. Notably, the character of the area is changing from undeveloped lands to rural settlements.

Makai or east of the Property along Wilder Road is the Hilo Country Club Estates, a relatively new subdivision of approximately 160 lots with lot sizes of 10,000 sq. ft. A number of homes currently occupy this subdivision. Nearby are commercial and multi-family residential zoned lands.

A new subdivision is being proposed to the north of the Newton Family Property. Known as the Kaumana Homesteads project, it will consist of 112 one-acre and larger agricultural lots and have access from Kaumana Drive and the County planned Puainako Street Extension. No access will come from Wilder Road. The project is currently seeking zoning approval for smaller lots on a major portion of its property from the Hawaii County Council.

The Kaumana Homesteads involves land that is already agriculturally zoned, unlike the Newton Family project which is proposed to be in agricultural use. Once the Newton Family subdivision is approved, the two projects would have similar and compatible uses. One will be low density (smallest lot in the Newton subdivision will be 80 acres in size) and the other will be relatively medium density (Kaumana subdivision will have minimum one-acre size lots). In addition to being compatible with each other, the two projects will be surrounded by similar uses. The Kaumana area is predominantly zoned Agriculture by the County.

The impact of the Kaumana Homesteads project on area infrastructure, particularly traffic and water, would be substantially larger compared to the impact from the Newton Family project. Hence, the cumulative impact from the two projects would be contributed largely by the Kaumana subdivision.

The planned Puainako Street Extension is designed to relieve traffic on Kaumana Drive. When constructed, the new road will provide access to the Kaumana Homesteads as well as the Newton Family project. By itself, the Newton Family subdivision would be adequately accommodated by existing public roads.

Existing Land Use

Land use on the Property has changed over the years. According to the Hawaii Land Utilization Maps prepared by the Territorial Planning Board, in 1900, the mauka portion of the Property was in forest use and the makai portion showed sugar cane. Later in 1920, the entire Property was in forest use, but in 1937, the land use changed again when only the mauka portion of the Property was in forest use and the remainder makai portion was in grazing. Today, the Property is primarily in forest and heavy vegetation (see Figure 5). There is, however, a modest amount of grazing occurring within the makai area of the Property by cattle from the adjacent lands and by wild cattle throughout the Property.

Approximately halfway up the Property, there are an abandoned flume and its accompanying dirt access road, commonly referred to as the "Ola'a Flume Road". This road extends across the Property generally along the 1,950-foot elevation connecting the Kaumana Drive and Stainback Highway. The County of Hawaii's future secondary arterial follows a similar route connecting Kaumana Drive, Stainback Road and Volcano Road at Mountain View. The Conservation District - Agricultural District boundary proposed by The Newton Family Petition coincides with this route. The abandoned flume and its access road are located within the Petition Area.

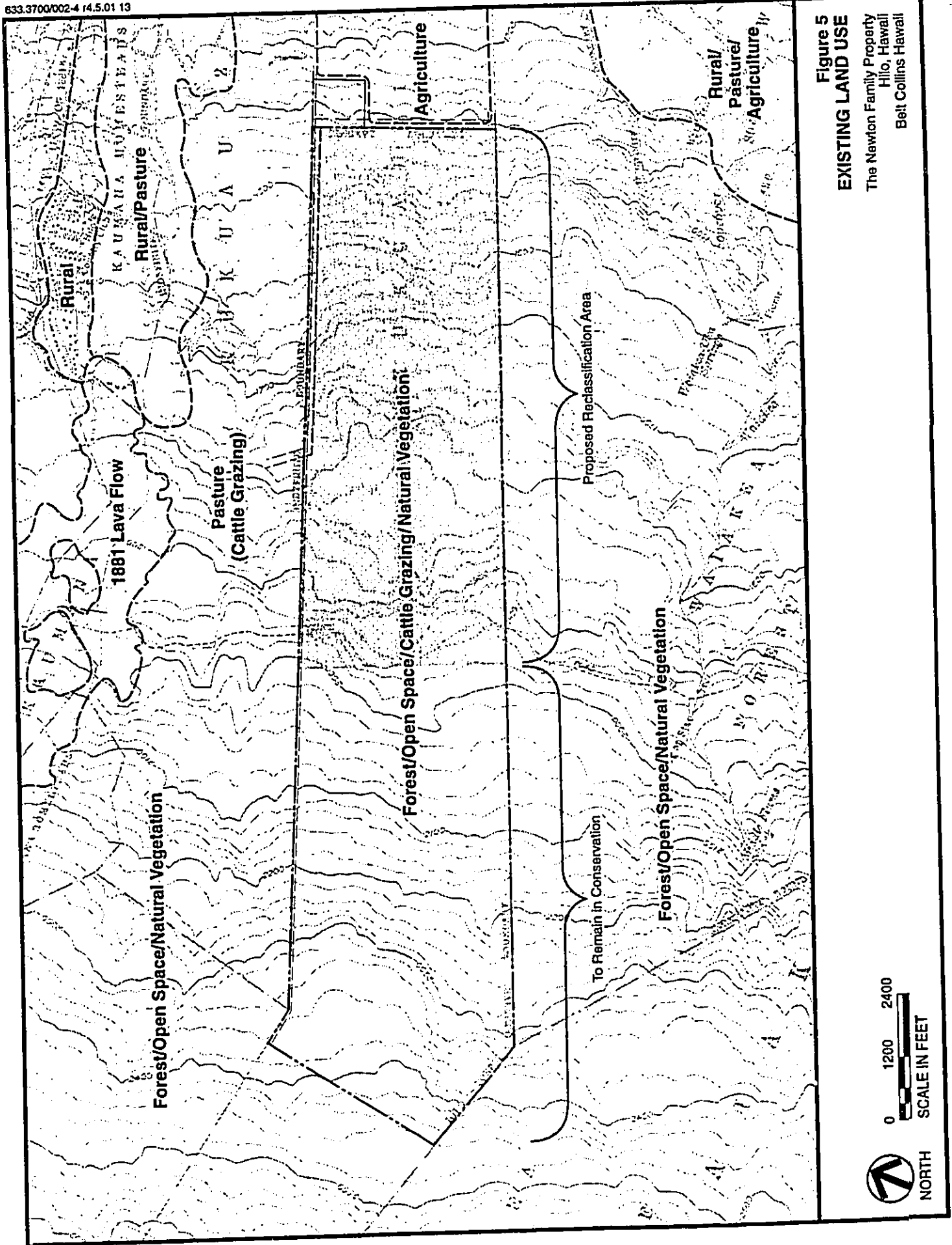


Figure 5
EXISTING LAND USE

The Newton Family Property
Hilo, Hawaii
Belt Collins Hawaii

Another dirt road traverses the Property from the southern boundary where the Ola'a Flume Road intersects, and extends approximately 3,500 feet westward in a straight alignment to the northern boundary. It continues beyond the project boundary for approximately another 6,000 feet before it abruptly terminates.

Two easements currently traverse the Property. A 150-foot-wide easement runs partially along the northern boundary and is designated for electrical transmission line purposes. It serves the 20-acre HELCO site which is located on the makai boundary of The Newton Family Property.

Also on the northern boundary is a 40-foot-wide access easement ("Easement 107") that originates from the Sunrise Estates subdivision located approximately 17,000 feet east of The Newton Family Property. Easement 107 runs along the Property's entire northern boundary and is intended to serve the Property and adjacent mauka properties. This access is unimproved and currently overgrown with vegetation. Access to Easement 107 can be obtained from Wilder Road which is located approximately 3,000 feet below the Petition Area.

While the Property is still shown on the U.S. Geological Survey (U.S.G.S.) maps as within the Hilo Forest Reserve, it is no longer within the current State forest reserve jurisdiction. In a 1980 report to The Newton Family by the Big Island Service Forester of the State Department of Land and Natural Resources, the Property was identified as being included in the Hilo Forest Reserve system under a voluntary "thirty-year surrender agreement with the State of Hawaii, formalized in 1948." In a recent letter, dated February 15, 1996, from the State Forestry Division to Wendy Nakamura of Honolulu, the agency indicated that State records currently show that the Property was withdrawn from the forest reserve by the State of Hawaii.

Land Tenure

The Property is owned by the Newton Family. Access to the Property is currently provided by Wilder Road via Easement 107. If the alternative access (via the WSD road) is selected, it will require the use of three adjacent private properties. Two properties (TMKs 2-5-44: 4 and 2-5-45: 10) are owned by M10, Inc., and the third property (TMK 2-5-46: 12) is owned by Jerry Chang. A preliminary consent has been given by M10, Inc. and Jerry Chang to allow The Newton Family to use their property for access into The Newton Family Property.

As previously described, the alternative access to the Property will require the use of WSD's and HELCO's access easements. Both utility companies have been contacted and have subsequently indicated that there would be no

problems sharing the use of the easements as long as there are no interferences with their operations.

Physiography

The Property measures approximately 3,900 feet wide by approximately 18,500 feet long with its length extending upslope on Mauna Loa from the 1,420' elevation to the approximately 2,400' elevation (see Figure 6). The average slope is approximately 5 percent with some areas as steep as 10 percent. There are relatively level areas in the middle and near the top of the Property. The Property does not have any gulches or major drainageways nor promontories or rock cliffs.

Geology

Over many centuries, the lava flows of Mauna Loa joined with the lava flows of Mauna Kea to form a major portion of the island. The Property is located on the northeastern slope of Mauna Loa approximately 5.7 miles from the coast of Hilo town. Still active, Mauna Loa has erupted twice since 1950; once in 1975 and last in 1984.

Flows that occurred within the last 150 years near the Property were in 1852, 1881 and 1942. The 1942 flow headed toward and came within 3,200 feet of the Property. The 1881 flow passed by and came within 2,500 feet of the Property. Today, these flows are covered by wild vegetation and some urban and agricultural uses in the lower elevations.

Climate

Temperatures in Hawaii are generally mild, but at the 1,420' to 2,400' elevations, they are slightly cooler with a range of mean monthly highs of approximately 73°F to 78°F and mean monthly lows of approximately 56°F to 62°F.

Rainfall is approximately 230 inches per year with the winter months (December to February) averaging about 20 to 24 inches and summer months (June to August) averaging approximately 14 to 18 inches.

Winds are generally trades which come predominantly from the east northeast at typically 15 mph. At night in Hilo, the trades are replaced by southwesterly breezes that drift downslope off Mauna Loa. During the winter season, Kona or southerly winds are most common.

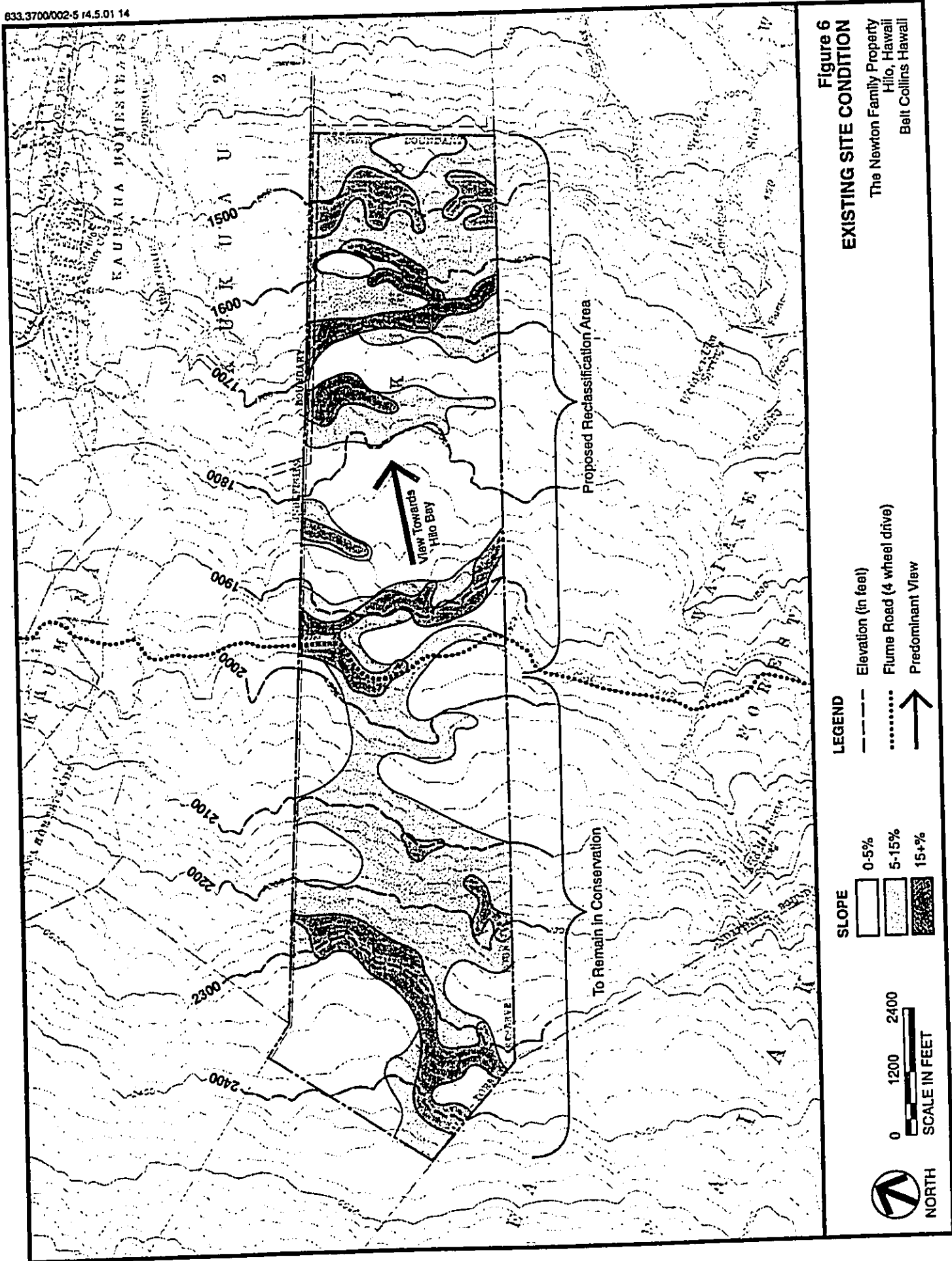


Figure 6
EXISTING SITE CONDITION

The Newton Family Property
Hilo, Hawaii
Belt Collins Hawaii

LEGEND

SLOPE

- 0-5%
- 5-15%
- 15+%

Elevation (in feet)

Flume Road (4 wheel drive)

Predominant View

SCALE IN FEET

0 1200 2400

NORTH

Soils

Soil on the Property is classified by the U.S. Soil Conservation Service, now known as the U.S. Natural Resources Conservation Service (USNRCS), as "*rKGD - Keei extremely rocky muck, 6 to 20 percent slopes*". This soil consists of well-drained, thin organic material (very dark brown muck up to about 10 inches thick) overlying pahoehoe lava bedrock. Generally, this soil is strongly acid.

The lava beneath the soil is not very permeable, but water moves rapidly through the cracks. Runoff on the soil is medium and its erosion hazard is slight. In certain places, plant roots mat over the bedrock and in other places they extend a few feet into the cracks.

Other soils in the surrounding area, as identified by the USNRCS, are listed below in Table 1 and shown on Figure 7. These soils are primarily silty clay loam.

TABLE 1. Identified Soils Surrounding the Property

Keei extremely rocky muck, 6 to 20 percent slopes (rKGD)
Kiloa extremely stony muck, 6 to 20 percent slopes (rKXD)
Hilea silty clay loam, 6 to 12 percent slopes (HIC)
Ohia extremely stony silty clay loam, 0 to 20 percent slopes (OSD)
Ohia silty clay loam, 0 to 10 percent slopes (OHC)
Pahoehoe lava flow (rLW)
Kaiwiki silty clay loam, 0 to 10 percent slopes (KaC)
Kaiwiki silty clay loam, 10 to 20 percent slopes (KaD)
Kaiwiki silty clay loam, 20 to 35 percent slopes (KaE)

Source: U.S. Soil Conservation Service

Agricultural Potential

The Property is not classified by the State Department of Agriculture as an important agricultural land. According to its Agricultural Lands of Importance to the State of Hawaii (ALISH) maps, the site is not considered Prime Agricultural Land, Unique Agricultural Land or Other Important Agricultural Land (see Figure 8).

As described above, the USNRCS categorizes the project soil as "Keei extremely rocky muck". Its Capability Classification is VIIs, non-irrigated, which indicates that the soil, when not irrigated, has very severe limitations that make it unsuited to cultivation and restrict its use largely to pasture or

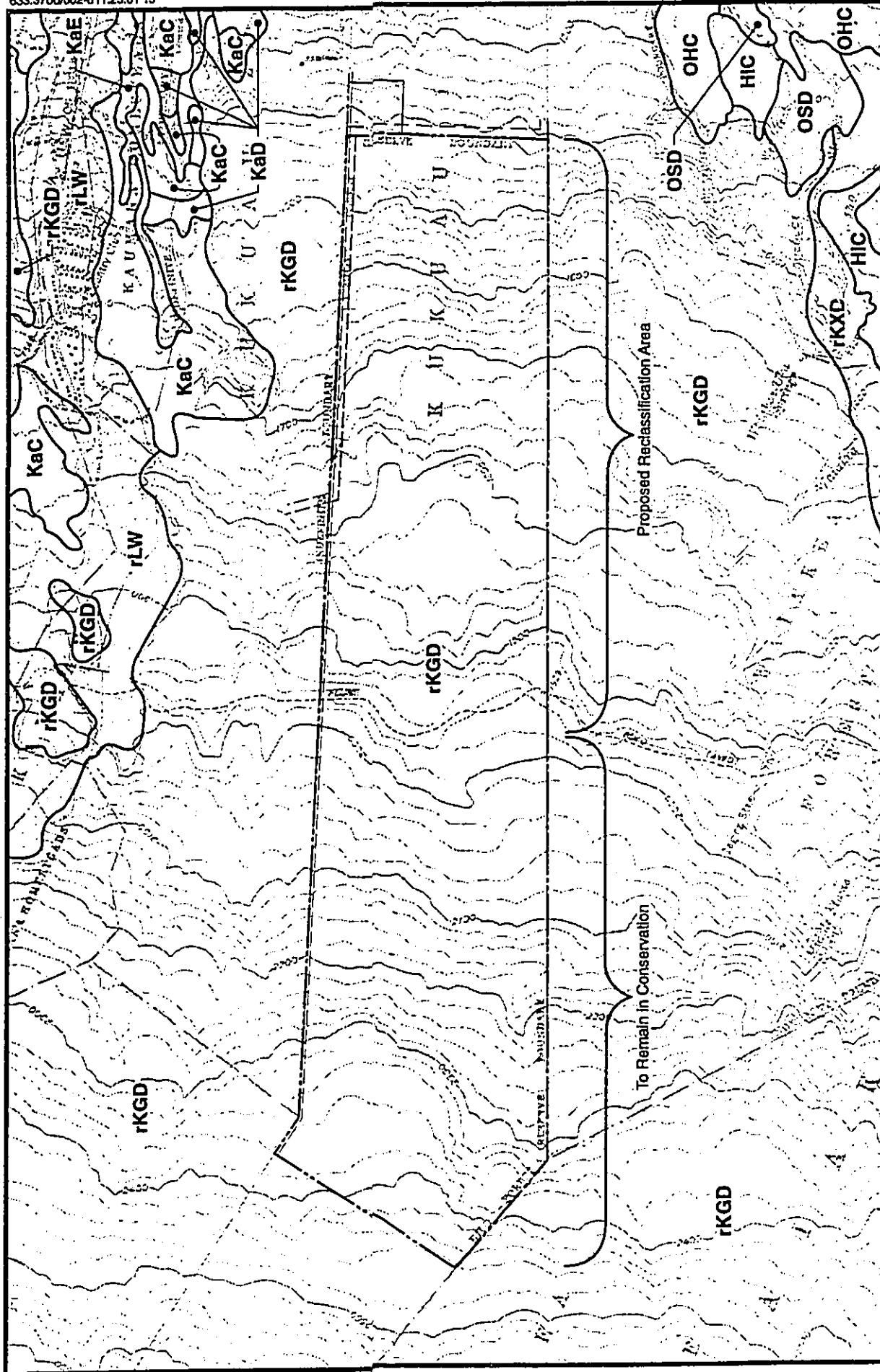


Figure 7
SOIL CLASSIFICATION

The Newton Family Property
Hilo, Hawaii
Belt Collins Hawaii



0 1200 2400
SCALE IN FEET

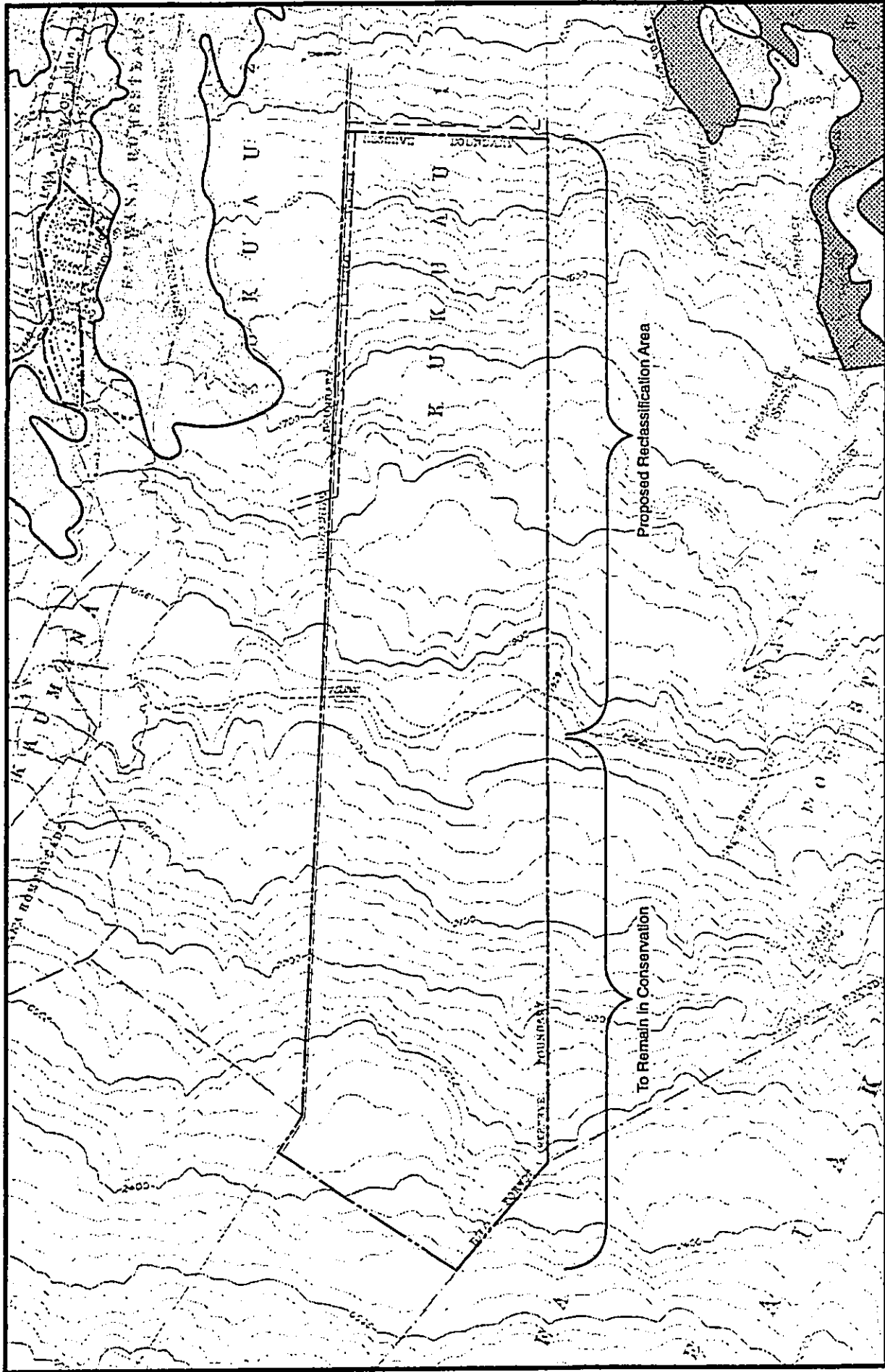


Figure 8
AGRICULTURAL LANDS OF IMPORTANCE TO THE STATE OF HAWAII
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii

LEGEND

- Prime Agricultural Land
- Other Important Agricultural Land
- Existing Urban Development
- Proposed Reclassification Area
- To Remain in Conservation

SCALE IN FEET
 0 1200 2400

NORTH

range, woodland, or wildlife. The primary limitation in this soil is its shallowness and stony condition.

The University of Hawaii's Land Study Bureau classifies the land as D303 and E302 (see Figure 9). Land type D303 is described as pahoehoe lava with akaka and alili. It is considered poor for agricultural purposes with a overall suitability rating of "D". Land type E302 is soil that is almost bare pahoehoe. It is considered very poorly suited for agricultural purposes with an overall suitability rating of "E", the lowest of this rating system. Soils that are classified with an "A" rating are considered very good soil for agricultural use.

The standards for determining agricultural district boundaries by the Land Use Commission, as provided by Hawaii Administrative Rules (HAR) Section 15-15-19, are: 1) it shall include lands with a high capacity for agricultural production; 2) it may include lands with a significant potential for grazing or for other agricultural uses; and 3) it may include lands surrounded by or contiguous to agricultural lands or which are not suited to agricultural and ancillary activities by reason of topography, soils and other related characteristics.

Although the three soil classification maps show that the soil on the Property has limitations for agricultural cultivation, grazing is a potential use. The lower portion of the Property in the Petition Area was used for grazing during the 1930s and is currently being used for such purpose, although in limited form. Moreover, if more areas within the Petition Area were converted to pasture use, additional grazing would occur. In a letter, dated March 3, 1980, from Mr. Ernest Pung, Service Forester, State Department of Land and Natural Resources (DLNR), the State official outlined how the Petition Area can be used for raising beef cattle.

The DLNR letter also detailed how the Petition Area can be used for timber production/tree farming, and, as was previously noted, the lower portion of the Property in the Petition Area was once used for sugar cane.

Notably, other potential activities are feasible if appropriate soil enhancement measures and soil conservation practices are applied to improve the soil condition for crop production. Mr. Saku Nakamura of the U.S. Natural Resources Conservation Service indicated (telecom June 25, 1998) that to improve the soil's productive use, the following efforts could be employed:

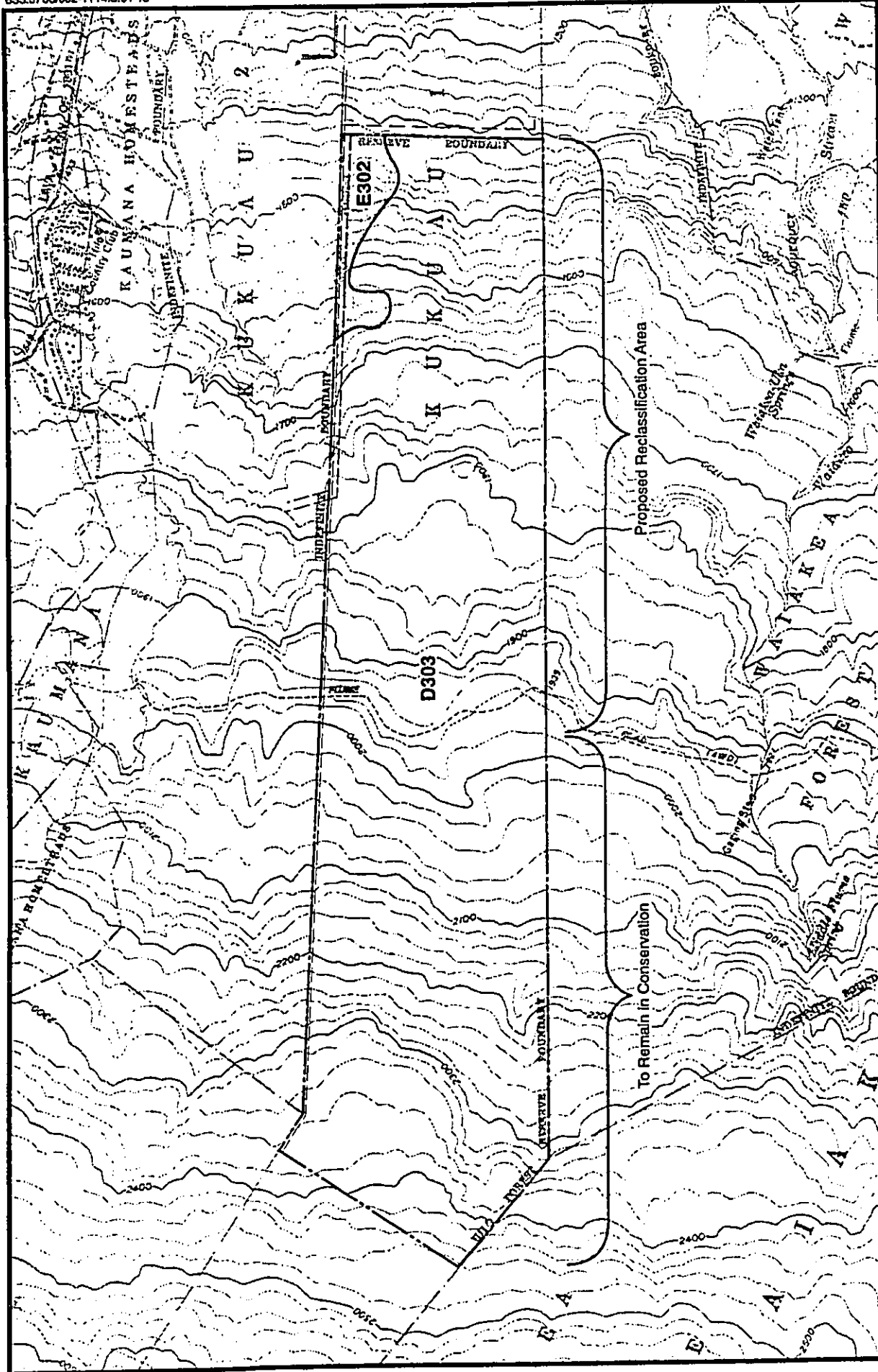


Figure 9
OVERALL SUITABILITY RATING
UH LAND STUDY BUREAU
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii

- 1) Rip/tear surface rock material (pahoehoe lava) to soften and provide proper infiltration drainage condition,
- 2) Grade crushed rocks into appropriate surface configuration,
- 3) Place topsoil in planting area, and
- 4) Plan for proper runoff drainage.

Finally, in the above "Regional and Project Area Setting" section, the Petition Area is located in an area dominated by agricultural uses. It is contiguous to lands that are zoned for and are formerly or currently in agricultural use.

The request to reclassify the Petition Area from Conservation to Agricultural is based on the need to take the Petition Area out of the Conservation District in order for The Newton Family to subdivide its property and pursue possible limited agricultural activities. The Newton Family reviewed the possibility of developing an agricultural subdivision in the Conservation District but found that it is not a permitted use.

For reasons provided in Section IX of this EA, Subsection "State Land Use Law," which, among others, notes the removal of the Property from the State forest reserve program, the Petition Area is no longer appropriate for the Conservation District. The more suitable designation is Agricultural. As noted earlier in this section, the Petition Area meets the test for determining appropriate lands for the Agricultural District.

The reclassification of this land to an Agricultural District would allow The Newton Family to give the Newton Children the opportunity to engage in limited agricultural activities. They would very likely look at small backyard agricultural operations for personal or very limited commercial use. Potential types of "limited agricultural activities" include, among others, vegetable gardens, citrus orchards, fruit or nut tree groves, greenhouse plant and flower nurseries, and pasture or grazing lands. Tree farming is a possibility, but would constitute a small scale operation. Eucalyptus tree farming, which could be very intrusive, would not be undertaken or permitted.

Hydrology

The Property does not contain any perennial streams or lakes. There are no discernible gulches, ravines or major drainageways. On the U.S.G.S. map, no springs or water holes are shown on the Property. The site contains soil that is well-drained, thin in depth, and overlying pahoehoe lava. The lava is not very permeable, but water moves rapidly through the cracks. On other occasions, water will not drain as fast and will stay in the area a little longer.

According to the State Commission on Water Resource Management, there are a number of water sources in the region. The U.S.G.S. maps identify springs, water tunnels and water holes in the Piihonua area on the Hamakua side of Kaumana Drive. The Property is located on the Keaau side of the road approximately three miles from Piihonua. Within the Piihonua area is the Ola'a Flume Spring. A flume extends from this spring southward across Kaumana Drive, across the Property at about the 1,920-foot elevation and then across Stainback Road to the Ola'a Reservation Homesteads, a length of approximately 10.4 miles.

Water Commission records also show that there are six water tunnels and two wells within the immediate project vicinity. Four tunnels were built in 1900 by the Puna Sugar Company at the Middle Flume Spring (elevation approximately 1,900 feet), and two tunnels, now owned by the County, were developed in 1890 at the Waiakea-Uka Springs (elevation approximately 1,590 ft.). Water from these springs flows parallel and approximately 4,000 to 5,000 feet to the south of the Property.

Also in the vicinity is the Waiakea Monitor Well (el. 915 ft.) located approximately 6,500 feet east of the Property and the Kaumana Exploratory Well (el. 1,796 ft.) located approximately 4,000 feet to the north. None of these sources is expected to be negatively impacted by the proposed subdivision.

Data on the Kaumana Exploratory Well, which is about the same elevation as the Property, show that the groundwater level is at approximately the 997-foot elevation.¹ This would suggest that the groundwater at the Property is nearly 800 feet below the site. And as described above, the Waiakea and Kaumana wells are located at a distance from the Property. They are also being used as observation wells and not for domestic purposes.

Fertilizers and pesticides will be used for yard maintenance purposes and limited agricultural activities. Large-scale commercial agricultural ventures will not be permitted. The impact on groundwater from chemical uses, thus, would not be any more than what other domestic agricultural activities generate in the area.

The proposed subdivision is expected to draw water from the County water system for domestic and limited agricultural uses (see Section VIII, "Water"). Rainwater may be used to supplement this source for the agricultural activities. The sustainable yield for the Hilo hydrologic region is approximately 347 MGD, and the current average use is well below 100 MGD.²

¹ Ground Water Well Index/Summary. Commission on Water Resource Management, Department of Land and Natural Resources, State of Hawaii.

² Commission on Water Resource Management.

Fauna

A fauna survey of the Property was conducted by Rana Productions, Ltd. in March of 1998 (see Appendix C). The survey consisted of three-and-a-half days and two nights of ornithological and mammalian reconnaissance. The primary purpose of the survey was to determine what bird and mammal species occur on the parcel or are likely to occur, given the type of existing habitat, and the presence, if any, of federally listed endangered, threatened, proposed or candidate avian or mammalian species.

Upon completion of the reconnaissance, the Property was identified as having two distinct areas from an ornithological perspective. One area is located above the approximately 2,000-foot elevation which basically comprise the Remainder Area and the other area is located below the 2,000-foot elevation comprising basically the Petition Area. The natural habitat in the Remainder Area is dominated by native plant species (see flora section). The Petition Area, however, is quite different in that the vegetation is dominated by alien species and appears to have been used for grazing and possibly logging in the past. It is noted that the County's long-range plan for a secondary arterial would cross the Property generally along the Ola'a Flume Road which approximately divides the Property into the Remainder Area and Petition Area.

Results of the survey showed that there were a total of 12 bird species recorded in the Petition Area. Of the 12 species recorded, 9 were alien, 2 were considered endemic to the Island of Hawaii and 1 was considered an indigenous migratory species (see Table 2). One of the endemic species recorded, the Hawaiian Hawk, is listed as endangered by the U.S. Fish and Wildlife Service (USFWS) and the State of Hawaii.

TABLE 2. Avian Species Recorded in the Makai Area

<u>Species (Common Name)</u>	<u>Status</u>	<u>Relative Abundance</u>
Hawaiian Hawk	EE	R
Pacific Golden Plover	IM	R
Spotted Dove	A	C
Zebra Dove	A	C
Barn Owl	A	R
Common Myna	A	A
Japanese White-Eye	A	A
Red-Billed Leiothrix	A	C
Nutmeg Manikin	A	C
House Finch	A	A

TABLE 2. (Continued)

<u>Species (Common Name)</u>	<u>Status</u>	<u>Relative Abundance</u>
Hawaii Amakihi	E	U
Northern Cardinal	A	C

Notes

Status: EE=Endangered Endemic, E=Endemic, IM= Indigenous Migrant, A=Alien
 Relative Abundance: A=Abundant (26), C=Common (11 25), U=Uncommon (6 10),
 R=Rare (5).

A total of 15 bird species were recorded in the Remainder Area. Of the 15 species, 8 were alien, 6 were endemic to Hawaii and 1 was considered an indigenous migratory species. The endangered Hawaiian Hawk was also recorded in this area (see Table 3 below).

TABLE 3. Avian Species Recorded in the Mauka Area

<u>Species (Common Name)</u>	<u>Status</u>	<u>Relative Abundance</u>
Hawaiian Hawk	EE	R
Pacific Golden Plover	IM	R
Spotted Dove	A	C
Zebra Dove	A	C
Hawaii Elepaio	E	C
Hawaiian Thrush Omao	E	C
Common Myna	A	A
Japanese White-Eye	A	A
Red-Billed Leiothrix	A	C
Nutmeg Manikin	A	C
House Finch	A	A
Hawaii Amakihi	E	C
Iiwi	E	R
Apapane	E	U
Northern Cardinal	A	C

Notes

Status: EE=Endangered Endemic, E=Endemic, IM= Indigenous Migrant, A=Alien
 Relative Abundance: A=Abundant (26), C=Common (11 25), U=Uncommon (6 10),
 R=Rare (5).

Hawaii's sole endemic terrestrial mammalian species, the endangered Hawaiian hoary bat, was detected foraging in the Petition Area. Sightings, signs or remains of seven alien mammalian species including rat, house

mouse, domestic dog, small Indian mongoose, cat, pig and domestic cattle were detected within the overall Property. It is also likely that all three species of naturalized rats found in Hawaii (roof rat, Norway rat and Polynesian rat) are present.

Rana Productions indicated that from the level of survey that was conducted in the Petition Area, categorical statements can be made of the current avifauna resources. The area is dominated by alien species as are the lower reaches of most of the Big Island's eastern side. There are three listed endemic bird species (Newell's shearwater, dark-rumped petrel and Hawaiian hawk) which potentially could be impacted by the proposed improvements. The shearwater and dark-rumped petrel are pelagic seabirds which return to their nesting colonies on the upper slopes of Mauna Loa and possibly Mauna Kea during crepuscular and night time hours between April and October.

Although there are no records of nesting Newell's shearwater on the site, there are numerous records of this species seen, heard or collected near the Saddle Road on the Hilo side of the island.

Hawaiian hawk was recorded on the Property which is within the normal range of this species. Hawaiian hawk occupies a wide variety of habitats and is found in almost all habitats not lacking in trees. This species is generally thought to have a population that, as a whole, is healthy and is maintaining itself, not like many other endemic species. It is currently under review by the USFWS for down listing from an endangered to a threatened status (see USFWS letter in Appendix A).

Avifauna found in the Remainder Area (generally above el. 2,000 ft.) had a higher number of endemic species than the Petition Area, but no additional listed avian were recorded.

Rana Productions concluded that any further clearing or improvements in the Petition Area will not have a significant impact on native or federally protected avian or mammalian species. It is noted further that the estimated area of clearing and improvements would comprise approximately 5 percent of the Petition Area. As a means to minimize the potential downing of Newell's shearwater and dark-rumped petrels, efforts should be made to minimize exterior lighting and, where unavoidable, shield light sources.

Prior to clearing and grubbing the alignment for the subdivision roadway and utilities, a 500-meter-wide survey of the alignment for Hawaiian Hawk nest would be conducted. The USFWS would then be consulted regarding the results of the survey.

Rana Productions indicated that it was not surprised that the Hawaiian hoary bat was found foraging over the site since it is known to have relative abundance on the island's windward lowlands. It should be noted, however, that very little scientific work has been attempted on this species, in no small part due to the fact that this species is usually a solitary arboreal rooster and thus difficult to study. In any event, the development of the Petition Area according to Rana Productions will not have a deleterious impact on this species. The further clearing of the Remainder Area may eliminate roosting habitats, but no definitive studies have been published identifying and quantifying the bat's unique needs.

The USFWS reviewed Rana Productions' study of the Property along with a flora study which was done by a botany specialist. The agency is concerned with potential effects from the proposed subdivision but would support the project if certain protective measures are implemented. The Newton Family has incorporated precautionary measures in the proposed project to address the agency's combined comments on fauna and flora in the "Flora" section below.

Flora

In March and April of 1998, Palmer & Associates Consulting conducted a botanical survey of the Property (see Appendix D). The purpose of the survey was to inventory existing vegetation on the Property and to note the occurrence of any endangered, threaten, and proposed candidate or recommended plant species, plant species of concern, rare plants, and unique environmentally sensitive areas.

The survey identified vegetation on the Property by general vegetation types using the Cagne and Cuddihy system. The identified types included: lowland wet forest, Montane wet forest, Montane wet sedgelands, Montane wet mixed communities and disturbance communities. These vegetation types were further delineated into "new" and "old" lava flows. The location of these areas and a complete listing of the vegetation species are provided in the Palmer report.

Three kipuka were also identified on the Property. These areas were particularly studied because they had well developed forest. The first kipuka is located in the southeastern corner of the Property, the second is approximately in the middle section and the third is in the southwestern corner of the Property (see Figures 10 & 11). According to Palmer & Associates, the first or lower kipuka (southeastern corner) is highly disturbed and dominated by alien species and thus, not significant. It has a low probability of supporting U.S. Fish and Wildlife Service (USFWS) designated or listed plants.

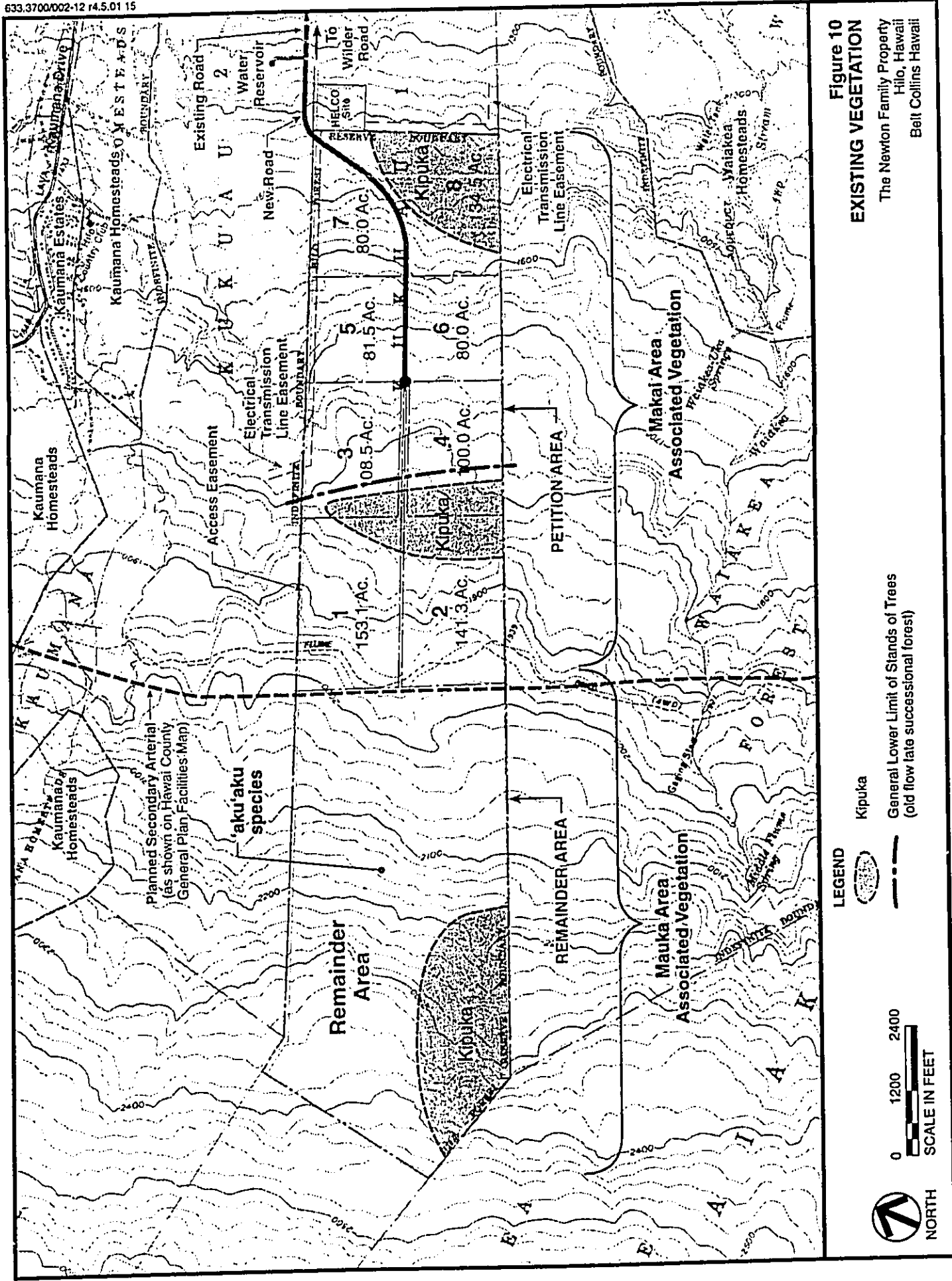
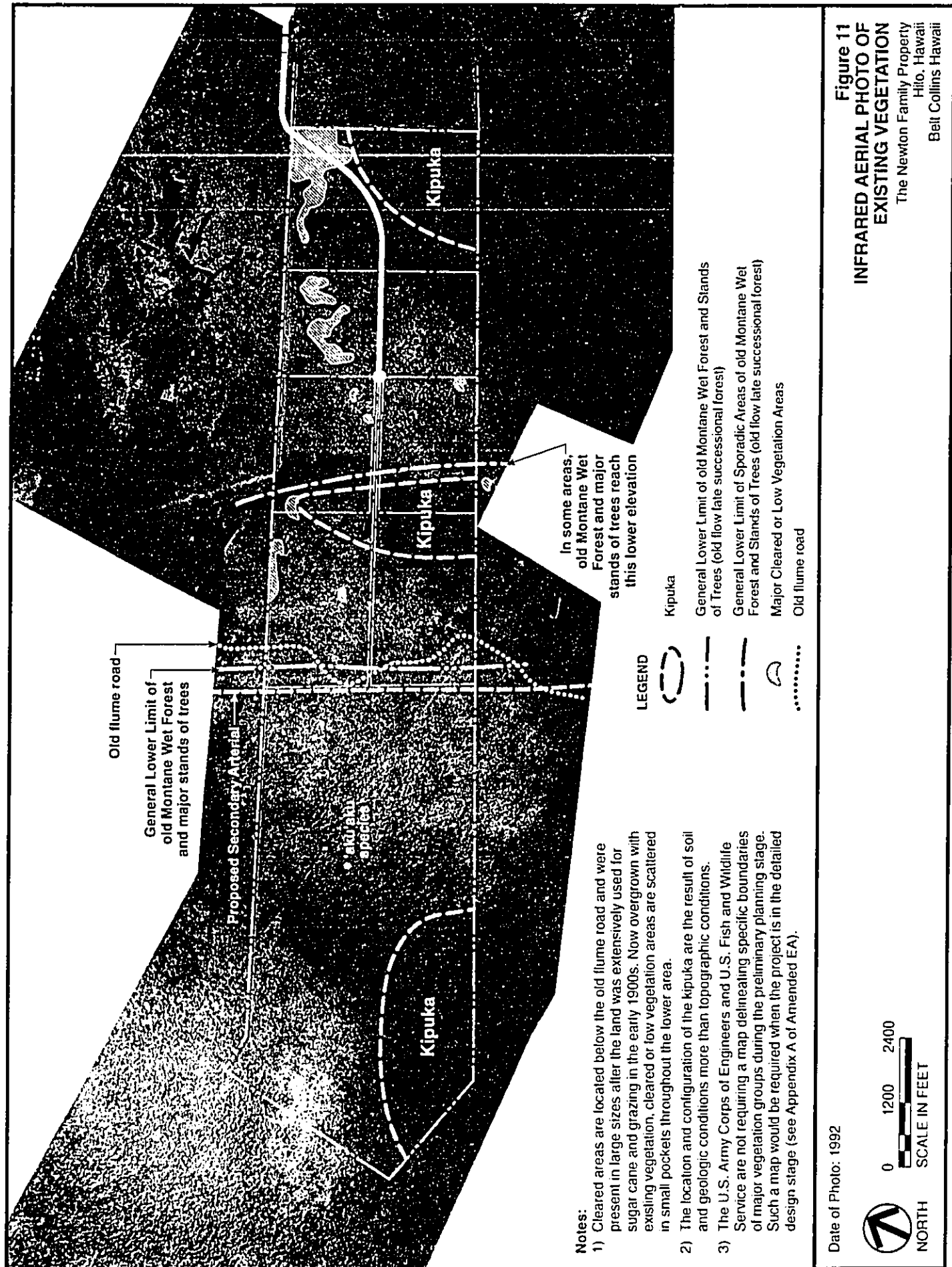


Figure 10
EXISTING VEGETATION
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii

633.3700/006-1 r4.5.01 13



Notes:
 1) Cleared areas are located below the old flume road and were present in large sizes after the land was extensively used for sugarcane and grazing in the early 1900s. Now overgrown with existing vegetation, cleared or low vegetation areas are scattered in small pockets throughout the lower area.
 2) The location and configuration of the kipuka are the result of soil and geologic conditions more than topographic conditions.
 3) The U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service are not requiring a map delineating specific boundaries of major vegetation groups during the preliminary planning stage. Such a map would be required when the project is in the detailed design stage (see Appendix A of Amended EA).

LEGEND

- Kipuka
- General Lower Limit of old Montane Wet Forest and Stands of Trees (old flow late successional forest)
- General Lower Limit of Sporadic Areas of old Montane Wet Forest and Stands of Trees (old flow late successional forest)
- Major Cleared or Low Vegetation Areas
- Old flume road

Date of Photo: 1992

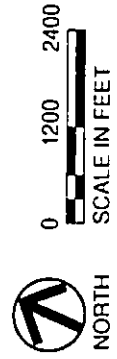


Figure 11
INFRARED AERIAL PHOTO OF EXISTING VEGETATION
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii

The second or middle kipuka is in somewhat better shape. It is not disturbed as much and does not have as many alien species. It has the potential to support listed plants.

The third or upper kipuka (southwestern corner) is the largest and most significant. It continues off the Property into the mauka lands. According to Palmer & Associates, the upper kipuka does support USFWS designated plants.

Overall, there is a striking difference between vegetation communities on the new lava flows and old lava flows. These differences represent different successional stages of forest development. The new lava flows, such as the 1881 flow on the northern edge of the survey area, support forests in early successional stages with small, widely-spaced trees, whereas the old flows support stands of closed-canopy, old-growth, late successional stage forest.

Vegetation type categorized as *new* Montane wet forest has been identified on the new lava flow. Although Hawaiian native plants dominate this plant community, several introduced alien species, such as bamboo orchid, broomsedge, swordfern and tibochina, are present. There were no endangered, proposed, candidate or recommended candidate species, species of concern or rare plants recorded.

On the old lava flows which occupy the Property, lowland wet forest, *old* Montane wet forest, Montane wet sedgelands and Montane wet mixed communities were identified. The lowland wet forest, which occurs in the lower section of the Property, is heavily infested with strawberry guava and shows the effects of many years of human impact. The *old* Montane wet forest occurs primarily above the old flume road and consists of stands of late successional stage forest which have an overstory canopy dominated by koa, a middle canopy layer dominated by ohia and a lower canopy dominated by tree ferns. Loulu palm is frequently present as a canopy emergent. In some areas, the *old* Montane wet forest extend to the 1,800' elevation.

Montane wet sedgelands and Montane wet mixed communities also occupy the upper section of the Property. These plant communities are dominated by species of the blueberry, epacris and sedge family.

Throughout the Property, there is only one species that is listed as a USFWS protected species. At approximately the 2,160-foot elevation in the Remainder Area is a single 'aku'aku (*cyanea platyphylla*) species (see Figures 10 & 11). Rare plants which are not protected by law were also found on the Property (see Table 4).

Most of these species were found in the Remainder Area with the exception that the loulu was found throughout the Property and the 'oha kepau was found below the Ola'a Flume Road in the Petition Area.

TABLE 4. Recorded Rare Plants on the Property

<u>Common Name</u>	<u>Genus/Species</u>
(no common name)	<i>Bobea eliator</i>
Meu	<i>Cibotium hawaiiense</i>
'oha kepau	<i>Clermontia hawaiiense</i>
ha'iwale	<i>Cyrtandra hawaiiense</i>
(no common name)	<i>Cyrtandra lysiosepala</i>
wawae'iole	<i>Lycopodium sp. nov</i>
pala	<i>Marattia douglasii</i>
loulu	<i>Pritchardia beccariana</i>
'ama'u	<i>Sadleria souleyetiana</i>
'ohe mauka	<i>Tetraplasandra oahuensis</i>

Source: Palmer & Associates Consulting

Palmer & Associates also identified environmentally sensitive areas that contain stands of old flow late successional forest. These areas were found above and immediately below the Ola'a Flume Road extending in a few areas to as low as generally the 1,800' elevation. The edge of these stands of forest was difficult to define in the field and only a general boundary can be determined (see Figures 10 & 11). These stands of forest have the potential to support federally and state legally protected endangered, candidate and recommended candidate plant species, and plant species of concern. Palmer & Associates suggests, in fact, that all of the forest area above the Ola'a Flume Road in the Remainder Area be considered an environmentally sensitive area. This area supports also one of the best examples of Montane wet forest in East Hawaii. The area below the Ola'a Flume Road in the Petition Area is not as significant as above the road.

Also considered as an environmentally sensitive area is the old lava flow lowland wet forest in "dieback" condition in the northern section of the Petition Area between approximately the 1,600 and 1,800-foot elevations. This area, however, is not as significant as the forest above the Ola'a Flume Road in the Remainder Area.

During the flora survey, wet areas were found as scattered patches on the Property. Wetland vegetation indicator species were identified in growing areas of prolonged inundation and soil saturation. Although these areas were

especially abundant in the lower elevations of the Property during the survey, they were not large enough to require planning considerations.

The U.S. Army Corps of Engineers (USACE) was consulted on how it would address such wet areas during this current preliminary planning stage (see USACE letter in Appendix A). The USACE indicated that when the proposed subdivision is further advanced in its design phase and when detailed drawings are available, the petitioner should then review the project with the USACE to determine appropriate mitigation or conservation measures. The USACE recognizes that more information as to where development would specifically occur would be available at that time and, consequently, appropriate measures could then be determined. Accordingly, the Newton Family is committed to working with the USACE on developing appropriate conservation measures for the project during its detailed design and subdivision review process with the County of Hawaii.

It appears that the Ola'a flume system establishes a particular boundary between areas of significance for flora as well as fauna species (see Fauna section). Coincidentally, this boundary is also the location of a secondary arterial which is being planned for the long term by the County. Such a public right-of-way would have a major effect on the area by providing access and bringing people to the region. It would also result in a physical division of the Property by a major facility. For these reasons, The Newton Family determined that the proposed boundary between the Conservation District and Agricultural District would be appropriate at the Ola'a flume system alignment.

The USFWS reviewed the flora and fauna studies of this EA and has indicated that it supports the implementation of mitigation measures that include "leaving large stands of forest trees and clusters of major vegetation intact; focusing residential sites to areas that are already cleared; working closely with the Department of Land and Natural Resources to take necessary precautions to avoid any negative effects to rare, endangered, or threatened species; and not developing the property into a large project." The USFWS also recommended that grubbing and clearing in the makai area be done only after it has been thoroughly surveyed to assure there are no Hawaiian hawks nesting in the area, rather than halting grubbing and clearing once a nest is found.

In further consultation with the USFWS (see USFWS letter in Appendix A), the federal agency indicated that when the project proceeds to the detailed design stage, it would like to review the project again to determine if additional conservation measures would be necessary.

The proposed improvements will involve clearing of approximately 25 acres within the 885.40-acre Petition Area or about 2.8 percent of the land for road and utilities. Eight agricultural parcels are planned in the Petition Area. The largest parcel, located in the Remainder Area, will remain classified in the Conservation District and any development or use thereon will be subject to the approval of the State BLNR.

It is estimated that each farm dwelling in the agricultural parcels and its associated yard would require approximately 20,000 to 30,000 sq. ft. of land. Some yards may include limited agricultural activity for personal and limited commercial use which may require an additional 20,000 to 60,000 sq. ft. of land.

The total residential and possible agricultural use, thus, would comprise an area of approximately 8 to 17 acres or up to about 1.9 percent of the Petition Area.

In all, the portion (approximately 42 acres or about 5 percent) of the Petition Area that would be cleared for the residences, agricultural activities and infrastructure will have a very insignificant impact on the Property's vegetation, especially since all of the land alterations are planned in the Petition Area where the vegetation is not as significant as in the Remainder Area.

Precautionary actions, which would address concerns on the project's effect on flora and fauna resources within the Petition Area, have been incorporated into and will be a part of the proposed project (See Appendix B which provides the conditions voluntarily imposed on the petitioner's LUD Boundary Amendment Petition).

In acknowledging the concerns of the USFWS, large stands of native forest trees and clusters of major native vegetation will be avoided, and the construction of dwellings within the Petition Area would be focused on areas that are already cleared. No project that would change the overall character of the area or generate major increases in resident population will be developed. These provisions will be established in the protective use covenants of the proposed subdivision.

Further, the area mauka of the Ola'a flume system will be retained in the Conservation District, best management practices will be used during construction to control erosion and prevent runoff from damaging native forest resources, and as many of the existing native trees, as possible, will be used for the project landscaping.

The endangered Hawaiian Hawk and Hawaiian Bat will be protected. Precautionary actions to avoid any negative effects to rare, endangered, or threatened species will be coordinated with the USFWS and DLNR.

Prior to clearing and grubbing the alignment for the subdivision roadway and utilities, a 500-meter-wide survey of the alignment for identifying Hawaiian Hawk nest and Hawaiian Bat will be conducted. The dwellings will very likely be located adjacent to the road within the 500-meter-wide survey area or, as provided above, would be focused in areas that are already cleared. If the Hawaiian Hawk is down graded from an endangered to a threatened status, the USFWS will be consulted to determine if the above protective measure is still appropriate.

Flood lights or high intensity lighting will not be used in or about the Petition Area that could disorient the Newell's Shearwater, Dark-rumped Petrel and Hawaiian Hawk.

Archaeological/Cultural Sites

On July 26 and 29, 1996, Paul H. Rosendahl, Ph.D., Inc. (PHRI) conducted an archaeological assessment study of the Property (see Appendix E). The study included a review and evaluation of archaeological and historical documents, including archival literature, legends, records, boundary awards, and cartographic sources relative to the project area, an inspection level field work, and a written report.

The literature research revealed that the Ola'a flume (Site 20870) bisects approximately the middle of the Property and that an accompanying dirt access road meanders along side. It is noted that this flume system was tentatively assessed as a significant historic site that would be eligible for the National Register of Historic Places under Criterion A (association with significant local historic events) and Criterion D (has yielded, or is likely to yield, information important in local history). Upon completion of an archaeological inventory survey and cultural study for the Saddle Road corridor³, the old flume system was determined to be eligible for the National Register of Historic Places only under Criterion D.

In recognizing the potential significance of the Ola'a flume system, the proposed subdivision is designed to respect the alignment of the facility and keep it intact so no adverse impact would result.

³ The Saddle Road Corridor: An Archaeological Inventory Survey and Traditional Cultural Property Study for the Hawai'i Defense Access Road A-AD-6(1) and Saddle Road (SR 200) Project. PHRI Report 1939-043099. Prepared by C. Langlas, T. R. Wolforth, and J. Head, 1999.

The sample ground survey field work revealed no archaeological or cultural sites or features of any kind. Although historic documentary research had indicated that archaeological sites, activity areas, or significant cultural remains might be present, none were physically identified.

On June 26, 1997, field findings and the potential impact of The Newton Family's preliminary subdivision scheme were discussed with the State Historic Preservation Division (SHPD). Given the practical difficulties and cost inefficiencies for doing an inventory level survey for a 1,645-acre property prior to any final development plans, the SHPD agreed to defer the need for further archaeological work until parcel-specific development plans (e.g. access road alignments, building locations, etc.) are proposed.

The plan was later modified and submitted to SHPD for reaffirmation of its position. In a letter dated February 3, 2000, the SHPD reaffirmed its position that further archaeological work could be deferred until parcel-specific development plans are prepared (See Appendix F).

The Newton Family is committed to preparing an inventory level archaeological survey of areas that would be altered. The survey will be done when parcel-specific development plans for those areas are prepared. If any archaeological sites are found as a result of the survey, an appropriate mitigation plan would be prepared and submitted to the SHPD for review and approval. Further, if any archaeological sites are found during construction, work in the immediate area will cease and the SHPD will be consulted. Work will not resume until clearance is obtained from the agency.

According to PHRI's 1996 assessment study, no cultural sites or features of any kind were found during its site survey. The PHRI study further cited an earlier historic documentary research⁴ that indicated that areas involving traditional Hawaiian cultural activities, such as collecting koa and carving and building canoes and heiaus, bird catching and old planting, might be present in the area. A map attached to the PHRI study (Appendix E) shows the general location of the sites in the project vicinity. However, none of the sites were physically identified by PHRI, and no evidence of such activities or rights are present in the Petition Area.

As prompted by the Office of Hawaiian Affairs (OHA), PHRI conducted further research and review of the project's potential impact on traditional and customary native Hawaiian access and use rights by approaching a Hawaiian cultural expert (see PHRI report in Appendix G). In all, four local Hilo area residents believed to be Hawaiian cultural experts were consulted. They included Ululani Sherlock (Community Resource Coordinator and East

⁴ Archaeological Assessment Study, Hilo Judiciary Complex Project, prepared by A.T. Walker and P. H. Rosendahl with K. Maly, 1996.

Hawaii liaison officer for OHA), Kepa Maly (cultural resources specialist), Charles Langlaś (cultural anthropologist) and the late Ed Kanahele (representing Edith Kanakaole Foundation).

Based on the review of relevant project background information, previous archaeological and historical documentary studies, and consultation with the four local Hawaiian cultural experts, the general consensus about the Property and its immediate general vicinity was that there are no specific traditional cultural properties, areas, or sites known in the Petition Area.

Further, no specific or individual native Hawaiian cultural practitioners have been identified as currently exercising their rights of access and use for traditional, customary and contemporary cultural practices.

At a meeting on April 13, 2000, the State Office of Planning indicated to the Petitioner's representative that OHA should again be consulted to: 1) obtain its written approval of PHRI's cultural study, or b) secure a written letter explaining why the cultural study was not satisfactory together with a list of Hawaiian cultural experts of whom OHA approves.

In obliging to that request, PHRI met with OHA on May 12, 2000, and it was mutually agreed that more work should be done in order to produce the level of information and confidence that will allow decision-makers to reach an informed decision. PHRI proceeded with the work, and upon its completion, determined that there is no reason to alter, in any way, the conclusion of the project's existing cultural study (see Appendix G).

Recently in Ka Pa'akai O Ka Aina vs. Land Use Commission et. al. and Plan to Protect (No. 211214); Plan to Protect vs. Land Use Commission (No. 21162), the Hawaii Supreme Court remanded the matter back to the Land Use Commission for the limited purpose of entering specific findings and conclusions regarding (1) the identity and scope of "valued cultural, historical or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area; (2) the extent to which those resources, including traditional and customary native Hawaiian rights, will be affected or impaired by the proposed action; and (3) the feasible action, if any, to be taken by the Land Use Commission to reasonably protect native Hawaiian rights if they are found to exist.

While the PHRI cultural study was completed prior to the issuance of the Court's ruling, it was conducted with diligence under the guidance of OHA and performed with full knowledge of the issues pending before the Court. After engaging in an intensive process to identify, locate and contact Hawaiian cultural experts and individuals familiar with the Petition Area who may have knowledge of the existence of "valued cultural, historical or

natural resources" in the Petition Area and/or the exercise of traditional and customary native Hawaiian rights in the Petition Area, no sources were able to provide PHRI with any specific information. Thus, no "valued cultural, historical or natural resources" have been identified in the Petition Area. Since such resources have not been identified, they will not be affected or impaired by the proposed action, and to the extent, such resources are later found to exist, The Newton Family is committed to preserving and protecting such resources by the inclusion of protective use covenants in all sales documents and conveyance instruments pertaining to the proposed subdivision.

The OHA also requested whether ceded lands would be affected. No ceded lands are involved in the proposed subdivision improvements.

Noise

This remote tract of land is distant from any major source of noise. Only the sounds of wildlife and winds against foliage are audible, especially at night. The nearest public road is Wilder Street which is approximately 3,000 feet away, and the nearest residence is no closer than 2,000 feet away. Noise levels from these sources are inaudible.

During construction, short-term or temporary noise is expected to be generated by site preparation activities for the subdivision access road and utilities. Construction of infrastructure will require the use of tractors, dump trucks, pavers, rollers, backhoes, scrapers and cranes. These heavy equipment will generate noise that could be audible to the nearest neighboring residents. No blasting, however, is anticipated.

Dwelling construction will generate minor noise which may not be audible to adjacent properties except on very quiet days.

Mitigation measures, if necessary, will be employed to reduce or lessen the impact of noise on nearby residents. These measures would include installation of noise suppressant devices, such as mufflers, on heavy noise-generating machinery or equipment, and work schedules that are arranged for daylight hours. Existing dense vegetation surrounding the site will provide a natural sound barrier for the Property and with greater distance between the site and nearest neighboring residences, the impact from construction would be minimal.

Operational noise should be even less audible. Once residents occupy their homes and engage, perhaps, in some form of agricultural activity, noise levels would be minimal. Large scale commercial farming, mass agricultural production and large-scale recreational activities are not expected to occur.

Residents are anticipated to conduct primarily domestic and backyard agricultural activities.

Air Quality

The quality of air in the project area is very good. The site is on the fringe of Hilo town away from urban activities and air pollutant generators, such as factories, incinerators, power plants, agricultural burnings, multi-lane highways, quarries, etc.

A more genuine source of pollutant to the area is the emissions from vehicles travelling on Saddle Road. The volume of this traffic, however, is small and is not expected to be a contributor of pollutants to the project area.

Vog is a major natural source that can negatively affect air quality. Volcanic emissions from the Hawaii Volcanoes National Park have affected the island of Hawaii for over the past 10 years. When wind conditions are in the northerly direction, the project site could be affected.

It is anticipated that during construction, the proposed project will generate construction-related dust. This would be particularly evident during the site preparation stage when clearing, grubbing and grading occurs. Dust would be generated when underground utilities are installed and landscaping is put in place. And also, emissions would be generated from construction equipment operations as well as employee and contractor vehicles travelling to and from the site.

The area of construction will occur primarily along the access road and around the homes which are expected to be sited near the internal road. Mitigation measures to reduce or lessen the anticipated impacts from construction are discussed in the upcoming section of this document.

After construction is completed, the long-term impacts from residential and minor agricultural uses would be minimal. These impacts will be relatively low in comparison to specified State and National ambient air quality standards.

Natural Hazards

Located on heavily-vegetated land, the Petition Area will be subject to forest or brush fire. County Fire Department records show, however, that forest or brush fires seldomly occur in this area. The region is generally cool and moist, and rainfall is approximately 230 inches per year. Dry tinder is not a prevalent condition.

If a forest fire does occur, the Fire Department will require special equipment to stop or slow the spread of fire. Helicopter service with water buckets is expected to be used, and a special fire crew to dig a break line along the advancing edge of the fire would be needed.

As described in a previous section, there are several active volcanoes on the Island of Hawaii. According to the Lava Flow Hazard Map prepared by the Hawaiian Volcano Observatory of the U.S. Geological Survey, there are nine lava flow hazard zones with Zone 1 representing the most hazardous area. The zones are based solely on geologic criteria, including frequency of past lava flows and coverage, distance from eruptive vents and topography that influences lava inundation. The Petition Area is located in Lava Flow Hazard Zone 3. Notably, Hilo is located makai of the Petition Area, and most of this town is also situated in Zone 3.

Earthquakes have been experienced on the Big Island, but none, at least in the past 50 years, have caused widespread destructive damage. Many minor earthquakes occur around the island and are not even detected by the general public. Many are associated with the magma or volcanic activity beneath the island.

Barring any major quake in the immediate vicinity, damage to the Petition Area would be minor or very limited, if any. Most of the project development will be ground improvements, including a road, utilities, landscaping and limited agricultural activities. Structural improvements would include farm dwellings, sheds, catchment systems and fences.

Hurricanes are also a potential natural hazard and may cause severe damage to the Property. Early warning systems via the County's Civil Defense sirens, radio broadcasts and news reports should provide residents with preparation time to minimize or avoid life-threatening situations.

The residents of the proposed project are not expected to be affected by any tsunami inundation. According to the Civil Defense Tsunami Evacuation Maps of the Island of Hawaii, the evacuation areas of Hilo are well below the proposed subdivision.

During heavy rain storms, the ground may saturate and swell and cause flooding. Flood damage on the Property, however, is not readily evident and the Flood Insurance Rate Maps (FIRM) do not identify any on-site floodways.

In siting their farm dwellings, the parcel owners, through their architect, are expected to judiciously locate their dwellings on high ground away from any potential flood areas. Agricultural fields may be within potential flood zones, but the individual parcel owners are expected to consult with the U.S. Natural Resources Conservation Service in such matters as proper drainage,

erosion, and soil conservation practices and comply with County regulations relating to floodways, erosion and sedimentation conditions.

Visual

Development of the Petition Area will have minor effects on the visual appearance of the Property. About 5 percent of the Petition Area would undergo change. An access road, rural-style overhead utility lines, farm dwellings in the Petition Area and several backyard agricultural fields would occupy approximately 42 acres of the Petition Area. Overall, the character of the land in the Petition Area would remain largely in its natural state with an average density of one parcel per 110 acres.

At night, the Petition Area will have lights emanating from residences and street lighting fixtures, but the effect will be minimal. Existing large trees will screen activities in the Petition Area from adjacent properties. The site will not be visible from Kaumana Drive, the nearest major public roadway which is approximately 5,000 feet away.

Views of the adjacent properties from the Petition Area will be screened by the same heavy vegetation that will screen the activities within the site from the adjacent properties. In the occasional clearings scattered throughout the middle and lower sections of the Property, long-range views open up toward the Hilo Bay and coastline north of Hilo town.

VII. SOCIO-ECONOMIC

Local Economy

Hilo is the largest population center (37,800, 1990 U.S. Census) on the Island of Hawaii. It is the county seat of government for Hawaii County and the island's commercial and transportation hub. It has the largest deep-water commercial harbor and busiest airport which recently was bypassed by the Kona International Airport at Keahole. The major industries in East Hawaii are farming, professional and business services, government and tourism.

Economic Impact

The agricultural activities anticipated on the Property are for personal and limited commercial use. No large-scale commercial agricultural production or operations are planned. Below is a description of the project's short-term impacts associated with construction and the anticipated long-term impacts associated with the project after construction.

Construction Methodology and Short-Term Impacts:

Construction of the project's infrastructure will require mobilization of labor personnel and equipment in the construction industry. As a result, employment will be affected, and spending in the local economy will occur. With an estimated \$1.2 million construction budget, the impact, however, would be relatively minor. Personal income will see small gains from the construction industry, and government revenues will increase slightly from income and property taxes generated by improvements on the Property.

The proposed project will require the use of graders, rollers, scrapers, backhoes, and dump trucks. The first phase of construction will involve clearing, grubbing, rough grading, trenching, laying of utilities and backfilling. The second phase will involve finish grading and installation of base course and final pavement for roadways. The final stage will involve landscaping and installation of overhead utilities. No blasting is anticipated. Heavy diesel-powered equipment is expected to be used only for site preparation, road construction and utility installation.

After the subdivision is completed and infrastructure installed, construction within the subdivision will occur off and on over a period of time on an as-needed basis as each property owner constructs his or her own farm dwelling on an individual or personal timetable. In addition to the farm dwellings, backyard agricultural structures may be built depending on each parcel owner's preference.

Long-Term Impacts:

During occupancy of the site, the new parcels will be in residential and small-scale agricultural use. Sales of the agricultural products will be limited to whatever is available after the owners take what they need. The residual sales are expected to be very small.

The income generated by the sale of agricultural products is expected to be modest, at most, and intended to supplement rather than serve as the primary source of income for the residents. The value of the land is expected to increase after the infrastructure for the Property is installed. With higher land values, increased government revenues from property taxes are expected to be generated.

Maintenance of the subdivision's common areas, particularly the entry feature at Wilder Road, the private road segment beyond the Department of Water's driveway and the shoulder areas of the subdivision's internal roadways, will be the responsibility of the parcel owners. These owners may hire a groundskeeper or they may take care of the common areas themselves.

Relationship of Project to Housing Needs of Low, Low-Medium, and Gap Groups

The Newton Family is proposing to subdivide the Property to convey land to the Newton Children. Only eight parcels will be subdivided within the Petition Area, while the remaining portion of the Property will be left in the Conservation District as a separate parcel. Five of the new parcels within the Petition Area will be transferred to family members. Up to three of the remaining agricultural parcels will be sold to non-family members at market price. The income from the sale of the parcels will help to defray the construction expenses for the infrastructure improvements. The development of the parcels is not intended to meet the market housing demand for low, low-medium and gap income families.

Social Characteristics

The lifestyle in this outlying community of Hilo is characteristically country and serene. There are large parcels of agricultural lands, open space, forest reserves and rural residences. Within a short distance to Hilo town, there are a number of community facilities including the Hilo Medical Center, University of Hawaii at Hilo, Hilo High School, Hilo Municipal Golf Course, Hoolulu Complex, Kaumana Learning Center, and Hilo Public Library.

The proposed project will be consistent with the type and density of development in the area. Existing densities in the vicinity are, at least, about one residence per 10 to 20 acres. The proposed subdivision will be occupied also by long-term residents who would reside on the land and may engage in some limited form of farming or backyard gardening. The social character of the area is not expected to change.

Community Issues

Community issues may include the perception of removing lands that are conservation-oriented and placing them in intensive agricultural use, and whether additional agricultural-designated lands are needed. Others may inquire about the availability of irrigation water for agricultural endeavors in the area.

Additional community issues will be identified in the coming months when public input is sought from correspondence and public review of the project EA. When the Final Environmental Assessment is completed under the Chapter 343, HRS, State Environmental Review process, issues concerning the project will be articulated and addressed, and mitigative measures will be proposed, where necessary, to reduce or lessen any adverse impacts of concern.

VIII. PUBLIC FACILITIES AND SERVICES

Circulation

Access to the project site is provided by Wilder Road which extends from Kaumana Drive at approximately the 1,200' elevation above Hilo town. At the terminus of Wilder Road is a 40-foot-wide access easement (Easement 107) extending southwesterly approximately 2,900 feet over the flag portion of a private parcel and HELCO's parcel, and into the Petition Area. Easement 107 originates from the Sunrise Estates subdivision which is located approximately 17,000 feet to the east of the project site.

Wilder Road is a two-lane, 24-foot-wide paved County road within an 80-foot-wide right-of-way that currently serves the Hilo Country Club Estates, a residential subdivision of 10,000 sq. ft. lots, and several large rural and agricultural properties. It is relatively new and has stabilized shoulders and paved swales.

Kaumana Drive is a major mauka-makai right-of-way that connects Hilo and West Hawaii via the saddle between Mauna Kea and Mauna Loa. At approximately the 1,650-foot elevation above Hilo, Kaumana Drive changes name to the popularly known Saddle Road. This road continues over to West Hawaii where it connects with the Mamalahoa Highway in the South Kohala District.

Kaumana Drive is a two-lane State right-of-way with unrestricted access. At the project vicinity, the right-of-way is 50 feet wide and there are no curbs, gutters or sidewalks.

The proposed subdivision will be served by a private access from Wilder Road, a County right-of-way that connects with Kaumana Drive (see Figure 12). The access, which is located within Easement 107, is unimproved, however, and will require construction of a road. Alternatively, access may be provided from an existing County Water Supply Department (WSD) service road located near Easement 107. This access would enter the Property from the northeast via the existing 20-foot-wide paved road owned by the WSD. The road is situated within a 60-foot-wide easement that serves the WSD's nearby reservoir and an easement that serves the HELCO site on the Property's makai boundary (see Figure 12). The two easements share the same alignment for approximately 1,600 feet from Wilder Road before they split to go to their respective utility sites. The land beneath the easements is comprised of three private properties. Two are owned by M10, Inc. and the third is owned by Jerry Chang.

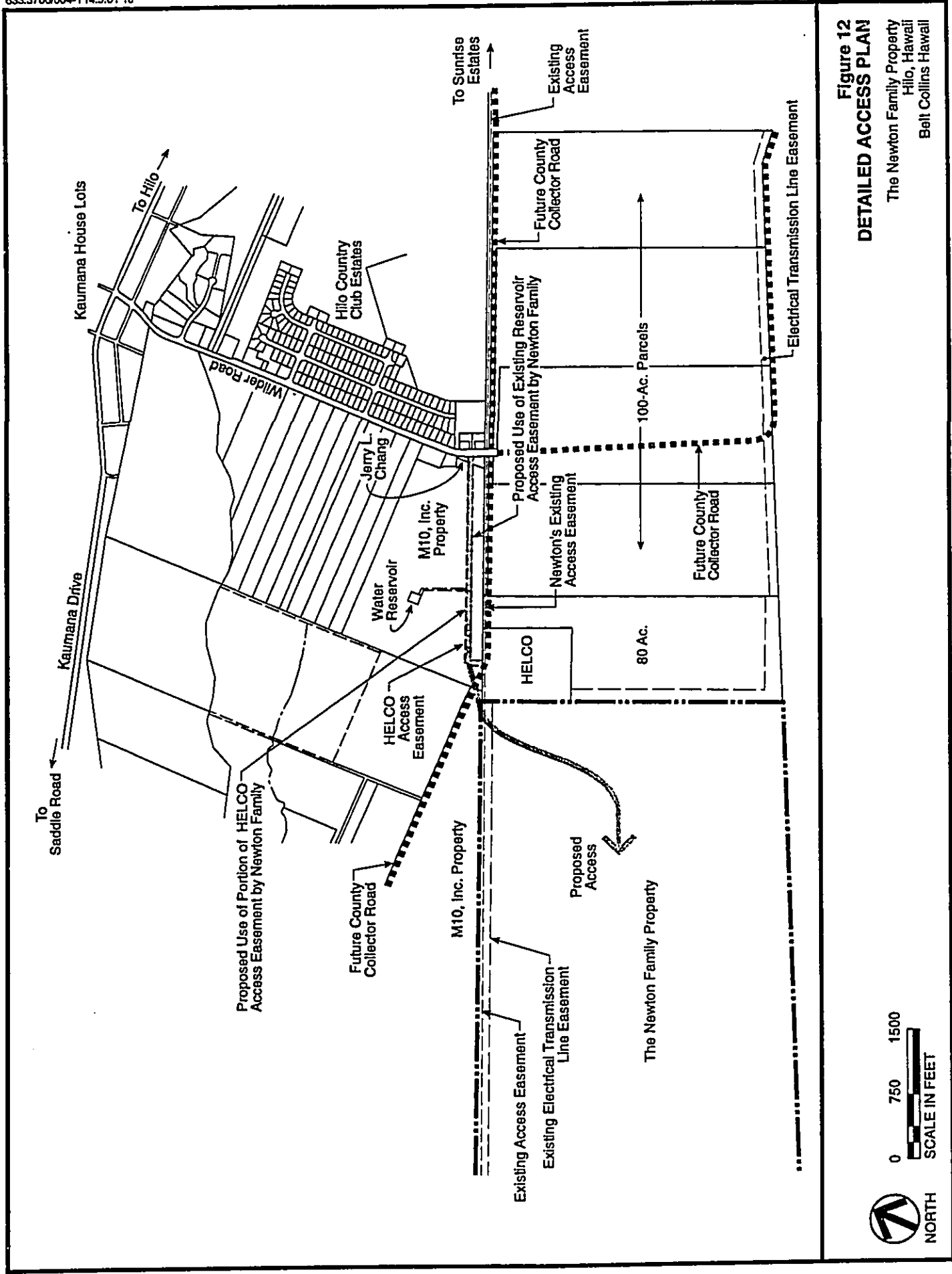
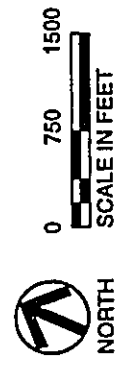


Figure 12
DETAILED ACCESS PLAN
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii



The Newton Family's proposed road will require the use of the two easements and a 400-foot extension beyond HELCO's easement to the Property. M10, Inc. and Jerry Chang have preliminarily consented to the use of their respective land by The Newton Family for access purposes, and the two utility companies have indicated that there would be no problems in sharing their access easements with The Newton Family. The proposed access will consist of a paved road that will meet County rural or agricultural standards and will be located within a 50-foot-wide easement extending from Wilder Road through the two utility easements and into The Newton Family Property.

The proposed access will provide cost-saving benefits over the existing access. Approximately half of the new access is already improved and meets minimum County standards. The Newton Family's existing access is undeveloped and overgrown with thick vegetation over its entire length. The cost for improving the existing access would be substantial. The proposed road will traverse private property whose owner has already granted preliminary permission to The Newton Family for access over its land. A formal access agreement is presently being prepared.

In the long term, the County is planning to develop a cross-country secondary arterial connecting Kaumana Drive, Stainback Road and Volcano Road at Mountain View. The preliminary alignment for this new right-of-way crosses the Property at about its mid-point near the old Ola'a flume system. The Newton Family has incorporated the planned right-of-way into its conceptual subdivision plan and plans to dedicate it to the County of Hawaii during the subdivision process. To date, the planned secondary arterial, which would provide a new access to the Property, has no development schedule.

Also shown on the County zoning maps are new collectors roads makai of the Petition Area. These maps indicate that the County is expecting long-term growth in Kaumana and is anticipating the need for new roads in the project vicinity including one that would extend Wilder Road to the south and eventually turning east to connect with other future roads. A new collector road is also envisioned along Easement 107 that currently serves the Property and adjacent property to the west. This future access will turn northwest before touching the Property. It and other long-term accesses would be built when the region is much further developed. A description of other roads that are planned further from the Property, including the Saddle Road improvement and Puainako Street Extension, are provided in Appendix H.

Traffic

A 24-hour traffic count was taken by the State Department of Transportation (DOT) on Kaumana Drive at Country Club Drive (approximately 6,000 feet mauka of Wilder Road) on July 15 and 16, 1996. It showed a volume of 2,351 vehicles (both directions) which is an increase over the 1,630 vehicles recorded in 1994.

There were two noticeable peak-hour traffic periods; one occurring in the morning between 6:45 a.m. and 7:45 a.m. with a volume of 193 vehicles and the other in the afternoon between 3:45 p.m. and 4:45 p.m. with a volume of 222 vehicles. These elevated traffic counts apparently identify and characterize the area's regular commuting periods.

Another 24-hour traffic count was taken on Kaumana Drive at Akolea Road approximately 1,700 feet makai of Wilder Road. Traffic volumes here showed 4,066 vehicles (both directions) in 1996 and 3,839 vehicles in 1994. The peak-hour traffic at this lower location occurs between 7:15 a.m. and 8:15 a.m. with a volume of 335 vehicles and between 4:30 p.m. and 5:30 p.m. in the afternoon with a volume of 370 vehicles. These volumes are relatively low for this road.

The State DOT does not have traffic counts on Wilder Road, but it is reasonable to estimate that the volume of traffic on this County road would not exceed 2,000 vehicle trips (both directions) per day and that its peak-hour traffic would not surpass more than 210 vehicles per hour. These volumes are well below the capacity of the right-of-way.

There are no major developments pending in the area that would generate significant new trips. Approximately 10 years ago, a golf course was planned immediately makai of the Petition Area. According to the Hawaii County Planning Department, the permit for the golf course has since voided after no activity occurred on the property.

The Planning Department also indicated that no development permits for construction have been filed for the residential zoned lands adjacent to the existing Hilo Country Club Estates.

The proposed project will have very little impact on the local roadways. No more than 29 trips (one way) per day would be generated by residents of the proposed subdivision. This total is only a small fraction of the existing traffic on Wilder Road and Kaumana Drive. Further, the proposed subdivision would not contribute to any traffic on the County's planned secondary arterial since access to the new parcels will be from Wilder Road. Present plans show only the Remainder Area of the Property having a possible alternative access

to the secondary arterial. Thus, overall, no mitigation measures to reduce traffic impact from the proposed project will be necessary.

Water

Water is currently available via an 8-inch line along Wilder Road. This line serves a number of residential properties including the Hilo Country Club Estates. The primary source of this water is the Piihonua Well located at approximately the 975-foot elevation below the Property. A secondary source is the Ola'a flume spring located at about the 1,975' elevation on the Hamakua side of Kaumana Drive. A new well is being drilled by the County in the Kaumana City subdivision to replace the Ola'a flume spring as a source for the water system.

Pumps are required to transport the Piihonua Well water to a reservoir at elevation 1,330' immediately above Wilder Road and approximately 1,500 feet northeast of the project site. The reservoir provides a 0.3-million gallon storage facility for the water system. A 12-inch gravity line from the reservoir feeds the 8-inch line along Wilder Road.

Approximately 5,400 gallons of water per day (based on County standards) will be required to service the domestic needs of the proposed subdivision. The Newton Family intends to connect to the 12-inch gravity line at least 100 feet below the County reservoir and pump the water through a 4-inch transmission line to the Petition Area. The new line would follow and be located within The Newton Family's proposed access easement.

Depending on the type of agricultural activity that would occur within the subdivision, the amount of water that might be required for irrigation will vary. Rain catchment and storage systems may be installed by the individual parcel owners to supplement their supply of irrigation water. With rainfalls of approximately 230 inches per year, a bountiful source is available for agricultural use. There may be little or no need to use County water for irrigation purposes, particularly for the modest type of agricultural activity that is expected to occur on the Property.

Sewer

There is no County wastewater collection system in the area. Residential homes on adjacent properties are currently served by individual wastewater disposal units such as septic tanks or cesspools.

The proposed project will be served by septic tanks. According to Hawaii Administrative Rules, Title 11, Chapter 62, subdivisions which do not have access to a public wastewater treatment facility and which has 50 lots or less with minimum 10,000 sq.ft. areas may install individual wastewater disposal

units. The Newton Family is proposing eight agricultural parcels within the Petition Area and one conservation parcel in the Remainder Area. The parcels range in size from 80 acres to approximately 153 acres in the Petition Area. Further, all applicable State Department of Health standards will be met in installing the wastewater disposal units. It is noted that there are no sources of County water directly makai of the Property.

Electricity and Telephone

Electricity and telephone lines are currently available for connection along Wilder Road. HELCO and GTE Hawaiian Tel, respectively, are the providers of these services.

The Newton Family will request connection via overhead lines to Wilder Road. Within the project site, utility lines will continue to be overhead which are characteristic of this rural area.

The electrical power and telephone service demand will be small for the proposed subdivision. The Newton Family will install all necessary off-site improvements to connect and be serviced by existing utilities in the area.

Solid Waste

The County of Hawaii currently provides solid waste disposal sites for residents in Hilo at various transfer stations around the town and at a public land fill near Hilo International Airport. Residents are required to haul their own waste to these sites or contract with a private hauler.

Plans for the proposed subdivision call for disposing of the project's solid waste via a private contractor who would haul the material to the Hilo landfill. This facility also has an area for "green" waste or yard clippings.

Alternatively, each parcel owner could take care of his or her own waste. The new parcels are not expected to generate a significant amount of additional solid waste which cannot be accommodated at the existing landfill or transfer stations. Therefore, mitigation measures are not necessary for this project.

Police and Fire Protection

Police and fire protection will be provided by the Hawaii County Police Department and Fire Department, respectively. The nearest police station, the Hilo Police Station, is located on Kapiolani Street immediately above Hilo's central business district. It is the department's headquarters for seven other district offices located throughout the island.

Police regularly patrol segments of Kaumana Drive as part of their normal beat. Response time would be approximately 10 to 20 minutes (depending on the location of the beat officer) for any emergency calls to the site.

All fire emergency calls will be accommodated by the Kaumana Fire Station with assistance from the Central Fire Station in Hilo downtown, if necessary. The Kaumana Fire Station, which is located on Kaumana Drive immediately mauka of Waianuenue Avenue, is equipped with an engine truck with a 1,000 gallon tank, a 500-gallon tanker and a hazardous material truck. It is on 24-hour duty and can respond to an emergency call from the project site in about 9 to 10 minutes.

Medical Facilities

Hilo Medical Center, which is located near the central business district of Hilo, is approximately 5.5 miles from the Property. Emergency calls could provide ambulance service within about 11 to 12 minutes. The Hilo facility offers full medical services including acute care, long-term care, out-patient and home health services. The medical center has 166 acute care and 108 long-term care beds, about 100 doctors with privileges at the hospital and over 300 nurses on staff.

Schools

Hilo is served by 2 high schools, 2 intermediate schools, and 8 elementary schools. Hilo High, Hilo Intermediate and Kaumana Elementary Schools would be the primary public facilities serving the children residing at the Property. With a conservative estimate of 10 to 12 children in the subdivision, it does not appear the proposed project would be a burden on the three public schools.

Parks and Recreation

Hilo contains a number of neighborhood parks and playgrounds. There are also golf courses, beach parks and recreational centers. All are highly accessible and available to residents, including those of the proposed subdivision. None of these facilities will be overburdened by activities generated by the project residents.

IX. RELATIONSHIP TO STATE AND COUNTY LAND USE POLICIES

State Land Use Law

The Property is located in the Conservation District (see Figure 13), Resource Subzone, which was established by the SLUC. The objective of the Resource Subzone is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas. According to Section 13-5-13, Hawaii Administrative Rules, the Resource Subzone shall encompass:

- 1) Lands necessary for providing future parkland and lands presently used for national, state, county, or private parks;
- 2) Lands suitable for growing and harvesting of commercial timber or other forest products;
- 3) Lands suitable for outdoor recreational uses such as hunting, fishing, hiking, camping, and picnicking;
- 4) Offshore islands of the State of Hawaii, unless placed in a Protective or Limited Subzone; and
- 5) Lands and state marine waters seaward of the upper reaches of the wash of waves, usually evidenced by the edge of vegetation or by the debris left by the wash of waves on shore to the extent of the State's jurisdiction, unless placed in a Protective or Limited Subzone.

In reference to the first criterion for Resource Subzones, the Newton Family Property is not being used as a national, state, county or private park nor is it being planned by any government agency for such use.

As earlier described, The Newton Family Property is presently shown as Hilo Forest Reserve on the Piihonua quadrangle map of the U.S.G.S. map series. This appears to indicate that the project site is under the jurisdiction of the Forestry and Wildlife Division of DLNR.

In a recent correspondence with the Forestry Division, it was determined that although The Newton Family Property was once in the forest reserve, it no longer holds that designation. It should be noted also, that in establishing the conservation districts, State Land Use Law: Chap. 205-2 (a)(4) states that in the delineation of the boundaries for the conservation districts, the "forest and water reserve zones", as provided in Act 234, Section 2, Session Laws of Hawaii 1957, are renamed "conservation districts". Now that the subject land is no longer a forest reserve, one of the bases for establishing the Conservation District for the Property is eliminated.

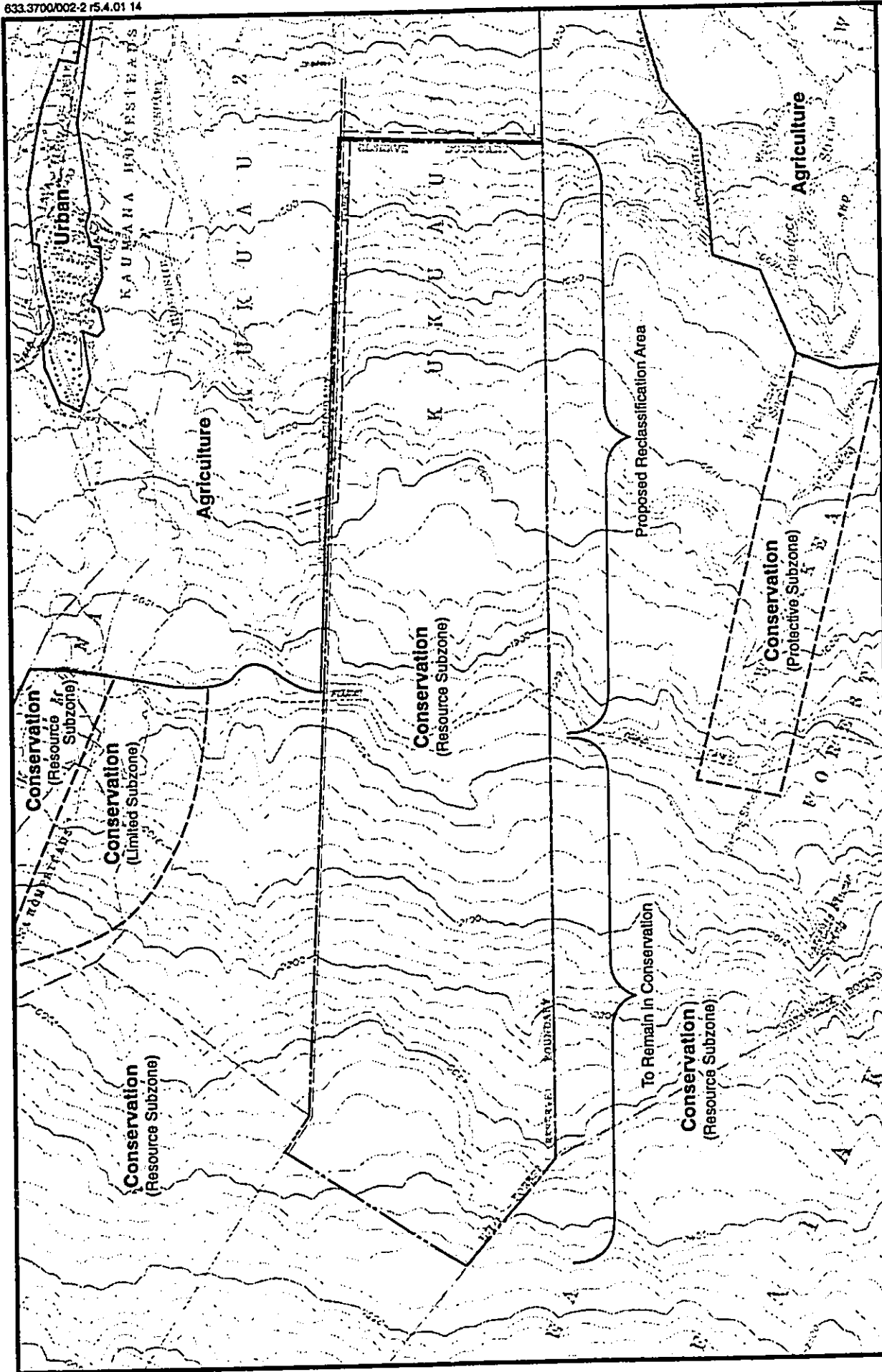


Figure 13
STATE LAND USE DISTRICT

The Newton Family Property
Hilo, Hawaii
Belt Collins Hawaii



Although the Newton Family Property consists of a large forested area in the uplands of Hilo, it does not have any particularly special qualities that demand it be used as an outdoor recreational area. As indicated above, it is not currently being used for park purposes nor is it being planned by any government agency for such use.

In terms of the other criteria for the Resource Subzone, the Newton Family Property is not an off-shore island of the State of Hawaii nor any land or state marine water seaward of the shoreline.

In assessing the Petition Area's (approximately 885 acres of Parcel 33) appropriateness for classification in the Agricultural District, the SLUC standards for determining Agricultural District boundaries were reviewed. The standards indicate that the property: 1) shall have land with a high capacity for agricultural production; 2) may include land with a significant potential for grazing; and 3) may include land surrounded by agricultural lands and which is not suited to agricultural and ancillary activities by reason of topography, soils, and other related characteristics.

It appears the second and third standards are applicable to the Petition Area. The Petition Area is in limited pasture use and can be expanded if more acreage is opened for cattle grazing. This would involve some clearing of heavy vegetation to allow pasture grass to occupy the area. Adjacent lands are already in such pasture use.

Timber production is also a potential use as already identified by the DLNR. If Petitioner considered this use it would be only as a limited operation.

Other agricultural uses may be limited due to existing soil constraints. In Section VI of this document, the soil constraints were described as shallowness and stony conditions. Despite these soil limitations for agricultural cultivation, the Property can still be improved by employing soil enhancement measures and soil conservation practices. As previously described, Mr. Saku Nakamura of the U.S. Natural Resources Conservation Service indicates that to improve the soil's productive use, the following efforts could be employed:

- 1) Rip/tear surface rock material (pahoehoe lava) to soften and provide proper infiltration drainage condition,
- 2) Grade crushed rocks into appropriate surface configuration,
- 3) Place topsoil in planting area, and
- 4) Plan for proper runoff drainage.

Applying these practices, the Newton Children could then engage in agricultural activities that focus on small-scale agricultural operations such as growing vegetables, fruits and/or flowers, small orchards and timber trees for personal and/or limited commercial use.

From a land use standpoint, the Property is surrounded by agricultural, open space and rural uses. To the east are 100-acre agricultural parcels, and to the north are agricultural properties of various sizes. The zoning for these lands is A-20a Agricultural, which permits agricultural uses on minimum 20-acre parcels.

Approximately 3,200 feet to the south are additional agricultural lands which are zoned A-3a Agricultural (minimum 3-acre parcels). Many of these properties are in diversified agricultural activities.

The Hawaii State Plan (Chapter 226, HRS)

The proposed action will be consistent with the following relevant objectives and policies of the Hawaii State Plan, as provided in Chapter 226, HRS.

Section 226-11 Land-Based, Shoreline, and Marine Resources

To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:

- Exercise an overall conservation ethic in the use of Hawaii's natural resources.
- Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.
- Take into account the physical attributes of areas when planning and designing activities and facilities.
- Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.
- Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.

Discussion:

In the planning of the proposed subdivision, The Newton Family engaged the services of an archaeologist, botanist and zoologist to review and assess the presence and significance of archaeological and natural resources on the

Property. The results of their studies provided information on sensitive areas within the Property. Planning then took into account this information during the subdivision concept preparation process. Notably, the archaeological study suggested that the Ola'a flume system be preserved which consequently will be protected in accordance with The Newton Family's current plan. The flora and fauna studies indicated that the mauka land above the Ola'a flume system is a sensitive area consisting of significant native flora and fauna species. Thus, disturbance to the area should be avoided. After completing the various assessment studies, The Newton Family has decided to reclassify only the area below the Ola'a flume system. This area comprises the Petition Area. The remaining mauka area will be left in the Conservation District.

It is estimated that approximately 42 acres of the land in the Petition Area would be improved or developed. This represents approximately five percent of the Petition Area. Such a nominal percent should minimize the impact on the natural character of the area as well as to promote conservation practices. Rural or agricultural standards, in lieu of urban standards, for road and utility improvements will be utilized to ensure compatibility with the surrounding environment.

Section 226-12 Scenic, Natural Beauty, and Historic Resources

To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:

- Promote the preservation and restoration of significant natural and historic resources.
- Provide incentives to maintain and enhance historic, cultural, and scenic amenities.
- Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.
- Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.
- Encourage the design of developments and activities that complement the natural beauty of the islands.

Discussion:

The proposed subdivision will be developed as a low-profile, low-density development consisting of minimum 80-acre parcels. The Remainder Area, comprising approximately 760 acres above the Ola'a Flume Road, represents a single parcel.

The visual characteristics of the Property will not significantly change. The proposed improvements will be designed to complement not distract from the scenic qualities of the area. Unobtrusive, low-key design elements will be used for the farm dwellings, and rural or agricultural, in lieu of urban, standards will be used for the infrastructure. The Newton Family will establish a design guideline for the residences and common areas of the subdivision to insure development compatibility with the natural beauty of the area.

Section 226-13 Land, Air, and Water Quality

To achieve the land, air, and water quality objectives, it shall be the policy of this State to:

- Promote the proper management of Hawaii's land and water resources.
- Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.

Discussion:

The Newton Family is proposing to minimize impacts on the land and water resources of the area by developing improvements that would have very little effect on the environment. Roadway improvements will be minimized; no curbs, gutters or sidewalks will be constructed (drainage will occur over natural swales). Grading and construction, hence, will result in less alteration to the land.

Area water resources are not expected to be noticeably impacted. The small number of homes in the proposed subdivision represent a fraction of the demand for water that would be generated by regional residents. Moreover, the anticipated discharge of wastewater from The Newton Family subdivision via cesspools or septic tanks is not expected to significantly impact groundwater resources.

As described in the "Natural Hazards" section of this document, the Property is located above Hilo town in a forested area that is subject to forest fire, lava flow, earthquake, flooding and hurricane, but not tsunami inundation or

erosion. It is noted that most of these natural hazards also pose a threat to life in the rest of the region, including Hilo town. As previously described, an early warning system, such as the Civil Defense sirens, media broadcasts and County emergency procedures will help to prepare residents for these natural dangers. Further, on an overall basis, the low-intensity development of the proposed subdivision would not result in extensive property damage from these hazards.

Section 226-15 Solid and Liquid Wastes

To achieve solid and liquid waste objectives, it shall be the policy of this State to:

- Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.

Discussion:

The proposed agricultural subdivision is not expected to be a major generator of solid and liquid waste such as a commercial facility. The Newton Family will, however, have the opportunity to educate their family members on the benefits of recycling green waste as mulch for their backyard gardens or crops, re-using bottles and cans as storage containers, and applying scrap wood as fuel or wood repair projects.

Section 226-16 Water

To achieve the facility systems water objective, it shall be the policy of this State to:

- Coordinate development of land use activities with existing and potential water supply.
- Reclaim and encourage the productive use of runoff water and wastewater discharges.
- Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.

Discussion:

Rainfall in the vicinity is abundant. Use of this source for irrigation would reduce the need for potable ground water as a supplier. Catchment tanks or basins could provide a supplemental source for this irrigation demand. The

County water system, thus, would provide only for the domestic needs in the Petition Area.

Section 226-19 Housing

To achieve the housing objectives, it shall be the policy of this State to:

- Effectively accommodate the housing needs of Hawaii's people.
- Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.
- Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.

Discussion:

The Newton Family desires to subdivide its Property and subsequently convey title to the Newton Children. Although this development does not directly address the affordable housing needs of the general public, it does meet the needs of providing affordable housing to a smaller segment of the market that includes the Newton Children. Notably, they too, will require housing in a market place that is still very expensive. For George and Mary Jo Newton, it will be a major benefit to help family members to fulfill their desire to become homeowners in Hawaii. The Petition Area is in a desirable location in a beautiful setting above Hilo town and is only minutes away from public facilities and services.

Applicable Priority Guidelines

The proposed project is applicable to the following priority guidelines of the Hawaii State Plan:

Section 226-104 Population Growth and Land Resources Priority Guidelines

- Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.
- Identify all areas where priority should be given to preserving rural character and lifestyle.
- Identify critical environmental areas in Hawaii to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational

shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.

- Protect and enhance Hawaii's shoreline, open spaces and scenic resources.

Discussion:

The Newton Family, using private funds, will develop the off-site as well as on-site infrastructure to service the proposed eight-parcel subdivision within the Petition Area. This would include the roadways, sewage disposal units, and water, electrical power and telephone utilities. A vast majority of the Property will also be maintained in its natural condition. The Newton Family believes in maintaining the rural and agricultural character of the Ahupua'a of Kukuau and will use its property accordingly. Notably, nearly half of the total Property will remain in the Conservation District, thereby maintaining critical environmental areas.

The proposed subdivision will be developed using rural or agricultural roadway standards and be maintained as a low-density development. There will be no more than eight residences in the Petition Area.

The Newton Family has conducted archaeological, physiographical, hydrological, visual, flora and fauna studies via consultants to determine critical environmental areas on the Property. Planning of the subdivision took into account the findings of these studies.

The Property is not located on the shoreline and therefore will not raise issues on the need for shoreline protection resulting from the proposed subdivision.

State Environmental Policies

The proposed action is consistent with the environmental policies of Chapter 344, HRS, which states, among others, to conserve and protect the natural resources of the state and enhance the quality of life by creating opportunities for Hawaii's residents through diverse economic activities which are stable and in balance with the physical and social environments and by establishing communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment.

The proposed project will allow the residents of the subdivision to pursue their interest in nature as well as engage in limited agricultural activity and backyard gardening. It is a lifestyle suited to this area where open space and

abundant natural resources in land, plants and wildlife exist. The density of the development is in character with the area, and the overall ambience, which is tranquil and open, is expected to be embraced by all the project residents.

State Functional Plans

The State Functional Plans are intended to provide more detail to the Hawaii State Plan in fourteen specific areas of concern -- agriculture, conservation lands, education, higher education, employment, energy, health, historic preservation, housing, human services, recreation, tourism, transportation and water resource development. The proposed project is consistent with the following State functional plans and their objectives and policies.

State Agriculture Functional Plan (1991)

Objective H: Achievement of productive agricultural use of lands most suitable and needed for agriculture.

Policy H(2): Conserve and protect important agricultural lands in accordance with the Hawaii State Constitution.

Objective I: Achievement of efficient and equitable provision of adequate water for agricultural use.

Policy I(1): Expand agricultural water resources statewide.

Discussion:

The proposed subdivision will not negatively impact important agricultural lands that are identified by the Agricultural Lands of Importance to the State of Hawaii. Therefore, the proposed subdivision will not interfere with the best agricultural lands in the state. The proposed subdivision, in fact, will put additional lands into agricultural use, although on a limited scale.

The Property is located in an area of relatively high rainfall which provides a benefit in terms of natural irrigation. The owner, thus, would depend less on County potable water for use in irrigation.

State Conservation Lands Functional Plan (1991)

Objective IA: Establishment of data bases for inventories of existing lands and resources.

Policy IA(5): Conduct inventories of aquatic and terrestrial resources.

Policy IA(6): Survey important native aquatic and terrestrial ecosystems and species.

Objective IIA: *Establishment of plans for natural resources and land management.*

Policy IIA(1): *Formulate and maintain a management plan for resources and lands having significant conservation value.*

Objective IIB: *Protection of fragile or rare natural resources.*

Policy IIB(4): *Continue aggressive management to protect Hawaii's intact forested ecosystems.*

Discussion:

The Property is not located on the shoreline, thus no aquatic resources were surveyed. Terrestrial resources, however, including floral and faunal species, were surveyed and assessed in terms of significance. Recommendations on the treatment of significant species were made and are included in Section VI.

State Historic Preservation Functional Plan (1991)

Objective A: *Identification of historic properties.*

Policy A.1: *Expand statewide Historic Sites Inventory Program*

Objective E: *The establishment of programs to collect and conserve historic records, artifacts, and oral histories and to document and perpetuate traditional arts, skills and culture.*

Policy E.1: *Provide support and coordination to activities involved with the collection and conservation of historic records and materials.*

Discussion:

As provided in Section VI, Subsection "Archaeological/Cultural Sites," an archaeological assessment was conducted on the Property by an archaeology consultant. The study included a review and evaluation of archaeological and historical documents, including archival literature, legends, records, boundary awards, and cartographic sources relative to the Property, an inspection level field work, and a written report. Significant sites will be protected and preserved by the owner, as required by SHPD.

A follow-up research and evaluation report on cultural concerns was also prepared and submitted to SHPD. Based on the study and a recently completed addendum, the consultant determined that the proposed project would not have any significant or adverse effect on any existing cultural practices or sites.

State Housing Functional Plan

Objective A: *Homeownership for at least sixty percent, or roughly 248,500 households by the year 2000.*

Policy A(2): *Encourage increased private sector participation in the development of affordable for-sale housing units.*

Policy A(5): *Use alternative approaches in providing affordable housing for sale.*

Discussion:

The Newton Family desires to subdivide its Property and convey title to the Newton Children. Although this development does not directly address the affordable housing needs of the general public, it does meet the needs of providing affordable housing to a smaller segment of the market that includes the Newton Children. Notably, they too, will require housing in a market place that is still very expensive. For The Newton Family, it will be a significant benefit to help family members to fulfill their desire to become homeowners in Hawaii.

Hawaii Coastal Zone Management Program

The Property, which is located at the approximately 2,000-foot elevation and about 5.8 miles from the shoreline, will be consistent with the objectives and policies of the Hawaii Coastal Zone Management (CZM) Program.

Recreational Resources

Objective: *Provide coastal recreational opportunities accessible to the public.*

Policy:

- A) *Improve coordination and funding of coastal recreational planning and management*
- B) *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by*

Discussion:

The Petition Area is located more than five miles from the shoreline. The proposed subdivision improvements will not interfere with any existing or planned recreational opportunities along the shoreline including surfing, beachgoing, picnicking and fishing. No public access to such coastal recreational resources will be obstructed or interfered with by the proposed subdivision. The proposed subdivision will be in compliance with existing State water quality standards and point and nonpoint sources of pollution regulations.

Historic Resources

Objective: *Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*

Policy:

- A) *Identify and analyze significant archaeological resources.*
- B) *Maximize information retention through preservation of remains and artifacts or salvage operations.*

Discussion:

As previously described, an archaeological assessment was conducted on the Property by an archaeology consultant. The study included a review and evaluation of archaeological and historical documents, including archival literature, legends, records, boundary awards, and cartographic sources relative to the Property, an inspection level field work, and a written report. Significant sites will be protected and preserved by the owner, as required by the Historic Preservation Division of the State of Hawaii.

A follow-up research and evaluation report on cultural concerns was also prepared and submitted to SHPD. Based on the study, the consultant determined that the proposed project would not have any significant or adverse effect on any existing cultural practices or sites.

Scenic and Open Space Resources

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

Policy:

- A) *Identify valued scenic resources in the coastal zone management area.*
- B) *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline.*
- D) *Encourage those developments which are not coastal dependent to locate in inland areas.*

Discussion:

The proposed subdivision is not coastal dependent and is located inland of the shoreline. It will be a low-profile project developed as a very low-density subdivision with very large lots. Only a small portion of the Petition Area will be developed with farm dwellings and possible limited agricultural

activities. The large remainder of the lot will stay in its natural state and maintain existing scenic qualities and visual corridors.

Coastal Ecosystems

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

Policies:

- A) *Improve the technical basis for natural resource management*
- B) *Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance*
- C) *Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs*
- D) *Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards*

Discussion:

Inventory studies of appropriate resources on the Property have been conducted, and an assessment of the proposed action's anticipated impacts on the natural resources has been undertaken. Management and/or mitigative measures were recommended, if such impacts were major.

The proposed subdivision is located inland of the shoreline and will not disrupt the valuable coastal ecosystems of the island's coastline and marine waters. There are no stream waters on the Property that discharges into the ocean. The proposed subdivision will comply with existing State water quality standards.

Economic Uses

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

Policy:

- A) *Concentrate coastal dependent development in appropriate areas.*
- B) *Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area.*

Discussion:

The proposed subdivision is not a coastal dependent development and is not located on the shoreline. It will not interfere with coastal dependent activities, including their social, visual and environmental qualities.

Coastal Hazards

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

Policy:

- B) *Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards.*
- C) *Ensure that developments comply with requirements of the Federal Flood Insurance Program.*

Discussion:

The proposed subdivision is located more than five miles from the shoreline. There will be no danger from tsunami inundation, storm waves, shoreline erosion and coastal subsidence. There are no streams or rivers on the Property, thus no riverine flooding is anticipated. The Newton Family Property is not located in any FIRM flood designated areas. It is not located in an area that is subject to point and nonpoint source pollution hazards.

Managing Development

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

Policy:

- A) *Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development.*

Discussion:

The above objective and policy are directed at government agencies. The application review process for the Newton Family project will include a public hearing during the Land Use Commission review. During this hearing proceeding, public participation is encouraged, project information and community input are exchanged, and coastal zone management awareness is promoted.

Public Participation

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

Policies:

- A) *Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program.*
- B) *Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal related issues, developments, and government activities*
- C) *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

Discussion:

The above objective and policies are directed at government agencies. The Newton Family concurs with these objective and policies and will maintain its project so that the proposed improvements will be consistent with them.

Beach Protection

Objective: *Protect beaches for public use and recreation.*

Policy:

- A) *Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion.*
- B) *Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities.*

Discussion:

The proposed subdivision is located more than five miles from the shoreline and will not impact shoreline resources. No shoreline erosion-protection structures are proposed and no interference with existing recreational and waterline activities is anticipated.

Marine Resources

Objective: *Implement the State's ocean resources management plan.*

Policy:

A) *Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources.*

Discussion:

The above objective and policy are directed at government agencies. The proposed subdivision will not interfere with any government programs designed to implement the State's ocean resources management plan.

County General Plan

The Land Use Pattern Allocation Guide (LUPAG) Map of the General Plan (1989) designates the Property as Conservation (see Figure 14). This designation reflects the fact that the Property is on the U.S.G.S map as a "forest reserve" and is in the Conservation District of the State Land Use District Maps.

As previously described, a petition will be filed with the SLUC to amend the LUD boundary of the Conservation District in order to reclassify the Petition Area from Conservation to Agricultural. Upon securing this reclassification, an amendment to the LUPAG Map will be sought from Conservation to Intensive Agriculture. This amendment action will require review by the County Planning Commission and approval by the County Council. An amendment to the County LUPAG would bring the County land use plan in line with the anticipated State land use district map for the area.

It is noted that the proposed amendment will not represent a spot zoning or designation on the LUPAG Map. Areas to the north, south and east of the Property are already in the Intensive Agriculture District.

It is further noted that as part of the County's comprehensive 10-year revisions to the General Plan, the County Planning Department is proposing to redesignate the Petition Area from Conservation to Other Agricultural. If the County Council adopts this designation, the Newton Family would not need to amend the General Plan for its Property to show the originally proposed Intensive Agricultural use.

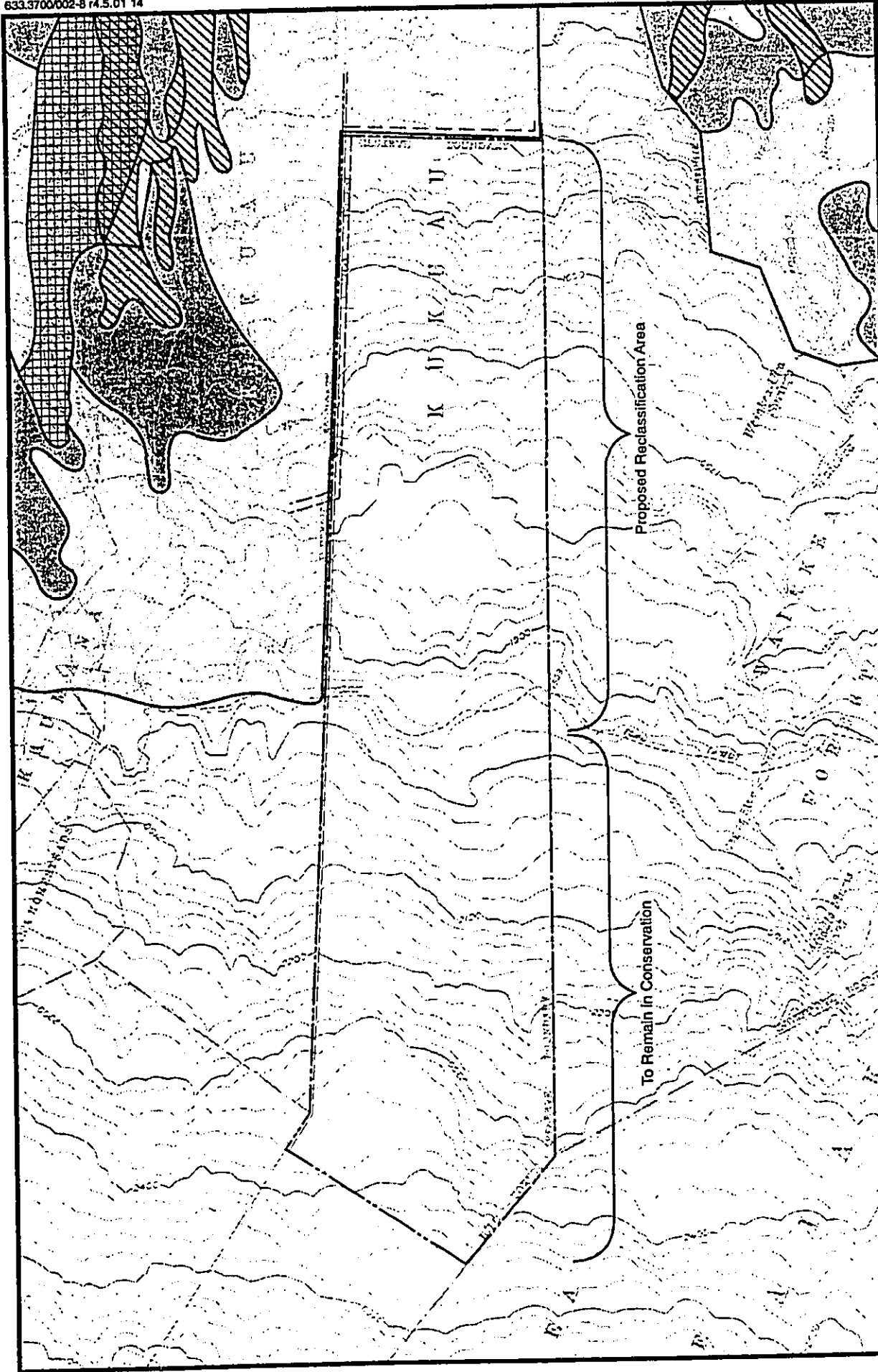


Figure 14
COUNTY GENERAL PLAN
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii

LEGEND

	Conservation		Urban Expansion
	Orchards		Flood Plain
	Intensive Agricultural		

0 1200 2400
 SCALE IN FEET

NORTH

On an accompanying Facilities Map for the General Plan, a secondary arterial road is planned by the County to cross the Property at about its mid-way point. It is part of the County's long-range plan for public facilities on the island. Construction scheduling and funding are yet to be determined and secured, respectfully, for the project.

County Zoning

The Hawaii County's South Hilo District Zone Map shows the Property within the "Waiakea Forest Reserve" (see Figure 15). Since the Property is located within the State Conservation District jurisdiction over land use is with the State Department of Land Natural Resources. Reference to Forest Reserve is also reflected on the County's Tax Maps and U.S. Geological Survey maps.

It is noted that the zoning map anticipates future growth in the area and is showing additional collector roads throughout the Kaumana area.

As provided above, a petition will be filed to amend the LUD boundary of the Conservation District in order to reclassify the Petition Area from Conservation to Agricultural. A County LUPAG Map Amendment, subsequently, will be sought, and then a Change of Zone Amendment will be requested from the Hawaii County Council to establish an A-20a Agricultural designation for the Petition Area (a zoning designation that is predominant in the vicinity). This zoning district requires that parcels have a minimum size of 20 acres. The final land use approval would result in a County zoning consistent with the anticipated State land use district amendment.

Although the Agricultural zoning will allow various agricultural uses and related activities, the Newton Family will adopt protective use covenants that will be more restrictive on the allowed types of agricultural activities on the Property. They are intended for the proposed use to be sensitive to the project area's native flora and fauna.

Notably, the Agricultural zoning would allow the Petitioner to further subdivide the Property into smaller lots. The Newton Family, however, will impose a condition on the project under a unilateral agreement that will keep the number of lots to eight (as proposed in the LUC Petition) for at least 20 years.

Special Management Area

The Property is not located in the Special Management Area of the County of Hawaii, and therefore is not required to file an SMA Use Permit Application.

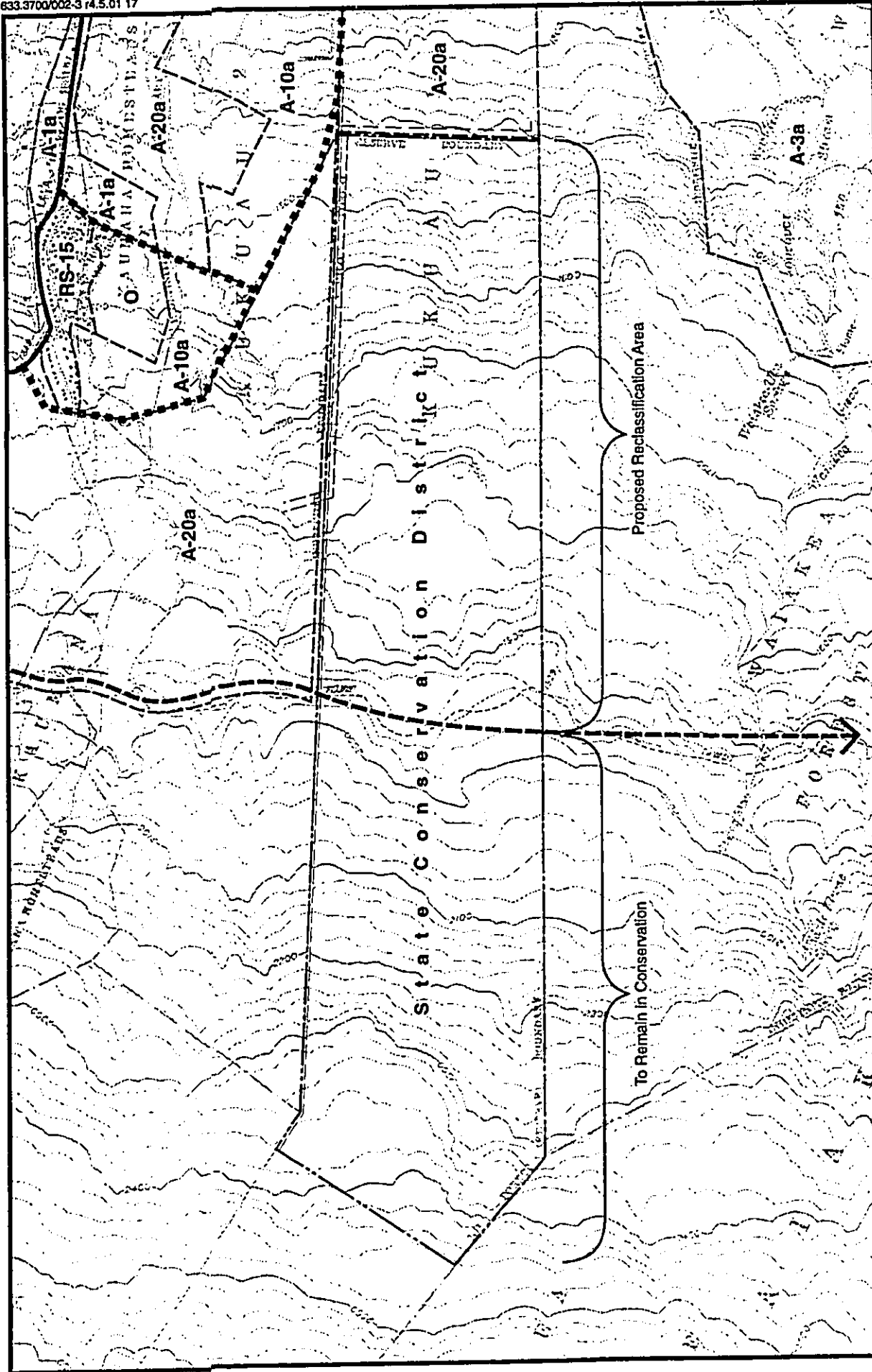


Figure 15
COUNTY ZONING
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii

- LEGEND**
- A-20a Agriculture 20 acs.
 - A-10a Agriculture 10 acs.
 - A-3a Agriculture 3 acs.
 - A-1a Agriculture 1 ac.
 - RS-15 Single-Family Res. 15,000 s.f.
 - Open, Park, and Recreation
 - Planned 80' RW Secondary Arterial (County)
 - Future Collector Road (County)

0 1200 2400
 SCALE IN FEET

NORTH

County Subdivision Ordinance

The proposed subdivision will require compliance with the County Subdivision Code. Before any application for the subdivision is filed, it must comply with all land use requirements, including zoning regulations, etc. (see above). The subdivision application will be subject to review and approval from various County and State agencies and final approval from the County Planning Department.

After the Petition Area is subdivided up to the eight agricultural parcels as described in Section IV, a restriction on further subdivision will be included in the deeds conveying title to the parcels. This is intended to avoid an increase in the intensity of use on the Property after it has been initially subdivided for distribution to the Newton Children.

Required Permits and Approvals

The following table lists the required land use permits/approvals and their respective approving agencies.

TABLE 5. Required Permits and Approvals for Proposed Improvements

<u>Permit and Approvals</u>	<u>Approving Agency</u>
State Land Use District Amendment	State Land Use Commission
County General Plan Amendment	Hawaii County Council
County Zoning	Hawaii County Council
Subdivision Approval	Hawaii County Planning Department
Grading Permit	Hawaii County Dept. of Public Works

X. SUMMARY OF MAJOR IMPACTS

Major impacts will occur during the construction phase of the project. These impacts, however, will be temporary and short term. When initial site preparation occurs, heavy earthmoving equipment will be used to clear vegetation from the site, grade an alignment for the new road, install utilities, pave the new access road and landscape the roadside and project entry. These activities will stir dust, generate noise, and create site conditions that might cause erosion and sedimentation. Construction equipment and supplies will be brought to the site causing occasional minor delays in traffic, particularly in and around the project area. Mitigation measures, as described below, will be implemented, if necessary, to reduce or prevent major adverse impacts.

As provided in Section VI of this Environmental Assessment, the proposed farm dwellings and limited agricultural activities will not have significant adverse impacts on the botanical and biological resources of the area. The floral study by Palmer and Associates Consulting and fauna study by Rana Productions, Ltd. have extensively surveyed the Property and have assessed the anticipated impacts of the proposed subdivision. They have determined that the low-density subdivision in the Petition Area would not have significant adverse impacts on the Property's floral and fauna resources. Further, proposed mitigation measures by The Newton Family are included with the project that would address other concerns relating to potential adverse effects on floral and fauna resources in the Petition Area.

Long-term impacts would occur when the subdivision is occupied by the residents. With eight parcel owners, the anticipated impacts on local roads, public schools, libraries, neighborhood parks, County water supply, local utilities and police and fire emergency services would be insignificant. More intensive use of the land would be controlled by the County zoning and protective use covenants that are planned for the subdivision. Also, further subdivision of the Property will be prohibited for a period of 20 years. This would be included in the deeds conveying title to the subdivided parcels.

XI. RELATIONSHIP OF PROPOSED DEVELOPMENT, OTHER PROPOSED DEVELOPMENT IN THE AREA AND ALTERNATIVE USES FOR THE PROPERTY

The proposed subdivision within the Petition Area will maintain the rural/agricultural character of the area. It will have an average density of 110 acres per parcel and include possibly agricultural activities, but at a small scale. The planned uses are expected to be compatible with the surrounding area that includes open space, rural and agricultural uses. The agricultural properties to the north and east have zoned densities of at least 10 to 20 acres per parcel, which are in fact smaller than the planned project parcels.

The Property is currently in forest or woodland use. An alternative to the proposed rural/agricultural subdivision, is to maintain the Property in its existing use. This would mean the land would retain its forest or woodland use and continue to be idle and unproductive for the owner.

Another alternative is to develop the Property for park use. It could be used as a camping site, nature/hiking park or picnic ground. Such facilities would be popular since they are not readily available in the Hilo area. From the owner's standpoint, however, although such facilities would have many beneficial effects, they would entail a high maintenance cost and generate only minimal revenues. Such facilities would be more appropriately developed by the State or County.

The Property may also offer opportunities for a retreat or lodging accommodation for long-term staying guests. It would include such facilities as guest cottages, recreational facilities, dining area, library/reading room and multi-purpose building. Although a retreat or lodge has tremendous appeal, it would satisfy only a limited market. Its success would rely on, among others, marketing, customer service, prestige and quality of guest stay. A first-rate facilities manager would be essential for this operation. This type of activity would be beyond and outside the expertise of the owner.

XII. PROPOSED MITIGATION MEASURES

During construction and operation of the proposed action, impacts are expected to occur on natural, cultural and man-made resources in the area. It is the Petitioner's intent to protect and conserve these resources as much as possible. Suggestions and recommendations have been received from both government agencies as well as consultants on appropriate measures. Various forms of these measures have been discussed in previous sections of this document, but a formal list of measures addressing impacts to floral, faunal, archaeological, cultural, and infrastructural resources, is provided in Appendix B and will be included in a unilateral agreement by the Petitioner for the project. The listed conditions of the agreement are proposed to run with the land. They are separate from any additional conditions which may be imposed by the State LUC and/or State Office of Planning.

It is noted that other mitigation measures would be implemented, where necessary, to reduce or lessen any significant adverse impacts generated by the project's construction contractor. For example, noise generated by construction equipment would be mitigated by limiting the use of heavy machinery to normal daylight working hours and employing muffler devices or noise suppressants on gasoline or diesel-powered equipment.

Construction-generated dust would be controlled by water sprinkling, dust screens or other measures prescribed by the Chief Engineer of the County of Hawaii. Equipment used for on-site construction will emit some air pollutants via engine exhaust. Thus, such equipment will be properly maintained by the contractor to maximize fuel combustion efficiency and minimize excessive emissions from heavy equipment exhaust pipes.

During site preparation, when clearing, grubbing and grading occur, areas will be devoided of vegetation and conditions for potential erosion and sedimentation may result. Possible mitigation measures could include creating sedimentation basins, covering dirt stock piles with tarp, developing infrastructure in phases to minimize active construction areas and landscaping as soon as possible.

Also during construction, there will be some construction vehicles on the area roadways transporting material and equipment to and from the Property. The number of vehicles involved in this operation would be small and should have little effect on traffic except when the heavy, slow-moving vehicles travel up Kaumana Drive. These vehicles, however, would be moving at various times of the day and would not be concentrated during the regular peak hour traffic.

A wastewater plan would be prepared and submitted to the State Department of Health for review and approval.

XIII. DETERMINATION

This environmental assessment demonstrates that the proposed action with proposed mitigation measures will have no significant adverse impact on the environment and that an Environmental Impact Statement is not warranted. Therefore, a Finding of No Significant Impact is determined for this project.

XIV. FINDINGS AND REASONS SUPPORTING DETERMINATION

The following findings and reasons indicate that the proposed action with proposed mitigation measures will have no significant adverse impact on the environment, and consequently, support the above determination.

- 1) The proposed subdivision will not involve total or massive use of the Petition Area. Selective siting of the farm dwellings within the individual parcels will be made. The subdivision will be designed to respect the natural resources in the area. Large stands of forest trees and clusters of major vegetation will be left intact, while areas that are already cleared will be likely used as residential sites. An archaeological study was conducted and mitigative measures will be employed to protect any significant archaeological features from removal or destruction. Prior to any development in the Petition Area, archaeological clearance will be sought from the State Historic Preservation Division for affected areas. A cultural study was also conducted and no specific traditional cultural properties, areas or sites were identified.
- 2) The large native forest areas will be essentially maintained in their natural condition. The proposed subdivision improvements, which include dwellings, yards, agricultural activities and infrastructure, would occupy only approximately five percent of the Petition Area. The Ola'a flume system, which crosses the Property at mid elevation, will be preserved and its access/service road will be left intact.

- 3) The proposed action is consistent with the State's long-term environmental policies and guidelines as expressed in Chapter 344, HRS.
- 4) The proposed action is expected to have some economic benefits. Its construction will generate jobs and infuse business and personal income into the local economy. No negative effects on the social welfare of the community are anticipated. In an area of high cost-of-living, the proposed action will provide affordable housing for the Newton Children. The proposed action will not displace any existing homes or facilities nor require employee housing.
- 5) The proposed landscape improvements will not result in the use of hazardous materials detrimental to the public health of the community.
- 6) There will be no significant adverse social impacts generated by the proposed project. The proposed action will not change the character of the area nor generate any major increase in resident population. The proposed action will not cause significant negative impacts on traffic or overburden existing public facilities and services.
- 7) The proposed subdivision will include farm dwellings, yards, agricultural activities and infrastructure that would occupy approximately five percent of the Petition Area. It will be compatible with the surrounding lands and result in no substantial degradation of the environmental quality.
- 8) The proposed subdivision is being planned by a private family who has no intention of developing the Petition Area into a larger project. No long-term degradation of the natural environment nor negative impacts from a larger action are anticipated.
- 9) Flora and fauna studies have been conducted and necessary precaution will be taken to avoid any negative effects on existing rare, endangered or threaten species in the Petition Area. The USFWS, USACE and State DLNR have been consulted in determining appropriate mitigative measures.
- 10) The anticipated impacts associated with the project construction, such as dust and noise, will be short term and temporary. These impacts are expected to be minimized by the implementation of mitigative measures, in accordance with applicable laws, statutes, ordinances, and rules and regulations of the U.S. Government, State of Hawaii, and

County of Hawaii. Negative impacts on groundwater resources are not anticipated.

- 11) The Property is located approximately 5.8 miles from the shoreline and is not subject to tsunami inundation and other coastal hazards. Potential flood areas, as defined by the Flood Insurance Rate Maps, are not identified on the Property.
- 12) The Property is located outside of any scenic resource area and is not a visual obstruction to any adjacent properties and nearby local public roads.
- 13) The small scale nature of the project will not require substantial energy consumption.

XV. AGENCY COMMENTS AND OWNER'S RESPONSES

A copy of the Amended Draft Environmental Assessment for this project was transmitted to the following agencies, organizations and private interests for review and comment. The parties that responded are indicated below and a copy of their correspondence with a response from the proposing agency is attached to this section. Comments that were substantive and applicable were incorporated into the Final Environmental Assessment.

<u>Federal Agencies</u>	<u>Agencies Responded</u>	<u>Agencies Responding w/No Comment</u>	<u>Agency Letters and Responses Attached in this Section</u>
U.S. Army Corps of Engineers	X		X
U.S. Fish and Wildlife Service			
U.S. Geological Service Water Resources Division			
U.S. Natural Resources Conservation Service			
 <u>State Agencies</u>			
Department of Agriculture			
Department of Defense			
Department of Education	X	X	
Department of Hawaiian Home Lands			
Dept. of Health	X		X
Department of Transportation			

<u>State Agencies</u>	<u>Agencies Responded</u>	<u>Agencies Responding w/No Comment</u>	<u>Agency Letters and Responses Attached in this Section</u>
DLNR Forestry and Wildlife Division	X		X
DLNR Historic Preservation Division			
DLNR Land Divison			
DLNR Na Ala Hele Program	X	X	
Land Use Commission	X		X
Office of Environmental Quality Control	X		X
Office of Hawaiian Affairs - Honolulu	X		X
Office of Hawaiian Affairs - Hilo			
Office of Planning	X		X
University of Hawaii - Environmental Center			
University of Hawaii - Water Resources Research Center			
<u>County Agencies</u>			
Dept. of Parks and Recreation			
Dept. of Public Works	X		X
Dept. of Water Supply	X		X
Fire Department			
Planning Department	X		X
Police Department	X	X	
<u>Utilities</u>			
Hawaii Electric Light Co., Inc.			
Verizon Hawaii			
<u>Organizations and Private Interests</u>			
Charles Langlas, Ph.D.			
Housing and Community Development Corporation of Hawaii			
Kanakaole Edith Foundation			
Kepa Maly			

Organizations
and Private Interests

Agencies
Responded

Agencies
Responding
w/No
Comment

Agency Letters
and Responses
Attached in
this Section

M10, Inc.
Moku Loa Group
Prince David Kawananakoa
 Hawaiian Civic Club
The Nature Conservancy
The Outdoor Circle

Elected Officials

Senator David Matsuura
Representative Jerry L. Chang
Representative Eric G. Hamakawa
Councilmember Bobby Jean
 Leithead-Todd



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. James Pennaz, P.E., Chief
Civil Works Technical Branch
Department of the Army
U.S. Army Engineer District, Honolulu
Fort Shafter, Hawaii 96858-5440

Dear Mr. Pennaz:

**Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division**

Thank you for your letter of February 23, 2001 commenting on the Amended Draft Environmental Assessment for the proposed Newton Family Subdivision in South Hilo, Hawaii.

We acknowledge that you have no other comments to offer at this time beyond what was provided in your letter of October 2, 2000. That letter noted that the Corps of Engineers does not require a wetland assessment in connection with a land use district boundary amendment review. When the project is in its permit approval process/design/subdivision stage, definite construction areas are identified. A wetland assessment would then be appropriate, and impacts to wetlands, if any, could be addressed in mitigation or conservation measures. The Newton Family will comply with any Corps of Engineers permit that might be required for the proposed project.

We thank you for your comments regarding the Newton Family subdivision.

Sincerely yours,

BELT COLLINS HAWAII LTD.

Glen T. Koyama
Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.

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DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

February 23, 2001

ATTENTION:

Civil Works Technical Branch

Mr. Glen T. Koyama
Belt Collins
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813

Dear Mr. Koyama:

Thank you for the opportunity to review and comment on the Amended Draft Environmental Assessment for the Proposed Family Subdivision Project, South Hilo, Hawaii (TMK 2-4-8: 33). We do not have any additional comments to offer beyond those previously provided in our letter dated October 2, 2000.

Should you require additional information, please contact Ms. Jessie Dobinchick of my staff at (808) 438-8876.

Sincerely,

James Pennaz
James Pennaz, P.E.
Chief, Civil Works
Technical Branch

Mr. Glen Koyama
February 26, 2001
Page 2

BERNARD J. CAVITTANO
DIRECTOR



STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION

P.O. Box 2339
Honolulu, HI 96804-2339
Telephone: 808-587-3822
FAX: 808-587-3827

February 26, 2001

Mr. Glen Koyama
Belt Collins Hawaii
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813

Dear Mr. Koyama:

Subject: LUC Docket No. A99-729/The Newton Family Limited
Partnership: Amended Draft Environmental Assessment

We have reviewed the Amended Draft Environmental Assessment (ADEA)
prepared in the subject docket and have the following comments:

- 1) The ADEA should include a discussion on the interrelationships and cumulative environmental and infrastructural impacts of the subject project and the Kaumana Homesteads project. For your information, the Kaumana Homesteads project involves the subdivision and development of one-acre and larger family agricultural lots on approximately 147.5 acres of land located immediately south of Kaumana Drive and west of Wilder Road.
- 2) On page 67, reference is made to an amendment to the County of Hawaii LUPAG Map that will be sought from Conservation to Intensive Agriculture upon securing reclassification of the subject property. We would like to point out that the Preliminary Draft II of the County's ongoing General Plan revision process (Preliminary Draft II) proposes to delete the current agriculture designations of Intensive Agriculture, Extensive Agriculture, and Orchards and to replace them with Important Agricultural Land and Other Agricultural Land designations.
- 3) The discussion on future roadway systems in the vicinity of the subject property (Appendix H) should be updated, as applicable. We note that the future County Secondary Arterial, as identified in the ADEA, is not included in the Preliminary Draft II Transportation-Roadways map as a proposed arterial.

We have no further comments to offer at this time.
Should you have any questions, please feel free to call me at 587-3822.

Sincerely,

BERT SARUWATARI
Acting Executive Officer

BS:aa

c: CEQC
Dr. George Newton
A. Bernard Bays, Esq.



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Bert Saruwatari, Acting Executive Officer
State Land Use Commission
P.O. Box 2359
Honolulu, Hawaii 96804-2359

Dear Mr. Saruwatari:

Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division

Thank you for your letter of February 26, 2001 commenting on the Amended Draft Environmental Assessment (ADEA) for the proposed Newton Family Subdivision in South Hilo, Hawaii.

The proposed Kaumana Homesteads project is located to the north of the Newton Family site. It will consist of 112 one-acre and larger agricultural lots that will have access from Kaumana Drive and the planned Puainako Street Extension. No access will be provided from Wilder Road. The project is currently seeking zoning approval for smaller lots for a major portion of the property from the Hawaii County Council.

The Kaumana Homesteads involves land that is already agriculturally zoned, unlike the Newton Family project which is proposing to be in agricultural use. Once the Newton Family subdivision is approved, the two projects would have similar and compatible uses. One will be low density (smallest lot in the Newton Family subdivision will be 80-acres) and the other will be relatively medium in density (minimum lot size in the Kaumana Homesteads project will be one-acre). In addition to being compatible with each other, the two projects will be surrounded by similar uses. The Kaumana area is predominantly zoned Agriculture by the County.

The impact of the Kaumana Homesteads project on area infrastructure, particularly traffic and water, would be substantially larger compared to the impact from the Newton Family project. Hence, the cumulative impact from the two projects would be contributed largely by the Kaumana subdivision.

The planned Puainako Street Extension is designed to relieve traffic on Kaumana Drive. When constructed, the new road will provide access to the Kaumana Homesteads as well as the Newton Family project. By itself, the Newton Family subdivision would be adequately accommodated by existing public roads.

With precipitation being very high in the project area (approximately 230" per year), rainfall provides a good source of irrigation water and thus would reduce the dependency of the residents on the public water system. Hence, the demand for County water from the two subdivisions would be less than typical.

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Mr. Bert Saruwatari
April 5, 2001
Page 2

The County's Planning Department has recently submitted (March 21, 2001) written comments to the Land Use Commission indicating that it is currently proposing to redesignate the Petition Area from Conservation to Other Agricultural as part of its comprehensive 10-year revisions to the General Plan. We concur with that designation and support the County's proposal.

We will update Appendix H of the ADEA, as necessary, to reflect any changes in the County's long-range plans for roadways in the project area. We acknowledge the absence of the planned County secondary arterial from the Preliminary Draft II Transportation-Roadways map of the General Plan revisions. Should the Transportation-Roadways map be adopted in its present form before the Newton Family's Final Environmental Assessment (FEA) is published, the relevant information from the Roadways map will be included in the FEA.

In any event, the Newton Family still plans to accommodate future access through the area. The County Public Works Department has suggested (PWD letter of February 28, 2001) that a through road or road stubouts be provided to the adjacent properties. The preliminary alignment proposed by the County for the secondary arterial could be used for PWD's suggested road connections.

We thank you for your comments regarding the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.

Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.



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

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Mr. Glen T. Koyama
Page 2
February 28, 2001

Ref. No. P-9009

February 28, 2001

Mr. Glen T. Koyama
Belt Collins Hawaii Limited
680 Ala Moana Boulevard First Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

Subject: Amended Draft Environmental Assessment (ADEA)
Proposed Newton Family Subdivision, South Hilo, Hawaii
TMK: 2-4-08: 33
Land Use Commission Docket No. A99-729

On December 6, 2000, the Office of Planning (OP) submitted testimony for the December 8, 2000 Land Use Commission (LUC) continued action hearing in response to the subject Amended Draft Environmental Assessment. We have enclosed a copy of that testimony for your records. The Petitioner/Author of the subject ADEA should provide more information to address our concerns, which are more fully disclosed in the enclosed document.

- A decision as to which parcels will be sold, which parcels the family will retain, and development of site plan should be made *before* (emphasis added) government approvals (including the Conservation to Agricultural District land use boundary amendment) are secured. The 885.40-acre Petition Area is proposed to be reclassified from the Conservation District to the Agricultural District for an 8-lot subdivision.

The provision of preliminary or conceptual development plans would provide the U.S. Fish and Wildlife Service (USFWS) and the Department of Land and Natural Resources (DLNR) with sufficient information that would allow assessment of the compatibility between "specific conservation actions" yet to be recommended by USFWS and DLNR. A letter from

the USFWS dated June 2, 2000, states that it is "...difficult to identify the specific conservation actions needed prior to reviewing more detailed plans identifying which specific areas are proposed for what type of development and which will be left intact."

- The ADEA does not adequately address "significance criteria" identified under §11-200-12 by providing specific and sufficient information about the proposed development that would enable the Land Use Commission to reach the same conclusion held by the Petitioner that:

The proposed use of the property "...will have no significant adverse impact on the environment and that an Environmental Impact Statement is not warranted." and

"...the proposed action with proposed mitigation measures will have no significant adverse impact on the environment..."

- OP remains concerned regarding the potential impacts on infrastructure, public facilities and services in the event that more intensive uses occur on the property than what is being proposed.


The Petitioner has agreed that deeds conveying title to each subdivided lot will include a 20-year restriction against further subdivision and the provision that the agreement may be amended only upon approval "...of a majority of the then owners of the subdivided lots..." This is no guarantee that the Petition area will not be more intensely developed than presented. Once the property is reclassified, subdivided and five agricultural lots are distributed among Newton Family members and the "Remainder Area" continues to be held by the Petitioner, the majority of the owners will (emphasis added) constitute the Newton Family whether or not the remaining three (3) agricultural parcels are sold.

Reclassification of the Petition Area to the Agricultural District will be followed by a County Land Use Pattern Allocation Guide (LUPAG) Map amendment and a County change of zone amendment. The Petition states on page 67 of the ADEA that a Change of Zone will be (emphasis added) requested from the Hawaii County Council to establish an A-20 Agricultural designation (20-acre minimum lot size) for the Petition Area. The Petitioner then states on page 68 that the County agricultural zoning designation will allow (emphasis added) the Petitioner to further subdivide the property into smaller lots. Initially, the Petition Area will be subdivided into 8 lots ranging in size from approximately 80.0 acres to 153.1 acres.

Mr. Glen T. Koyama
Page 3
February 28, 2001

Finally, once the Petition Area is reclassified by the LUC, and County zoning obtained, development permitted under County Zoning within the State Agricultural District does not require major State approvals. Other landowners in the region may use this Newton Family Subdivision as a precedent for reclassifications to further develop lands which are now in the State Conservation District.

Sincerely,



David W. Blanc, AICP
Director
Office of Planning

Enclosure

cc: (w/enclosure)
Executive Officer, LUC
Genevieve Salomonson, OEQC
James Nakatani, DOA
Gil Agaran, DLNR
Robert P. Smith, USFWS

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of the)
)
)
NEWTON FAMILY LIMITED)
PARTNERSHIP, a Hawaii Limited Partnership)
)
To Amend the Conservation Land Use District)
Boundary to the Agricultural Land Use District)
For Approximately 885.40 Acres of Land at Kukuau,)
South Hilo District, Island of Hawaii, State of)
Hawaii, Tax Map Key Numbers: 2-4-08: 33 por.)

DOCKET NO. A99-729

LAND USE COMMISSION
STATE OF HAWAII
2001 DEC 6 10 12 AM

**THE OFFICE OF PLANNING'S RESPONSE
TO PETITIONER'S AMENDED DRAFT ENVIRONMENTAL ASSESSMENT
AND SUPPORT DOCUMENT AND PETITIONER'S AMENDED PETITION TO
RECLASSIFY CERTAIN LAND FROM THE CONSERVATION DISTRICT TO
THE AGRICULTURAL DISTRICT**

The Office of Planning's response to the Petitioner's Third Supplement to the Petition addressed concerns regarding the Petition's failure to adequately address significance criteria according to Hawaii Revised Statutes: §343-5(c), and Hawaii Administrative Rules §11-200-12 (See OP's Response to Third Supplement To Petition, dated February 1, 2000). Specifically, OP's concerns focused on the proposal's effect on the property's environmentally sensitive areas; absence of a complete survey of environmentally sensitive areas; and failure of the DEA to disclose the exact locations and boundaries of these areas. Further, we were concerned that the Petitioner's Third Supplement failed to discuss the project's phases of development in terms of the primary and secondary effects on any protected species and their habitat; and the cumulative short and long term effects of the reclassification on any protected species and their habitat.

OP's response to the Petitioner's Third Supplement also addressed the Petitioner's proposal of a twenty-year restriction allowing only a single farm dwelling per lot. Under current County zoning as a family agricultural district, after twenty years further subdivision could ultimately result in the Petition area accommodating up to

approximately 1,770 farm dwellings if ohana units are considered (See OP's Response to Third Supplement To Petition, dated February 1, 2000). Therefore OP's response to the Petitioner's Third Supplement to the Petition also addressed the Petitioner's failure to address the impacts of the project to public facilities and services (traffic, schools, water, drainage, etc.) in the event different and more intensive uses occur.

The Office of Hawaiian Affairs' (OHA) review of the Petitioner's Third Supplement to the Petition found it critical that the Commission require the preparation of archaeological and cultural studies before the proposed reclassification. OHA addressed the possibility of cultural and archaeological resources being present on the Petition area because the areas surrounding the site are known to have important cultural resources.

Also, OHA cited Public Access Shoreline Hawaii vs. Hawaii County Planning Commission, 79 Hawaii 425, 903 P.2d 1246 (1995) ("PASH") that access to or across property for the continuance of traditional or cultural practices should be made at the point of first permit or government decision--in this case--the Land Use Commission (LUC).

More recently, the Hawaii State Supreme Court made it very clear that "...the state and its agencies are obliged to protect the reasonable exercise of customarily and traditionally exercised rights of Hawaiians to the extent feasible." In Ka Pa'akai O Ka 'Aina vs. Land Use Commission et al. and Plan to Protect (No. 21124); Plan to Protect vs. Land Use Commission (No. 21162) the Court vacated the LUC's grant of the reclassification for Docket No. A93-701/Kaupulehu Developments and remanded the case back to the LUC for the limited purpose of entering specific findings and conclusions, with further hearing if necessary, regarding:

- (1) The identity and scope of "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;

- (2) The extent to which those resources--including traditional and customary native Hawaiian rights-- will be affected or impaired by the proposed action; and

- (3) The feasible action, if any, to be taken by the LUC to reasonably protect native Hawaiian rights if they are found to exist.

The Office of Hawaiian Affairs found it critical that the Commission require the preparation of archaeological and cultural studies before reclassification. The Petitioner has stated his commitment to the preparation of an inventory level archaeological survey for areas that would be altered, but still insists that these surveys "...will be done when parcel specific development plans for those areas are prepared". Lacking specific information, the LUC will be unable to comply with the court ruling cited above and enter into the docket specific findings and conclusions regarding the impact of the proposal on cultural, historical, or natural resources.

In response to the above concerns expressed by our Office, the Land Use Commission (hearings on this docket held on November 19, 1999 and February 3, 2000), and the Supreme Court's ruling (No.21124 and No. 21162), the Petitioner submitted an Amended Draft Environmental Assessment and Support Document and Petitioner's Amended Petition. (See Amended Petition to Amend the Land Use District Boundary Introduction p. 2). Our comments regarding the Petitioner's most recent submittal are as follows.

Environmentally Sensitive Areas

The Petitioner's Amended Draft Environmental Assessment and Support Document and Petitioner's Amended Petition (ADEA/AP) indicate that the Petitioner proposes to subdivide the 1,645,832-acre property into nine (9) parcels. Eight (8) of these parcels comprising the Petition area of approximately 885.40 acres, would range in size from approximately 80.0 acres to approximately 153.1 acres. Five (5) of the 8 new agricultural parcels will be transferred to family members. Three of the parcels will be sold to non-family members to help defray the cost of the subdivision infrastructure improvements. The mauka portion of the property (ninth parcel) consisting of approximately 760.423 acres would remain in the Conservation District.

The Petitioner continues to maintain that after government approvals are secured for the proposed improvements, a decision as to which parcels will be sold and which will be retained by family members will be made at a later date. However, without a plan showing the alignment of the driveways and placement of the proposed farm dwellings within the project site, a well-informed assessment of impacts from the proposed use to environmentally sensitive areas is difficult, if not impossible.

A letter from Hawaii Land Company (HLC) to the Petitioner, dated August 31, 2000, presenting an Updated Position Paper and Statement of Anticipated Real Estate Market/Marketing of Proposed Newton Family Subdivision (See AP Exhibit K) stated the following:

"Several of your proposed parcels are quite unique and extremely attractive. If you offer these parcels for sale, instead of allocating them to family members, then you could possibly achieve offering prices up to \$1 million for each of these parcels."

It is apparent from the above, that Hawaii Land Company has identified parcels within the Petition Area which should be sold because of their potential to achieve higher offering prices. This in effect is the beginning of a plan: the identification of parcels that could be sold or retained by the family. The Petitioner should identify these parcels and provide the LUC information on those features that make them "unique and extremely attractive". It also appears that the Newton family has plans to develop the "Remainder Area" (ninth parcel) at a later date. The ADEA states that the Remainder Area "...is intended to be kept by the family and will be left in the Conservation District." HLC's letter dated August 31, 2000 suggests the possibility of the Newton family developing the property in the future and states the following about the proposed subdivision. "It (sic) is understand that each of your children would eventually own one each of the parcels to be subdivided, and that you and your wife would retain the larger remainder parcel for yourselves to enjoy in the future."

The Petitioner has identified areas within the Petition area that have been cleared and according to the information provided in the ADEA/AP, it is within these areas that the Petitioner intends to locate farm lots and associated activities. Information provided

in the ADEA/AP suggests that several parcels have been identified as unique and attractive; areas already substantially cleared have been identified and delineated; the location of access roads and alternative access roads to and across the property have been identified. The general vegetation types identified included: lowland wet forest, Montane wet forest, Montane wet sedge/lands, Montane wet mixed communities and disturbance communities. Old Montane wet forest and major stands of trees reach nearly to midway elevations within the Petition area. With this information, the Petitioner should be able to provide a preliminary development plan, which would assist the LUC in its decision-making. Preliminary development plans would also provide the U.S. Fish and Wildlife Service (USFWS) and the State Department of Land and Natural Resources (DLNR) with sufficient information that would allow assessment of the compatibility between "specific conservation actions" yet to be recommended by the USFWS and land management/agricultural uses proposed by DLNR.

Significance Criteria

OP's response to Petitioner Third Supplement to Petition commented on the Petitioner's failure to adequately address "significance criteria" which the LUC must apply in determining whether the reclassification may have a significant effect on the environment. The Petitioner proposes to address those thirteen (13) "significance criteria" under Section XIV-pp. 73 and 74 of the ADEA - Findings and Reasons Supporting Preliminary Anticipated Determination.

The Petitioner asserts that the ADEA has provided substantial information to demonstrate that the proposed subdivision and proposed use of the property "will have no significant adverse impact on the environment and that an Environmental Impact Statement is not warranted." The Petitioner continues to assert that "...the proposed action with proposed mitigation measures will have no significant adverse impact on the environment...." However, the ADEA does not provide specific and sufficient information about the proposed development that would enable the Land Use Commission to reach this same conclusion and measure the value of the Petitioner's conditions. The Petitioner's ADEA simply states what will be or will not be done, but provides insufficient information to demonstrate where project development will impact

the Petition Area. In responding to the criterion that an EIS is required if the proposal "involves an irrevocable (emphasis added) commitment to loss or destruction of any natural or cultural resource" the Petitioner states:

"The proposed subdivision will not involve total or massive use of the Petition area. Selective siting of farm dwellings within the individual parcels will be made. The subdivision will be designed to respect the natural resources in the area. Large stands of forest trees and clusters of major vegetation will be left intact, while areas that are already cleared will be likely used as residential sites."

The ADEA states that approximately 8 up to approximately 17 acres would be used for total residential and agricultural uses. Adding land areas required for roads and utilities (estimated to be approximately 25 acres) would require approximately 42 acres altogether or about 5% of the Petition area. The Petitioner, however, still has not provided information to demonstrate to the LUC which areas would be cleared or where the dwellings would be placed or where the driveways proposed to access the farm dwellings will contact with the roads proposed to access the Petition area. It is impossible for the LUC to make a decision not knowing what areas will be cleared, which forested areas will be left standing, and which areas will be used for infrastructure. We believe the Petitioner has collected enough information about the property to make these decisions. Further, by now, the Petitioner should be able to provide the LUC with several scenarios or detailed plans to show where the proposed uses will be located, along with the associated impacts and recommended mitigation/conservation measures for each scenario. These concerns regarding lack of sufficient information are further supported by comments provided on the Petition by the USFWS.

A letter from the U.S. Fish and Wildlife Service, dated September 29, 1999, focused on that agency's concerns regarding the impacts of the proposal on native plant and animal resources. According to the USFWS, the main causes of forest loss at elevations where the property is located, have resulted from the intrusion of agricultural and residential development and the invasion by destructive alien species such as cats, ants, and weeds. The USFWS states that the construction of roads has provided an

invasion route for destructive alien species, therefore, areas without roads that remain dominated by native species are especially valuable for the conservation of native Hawaiian ecosystems. According to the USFWS:

"Even if alien species are well established within the parcel, the unfragmented forest (1) continues to be habitat for numerous native species, (2) acts as a buffer zone for more intact adjacent forest, and (3) offers the potential to restore native community integrity with appropriate management."

A more recent letter from the USFWS dated June 2, 2000 supports the Petitioner's amendment to the Petition. However the agency still finds it "difficult to identify the specific conservation actions needed prior to reviewing more detailed plans identifying which specific areas are proposed for what type of development and which will be left intact." (See Exhibit F - Appendix A)

The Petitioner received a letter providing a land management plan suggested from the Division of Forestry, Department of Land and Natural Resources. (See Exhibit E) According to the report provided to the Petitioner on March 3, 1980, the parcel is in the "resource" subzone of the Conservation District. According to the plan, the property has fair productivity potential and can be developed into pasture or used for timber production. Again, without specific plans identifying the location of roads, placement of farm dwellings and associated farming activities, consolidation of "specific conservation actions" yet to be recommended by USFWS, with a more than 20-year old land management plan suggested by DLNR, with the Petitioner's plans for development is impossible.

Public Facilities and Services

OP's response to Petitioner's Third Supplement to Petition commented on the Petitioner's failure to address potential impacts on public facilities and services in the event that more intensive uses occur on the parcel than what is currently proposed.

The ADEAVAP provides information on the potential impacts on public facilities (traffic, water, sewer, electricity, telephones, solid waste collection, police and fire

protection), medical services and potential impacts from the proposed subdivision of the property into nine (9) parcels – eight (8) agricultural parcels and one (1) conservation parcel. However, OP is concerned regarding potential impacts on public facilities and services in the event that more intensive uses occur on the parcels than what is being presented by the Petitioner. The Petitioner has not provided this information in the ADEA. According to the ADEA, deeds conveying title to each subdivided lot will include a 20-year restriction against further subdivision and a prohibition against large-scale forestry or commercial agricultural operations. The Petitioner believes these restrictions would be sufficient to curtail more intensive use of the Petition area. However, these restrictions can be modified only upon the "...approval or consent of a majority of the then owners of subdivided lots in the Petition Area and, a majority vote of the Land Use Commission and the County Planning Department" (See Exhibit F-appendix B). The County of Hawaii already allows a family agricultural parcel with a minimum of one acre. As for the "consent of a majority of the then owners of subdivided lots in the Petition Area", the majority would rest with the Newton family since 5 of the eight 8 new agricultural parcels are proposed to be transferred to family members.

Other Concerns/Discrepancies


The graphic of the proposed subdivision that is provided with Exhibit J-Newton Family Partnership Balance Sheet, depicts the Petition Area divided into eight (8) parcels, however the sizes differ from the graphic provided with Exhibit F - Figures 4 and 10. In Exhibit J (January 2000), the parcels range in size from 80 acres to 128.5 acres and total 868.2 acres. In Exhibit F (October 2000) the parcels range in size from 80 acres to 153.1 acres and total 878.9 acres – a difference of 10.7 acres between the two exhibits and short by 6.5 acres to 17.2 acres of the Petitioner's proposal to reclassify 885.40 acres from the Conservation to the Agricultural District.

Recommendation

For reasons our office has discussed above, and Petitioner's failure to provide specific plans for development of the property, it is apparent that the impacts to natural and historical, cultural resources, environmentally sensitive areas, and public services, facilities cannot be adequately addressed. We recommend that the Petition be withdrawn

until such time that more specific plans are prepared and adequate surveys are conducted to determine the location and extent of natural and historical/cultural resources and other environmentally sensitive areas.

DATED: Honolulu, Hawaii this 6th day of December 2000.


DAVID W. BLANE, AICP
Director
Office of Planning
State of Hawaii



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. David W. Blane, AICP, Director
Office of Planning
P.O. Box 2359
Honolulu, Hawaii 96804

Dear Mr. Blane:

**Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division**

Thank you for your letter of February 28, 2001 commenting on the Amended Draft Environmental Assessment (ADEA) for the proposed Newton Family Subdivision in South Hilo, Hawaii. Your letter raised five major concerns: which lots will be retained by the Newton Family, need for detailed plans, meeting significance criteria, assurance of maintaining proposed density, and setting a precedent. We will address these concerns in the same order they were presented in your letter.

Which Lots will be retained by the Newton Family?

A decision was made on which parcels will be retained by the Newton Family and which will be sold. The large 760-acre "remainder parcel" and Parcels 1, 2, 3, 4 and 8 will be retained by the Newton Family, while the remaining Parcels 5, 6 and 7 will be offered for sale on the market.

Need for Detailed Plans

On May 16 and 18, 2000, Ms. Marie Bruegmann of the U.S. Fish and Wildlife Service and I discussed by telephone the project details and project's government review status. During our conversation, Ms. Bruegmann acknowledged that the project was in the early review process and that it still has a long way to go before all agency approvals are secured. She also acknowledged that detailed design is not usually done until the project reaches the County zoning and subdivision review process. She indicated that when that time occurs she would like to see the detailed plans to make specific recommendations on conservation measures.

The June 2, 2000 USFWS letter was a follow-up letter to our conversation. In the second paragraph of that letter, the USFWS reconfirmed our conversation and indicated that the "Service is willing to continue working with the landowner as detailed plans are

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A99-729

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing testimony was served upon the following by either hand delivery or depositing the same in the U.S. Postal Service.

A. BERNARD BAYS 0969-0
BAYS, BEAVER, HIATT, LUNG & ROSE
Alii Place, 16th Floor
1099 Alakea Street
Honolulu, Hawaii 96813

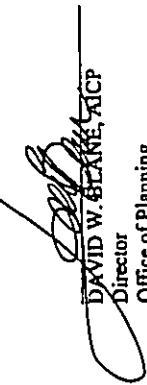
DIRECTOR
Planning Department
County of Hawaii
25 Aupuni Street, Room 109
Hilo, Hawaii 96720-4252

CHAIR
Planning Commission
County of Hawaii
25 Aupuni Street, Room 109
Hilo, Hawaii 96720-4252

HAWAII ELECTRIC LIGHT COMPANY, INC.
P.O. Box 1027
Hilo, Hawaii 96721

PUNA SUGAR COMPANY
P.O. Box 3230
Hilo, Hawaii 96721

DATED: Honolulu, Hawaii this 6th day of December 2000.


DAVID W. BLANE, AICP
Director
Office of Planning
State of Hawaii

Mr. David W. Blane
April 5, 2001
Page 2

developed to ensure that anticipated impacts to native resources will be adequately addressed through additional conservation actions." We anticipate that while working with the USFWS, we will also be working with the Department of Land and Natural Resources in assessing what specific type of conservation measures that might be required for the proposed action.

During the early LUC proceedings, we were also requested to consult with the U.S. Army Corps of Engineers (USACE) regarding its needs for specific information to delineate potential wetlands and determine possible mitigation measures. The USACE's letter of October 2, 2000 summarizes our previous meeting with the Corps. It does not require specific plans at this time. When the project is further in the government review process and when detailed plans are prepared, the Corps would then review the subdivision and make specific recommendations.

Meeting Significance Criteria

Section XIV of the ADEA summarizes the findings of the environmental document and addresses the "significance criteria" identified under §11-200-12. In coming to its conclusion, at least three informational supplements were submitted to the Land Use Commission for the ADEA. Each of these submissions responded to questions raised by the LUC, Office of Planning and other parties of the LUC proceedings. The submissions also included mitigation measures that would provide precautionary or preventive measures on potential impacts. Finally, on December 8, 2001, the LUC reviewed the ADEA and was satisfied that sufficient information on the proposed action was provided and that a decision could be made on the significance of the project impacts. The LUC voted a preliminary FONSI for the proposed subdivision.

Assurance of Maintaining Proposed Density

The Petitioner's statement on page 69 that the County agricultural zoning designation will allow the Newton Family to further subdivide the property into smaller lots was provided simply to reveal the potential of the zoning and not the intent of the owner. The Petitioner has already demonstrated its sincerity of its desires at the LUC proceedings and has made commitments with the offering of a unilateral agreement. That agreement includes a 20-year restriction on further subdivision of the proposed lots and that the restriction may be amended or modified only upon the prior approval or consent of a majority of the then lot owners in the Petition Area, and a majority vote of the Land Use Commission and the County Planning Department. That condition will run with the land.

The County agencies, which are responsible for developing and maintaining public infrastructure on the island and which have responded on the ADEA, have not objected to the proposed project. If there is a need for infrastructure improvements or upgrades, the

Mr. David W. Blane
April 5, 2001
Page 3

agency outlines specific requirements for the applicant. The Newton Family is prepared to comply with these requirements.

Setting a Precedent

In response to the last paragraph of your letter, each project is different and is assessed on its own merits. All petitions to reclassify the State land use district are required to go through a thorough and well established State and County review and approval process. No precedent would be set.

We thank you for your comments and trust that we have adequately addressed your concerns.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

February 9, 2001

Mr. Glen T. Koyama
Belt Collins Hawaii LTD.
680 Ala Moana Boulevard, 1st Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

RE: Request for Comments: Amended Draft Environmental Assessment for
Proposed Family Subdivision at Kukuau, South Hilo, Island of Hawaii
TMK 2-4-08:33.

We have reviewed your cover letter and amended draft EA to us dated
February 7, 2001 for the subject project description and we have no
objections to the proposed subdivision for the reclassification of 885 acres
from Conservation to Agriculture. Thank you for the opportunity to
comment on this project.

Sincerely yours,

Michael G. Buck
Administrator

Copy: DOFAW, Hawaii Branch

Chairperson
Board of Land and Natural Resources
JANET E. KATTELO
DEPUTY

AGRICULTURE DEVELOPMENT
ADULT RESOURCES
BOATING AND OCCASION RECREATION
CONSERVATION AND
COASTAL AND OFFSHORE
RESOURCES DEVELOPMENT
COMMITTEES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WITH THE LOCAL GOVERNMENT



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Michael G. Buck, Administrator
Division of Forestry and Wildlife
Department of Land and Natural Resources
State of Hawaii
1151 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Buck:

Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division

Thank you for your letter of February 9, 2001 commenting on the Amended Draft
Environmental Assessment for the proposed The Newton Family Subdivision in South
Hilo, Hawaii.

We acknowledge your comment that you have no objections to the proposed
subdivision that would require reclassification of 885 acres from Conservation to
Agricultural.

We thank you for your review of the proposed project

Sincerely yours,

BELT COLLINS HAWAII LTD.

Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.

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STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
111 KAPOLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

FAX (808) 594-1063

March 8, 2001

Glen T. Koyama
Belt Collins Hawaii'i, LTD.
680 Ala Moana Blvd, First Floor
Honolulu, HI 96813-5406

RE: Amended Draft Environmental Assessment Proposed Family Subdivision South
Hilo, Hawaii'i, TMK 2-4-08:33, Third Division.

Dear Mr. Koyama,

Thank you for the opportunity to comment on the Amended Draft Environmental Assessment for the proposed Newton Family subdivision, South Hilo, Hawaii'i, TMK 2-4-08:33, Third Division. The Office of Hawaiian Affairs has several concerns.

Cultural and Archaeological Resources

Cultural concerns raised in response to the pre-assessment consultation seem to have been adequately addressed. However, OHA reserves the right to comment at a later date as there may be unknown cultural practitioners accessing the property to gather plants for ceremonial or medicinal purposes. If cultural practitioners are found, the EA states that the Newton family will assure their gathering rights. OHA requests that it be kept informed on this issue.

The preliminary archaeological survey found no archaeological remains. However, given that existing documentation suggests that there may be archaeological sites present on the property OHA strongly encourages further archaeological studies when more detailed development plans are available. OHA requests that copies of the additional studies be provided for our review.

Flora and Fauna

Surveys of the property show that both the Mauka and Makai segments contain endangered plant and animal species. While the Mauka section is has much more native flora and fauna, the Makai section also contains endangered plants and animals. As such, OHA is concerned that mitigation plans for the Makai segment are preliminary. All parties are relying on the good will of the Newton family to ensure the protection of endangered and threatened species once more concrete development plans are available.

OHA concurs with the mitigation measures suggested by the Department of Fish and Wildlife. Additionally, OHA encourages the Newton family to ensure that there are adequate buffer zones around the kipuka and potential nesting sites of the 'Io (Hawaiian Hawk) and 'Ope'ape'a (Hawaiian Hoary Bat) that exist on the Makai portion of the property. OHA is particularly concerned at the conclusion presented by RANA productions that the development will have no effect on the 'ope'ape'a, because there is very little known about this bat.

The reconnaissance botanical survey done by Palmer and Associate Consulting suggests that the Mauka section of the property has great botanical significance. This portion should remain in conservation, as currently proposed.

In order to maintain the diversity of flora and fauna found in the Mauka portion of the property, OHA suggests that the Newton family work with the County planning department to ensure that easements for the planned county road are well within the Petition area in the Makai portion of the property. The map on page 28 suggests that the County Road will go through the Mauka conservation area, which will have a significant impact on species in the Mauka section.

If you have any questions, please contact Pua Aiu, policy analyst at 594-1931.

Sincerely,

Colin Kippen, Jr
Deputy Administrator, Hawaiian Rights Division

cc: BOT
Administration
Hilo CAC
OEQC



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Colin Kippen, Jr.
Deputy Administrator, Hawaiian Rights Division
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Dear Mr. Kippen:

**Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08:33, Third Division**

Thank you for your letter of March 8, 2001 commenting on the Amended Draft Environmental Assessment for the proposed Newton Family Subdivision in South Hilo, Hawaii.

Cultural and Archaeological Resources

As provided in the proposed conditions of the Land Use Commission Petition, the Newton Family and its successors will preserve and protect all rights customarily and traditionally exercised for subsistence, cultural and religious purposes by descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights. If cultural practitioners are later found involving the property, OHA will be dutifully informed.

As provided in the proposed conditions of the LUC Petition, prior to any land alteration or development on the property, an archaeological inventory survey will be conducted in the anticipated disturbed area. A copy of the completed survey will be provided to OHA for its review.

Flora and Fauna

Proposed conditions in the LUC Petition are designed to protect endangered and threaten species in the Petition Area. Further studies or surveys will be conducted to specifically delineate boundaries of sensitive habitats and establish buffer zones in areas of anticipated land alteration. These studies are intended to provide more information during consultation with the U.S. Fish and Wildlife Service and to provide a basis for appropriate measures for the protection of the area's endangered and threaten species.

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Mr. Colin Kippen, Jr.
April 5, 2001
Page 2

The alignment of the County's planned secondary arterial is shown on the Facilities Map of the County General Plan. The road is part of a regional circulation plan that would provide access between Kaumana Drive and Mountain View through upper Waialea. The Newton Family desires to minimize the proposed Agricultural classification for its property by establishing the boundary of the Agricultural District below the road. Since the road alignment is conceptual, however, the Petitioner is amenable to working with the County to move the road alignment, if necessary, into the Newton Family's Petition Area.

We thank you for your comments regarding the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.

Glenn T. Koyama
Glenn T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.

BENJAMIN J. CAVETANO
COMMISSIONER



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 534-4185
FACSIMILE (808) 534-4185

GENEVEVE SALMONSON
DIRECTOR

March 8, 2001

Mr. Bert Sanuwatani, Acting Executive Officer
State Land Use Commission
P.O. Box 2359
Honolulu, Hawaii 96804-2359
Honolulu, HI 96813

Dear Mr. Sanuwatani:

Subject: Draft Environmental Assessment for the Newton Nine-Parcel Family Subdivision, Hawaii

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

1. Please disclose which parcels will be kept by the Newton family and which will be sold on the market.
2. Please provide more detailed plans of the proposed development. More detailed plans such as site plans will enable reviewers to better understand the impacts of the proposed development on sensitive natural resources.
3. What are the cumulative impacts of this action? Are further subdivisions anticipated in the future? If so, future plans should be disclosed now.

Should you have any question, please call Jeyan Thingumnam at 586-4185.

Sincerely,

Genevieve Salmonson
Director

c: The Newton Family Limited Partnership
Belt Collins



BELT COLLINS

April 5, 2001
01A-174/633-3700

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TNK 2-4-08: 33, Third Division

Thank you for your letter of March 8, 2001 commenting on the Amended Draft Environmental Assessment (ADEA) for the proposed The Newton Family Subdivision in South Hilo, Hawaii.

The large 760-acre "remainder parcels" and Parcels 1, 2, 3, 4 and 8 will be retained by the Newton Family. The remaining Parcels 5, 6 and 7 will be offered for sale on the market.

In the ADEA, we have developed a concept of the typical development for the parcels. The basic concept calls for each parcel to have a farm dwelling and an associated yard that would occupy approximately 20,000 sq. ft. of land. Some yards may include limited agricultural activity for personal and limited commercial use consisting of an additional 20,000 to 60,000 sq. ft. of land. Of course with each dwelling, there would also be a carport or garage with a driveway and possibly fencing. The specific details on how these would be laid out would be left with the parcel owner. We do anticipate, however, the dwelling will be located near the road in lieu of deep within the parcel to minimize cost on access and infrastructure to the owner.

The cumulative impact from the proposed subdivision would be minimal. As part of the project, the Newton Family is establishing a protective use covenants that will restrict further subdivision of the proposed lots for a period of 20 years. This is the result of concern expressed during the Land Use Commission proceedings that there may be further subdivision of the property after the LUC approves the petition. The covenants will take effect prior to the conveyance or sale of any lots.

A new subdivision is being proposed to the north of the Newton Family property. Known as the Kaumana Homesteads project, it will consist of 112 one-acre and larger agricultural lots and will have access from Kaumana Drive and the planned Puaikoa

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Ms. Genevieve Salmonson
April 5, 2001
Page 2

Street Extension. No access will come from Wilder Road. The project is currently seeking zoning approval from the Hawaii County Council for smaller lots on a major portion of the property.

The Kaumana Homesteads involves land that is already agriculturally zoned, unlike the Newton Family project which is proposing to be in agricultural use. Once the Newton Family subdivision is approved, the two projects would have similar and compatible uses. One will be low density (smallest lot in the Newton Family subdivision will be 80-acres) and the other will be relatively medium in density (minimum lot size in the Kaumana Homesteads project will be one-acre). In addition to being compatible with each other, the two projects will be surrounded by similar uses. The Kaumana area is predominantly zoned Agriculture by the County.

The impact of the Kaumana Homesteads project on area infrastructure, particularly traffic and water, would be substantially larger compared to the impact from the Newton Family project. Hence, the cumulative impact from the two projects would be contributed largely by the Kaumana subdivision.

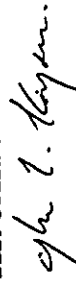
The planned Puainako Street Extension is designed to relieve traffic on Kaumana Drive. When constructed, the new road will provide access to the Kaumana Homesteads as well as the Newton Family project. By itself, the Newton Family subdivision would be adequately accommodated by existing public roads.

With precipitation being very high in the project area (approximately 230" per year), rainfall provides a good source of irrigation water and thus would reduce the dependency of the residents on the public water system. Hence, the demand for County water from the two subdivisions would be less than typical.

We thank you for your comments regarding the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.



NA ALA HELE
Hawaii Trail & Access System

February 20, 2001

Mr. Glen T. Koyama
Belt Collins Hawaii, Ltd
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama,

SUBJECT: Amended Draft Environmental Assessment
Proposed Family Subdivision
TMK 2-4-08:33, South Hilo, Hawaii

Na Ala Hele has no comments or objections for the proposed small family subdivision at Kukuau, South Hilo, Hawaii.

Thank you for the opportunity to comment.

Sincerely,

Rodney T. Oshiro
Rodney T. Oshiro
Na Ala Hele

Division of Forestry & Wildlife • Dept. of Land & Natural Resources • P.O. Box 4849 • Hilo, Hawaii 96720-0849



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Rodney T. Oshiro
Na Ala Hele
Department of Land and Natural Resources
State of Hawaii
P.O. Box 4849
Hilo, Hawaii 96720-0849

Dear Mr. Buck:

Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08:33, Third Division

Thank you for your letter of February 20, 2001 commenting on the Amended Draft Environmental Assessment for the proposed The Newton Family Subdivision in South Hilo, Hawaii.

We acknowledge that you have no comments or objection to the proposed project.

Thank you for your review of the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.

Glen T. Koyama
Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.

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BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Dennis Tulang, P.E., Chief
Wastewater Branch
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801

Dear Mr. Tulang:

**Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division**

Thank you for your letter of February 28, 2001 commenting on the Amended Draft Environmental Assessment for the proposed The Newton Family Subdivision in South Hilo, Hawaii.

All lots in the proposed subdivision are 80 acres or larger in size. We will comply with the Department of Health's Administrative Rules, Chapter 11-62, and install wastewater systems that meet with the DOH requirements.

We thank you for your comments regarding the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.
Glen T. Koyama
Glen T. Koyama

cc: Dr. George Newton
A. Bernard Eays, Esq.

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

February 28, 2001

Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

**Subject: Amended Draft Environmental Assessment
Proposed Family Subdivision - Newton Family Limited Partnership
Kukuau, South Hilo, Hawaii
TMK: (3) 2-4-8: 33 1,645.823 acres**

We have reviewed your letter on the subject project. Regarding your concern of wastewater treatment and disposal, we have the following comments to offer. The subject project is located in the critical wastewater disposal area with one (1) acre lot exception as determined by the Hawaii County Wastewater Advisory Committee. No new cesspools will be allowed in the subject area unless there is at least one (1) acre or more of lot area.

As there is no existing sewer service system in the area and none will be constructed in the near future, the Department of Health concurs with the proposed construction and use of treatment individual wastewater systems (IWSs) such as septic tank systems for the treatment and disposal of domestic wastewater. However, should sewer connection become available in the near future, connection will be required.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules.

Should you have any further questions, please contact our Planning & Design Section Supervisor Mr. Harold Yee of the Wastewater Branch at 586-4294.

Sincerely,

Dennis Tulang
DENNIS TULANG, P.E., CHIEF
Wastewater Branch

LNK:erm

c: Environmental Planning Office with enclosures

BRUCE S. ANDERSON, P.D., M.P.H.
SUPERVISOR
DIRECTOR OF HEALTH

In Reply, please refer to
LMD/WH

H2040833.wpd WP1
010161

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2380
HONOLULU, HAWAII 96804

PAUL G. LE MAHIEU, Ph.D.
SUPERINTENDENT

OFFICE OF THE SUPERINTENDENT

February 23, 2001

Mr. Glen T. Koyama
Belt Collins Hawaii, Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406


Dear Mr. Koyama:

Subject: Newton Family Subdivision
Amended Draft Environmental Assessment

The Department of Education has no comment on the amended environmental assessment.

Thank you for the opportunity to respond.

Very truly yours,


Paul G. LeMahieu, Ph.D.
Superintendent of Education

PLcM:hy



BELT COLLINS

April 5, 2001
01A-174/633-3700

Paul G. LeMahieu, Ph.D.
Superintendent of Education
State of Hawaii
P.O. Box 2360
Honolulu, Hawaii 96804

Dear Dr. LeMahieu:

Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division

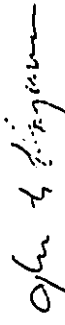
Thank you for your letter of February 23, 2001 commenting on the Amended Draft Environmental Assessment for the proposed The Newton Family Subdivision in South Hilo, Hawaii.

We acknowledge that you have no comments on the proposed project at this time.

Thank you for your review of the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.



Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.

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AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

*fax: George Newson
J.H. White
Bernie Deys
Linné Brown*

CHRISTOPHER J. YUEN
Planning Director
County of Hawaii
Planning Department
25 Aupuni Street
Hilo, Hawaii 96720

Tel. No. (808) 961-8288

BEFORE THE STATE LAND USE COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Petition)
Of)
THE NEWTON FAMILY LIMITED)
PARTNERSHIP, a Hawaii Limited)
Partnership.)

DOCKET NO. A99-729

THE NEWTON FAMILY LIMITED
PARTNERSHIP

To Amend the Land Use District
Boundary of the Conservation District,
at Kukuau, County of Hawaii, State of
Hawaii, in order to reclassify certain land
consisting of approximately 885.40 acres,
from Conservation to Agricultural
Tax Map Key 2-4-08:33

MAR 21 2001

DATED: HILO, HAWAII

Christopher Yuen
CHRISTOPHER YUEN
Planning Director
County of Hawaii
Planning Department

As indicated in the Environmental Assessment, a Change of Zone to an Agricultural district classification would be required should the State Land Use Boundary Amendment be granted. The immediate surrounding area to the east are primarily Agricultural - 10 acres (A-10a), and to the north, Agricultural - 20 acres (A-20a).

It should be pointed out that the approval agency for a grading permit is the Department of Public Works rather than the Planning Department (Page 69). On Page 1 of Appendix B, under the section PROPOSED SUBDIVISION, the restrictions may be conditioned in the change of zone ordinance by the County Council, who is the ultimate decision-maker rather than the Planning Department.

THE COUNTY OF HAWAII PLANNING DEPARTMENT'S COMMENTS
ON THE PETITIONER'S AMENDED DRAFT ENVIRONMENTAL ASSESSMENT

We have reviewed the Petitioner's Amended Draft Environmental Assessment and found that the proposal for an agricultural subdivision would not have any significant environmental effects. We concur with the Environmental Assessment that the petition area is currently designated by the County of Hawaii General Plan Land Use Pattern Allocation Guide (LUPAG) Map as Conservation. However, as part of the County's comprehensive 10-year revisions to the General Plan, we are currently proposing to redesignate the petition area from Conservation to Other Agricultural.

CHRISTOPHER J. YUEN
Planning Director
County of Hawaii
Planning Department
25 Aupuni Street
Hilo, Hawaii 96720

Tel. No. (808) 961-8288

BEFORE THE STATE LAND USE COMMISSION
OF THE STATE OF HAWAII


In the Matter of the Petition)
Of)
THE NEWTON FAMILY LIMITED)
PARTNERSHIP, a Hawaii Limited)
Partnership.)
To Amend the Land Use District)
Boundary of the Conservation District,)
at Kukuau, County of Hawaii, State of)
Hawaii, in order to reclassify certain land)
consisting of approximately 885.40 acres,)
from Conservation to Agricultural)
Tax Map Key 2-4-08:33)

LINCOLN ASHIDA, ESQ.
Corporation Counsel
County of Hawaii
The Hilo Lagoon Center
101 Aupuni Street, Suite 325
Hilo, Hawaii 96720-4252

BERT SARUWATAWI, Acting Executive Officer
DBED&T, Land Use Commission
P. O. Box 2359
Honolulu, Hawaii 96804-2359
Facsimile: (808) 587-3827

DAVID W. BLAINE, Director
Office of Planning
State of Hawaii
Land Use Division
P. O. Box 2359
Honolulu, Hawaii 96804

DATED: HILO, HAWAII MAR 21 2001


CHRISTOPHER J. YUEN
Planning Director
County of Hawaii
Planning Department

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the County of Hawaii Planning Department's
Comments on the Amended Draft Environmental Assessment was served upon the following
by either facsimile or depositing in the United States Postal Service, postage prepaid,
addressed as follows:

A. BERNARD BAYS, ESQ., Attorney for Petitioner
Bays, Deaver, Hiatt, Lung & Rose
1099 Alakea Street, 16th Floor
Honolulu, Hawaii 96813
Facsimile: (808) 533-4184



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Christopher J. Yuen, Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Yuen:

**Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division**

Thank you for your written transmittal of March 21, 2001 commenting on the Amended Draft Environmental Assessment for the proposed The Newton Family Subdivision in South Hilo, Hawaii.

We acknowledge that you have found the proposed agricultural subdivision to have no significant environmental effect, and that as part of the Hawaii County's comprehensive 10-year revision to the General Plan, you are currently proposing to redesignate the Petition Area from Conservation to Other Agricultural.

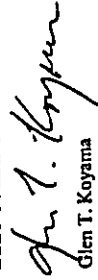
Further, we acknowledge your assessment that the immediate surrounding area to the east and north are primarily agricultural zoned lands.

Page 69 will be revised to show the approving agency for the grading permit is the Department of Public Works. We further acknowledge that the proposed condition under "Proposed Subdivision" may be conditioned in the change of zone ordinance by the County Council who is the ultimate decision-maker in the rezoning process.

We thank you for your comments regarding the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.

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Harry Kim
Mayor



County of Hawaii

DEPARTMENT OF PUBLIC WORKS
25 Airport Street, Room 202 - Hilo, Hawaii 96720-4252
(808) 941-4311 • Fax: (808) 941-4408

Deanis K. W. Lee
Director
Jiro A. Samada
Deputy Director

DRAFT EA
February 28, 2001
Page 2 of 2

February 28, 2001

MR GLEN T. KOYAMA
BELT COLLINS
680 ALA MOANA BLYD FIRST FLR
HONOLULU HAWAII 96813-5406

SUBJECT : DRAFT ENVIRONMENTAL ASSESSMENT
Waiākea, South Hilo, Hawaii
TMK: 2-4-08: 33


We acknowledge receipt of your letter concerning the subject matter, and provide you with our comments as follows:

1. Any building construction shall conform to all requirements of code and statutes of the County of Hawaii.
2. All development generated runoff shall be disposed on site and shall not be directed toward any adjacent properties.
3. All earthwork and grading shall be in conformance with Chapter 10, Erosion and Sediment Control, of the Hawaii County Code.
4. The applicant should consult with the Natural Resources Conservation Service (NRCS); f.k.a., the Soil Conservation Service (SCS) for farming activities.
5. Any work within the County right-of-way shall be in conformance with Chapter 22, Streets and Sidewalks, of the Hawaii County Code. Wilder Road is a County roadway.

6. Our Planning Department will determine the future road networking that affects the subject parcel.

7. Through road connections or road stubouts should be considered for the subject parcel. We will be requesting this during the change of zone and subdivision process.

Should there be any questions concerning this matter, please feel free to contact Mr. Casey Yanagihara in our Engineering Division at (808)961-8327.


Galen M. Kuba, Division Chief
Engineering Division

CKY



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Galen M. Kuba, Division Chief
Engineering Division
Department of Public Works
County of Hawaii
25 Aupuni Street, Room 202
Hilo, Hawaii 96720-4252

Dear Mr. Kuba:

Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division

Thank you for your letter of February 28, 2001 commenting on the Amended Draft Environmental Assessment (ADEA) for the proposed The Newton Family Subdivision in South Hilo, Hawaii.

All building construction and earthwork including grading within the subdivision will conform to the codes and statutes of the County of Hawaii. All development generated runoff will be disposed on site and will not be directed toward adjacent properties.

We have discussed potential uses of the Newton Family property with the Natural Resources Conservation Services and have noted in the ADEA the agency's suggestions on what could be done to improve the soil's productive use.

The new road within the proposed subdivision will be private, and any connection with or improvements within the Wilder Road right-of-way will meet County code requirements.

We are keeping posted on the Planning Department's future roadway plans for the region and will cooperate with the Department of Public Works' suggestion to have a through road or road stubouts for the Newton Family subdivision. We have already preliminarily set aside a right-of-way for a through road in the middle of the Petitioner's property for County use. This right-of-way would accommodate the designated secondary arterial that is shown on the existing Facilities Map of the County General Plan.


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Mr. Galen M. Kuba
April 5, 2001
Page 2

We thank you for your comments regarding the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
 25 AUPUNI STREET • HILO, HAWAII 96720
 TELEPHONE (808) 961-8660 • FAX (808) 961-8657

February 21, 2001

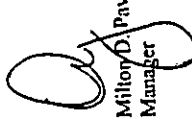
Mr. Glen T. Koyama
 Belt Collins Hawaii Ltd.
 680 Ala Moana Boulevard, First Floor
 Honolulu, Hawaii 96813-5406

AMENDED DRAFT ENVIRONMENTAL ASSESSMENT
 PROPOSED FAMILY SUBDIVISION
 NEWTON FAMILY LIMITED PARTNERSHIP
 TAX MAP KEY: 2-4-008-033

We have reviewed the Amended Draft Environmental Assessment and the comments in our letter dated September 23, 1999 to the State of Hawaii Department of Business Economic Development and Tourism still stand. (A copy is attached.)

Should there be any questions, please contact our Water Resources and Planning Branch at 961-8665.

Sincerely yours,


 Milroy D. Pavan, P.E.
 Manager

SIH:gms

Att.

... *Water brings progress...*



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
 25 AUPUNI STREET • HILO, HAWAII 96720
 TELEPHONE (808) 961-8660 • FAX (808) 961-8657

September 23, 1999

State of Hawaii
 Department of Business
 Economic Development and Tourism
 Office of Planning
 P.O. Box 2359
 Honolulu, HI 96804

PETITION FOR AMENDMENT TO THE STATE LAND USE DISTRICT BOUNDARY
 PETITION: A99-729/THE NEWTON FAMILY LIMITED PARTNERSHIP
 REQUESTED CHANGE: CONSERVATION TO AGRICULTURAL DISTRICT
 PROPOSED USE: SMALL SCALE AGRICULTURAL ACTIVITIES, INCLUDING SIX SINGLE FAMILY
 FARM DWELLINGS
 TAX MAP KEY: 2-4-008:PORTION OF 033

We have reviewed the subject request and have the following comments.

Please be informed that the Department did not have the opportunity to review and comment on the Draft Environmental Assessment (DEA).

For the applicant's information, the subject property is not within the service limits of the Department's existing water system facilities. The nearest water system facility is an existing 8-inch waterline along Wilder Road, approximately 3,500 feet from the property. Further, the property is at an elevation beyond the pressure limits of the Department's existing water system.

However, water would be available for a maximum of 7 units at 600 gallons of water per day or 4,200 gallons should the developer construct a water system in accordance with the Department's Water System Standards. Water must be provided at adequate pressure and volume under peak-flow conditions to the proposed subdivision.

... *Water brings progress...*

State of Hawaii
Department of Business
Page 2
September 23, 1999

Further, there are no plans by the Department to develop the water system in this area beyond it's existing capabilities except for the outfitting of "Saddle Road Well A" as a production well.

Pursuant to your request, we are enclosing maps of the Department's existing water system in the area.

Should there be any questions, please contact our Water Resources and Planning Branch at 961-8665.



Milton D. Pavao, P.E.
Manager

WA:gms

Enc.



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Milton D. Pavao, P.E., Manager
Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Pavao:

**Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division**

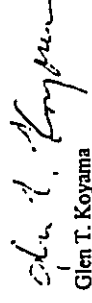
Thank you for your letter of February 21, 2001 commenting on the Amended Draft Environmental Assessment for the proposed The Newton Family Subdivision in South Hilo, Hawaii.

The Newton Family plans to install a water line that will connect with the County's 8-inch water line along Wilder Road or with a line from the Department of Water Supply's existing reservoir (El. 1,330) to the Wilder Road water system. A pump will then be installed to convey the water to the project's higher elevation and provide the required pressure. Facility charges will be paid to the County to secure the proper number of water units for the subdivision.

We thank you for your comments regarding the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.

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Harry Kim
Mayor



County of Hawaii
POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-4869

James S. Correa
Police Chief



BELT COLLINS

April 5, 2001
01A-174/633-3700

Mr. Thomas J. Hickcox
Assistant Police Chief
Police Department
County of Hawaii
349 Kapiolani Street
Hilo, Hawaii 96720-3998

February 15, 2001

Mr. Gien T. Koyama
Belt Collins Hawaii Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, HI 96813-5406

Dear Mr. Koyama:

**SUBJECT : AMENDED DRAFT ENVIRONMENTAL ASSESSMENT
PROPOSED FAMILY SUBDIVISION
SOUTH HILO, HAWAII, TMK 2-4-08: 33, THIRD DIVISION**

This acknowledges your letter of February 12, 2001, requesting our comments on the proposed project.

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

Thank you for the opportunity to comment.

Sincerely,

JAMES S. CORREA
POLICE CHIEF

Thomas J. Hickcox
THOMAS J. HICKCOX
ASSISTANT POLICE CHIEF
FIELD OPERATIONS BUREAU

FHR:IK

Dear Mr. Hickcox:

**Amended Draft Environmental Assessment
The Newton Family Subdivision
South Hilo, Hawaii, TMK 2-4-08: 33, Third Division**

Thank you for your letter of February 15, 2001 commenting on the Amended Draft Environmental Assessment for the proposed The Newton Family Subdivision in South Hilo, Hawaii.

We acknowledge that you have no comments or objections to the proposed project.

We thank you for your review of the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.

Gien T. Koyama
Gien T. Koyama

cc: Dr. George Newton
A. Bernard Bays, Esq.

BELT COLLINS HAWAII LTD. • 680 ALA MOANA BOULEVARD, FIRST FLOOR, HONOLULU, HAWAII 96813-5406 U.S.A.
TEL: 808 931-5361 FAX: 808 938-7819 EMAIL: bhc@bclhawaii.com WEB: www.bclhawaii.com

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XVI. REFERENCES

James R. Bell is a principal in the office of Belt Collins Hawaii and is the supervising planner for this EA. A resume of Mr. Bell is included in Appendix I.

Below is a list of references that were used in the preparation of this EA.

- County of Hawaii (1998). Tax Maps for sections 2-4s and 2-5s, Third Division
- ___ (November 1989). The General Plan, Hawaii County.
- ___ Zoning Code, Amended December 1996.
- ___ (April 2000) in conjunction with State Department of Transportation and Federal Highway Administration. Puainako Street Extension and Widening, South Hilo, Hawaii, Final Environmental Impact Statement.
- Federal Emergency Management Agency (1988). Flood Insurance Rate Maps, Community Panel No. 155166-0870C.
- MacDonald, G.A., Abbott, A.T., and Peterson, F.L. (1983). Volcanoes in the Sea, The Geology of Hawaii, University of Hawaii Press.
- Mullineaux, D.R., and D.W. Peterson (1974). Volcanic Hazards on the Island of Hawaii (U.S. Geological Survey Open File Report 74-239).
- State of Hawaii. State Functional Plans, 1984, 1989, 1990, and 1991.
- ___ Department of Transportation (1996). 24-Hour Traffic Counts-Station Summary Reports.
- ___ Department of Agriculture (1976/1977). Agricultural Lands of Importance to the State of Hawaii, Island of Hawaii.
- ___ Department of Land and Natural Resources (1986). Rainfall Atlas of Hawaii.
- ___ Hawaii Administrative Rules (1995), Title 11, Chapters 54, 59 & 60; Title 13, Chapters 236 & 256.
- ___ Hawaii Revised Statutes (1990), Chapters 103, 188, 205, 205A, 226, 262 and 343.
- ___ Hawaii Revised Statutes (1992), Chapter 103-24.6.

- ___ Land Use Commission (1998). Land Use District Boundary Map, H-61, Piihonua, Hawaii Quadrangle.
- ___ Office of the Governor (1995). The Hawaii State Plan.
- ___ Office of State Planning (1992). State Land Use District Boundary Review-Hawaii.
- ___ (1998). The State of Hawaii Data Book.
- U.S. Department of Commerce (1969). Catalog of Tsunamis in the Hawaiian Islands. Washington, D.C.
- ___ Bureau of the Census. 1990 Census of Population and Housing. Washington, D.C.
- ___ Geological Survey (1981). Piihonua, Hawaii Quadrangle - Hawaii County, Island of Hawaii, Topographic Map, 7.5 Minute Series.
- ___ Soil Conservation Service (December 1973). Soil Survey of the Island of Hawaii, State of Hawaii.
- ___ Weather Bureau (1967). Climates of the States: Hawaii.

XVII. APPENDICES

- A. Preconsultation Comment Letters
- B. Conditions on LUD Boundary Amendment Petition
- C. Reconnaissance Survey of Terrestrial Vertebrate Species
- D. Reconnaissance Botanical Survey
- E. Archaeological Assessment Study
- F. DLNR Letter on Further Archaeological Work
- G. Cultural Concerns Study and Addendum
- H. Future Major Road System in the Vicinity
- I. James R. Bell Resume

APPENDIX A

PRECONSULTATION COMMENT LETTERS



United States Department of the Interior
FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Blvd, Rm 3122
Box 50088
Honolulu, HI 96850

SEP 29 1999

In Reply Refer To: MMB

SEP 29 1999

David W. Blane
Director
Office of State Planning
235 South Beretania Street, 6th Floor
Honolulu, Hawaii 96804

Re: Petition for Amendment to the State Land Use District Boundaries for the Newton Family Limited Partnership (TMK 3-2-4-08), Kukuau, Hilo, Hawaii

Dear Mr. Blane:

The Fish and Wildlife Service (Service) has received your letter of September 17, 1999, requesting comments on the petition for amending the State Land Use District Boundaries for Kukuau, Hilo, Hawaii (TMK 3-2-4-08). The proposed action is to reclassify the subject parcel from Conservation to Agricultural District, enabling the owners to construct an agricultural subdivision. A draft Environmental Assessment (DEA) in support of the proposed amendment was provided with the petition. The Service offers the following comments for your consideration.

The Service believes that the DEA adequately describes the primary animal and plant resources present on the property but does not adequately assess anticipated impacts to native resources from the proposed subdivision. Statewide, very little native forest remains at the elevation of the proposed project (1,400-2,000 feet). The main causes of forest loss at this elevation have been agricultural and residential development and invasion by alien species of plants and animals. Conversion of forest land to agricultural or residential uses generally entails replacement of some or all of the native vegetation with introduced species, reducing or eliminating the land's conservation value. In addition, construction of roads provides an invasion route for destructive alien species, such as cats, ants, and weeds. Because many extensive areas with native vegetation are already fragmented by roads, making them vulnerable to degradation, roadless areas that remain dominated by native species are especially valuable for the conservation of native Hawaiian ecosystems.

Given the past losses of native Hawaiian ecosystems and the existing rate of degradation of the remaining lowland forests, removal of such forest lands from conservation status in general is not supported by the Service. Even if alien species are well-established within the parcel, the unfragmented forest (1) continues to be habitat for numerous native species, (2) acts as a buffer zone for more intact adjacent forest, and (3) offers the potential to restore native community integrity with appropriate management. The Service strongly agrees that the mauka portion of the parcel should remain zoned for Conservation, especially since one of only three known populations of the federally endangered plant *Cyanea platyphylla* occurs there. *Cyanea platyphylla* was previously known from


only two populations totaling fewer than 20 individuals, making this new population extremely important to the survival of the species.

Based on the results of the botanical survey contained in the DEA, the vegetation in the makai parcel is also significant lowland wet forest in which the federally endangered Hawaiian bat (*Lasiurus cinereus semotus*) and Hawaiian hawk (*Buteo solitarius*) have been observed. In addition, the federally threatened Newell's shearwater (*Puffinus auricularis*) is known from the general area and may fly through the parcel. The Service supports the implementation of the mitigation measures proposed in the DEA, including leaving large stands of forest trees and clusters of major vegetation intact; focusing residential sites to areas that are already cleared; working closely with the Department of Land and Natural Resources to take necessary precautions to avoid any negative effects to rare, endangered, or threatened species; and not developing the property into a large project. Furthermore, we recommend that grubbing and clearing in the makai parcel should not begin until the area has been thoroughly surveyed to assure there are no Hawaiian hawks nesting in the area, rather than halting grubbing and clearing once a nest is found.

The Service would concur with the DEA's Finding of No Significant Impact (FONSI) and would support the proposed amendment if conservation actions are taken to enhance the existing lowland forest and protect the endangered *Cyanea platyphylla*, Hawaiian bat, and Hawaiian hawk in the mauka parcel. The Service is willing to discuss with the landowner the possibility of implementing additional conservation actions that would protect and enhance the ever-decreasing lowland wet forest habitat and the endangered and threatened species found within it and how we may be able to assist in these efforts. Finally, the Service would like to remind the landowner to contact the U.S. Army Corps of Engineers for permits needed to modify any wetlands.

The Service appreciates the opportunity to provide these comments to assist the Land Use Commission in deciding whether to grant this petition to amend the Conservation District boundaries. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Marie Bruegmann at (808) 541-3441.

Sincerely,


For Robert P. Smith
Pacific Islands Manager

cc: Michael Buck, DOFAW
Jon Giffin, DOFAW
Glen Koyama, Belt Collins



United States Department of the Interior
FISH AND WILDLIFE SERVICE

Pacific Islands Ecoregion
300 Ala Moana Blvd, Rm 3122
Box 50088
Honolulu, HI 96850

JUN 2 2000

In Reply Refer To: MMB

Glen Koyama
Belt Collins Hawaii Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406

Re: Petition to Amend State Land Use District Boundaries for the Newton Family Limited Partnership Property (TMK 3-2-4-08), Kukuau, Hiló, Hawaii

Dear Mr. Koyama:

The Fish and Wildlife Service (Service) has received your letter of May 19, 2000, requesting comments on the revised petition for amending the State Land Use District Boundaries for Kukuau, Hilo, Hawaii (TMK 3-2-4-08). The proposed action is to reclassify the subject parcel from Conservation to Agricultural District, enabling the owners to construct an agricultural subdivision. A draft Environmental Assessment (DEA) in support of the proposed amendment was provided with the original petition on September 17, 1999.

The Service supports the proposed amendment to the petition. It is difficult to identify the specific conservation actions needed prior to reviewing more detailed plans identifying which specific areas are proposed for what type of development and which will be left intact. The Service is willing to continue working with the landowner as detailed plans are developed to ensure that anticipated impacts to native resources will be adequately addressed through additional conservation actions.

The Service appreciates the opportunity to provide these additional comments to assist the landowner and the Land Use Commission. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Marie Bruegmann at (808) 541-3441.

Sincerely,

Paul Henson
Field Supervisor
Ecological Services

cc: Michael Buck, DOFAW
Jon Giffin, DOFAW
David Blane, OSP



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Blvd, Rm 3122
Box 50088
Honolulu, HI 96850

RECEIVED

2001 JAN 19 A 11: 06

300 ALA MOANA BLVD
HONOLULU, HI 96850

In Reply Refer To: JTN

Glen Koyama
Belt Collins Hawaii
680 Ala Moana Boulevard, First Floor
Honolulu, HI 96813-5406

JAN 17 2001

Dear Mr. Koyama:

This letter follows up on the phone conversation you had on December 11, 2000, and January 9, 2000, with Fish and Wildlife Biologists, Jay Nelson and Mick Castillo, respectively, and your fax request of December 26, 2000, for confirmation in writing by the Fish and Wildlife Service (Service) regarding the Service's current review of the listing status of the Hawaiian Hawk (*Buteo solitarius*).

The Service's technical advisory group, the Io Recovery Working Group will be meeting in late February to reconsider down-listing the species to threatened in light of new demographic, breeding success and habitat trend data. Feel free to contact us in late March or April if you would like updated information at that time.

If you have any questions or find you will need additional information, please contact Fish and Wildlife Biologist, Jay Nelson, by phone at (808)541-3441 or by facsimile transmission at (808) 541-3470.

Sincerely,

Paul Henson
Field Supervisor
Ecological Services



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

June 28, 1999

RECEIVED

1999 JUN 29 P 1:18

BELT COLLINS HAWAII

Civil Works Technical Branch


Mr. Glen T. Koyama
Belt Collins Hawaii, Limited
680 Ala Moana Boulevard, 1st Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

Thank you for the opportunity to review and comment on the Environmental Assessment for the Proposed State Land Use District Boundary Amendment for Property Located in North Hilo, Hawaii (TMK 2-4-8: 33). Since this is an administrative action, a Department of the Army (DA) permit is not required at this time. Consultation should take place with our Regulatory Branch to determine if a DA permit may be required should any future land-disturbing activities be planned for the area. Additionally, any construction work in the future will have to adhere to the requirements of the Federal Emergency Management Agency. We will need to review any future documentation when it becomes available so that project specific information can be provided to you.

If you require additional information, please feel free to contact Ms. Jessie Dobinchick of my Civil Works Technical Branch staff at 438-8876.

Sincerely,


James K. Hatashima
Acting Chief, Civil Works
Technical Branch



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

September 13, 2000

Regulatory Branch

Mr. Glen Koyama
Belt Collins Hawaii, Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

This letter is written regarding your request in determining the Corps regulatory jurisdiction should wetlands be identified on the 1,646 acre Newton Property, TMK 2-4-08:33 located in Hilo, Hawaii.

Based on the information provided and a meeting with Ms. Lolly Silva of my staff, it appears that portions of the parcel may contain wetlands. However the extent may not be known until a wetland delineation is done. Although the Corps is the lead federal agency for conducting wetland delineations for private landowners, it is done on a time permitting basis. For an area this large, I would suggest you consult with Mr. Grant Gerrish, Professor, University of Hawaii Hilo who has in the past, conducted wetland delineations acceptable to the Corps. Please note that the Corps does not endorse the use of Mr. Gerrish or other wetland consultants, however Mr. Gerrish has extensive knowledge of the area as he was consulted on for two major Federal and State highway projects in the surrounding area.

For your information, the Corps has jurisdiction over any activity which would impact waters of the U.S., including wetlands. A Department of the Army (DA) permit would be required for the discharge of fill material into waters of the U.S. which is regulated under Section 404 of the Clean Water Act.

Although Mr. Newton is proposing to subdivide the parcel, it is unclear whether there will be any land disturbing activity associated with the subdivision. The Corps would appreciate a review of the environmental assessment or other documents prior to any work being conducted on this parcel. A final determination regarding Corps permit requirements will be issued upon review of these documents.

-2-

If you have any questions or need additional information, you may call Ms. Silva at 438-7023 or Mr. Farley Watanabe at 438-7701 (FAX 438-4060) and reference file number 990000400.

Sincerely,

A handwritten signature in cursive script, appearing to read "George P. Young".

George P. Young, P.E.
Chief, Regulatory Branch



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

October 2, 2000

Regulatory Branch

Mr. Glen T. Koyama
Belt Collins Hawaii, Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

The Newton Family Limited Partnership Property

This letter is written to confirm your September 28, 2000 meeting with Ms. Lolly Silva of my staff regarding the scope of the Corps involvement should wetlands be found on the Newton Family Limited Partnership Property located in Hilo, Hawaii. It is my understanding that the owner has submitted a petition to the State Land Use Commission to reclassify a portion of its property from Conservation to Agricultural and then intends to subdivide the petitioned area into 8 parcels.

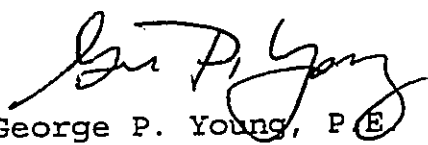
With respect to my previous letter dated September 13, 2000, I wish to clarify that the Corps does not require a wetland assessment in connection with a land use district boundary amendment review. During this stage, the project's development plans are conceptual and any wetlands delineation and discussions on mitigation or conservation measures would be premature. However, if in the future, the owner has intentions of constructing roadways and houses or performing any activities that would involve work within any wetlands or waters of the U.S., a Department of the Army permit may be required at that time.

When a project is in its permit approval process/design/subdivision stage, definite construction areas can be identified. A wetlands assessment would then be appropriate, and impacts to wetlands, if any, could be addressed in mitigation or conservation measures.

-2-

If you have any questions or need additional information, you may call Ms. Silva at 438-7023 or Mr. Farley Watanabe at 438-7701 (FAX 438-4060) and reference file number 990000400.

Sincerely,


George P. Young, P.E.
Chief, Regulatory Branch

BENJAMIN J. CAYETANO
Governor



RECEIVED

1999 JUL 13 A 11:20

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
Honolulu, Hawaii 96814-2512

JAMES J. NAKATANI
Chairperson, Board of Agriculture

LETITIA N. UYEHARA
Deputy to the Chairperson

Mailing Address:
P.O. Box 22159
Honolulu, Hawaii 96823-2159
Fax: (808) 973-9613

July 9, 1999

Mr. Glen T. Koyama
Belt Collins Hawaii, Ltd.
680 Ala Moana Boulevard
First Floor
Honolulu HI 96813-5406

Dear Mr. Koyama:

Subject: Environmental Assessment
Proposed State Land Use Boundary Amendment from Conservation to
Agricultural
Newton Family Limited Partnership
TMK: 2-4-08: por. 33 North Hilo, Hawaii
Area: approximately 885 acres

Thank you for the opportunity to review the subject proposal. We offer the following comments.

Background

According to the summary sheet, the subject area will be subdivided into six lots for use by family members to engage in limited agricultural activities. Up to three of these lots may be sold to non-family individuals to assist in the financing of the subdivision's infrastructure.

The property has an elevation range from 1,420 to 1,980 feet. Minor cattle grazing is found in some sections of the property. The property has been removed from the State Forest Reserve System by the Department of Land and Natural Resources. Adjacent properties are in forest, open space, and agricultural uses. The County General Plan shows a secondary road crossing the applicant's mauka edge of the proposed subdivision.



Mr. Glen T. Koyama
July 9, 1999
Page -2-

Additional land use permit approvals required include a General Plan amendment, zoning amendment, and subdivision approval.

Additional information

Our recent historical files (1978-80) show sugarcane cultivation about a half-mile north of the property, up to an elevation of 1,500 feet. Other uses of nearby lands included grazing. There were no adjacent agricultural uses of the subject property or abutting lands. This may be due to the predominant soil of the area, Keei extremely rocky muck, whose rockiness and shallow surface soil makes it unsuited to cultivation and limits its use to pasture, woodland, or wildlife (Soil Survey of Island of Hawaii, USDA/Soil Conservation Service; December, 1973). Also, the property and adjacent lands are not classified according to the Agricultural Lands of Importance to the State of Hawaii (ALISH) system. Rainfall in the area is about 170 inches per year.

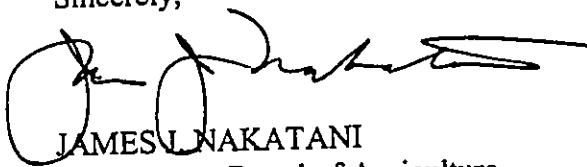
Comments

The Department of Agriculture supports efforts to establish bona fide agricultural operations. Also, there is widespread criticism that there are lands in the State Agricultural District unsuited for agricultural production. Based on the information at hand, there is no compelling reason to redesignate this parcel to the Agricultural District.

We suggest specification of what comprises the "possible limited agricultural activities" of the lots to be created. Also, the applicant may wish to investigate the feasibility of the proposed subdivision and agricultural plans while retaining the Conservation District designation.

Should you have any questions, please contact Earl Yamamoto at 973-9466.

Sincerely,



JAMES L. NAKATANI
Chairperson, Board of Agriculture



BELT COLLINS

August 19, 1999
633.3700/99P-314

Mr. James J. Nakatani, Chairperson
Board of Agriculture
State of Hawaii
P.O. Box 22159
Honolulu, Hawaii 96823-2159

Dear Mr. Nakatani:

**Environmental Assessment
Newton Family Limited Partnership
TMK 2-4-08: por. 33, North Hilo, Hawaii**

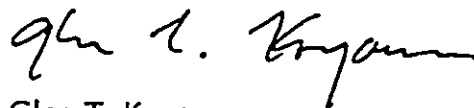
Thank you for your letter of July 9, 1999 responding to our pre-assessment consultation letter on the upcoming Draft Environmental Assessment (DEA) for the Newton Family Limited Partnership property. We will elaborate in the DEA the reason the current Conservation District is not appropriate for the owner's property and why an Agricultural District is the appropriate land use classification. We will also elaborate on possible limited agricultural activities for the owner's proposed "family" subdivision.

We have reviewed the possibility of developing an agricultural subdivision in the Conservation District and have found that it is not a permitted use; thus the need to reclassify the property's State Land Use District designation.

After we submit our DEA to the Office of Environmental Quality Control for publication of an announcement in The Environmental Notice, we will transmit a copy to you for review and comment. We look forward to your additional input on this project.

Sincerely yours,

BELT COLLINS HAWAII LTD.



Glen T. Koyama

GTK:lf

cc: George Newton

bcc: John Michael White
Bernard Bays

BELT COLLINS HAWAII LTD. • 680 ALA MOANA BOULEVARD, FIRST FLOOR, HONOLULU, HAWAII 96813-5406 U.S.A.
TEL: 808 521-5361 FAX: 808 538-7819 EMAIL: hawaii@beltcollins.com WEB: www.beltcollins.com

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BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

RECEIVED

PAUL G. LeMAHIEU, Ph.D.
SUPERINTENDENT

1999 JUL -8 P 1:27
BELT COLLINS HAWAII

OFFICE OF THE SUPERINTENDENT

July 1, 1999

Mr. Glen T. Koyama
Belt Collins Hawaii, Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

Subject: Newton Family Property Pre-consultation

The Department of Education has no comment on the subject project at this time.

Thank you for the opportunity to respond.

Very truly yours,

A handwritten signature in cursive script that reads "Paul G. LeMahieu".

Paul G. LeMahieu, Ph.D.
Superintendent of Education

PLeM:hy

cc: A. Suga, OBS
P. Bergin, HIDO

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



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

RECEIVED

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

1999 JUN 25 P 2:10

BELT COLLINS HAWAII reply, please refer to:
File:

June 22, 1999

99-131/epo

Mr. Glen T. Koyama
BELT COLLINS HAWAII LTD.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813

Dear Mr. Koyama:

Subject: ENVIRONMENTAL ASSESSMENT PREPARATION NOTICE
Project: State Land Use District Boundary Amendment
from Conservation to Agricultural
Location: North Hilo, Hawaii
TMK: 3-2-4-08: Por. of 33

Thank you for allowing us to review and comment on the subject project. We do not have any comments to offer at this time. However, we would like to review the draft environmental assessment upon completion.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gary Gill".

GARY GILL
Deputy Director for Environmental Health

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



RECEIVED

Timothy E. Johns
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

1999 JUN 21 A 11:32net DEPUTY E. Kawelo

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

BELT COLLINS HAWAII

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

June 16, 1999

Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

RE: Environmental Assessment, Proposed State Land Use District Boundary
Amendment from Conservation to Agricultural TMK 3-2-4-08: Por. of 33, North
Hilo, Hawaii

We have reviewed the information provided by your June 10, 1999 letter to the Division of Forestry and Wildlife and anticipate no objections to the Newton family's proposed subdivision of 885 acres and amendment of the State Land Use District Boundary from Conservation to Agriculture. Thank you for allowing us to comment on this application which is located west of the Hilo Country Club Estates off of Wilder Road and near Kaumana Homesteads.

Sincerely,

for *Michael G. Buck*
Michael G. Buck
Administrator

C: DOFAW, Hawaii Branch

BENJAMIN J. CAYETANO
GOVERNOR



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KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAII
GLENN M. OKIMOTO

STATE OF HAWAII 1999 JUL -1 P 1:06
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET BELT COLLINS HAWAII
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

HWY-PS
2.4389

JUN 30 1999

Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
680 Ala Moana Boulevard, First Floor
Honolulu, Hawaii 96813-5406

Dear Mr. Koyama:

Subject: Environmental Assessment, Proposed State Land Use District Boundary
Amendment, Conservation to Agricultural, Newton Family Limited
Partnership, North Hilo, Hawaii, TMK: (3) 2-4-08: por. 33

Thank you for your letter to Ronald F. Tsuzuki, Engineering Program Manager, Planning
Branch, and the opportunity to review the subject proposed amendment and subdivision of
885 acres into six parcels.

We have the following comments:

1. The future county secondary arterial shown on the mauka (western) border of the area proposed for land use reclassification is the Puainako Street Extension. The proposed land use amendment should be coordinated with the County of Hawaii, which is taking the lead on the Puainako Street Extension. Piecemeal development of the 885-acre land should be discouraged. We suggest that the applicant prepare a master plan for the use of the land and address the traffic impacts in the Environmental Assessment.
2. The applicant should reserve and dedicate land for the future Puainako Street Extension right-of-way to the County of Hawaii.

If you have any questions, you may call Mr. Tsuzuki at 587-1830.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Pericles Manthos".

PERICLES MANTHOS
Administrator
Highways Division



BELT COLLINS

August 19, 1999
633.3700/99P-316

Mr. Pericles Manthos, Administrator
Highways Division
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Manthos:

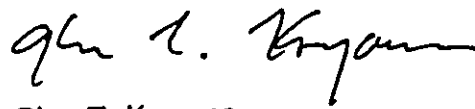
**Environmental Assessment
Newton Family Limited Partnership
TMK 2-4-08: por. 33, North Hilo, Hawaii**

Thank you for your letter of June 30, 1999 responding to our pre-assessment consultation letter on the upcoming Draft Environmental Assessment (DEA) for the Newton Family Limited Partnership property. I believe the Puainako Street Extension is planned below the project site and does not connect with the subject property. The Hawaii County General Plan Facilities Map, however, does show a long-term planned secondary arterial that would cross at about the middle of the Newton property. A master plan has been prepared for the owner's property and includes a corridor for the future secondary arterial. Also, an assessment of the project's traffic impact will be included in the DEA.

After we submit our DEA to the Office of Environmental Quality Control for publication of an announcement in The Environmental Notice, we will transmit a copy to you for review and comment. We look forward to your additional input on this project.

Sincerely yours,

BELT COLLINS HAWAII LTD.



Glen T. Koyama

GTK:lf

cc: George Newton

bcc: John Michael White
Bernard Bays

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PHONE (808) 594-1888

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1999 JUL 14 A 11: 29

FAX (808) 594-1865



COLLINS HAWAII

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

July 13, 1999

Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
680 Ala Moana Blvd., First Floor
Honolulu, HI 96813-5406

PC #55

Re: Pre-assessment Consultation for the Preparation of an Environmental Assessment for the Proposed State Land Use District Boundary Amendment From Conservation to Agriculture; TMK:3-2-4-08:por. 33, North Hilo, Hawai'i.

Dear Mr. Koyama:

Thank you for the opportunity to comment on the preparation of a draft Environmental Assessment (DEA) for the District Boundary Amendment for the Newton Family Limited Partnership.

The Office of Hawaiian Affairs is primarily concerned with: (1) impacts to cultural and historic resources that may be found in the project area, (2) any traditional gathering rights which may have occurred in the areas to be acquired (3) the affect upon the Hawaiian community by the use of ceded lands in this manner and (4) any endangered species which may be in or near the project areas.

In order to address the cultural concerns, we suggest that you contact a Hawaiian cultural expert to define and interpret impacts to the native Hawaiian community. We strongly suggest that the Hawaiian cultural expert you choose should be a person who is recognized within the Hawaiian community for his/her cultural expertise. The concerns of the community and this office will not be addressed if the DEA contains an analysis provided solely by a person whose knowledge of Hawaiian culture is limited to a study of archaeology or anthropology.

Mr. Glen Koyama
July 13, 1999
Page two

We look forward to receiving your DEA. We will carefully review the document, especially as it pertains to cultural impacts and make appropriate comments. If you have any questions, please contact us at 594-1835.

Sincerely,



Colin Kippen
Deputy Administrator



C. Sebastian Aloit
Director, Hawaiian Rights Division

cc: Board of Trustees
OHA's East Hawaii Community Affairs Office



BELT COLLINS

August 19, 1999
633.3700/99P-315

Mr. Colin Kippen
Office of Hawaiian Affairs
State of Hawaii
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Dear Mr. Kippen:

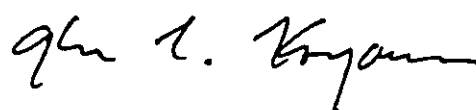
**Environmental Assessment
Newton Family Limited Partnership
TMK 2-4-08: por. 33, North Hilo, Hawaii**

Thank you for your letter of July 13, 1999 responding to our pre-assessment consultation letter on the upcoming Draft Environmental Assessment (DEA) for the Newton Family Limited Partnership property. We will address the project's potential impact on historic and cultural resources in the area, including any traditional gathering rights and ceded lands. We will also assess the project's impact on any endangered fauna and flora species.

After we submit our DEA to the Office of Environmental Quality Control for publication of an announcement in The Environmental Notice, we will transmit a copy to you for review and comment. We look forward to your additional input on this project.

Sincerely yours,

BELT COLLINS HAWAII LTD.



Glen T. Koyama

GTK:lf

cc: George Newton
bcc: John Michael White
Bernard Bays

BELT COLLINS HAWAII LTD. • 680 ALA MOANA BOULEVARD, FIRST FLOOR, HONOLULU, HAWAII 96813-5406 U.S.A.
TEL: 808 521-5361 FAX: 808 538-7819 EMAIL: hawaii@beltcollins.com WEB: www.beltcollins.com

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BENJAMIN J. CAYETANO
GOVERNOR



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DONALD K. W. LAU
EXECUTIVE DIRECTOR

1999 JUL -7 P 1:22

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
HOUSING AND COMMUNITY DEVELOPMENT CORPORATION OF HAWAII
677 QUEEN STREET, SUITE 300
HONOLULU, HAWAII 96813
FAX (808) 587-0600

BELT COLLINS HAWAII

SHARYN L. MIYASHIRO
EXECUTIVE ASSISTANT

99:REO/1966

July 2, 1999

Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
680 Ala Moana Boulevard
First Floor
Honolulu, Hawaii 96813-5406

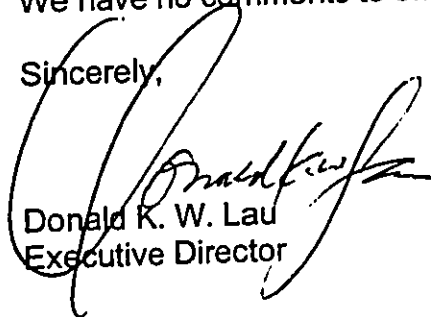
Dear Mr. Koyama:

**Subject: Environmental Assessment for Proposed District Boundary
Amendment, Newton Family Partnership, TMK (3) 2-4-8:
Portion of 33, Kukuau, North Hilo, Hawaii**

Thank you for the opportunity review the preliminary information for the proposed
District boundary amendment for the Newton Family Limited Partnership.

We have no comments to offer at this time.

Sincerely,


Donald K. W. Lau
Executive Director

APPENDIX B

CONDITIONS IMPOSED ON THE NEWTON FAMILY'S
LUC BOUNDARY AMENDMENT PETITION

**CONDITIONS TO BE IMPOSED
WITH RESPECT TO DEVELOPMENT IN THE PETITION AREA**

PROPOSED SUBDIVISION

- The proposed development of the Petition Area will be restricted to a maximum of 8 lots, with a minimum lot size of 80 acres. Each deed conveying title to a subdivided lot will include a 20-year restriction commencing upon final subdivision approval against further subdivision, and a general prohibition against large-scale commercial agriculture operations, animal hospitals, campgrounds and other similar open area recreational activities, mausoleums, group living facilities, golf courses, golf driving ranges, golf maintenance facilities, and golf clubhouse, adult care homes, churches, community buildings, day care centers, hospitals, stadiums and sports arenas and schools. The foregoing restrictions shall be amended or modified only upon the prior approval or consent of a majority of the then owners of subdivided lots in the Petition Area and, a majority vote of the Land Use Commission and the County Planning Department. The foregoing restrictions shall run with the land.

BIRDS, BATS AND HAWKS

- Endangered birds and bats, including the Hawaiian Hawk and the Hawaiian Bat, have been observed in the Petition Area. Therefore, Petitioner and its successors shall implement mitigation measures to avoid any negative effects to existing rare, endangered or threatened species. Such mitigation measures will include leaving any large stands of native forest trees and clusters of native vegetation intact, and focusing residential sites to areas that were previously cleared. Petitioner and its successors shall not develop the Petition Area into a project which would change the overall character of the area or generate major increases in resident population. Petitioner and its successors shall preserve the existing lowland native forest, and protect the Hawaiian Hawk and the Hawaiian Bat. Any such mitigation measures that are initiated shall be first approved by the U.S. Fish and Wildlife Service, and the State Department of Land and Natural Resources.
- Prior to clearing and grubbing the alignment for the subdivision roadway and utilities, a 500 meter wide survey of the alignment will be conducted for the existence of Hawaiian Hawk nests or Hawaiian Bats. The U.S. Fish and Wildlife Service ("USFWS") and the State Department of Land and Natural Resources will be provided with a copy of the results of such survey and consulted on the appropriate conservation measures required.
- Flood lights or high intensity lighting will not be used in or about the Petition Area that could disorient the Newell's Shearwater, Dark-rumped Petrel, the Hawaiian Hawk and the Hawaiian Bat. This condition shall run with the land.

PLANTS

- There are kipuka in the Petition Area which harbor native forest. Petitioner and its successors shall implement such mitigation measures as are required by appropriate governmental agencies to avoid or minimize negative effects on existing rare, endangered or threatened native species. Such mitigation measures will include, but not be limited to, maintaining the Remainder Area in conservation, leaving large stands of native forest trees and clusters of native vegetation intact, containing residential sites to areas that were previously cleared, prohibiting the development of the Petition Area into a project which would change the overall character of the area or generate major increases in resident population, and the use and enhancement of existing native lowland forest as much as possible for landscaping.
- Best management practices will be used during construction to control erosion and prevent runoff from damaging native forest resources.

ARCHAEOLOGY

- Other than the Ola'a flume system (which will be preserved for historic preservation purposes to the extent necessary), a reconnaissance study of the area has revealed that there are no known archaeological sites in the Petition Area. The State Historic Preservation Division of the Department of Land and Natural Resources, State of Hawaii ("SHPD") has determined that an intensive inventory survey can be deferred until parcel-specific development plans are prepared. Petitioner and its successors shall complete, prior to any land alteration, an archaeological inventory survey of the acreage that would be disturbed by any specific development, including roadway, driveway, house site and agricultural site.
- To the extent that any archaeological sites are located on the Petition Area, Petitioner and its successors shall work with SHPD in developing a data recovery/ mitigation/ preservation plan. This plan will include input from the local native Hawaiian community and relevant Hawaiian groups, including the State Office of Hawaiian Affairs. The plan shall be approved by SHPD, and a certified copy thereof filed with the Commission, prior to any land alteration affecting such sites.
- Petitioner and its successors shall immediately stop work and contact SHPD should any previously unidentified archaeological resources such as artifacts, human burials, rock alignments, pavings or walls be encountered during the development of the proposed subdivision.

- These conditions relating to archaeology shall be included in all sales documents pertaining to the lots in the proposed subdivision and in each deed conveying title to a subdivided lot. These conditions shall run with the land.

TRADITIONAL HAWAIIAN GATHERING RIGHTS

- Although there is no evidence of the exercise of traditional and customary rights by native Hawaiians in the Petition Area and no evidence of the existence of valued cultural, historical or natural resources that would be the objective of such traditional rights, Petitioner and its successors will preserve and protect all rights customarily and traditionally exercised for subsistence, cultural and religious purposes by descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights. This condition shall be included in all sales documents relating to the lots in the Petition Area and in each deed conveying title to a subdivided lot. This condition shall run with the land.

TRAFFIC IMPACTS

- In connection with the subdivision of the Petition Area, Petitioner shall dedicate to the County of Hawaii an 80-foot right-of-way located near the Oloa flume system to accommodate the County's planned secondary arterial.

WASTEWATER

- There is no existing County wastewater collection system in the vicinity of the Petition Area. Petitioner and its successors will develop a wastewater plan in conformance with the applicable provisions of the Administrative Rules of the Department of Health, State of Hawaii (Chapter 11-62, "Wastewater Systems"). Petitioner's wastewater plan will be approved by the Department of Health, State of Hawaii.

APPENDIX C

RECONNAISSANCE SURVEY OF
TERRESTRIAL VERTEBRATE SPECIES

REPORT:

A RECONNAISSANCE SURVEY
OF TERRESTRIAL VERTEBRATE SPECIES
ON THE NEWTON PROPERTY, KUKUAU 1,
SOUTH HILO, ISLAND OF HAWAI'I.

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Introduction

This report summarizes the findings of a three and a half day and two night ornithological and mammalian reconnaissance survey of the Newton property (TMK 2-4-08.33) located in the Kukuau 1 Division, District of South Hilo, Island of Hawai'i, (Fig 1). The field work was conducted on March 14th, 15th, 16th and 27th. The site surveyed covers an area of approximately 1600 acres.

The primary purpose of the surveys was to determine what bird and mammal species occur on the parcel, or are likely to occur given the type of habitat available, and to determine the presence of any native species; particularly, any federally listed endangered, threatened, proposed, or candidate avian or mammalian species on, or in the immediate vicinity of the proposed development. In addition, we were asked to assess the probability of any usage of the site by listed species given the habitat available.

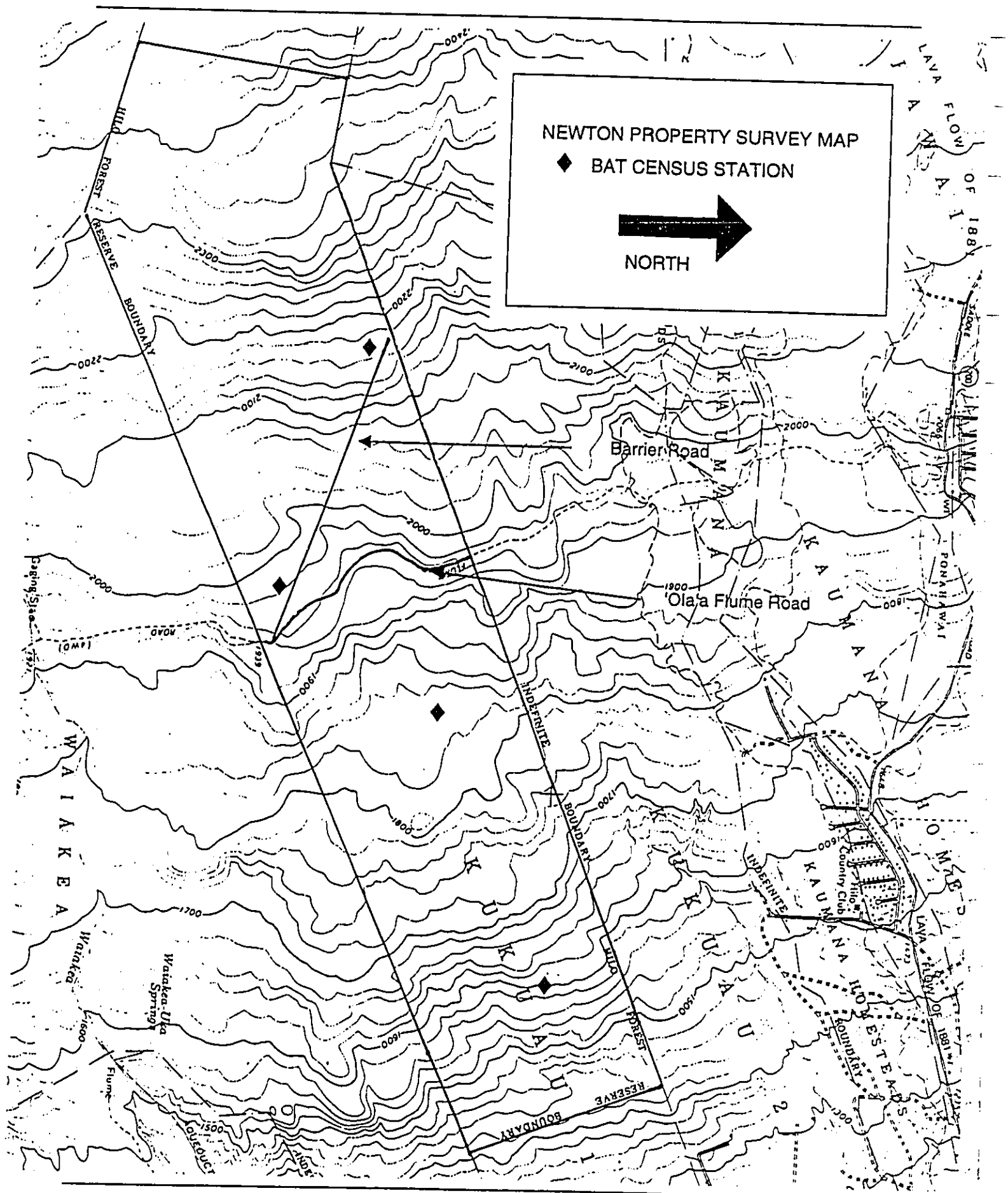
General Site Description

The site runs in a westerly direction from approximately the 1420 foot level past and including a portion of the 'Ola'a Flume Road at the 1950 foot level, and continues west, to an elevation of approximately 2450 feet. Currently, the only practical access to this parcel is from the 'Ola'a Flume Road which bisects the property (Fig 1). There are two other access easements to the property. One is an easement which starts at the Sunrise Estates Subdivision, located approximately 17,000 feet east of the subject property, the other starts at the southern terminus of Wilder Road. Neither of these two easements has been cleared so currently do not offer convenient access to the property.

From an ornithological perspective the property can be divided at approximately the 2000 foot level just west of the 'Ola'a Flume Road. The vegetation on the property east of this line, that is below the flume road, is dominated by alien species and appears to have been used for grazing and possibly logging in the past. Within this portion of the property there are dense stands of guava (*Psidium sp.*), numerous species of alien grasses and weedy species as well as Christmas berry (*Schinus terebinthifolius*) and dense patches of 'uluhe fern (*Dicranopteris linearis*). The upper portion of the property is quite different in that the vegetation is dominated by native species, including; ohia (*Metrosideros polymorpha*), koa (*Acacia koa*), 'uluhe fern, *Myrsine sp.*, *Broussaisia arguta* and Hapu'u (*Cibotium sp.*). There are also several very densely vegetated *kipuka* in the upper portion. For a detailed description of the vegetation present on the parcel, please see Palmer (1998).

Previous Surveys

The first systematic surveys of the avifauna of Hawai'i were not undertaken until 1976. Starting in



that year and continuing until 1983 the U.S. Fish & Wildlife Service (USFWS) conducted a state wide survey of the avifauna of Hawai'i (Scott et al. 1986). During the course of the Hawai'i Forest Bird Surveys (HFBS) one transect was sited to the west of the subject property and terminated just above it (Scott et al. 1986). In recent years a series of extensive faunal surveys were undertaken during the course of preparing the Environmental Impact Statement (EIS) for the proposed improvement and realignment of the Saddle Road which is located between 1200 and 3500 meters north of the site (David 1997).

Only four comprehensive bat surveys have been conducted on the Island of Hawai'i (Jacobs 1994, Cooper et al. 1995, Cooper and David 1995, David 1997). Two of these surveys addressed lands close to the proposed development site. David Jacobs conducted an Island wide survey between 1990-1993 which attempted to ascertain the distribution and abundance of Hawaiian hoary bats by sampling along paved principal roadways around the Island of Hawai'i (Jacobs 1994). During the course of the recently completed faunal studies for the Saddle Road Project EIS the author sampled for bats along the Saddle Road north of the sites (David 1997). The bulk of the remaining published literature relies heavily on anecdotal and incidental information on bat distribution and abundance on the Island (Baldwin 1950, Bryan 1955, Tomich 1986).

Mammalian Survey Methods:

In an effort to detect the presence of the endangered Hawaiian hoary bats (*Lasiurus cinereus semotus*) or 'Ope'ape'a, two stationary remote bat census stations were deployed on two successive nights. Sampling was conducted on March 14th and 15th, 1998 (Fig.1). Broadband AnaBat II ultrasonic bat detectors coupled to voice activated cassette recorders and remote timing devices were used to detect bat vocalizations. In addition; visual scans were made for bats during crepuscular periods on three evening and two mornings. Count stations were sampled once. Following techniques developed by Krusic et al. (1996), units were calibrated using a pet ultrasonic flea collar. The tapes were reviewed and the number of bat passes recorded were counted.

The survey of feral mammals was limited to visual and auditory detection, as well as observation of scat, tracks and road kills. No trapping study was conducted in an attempt to quantify the usage of the site by alien mammalian species.

Avian Survey Methods:

Walking counts were performed through the portion of the property below the 'Ola'a Flume Road. The density of the vegetation combined with the short duration of the survey precluded the using of linear transects and standardized circular plot counts as used during the Hawaii Forest Bird Surveys (Reynolds et al. 1980, Scott et al. 1986). Field observations were made with the aid of

Leitz 10 X 42 binoculars and by listening for vocalizations. Walking counts were concentrated during the early morning hours between 0600 hrs. and 1100 hrs, the peak bird activity time. A running tally was kept of all bird species observed and heard while walking through the site. An additional 2 hours were spent on the lower portion of the site between 1800 hrs. and 2000 hrs. on the evenings of the 14th and 15th in an attempt to detect the threatened Newell's Shearwater (*Puffinus newelli*), and the endangered Dark-rumped Petrel (*Pterodroma phaeopygia sandwichensis*) overflying the site. Time on site not spent counting was spent prospecting in pockets of vegetation in an attempt to locate any species not recorded during census periods. The coverage of the upper portion of the property above the 'Ola'a Flume Road was less exhaustive. Access was sufficiently limited that walking counts were made up the northern boundary of the property to an altitude of approximately 2100 feet and diagonally across this portion from the intersection of the southern boundary and the flume road, up to the 2200 foot level along the barrier road (Fig 1).

Avian phylogenetic order used in this report follows *Birds Of The World: A Checklist 4th Edition* (Clements 1991), and the *1st and 2nd Supplements to Birds Of The World: A Checklist 4th Edition* (Clements and Principe, Jr. 1992, Clements 1997); scientific nomenclature follows *The AOU Checklist of North American Birds* (AOU 1983), and the *35th through the 41st Supplements to The AOU Checklist* (AOU 1985-1997), Mammal scientific names follow *Mammals in Hawaii* (Tomich 1986), plant names follow *Manual of the Flowering Plants of Hawai'i* (Wagner et al. 1990). Place names follow *Place Names of Hawaii* (Pukui et al, 1976)

Results:

The avifaunal makeup of the upper and lower portions of this property are so different that I have chosen to discuss the results separately. A total of 12 bird species representing 11 families were detected during walking counts and while transiting the lower portion of the site (Table 1). Of the 12 species recorded; 9 are alien (introduced to Hawai'i by man), two are considered endemic to the Island of Hawai'i, and one, the Pacific Golden Plover (*Pluvialis fulva*) is considered an indigenous migratory species (native to Hawai'i, but also found elsewhere). One of the endemic species recorded, the Hawaiian Hawk (*Buteo solitarius*), is listed as endangered by the USFWS and the State of Hawai'i (USFWS 1996, DLNR 1986).

A total of 15 bird species representing 12 families were detected during walking counts and while transiting the upper portion of the site (Table 2). Of the 15 species recorded; 8 are alien, 6 are endemic to Hawai'i, and one, the Pacific Golden Plover, is considered an indigenous migratory species. The endangered Hawaiian Hawk was also recorded in this section.

Hawai'i's sole endemic terrestrial mammalian species, the endangered Hawaiian hoary bat, or 'Ope'ape'a, was detected foraging over the lower portion of the property. Sightings, sign or

Key To Tables 1 & 2

STAT = STATUS		RA= RELATIVE ABUNDANCE	
EE	Endangered Endemic	A - Abundant	≥ 26
E	Endemic	C - Common	≥ 11 ≤ 25
M	Indigenous Migrant	U - Uncommon	≥ 6 ≤ 10
A	Alien	R - Rare	≤ 5

Table 1

AVIAN SPECIES DETECTED ON THE LOWER PORTION OF THE NEWTON PROPERTY, KUKUAU, HAWAII			
Common Name	Scientific Name	STAT	RA
HAWKS & EAGLES - Accipitridae			
Hawaiian Hawk.	<i>Buteo solitarius.</i>	EE	R
PLOVERS & LAPWINGS - Charadriidae			
Pacific Golden Plover.	<i>Pluvialis fulva.</i>	M	R
PIGEONS & DOVES - Columbidae			
Spotted Dove.	<i>Streptopelia chinensis.</i>	A	C
Zebra Dove.	<i>Geopelia striata.</i>	A	C
BARN OWLS - Tytonidae			
Barn Owl.	<i>Tyto alba</i>	A	R
STARLINGS - Sturnidae			
Common Myna.	<i>Acridotheres tristis.</i>	A	A
SILVEREYES - Zosteropidae			
Japanese White-Eye.	<i>Zosterops japonica.</i>	A	A
BABLERS - Timaliidae			
Red-billed Leiothrix.	<i>Leiothrix lutea.</i>	A	C
WAXBILLS & ALLIES - Estrilididae			
Nutmeg Manikin (Scaly-breasted Munia)	<i>Lonchura punctulata topela</i>	A	C
FRINGILLIDS - Fringillidae			
House Finch.	<i>Carpodacus mexicanus mexicanus.</i>	A	A
HAWAIIAN HONEYCREEPERS- Drepanididae			
Hawai'i 'Amakihi.	<i>Hemignathus virens</i>	E	U
EMBERIZIDS - Emberizidae			
Northern Cardinal.	<i>Cardinalis cardinalis.</i>	A	C

Table 2

AVIAN SPECIES DETECTED ON THE UPPER PORTION OF THE NEWTON PROPERTY, KUKUAU, HAWAII			
Common Name	Scientific Name	STAT	RA
HAWKS & EAGLES - Accipitridae			
Hawaiian Hawk.	<i>Buteo solitarius.</i>	EE	R
PLOVERS & LAPWINGS - Charadriidae			
Pacific Golden Plover.	<i>Pluvialis fulva.</i>	M	R
PIGEONS & DOVES - Columbidae			
Spotted Dove.	<i>Streptopelia chinensis.</i>	A	C
Zebra Dove.	<i>Geopelia striata.</i>	A	C
MONARCH FLYCATCHERS - Monarchidae			
Hawai'i 'Elepaio.	<i>Chasiempis sandwichensis ridgwayi</i>	E	C
JAYS, CROWS & MAGPIES - Corvidae			
Hawaiian Thrush "O'mao"	<i>Myadestes obscurus.</i>	E	C
STARLINGS - Sturnidae			
Common Myna.	<i>Acridotheres tristis.</i>	A	A
SILVEREYES - Zosteropidae			
Japanese White-Eye.	<i>Zosterops japonica.</i>	A	A
BABBLERS - Timaliidae			
Red-billed Leiothrix.	<i>Leiothrix lutea.</i>	A	C
WAXBILLS & ALLIES - Estrilididae			
Nutmeg Manikin (Scaly-breasted Munia)	<i>Lonchura punctulata topela</i>	A	C
FRINGILLIDS - Fringillidae			
House Finch.	<i>Carpodacus mexicanus mexicanus.</i>	A	A
HAWAIIAN HONEYCREEPERS- Drepanididae			
Hawai'i 'Amakihi.	<i>Hemignathus virens</i>	E	C
I'iwi.	<i>Vestiaria coccinea.</i>	E	R
'Apapane.	<i>Himatone sanguinea.</i>	E	U
EMBERIZIDS - Emberizidae			
Northern Cardinal.	<i>Cardinalis cardinalis.</i>	A	C

remains of 7 alien mammalian species; rat (*Rattus* sp.), house mouse (*Mus musculus*), domestic dog (*Canis f. familiaris*), small Indian mongoose (*Herpestes a. auropunctatus*), cat (*Felis catus*) pig (*Sus s. scrofa*) and domestic cattle (*Bos taurus*) were detected within the boundaries of the property. It is likely that all three species of naturalized rats found on Hawai'i ; roof rat (*Rattus rattus*), Norway rat (*Rattus norvegicus*), and Polynesian Rat (*Rattus exulans hawaiiensis*), are also present on the property. Without conducting a trapping program, it is difficult to assess the population densities of these often hard-to-see mammals. All of the introduced mammalian species detected are deleterious to avian populations.

Discussion:

The coverage of the lower section of the property was sufficient to make categorical statements as to the current avifauna resources present on this portion of the proposed development site. The avifauna in the lower portion of the site, that is, below the 'Ola'a Flume Road is dominated by alien species as are the lower reaches of most of the eastern side of the rest of the Island. There are three listed endemic bird species which potentially could be impacted by the further clearing and development of this portion of the site. These are the Newell's Shearwater, Dark-rumped Petrel and Hawaiian Hawk. The first two species mentioned are pelagic seabirds which return to their nesting colonies on the upper slopes of Mauna Loa and possibly Mauna Kea during crepuscular and night time hours between April and October. Both species of seabirds, especially fledging birds, can become disoriented by exterior lighting on their way to sea in the fall. When disoriented, seabirds often collide with manmade structures and, if not killed outright, the dazed or injured birds are easy targets of opportunity for feral mammals. Although there are no records of nesting Newell's Shearwater specifically from the site, there are numerous records of this species being seen, heard or collected close to the Saddle Road on the Hilo side of the Island (Banko 1980a, Kepler et al. 1979, Conant 1980). Sheila Conant recovered a dead bird on Kaumana drive in 1978 (Conant 1980). Newell's Shearwater have been heard along the Waikuku river north of the Saddle Road (Kepler et al 1979), and numerous downed birds have been recovered from different locations in and around Hilo (R. David pers. obs., Banko 1980 b, Kepler et al. 1979). Dark-rumped Petrels nest much higher and in lower numbers than do Newell's Shearwaters. Several downed birds have been recovered from along the Saddle Road, and various locations around Hilo (R. David, pers. obs. , J. Jeffrey, pers. comm.). It is probable that both species overfly the site between late April and late October.

Hawaiian Hawks were recorded on three of the four days on site. This is not surprising since the property is well within the normal range of this Hawai'i Island endemic. It is probable that this species nests in some of the *kipuka* within the general vicinity, if not on the property itself. This species has seemingly adapted better than any other endemic avian species to the alien dominated lowland areas of the Island. Hawaiian Hawks occupy a wide variety of habitats, they are found in almost all habitats not lacking trees. They are all but absent from treeless or close to

treeless grasslands and lava fields. The current population of this species is estimated to be approximately 1600 birds (Morrison et al. 1994). It is generally thought that the population as a whole is healthy and maintaining itself, unlike many other endemic species. This species is currently under review by the USFWS for down listing from endangered to threatened status (USFWS 1993).

The avifauna found on the upper portion of the site had much higher number of endemic species than found on the lower portion (Table 2). This is readily explainable by the high quality, native species dominated forest found on most of the site above the 'Ola'a Flume Road. No further listed avian were detected on the upper portion. However, we were unable to survey the upper reaches especially the south western corner of this portion. Of special note were goodly numbers of Hawaii 'Elepaio an endemic monarchine flycatcher, which is declining throughout it's remaining range, and numbers of O'ma'o, the endemic Hawai'i Island thrush. No 'Iwi were detected during this short survey. This finding may be as a direct result of the high numbers of mosquitoes encountered above the flume road. 'Iwi are almost completely intolerant of avian malaria.

The faunal survey results for the lower portion of the site were consistent with the habitat available. No unexpected species were detected, nor were any expected species missed. The survey of the upper portion was less than exhaustive, though the results were gratifying from an ornithological perspective, we detected three times the number of endemic species on the upper portion than recorded on the lower portion.

Any further clearing or development of the lower portion of the site, that is below the 'Ola'a Flume Road will not have a significant impact on native or federally protected avian or mammalian species. In an attempt to minimize the downing of Newell's Shearwater and Dark-rumped Petrels an effort should be made to minimize exterior lighting, and where unavoidable efforts should be made to shield light sources.

If during clearing and grubbing a Hawaiian Hawk nest is found, construction should cease within 500 meters of the nest tree and consultation should be initiated with the USFWS under the terms of the Endangered Species Act of 1973, as amended. If further clearing or development is initiated on the upper portion of the site the same caveats identified above should be noted. Additionally thought should be given to undertaking a more thorough survey of the upper third, especially the southwestern corner of this portion. It should be noted that the upper reaches of the site are still lower than the majority of listed extant passerine species are currently thought to inhabit in this area of the Island.

The finding of Hawaiian hoary bats foraging over the site is not surprising considering it's relative abundance in the lowland areas of the windward side of the Island (David 1997). There has been very little scientific work attempted on this species, in no small part due to the fact that this bat is

usually a solitary arboreal rooster and therefor difficult to study. The existing scientific evidence is conflicting as to what effect alien species, plant or otherwise, may have had on this species (Jacobs, 1994, Kepler et al. 1990, Tomich 1986). It should be borne in mind that little is known about the possible changes in this species range, population density or habitat preferences since the advent of humans and their impacts on the native Hawaiian ecosystems. The development of the lower portion will not have a deleterious impact on this species. The further clearing of the upper portion of the site may eliminate roosting habitat, though no definitive studies have been published identifying and quantifying this bat species unique needs.

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APPENDIX D

RECONNAISSANCE BOTANICAL SURVEY

RECONNAISSANCE BOTANICAL SURVEY
OF
NEWTON PROPERTY, HILO, HAWAII

by

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July 1998

**RECONNAISSANCE BOTANICAL SURVEY
OF
NEWTON PROPERTY, HILO, HAWAII**

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APPENDIX - Vascular Plants of Newton Property

Figure 1

RECONNAISSANCE BOTANICAL SURVEY
OF
NEWTON PROPERTY, HILO, HAWAII

by

Palmer & Associates Consulting

SUMMARY

The vegetation of the property varies from degraded Lowland Wet Forest heavily infested with strawberry guava and other introduced species at the lower, or eastern end, to high quality native Hawaiian Montane Wet Forest at the upper or western end of the property. These vegetation types are found throughout the general region of the forest east of Hilo at comparable elevation.

The property is logically divided into an upper or mauka portion above (west) of the old Ola'a Flume Road, and a makai portion below (east of) the Ola'a Flume Road. Most of the makai portion of the property below the Ola'a Flume Road is disturbed and infested with alien species, and has a relatively low potential to support rare and endangered plants. By contrast, the mauka portion of the property supports high quality native forest with significant botanical resources, including rare and, in one instance, endangered, plants.

Significant Botanical features discovered in the survey area include: One (1) USFWS listed Endangered Species plant population, representing a single unique species (*Cyanea platyphylla*), found in the mauka portion of the property; numerous populations of Rare Plants, some found throughout the property, but most found primarily in the mauka portion; and Environmentally Sensitive Areas, consisting of high quality Hawaiian native rainforest (Montane Wet Forest) and wet areas containing vegetation associated with wetlands, found in the mauka portion of the property.

INTRODUCTION

This report describes the results of Palmer & Associates Consulting's environmental surveys, evaluation, and documentation for botanical resources, including Endangered, Threatened, Proposed, Candidate and Recommended Plant Species, Plant Species of Concern, Rare Plants, and unique Environmentally Sensitive Areas, for the "Newton Property", Island of Hawaii, Hawaii County, State of Hawaii.

This report describes only results of surveys for Endangered, Threatened, Proposed, Candidate and Recommended Plant Species, and Plant Species of Concern, Rare Plants, and unique Environmentally Sensitive Areas. Botanical surveys were carried out for vascular plants (flowering plants and ferns), bryophytes were not surveyed. Wildlife surveys for the proposed project were conducted by Rana Productions and are reported separately

In this report, we summarize methodology for botanical surveys, describe the affected environment, discuss adverse impacts and recommend mitigations for the proposed project.

In almost all cases of plant names, the latin name is used, with the common name in parenthesis only at the first occurrence in the report, unless it is inserted again for clarity. The common name is used alone for specific plants that are well-known and where it will provide better understanding for the reader. Plant nomenclature follows Wagner et al. 1990 and St. John 1973. Vascular plant species encountered in the project area are listed in the appendix.

SURVEY METHODOLOGY

Survey techniques for Endangered, Threatened, Proposed, Candidate and Recommended Species, Species of Concern and Rare Plants, follow Nelson (1987), Given (1994), and Palmer, et al. (1987).

Palmer and Paul spent six days in the field. Surveys for Endangered, Candidate, and Species of Concern were conducted using the "timed meander survey" method (Nelson 1987). Surveys were completed between March 25 and April 10. Access to the survey area was by means of the Ola'a Flume Road, the Helco powerline road following the north and east property boundaries, and by the "Barrier Road" running diagonally through the upper part of the survey area.

Air photos supplied by Belt-Collins were used to identify three kipuka of well developed forest, one in the south-east corner of the survey area, one in approximately the middle of the survey area, and one, the largest and most significant, above the Ola'a Flume Road. Field surveys focused on these areas, as most likely to harbor endangered plants.

AFFECTED ENVIRONMENT

ENVIRONMENTAL SETTING

General Information

The survey area is located west of Hilo, in the vicinity of Kaumana, and is accessible by driving south, through Matos Ranch, on the Ola'a flume Road. The property is approximately 2.5 miles south of State Route 200 (Saddle Road). The survey area encompasses the majority of the old hawaiian ahupua'a or land division of Kukuau. The survey area consists of the entire 1645 acre "Newton Property", which extends from near the end of Wilder Road at approximately 1420ft, to about 2400ft above (west of) the Ola'a Flume Road.

Proposed project

The 1645 acres would be subdivided into seven parcels ranging in size from approximately 80 acres to approximately 770 acres. Four 80 acre parcels would be defined at the eastern end of the property. Two parcels of approximately 270 acres each would be located mauka of the four 80 acre parcels. A 770 parcel would be located above the Ola'a Flume Road. Parcels would be accessed by a new private road extending from Wilder Road. (Figure 1)

Description of area

The survey area is approximately 18,800 feet long and approximately 3,800 feet wide. The area is almost entirely forested. The area is logically divided into mauka (above the Ola'a Flume Road), and makai (below the Ola'a Flume Road). The upper portion of the survey area is drained by Middle Flume Spring and associated tributaries which are mostly off the property in the adjacent forest reserve. No major surface stream drainages occur in the lower or eastern part of the survey area.

Geology

A series of lava flows have descended from Mauna Loa to the outskirts of Hilo during historical times, covering parts of the ancient Punahoa Flow, other ancient underlying flows, and portions of the Pahala Ash or other ancient volcanic ash deposits (Lockwood 1996). The survey area is significant geologically because most of these old flows and ash deposits are still exposed. The area above the Ola'a Flume Road is particularly significant, with exposed ancient flows and ash deposits extending beyond the survey area into the adjacent forest reserve.

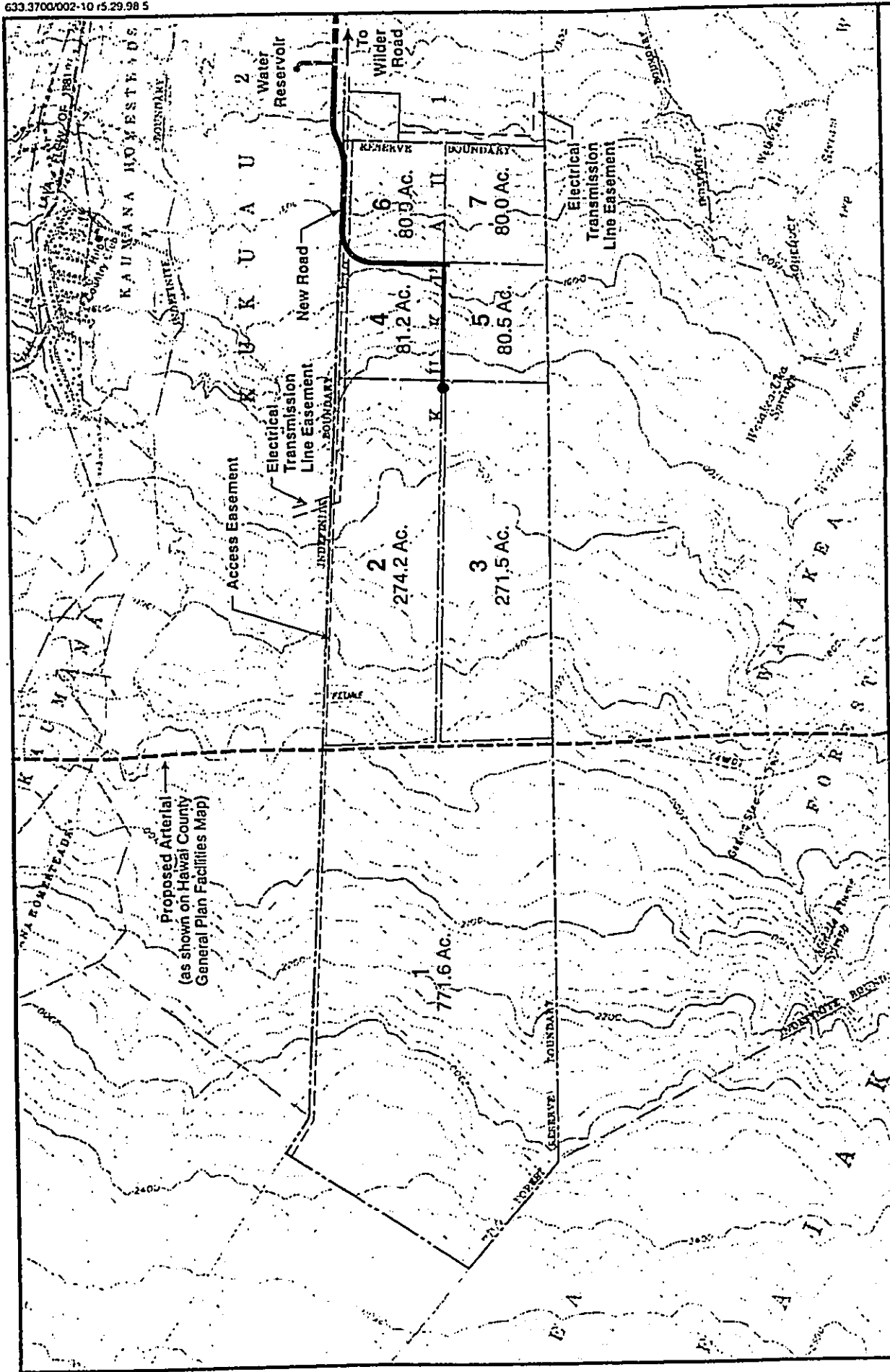
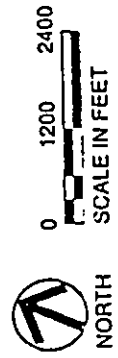


Figure 1
PROPOSED SUBDIVISION
 Newton Trusts Land
 Hilo, Hawaii
 Relt Collins Hawaii
 May 1998



Climate

Climate is equal in importance to substrate in determining the overall nature of the vegetation. Evenson (1983) has recently summarized climate data for the Saddle Road area. The climate classification of the survey area fits the category recognized worldwide as tropical montane rainforest (Ellenberg and Mueller-Dombois 1967).

Other Environmental and Anthropogenic Factors

In addition to the introduction of "alien" (introduced after 1887) plant and animal species to the Hawaiian Islands and increasing accessibility to previously remote wilderness areas by feral animals and people, a number of other factors are important in determining the structure and species composition of the vegetation. Factors that commonly create and contribute to disturbances and modification of the original native vegetation in the study area are fire, flood, drought, lava flows, earthquakes, cultural and prehistoric use, logging and agriculture.

We also observed evidence of significant activity by feral pigs (and pig hunters) throughout the survey area.

VEGETATION

The occurrence of vegetation types is determined by a complex set of factors, including flow age, substrate type, climate, community edge integrity and environmental disturbances. The natural vegetation of Hawaii has been classified by several authors into comparable, but different systems. Most authors have traditionally called the forest in the survey area and vicinity "rainforest".

This report's classification of vegetation follows the Cagne and Cuddihy (1990) system, which recognizes four vegetation types in the survey area. This survey further delineates "New" and "Old" lava flows. An additional vegetation type, "Disturbance Areas" is also delineated in this survey.

Following Cagne and Cuddihy (1990), we recognize the following vegetation types in the survey area:

- ~ Lowland Wet Forest
- ~ Montane Wet Forest
- ~ Montane Wet Sedgelands
- ~ Montane Wet Mixed Communities
- ~ Disturbance Communities

Within the survey area, striking differences occur between vegetation communities on new and old lava flows. These differences represent different successional stages of forest development (Cagne and Cuddihy 1990). New lava flows, such as the 1881 flow on the north edge of the survey area, support forests in early successional stages with small, widely spaced trees, whereas the old flows (>several thousand years) support stands of closed-canopy, old-growth, late successional stage forest.

Since the area has previously been environmentally impacted, there are numerous "Disturbance Communities" present in the survey area, most resulting from similar impacts. They occur on both new and old flows. Disturbance communities are found primarily along roads and powerline cuts in the survey area.

They are dominated by alien grass species such as:

- Anthoxanthum odoratum* (vernal grass)
- Digitaria violascens* (violet crabgrass)
- Melinis minutiflora* (molasses grass)
- Pennisetum clandestinum* (kikuyu grass)
- Poa praetensis* (Kentucky bluegrass)

Other characteristic species in the disturbance communities in the survey area include:

Ageratina riparia (pamakani)
Centella asiatica (pohe kula)
Dicranopteris linearis (uluhe fern)
Lycopodium cernuum (wawae'iole clubmoss)
Paspalum conjugatum (Hilo grass)
Rhynchospora cauduca (beak-rush)

New Flow Plant Communities are found on the 1881 pahoehoe flow on the northern edge of the survey area. They contain less soil and biological diversity than forest on older flows. Although Hawaiian native plants dominate New Flow Communities, several introduced alien species are also present. No Endangered, Threatened, Proposed, Candidate and Recommended Candidate Species, Species of Concern or Rare Plants were found in the New Flow Communities below.

~ *New Montane Wet Forest* occurs on the 1881 pahoehoe flow on the northern edge of the survey area. Invasive alien species *Arundina graminifolia* (bamboo orchid), *Andropogon virginicus* (broomsedge), *Nephrolepis multiflora* (swordfern), and *Tibochina herbacea* (tibochina) are present, but currently are not displacing the native vegetation.

This community is dominated by:

Dicranopteris linearis (uluhe)
Metrosideros polymorpha ('ohi'a)

Characteristic species also include:

Lycopodium cernuum (wawae'iole)
Machaerina angustifolia ('uki)
Sadleria cyatheoides ('ama'u)
Vaccinium calycinum ('ohelo la'au)

Old Flow Communities are found on the ancient Punahoa flow (>several thousand years ago), on ancient ash deposits, and on other ancient volcanic substrates. These substrates occur throughout the survey area. Some of these old flow communities are unique to the regional environment, to the island, or, to the state.

Many of these areas have been environmentally impacted, but above 1800ft they are not heavily invaded by introduced alien species. However, in the survey area below 1800ft, most areas are invaded by introduced alien species and are somewhat degraded.

~ **Old Lowland Wet Forest** occurs in the survey area below Ola'a Flume Road, below about 1800 ft. Lowland Wet Forest in the survey area is heavily infested with strawberry guava and shows the effects of many years of human impacts. These areas were formerly dominated by large koa trees, which were logged many years ago. The present infestation with introduced alien species appears to be inhibiting koa regeneration.

~ **Old Montane Wet Forest** occurs primarily above the Ola'a Flume Road in the survey area, in some areas extending to about 1800 ft, and includes examples of the 'Ohi'a/Hapu'u Tree Fern Forest, the Ohi'a Montane Wet Forest, and the Koa/'Ohi'a Montane Wet Forest plant communities of Cagne and Cuddihy (1990). Sohmer and Gustafson (1987), group all these plant community types as Rainforest. These stands of late successional stage forest have an overstory canopy dominated by koa, a middle canopy layer dominated by 'ohi'a, and a lower canopy dominated by tree ferns. *Pritchardia beccariana* (loulou palm) is frequently present as a canopy emergent. Numerous other nondominant native tree species may be present. Under the canopy, the forest is open, with a well developed herb layer dominated by ferns. A high diversity of bryophytes (mosses and liverworts) and Hawaiian native fungi (mushrooms) are present in the understory. In low lying spots, patches of bog vegetation are found.

Characteristic species in Old Montane Wet Forest include:

<i>Acacia koa</i>	<i>Ilex anomala</i>
<i>Adenophorus pinnatifidus</i>	<i>Labordia hedyosmifolia</i>
<i>Antidesma platyphylla</i>	<i>Lycopodium spp.</i>
<i>Asplenium tritomanthes</i>	<i>Machaerina spp.</i>
<i>Astelia menziesii</i>	<i>Marattia douglasii</i>
<i>Athyrium spp.</i>	<i>Mariscus spp.</i>
<i>Broussaisia arguta</i>	<i>Mecodium recurvum</i>
<i>Carex alligata</i>	<i>Metrosideros polymorpha</i>
<i>Cibotium spp.</i>	<i>Myrsine spp.</i>
<i>Clermontia spp.</i>	<i>Oreobolus furcatus</i>
<i>Cheirodenron trigynum</i>	<i>Paspallum urvillei</i>
<i>Coprosma ochracea</i>	<i>Pelea spp.</i>
<i>Cyanea spp.</i>	<i>Peperomia spp.</i>
<i>Cyclosorus sp.</i>	<i>Pittosporum sp</i>
<i>Cyrtandra spp.</i>	<i>Polypodium spp.</i>
<i>Dicranopteris linearis</i>	<i>Pritchardia beccariana</i>
<i>Dryopteris wallichiana</i>	<i>Psychotria hawaiiensis</i>
<i>Dubautia spp.</i>	<i>Rubus spp.</i>
<i>Elaphoglossum spp.</i>	<i>Sadleria spp.</i>
<i>Freycinetia arborea</i>	<i>Stenogyne calaminthoides</i>
<i>Hedyotis spp.</i>	<i>Styphelia tameiameia</i>
	<i>Vaccinium spp.</i>

~ **Old Montane Wet Sedgelands** occurs above 1800ft, in small patches of water-logged bogs in low spots adjacent to other bog communities. This vegetation type is dominated by *Carex alligata*.

~ **Old Montane Wet Mixed Communities** occur above 1800ft. These are true bogs of both "ombrogenous" (fed by rainwater) and "soligenous" (fed by rain and ground water) types (Cagne and Cuddihy 1990). Characteristic species include:

<i>Machaerina angustifolia</i>	<i>Vaccinium calycinum</i>
<i>Sphagnum spp.</i>	<i>V. reticulatum</i>
<i>Styphelia tameiameia</i>	

ENDANGERED PLANT SPECIES and RAREPLANTS

Rare and Endangered Species: One location of an Endangered Plant Species was located within the Survey Area. Numerous locations of rare plants also occur throughout the survey area.

USFWS Protected Species Designations: The USFWS maintains lists of plant and animal species in several different categories. In its "1996 Candidate Notice of Review", USFWS (11/7/96) classifies organisms as:

- Endangered (E)
- Threatened (T)
- Formally Proposed as Endangered or Threatened (PE) or (PT)
- Candidate for Listing as Endangered or Threatened (C)
- Recommended for Listing as Endangered or Threatened (RL)
- Recommended for Candidacy (RC)
- Species of Concern (SOC)
- Possibly Extinct in the Wild (*)

All species listed as Endangered, Threatened, or Proposed by USFWS, legally require planning consideration as specified in the ESA of 1973 (as amended), and CWA Section 404. The State of Hawaii Department of Land and Natural Resources (DLNR) assigns state legal protection to these same species designations. State legislation also considers other botanical resources.

Rare Plants (RARE): As listed by Fosberg and Herbst (1975), these Hawaiian native plant species are considered "rare" - endemic and possibly slowly disappearing - but are not currently listed as Endangered, Threatened, Proposed, Candidate or Recommended Candidate Species, nor considered a Species of Concern, by USFWS. These plants are biological resources unique to the state of Hawaii. These plant populations face many threats including feral animals, introduced insects and pathogens, but are not legally protected.

Endangered Species Protected Under Endangered Species Act Found :

Cyanea platyphylla (A. Gray) Hillebr. (E) A wet forest shrub of the Lobelia Family (CAMPANULACEAE), found approximately 0.5 mile north of the end of the driveable portion of the "Barrier Road". This population is a new discovery. It brings to three the number of populations known. The species has been removed from its known location near Saddle Road for captive propagation, leaving only this new population and one other surviving in the wild.

Rare Plants Found

The following species of rare plants were found in the survey area:

- Bobea eliator*
- Cibotium hawaiiense*
- Clermontia hawaiiense*
- Cyrtandra hawaiiense*

Cyrtandra lysiosepala
Lycopodium sp. nov
Marattia douglasii
Pritchardia beccariana
Sadleria soletiana
Tetraplasandra oahuensis

Most of these species were found above the Ola'a Flume Road. However, *Clermontia hawaiiense* is found below the Flume Road, and *Pritchardia beccariana* (Hawaiian Fan Palm or Loulu) is found throughout the survey area.

OTHER SITE CHARACTERISTICS

Environmentally Sensitive Areas with stands of old flow late successional forest were found in the mauka portion of the property above the Ola'a Flume Road and on few areas of ancient lava flow below the road. The lower elevation boundary of these stands of forest roughly coincides with the Ola'a Flume Road, but, based on the air photographs, extend in a few areas to as low as 1800 feet. However, nothing makai of the Flume Road compares in botanical significance to the forest in the mauka area. These stands of forest have the potential to support federally and state legally protected Endangered, Candidate and Recommended Candidate Plant Species, and Plant Species of Concern, along with Rare Plants, and rare native birds and invertebrates. Furthermore, they are outstanding examples of unique Hawaiian native forest vegetation, representing an important reservoir of biodiversity.

The forest that is the source of the north fork of Middle Flume Spring, in the southwestern corner of the survey area, supports one of the best examples of Montane Wet Forest left in East Hawaii. In fact, all of the forest above the Ola'a Flume Road in the survey area should be considered an environmentally sensitive area.

Because of the difficulty of access, we were not able to penetrate through the dense forest above the Ola'a Flume Road to the extreme southwest corner of the property. From the air photographs it is apparent that a large tract of old-growth forest occupies this remote kipuka. If so, the area may be highly ecologically significant. To properly survey the mauka portion of the property, a team of biologists would need to be dropped into the area by helicopter, set up a base camp, and spend several days in the field. This type of expedition was beyond the scope of the present survey.

Degraded old lava flow Lowland Wet Forest in "dieback" condition, occurs below 1800ft and extends to approximately 1600ft on the north side of the survey area. This area is not nearly as significant as the forest above the Ola'a Flume Road, but it may also be considered sensitive.

Environmentally Sensitive Areas: As defined by the State Department of Health, Hawaii Administrative Rules (HAR), Title 11, Chapter 200, Environmental Impact Statement Rules and by the Hawaii State Environmental Policy, Chapter 344-3(1) and Chapter 343, Hawaii Revised Statutes (HRS), these areas may contain critical habitat for plants listed by USFWS as Endangered, Threatened, Proposed, Candidate or Recommended Species, or, Species of Concern, or, represent examples of natural native ecosystems, and/or be important components of a regional environment. These areas are considered "sensitive" as they have unique biological or ecological features that depend on the integrity of the immediate site and surrounding ecosystem. In the survey area, Environmentally Sensitive Areas are primarily Hawaiian native rainforest - (Montane Wet Forest) and Wetlands, both often occurring on ancient lava flows or ash deposits.

Wet areas occur as scattered patches throughout the survey area, and were identified as sites occupied by vegetation associated with wetlands growing in areas of prolonged inundation and soil saturation. Topographic changes create a mosaic of wet basins and intervening areas of elevated ground, where most trees occur. The dimensions of these areas are extremely variable. Vegetation associated with wetlands is found in the lower elevation portions of the survey area, but bog vegetation associated with Montane Wet Forest is found primarily in the mauka portion of the property. It is doubtful that any of the wet sites found in the makai portion of the property are large enough to require planning consideration.

Project Effects - Impacts, Mitigations, and Recommendations

Project Effects

Impacts of the proposed project include development of four 80 acre parcels at the lower or eastern end of the survey area, and the two 270 acre parcels in the middle of the property, including an access road from the end of Wilder Road. Environmental effects would include clearing of brush and trees from somewhat less than 5 percent of the property, and some increase of access for people and feral animals.

Mitigations and Recommendations

The most important recommendation is to maintain the area above the Ola'a Flume Road in conservation, with little or no development. This will effectively mitigate most potential impacts to endangered and rare plants (and other organisms). Furthermore, hunting should be continued, especially above the Ola'a Flume Road, in order to prevent degradation of the forest by feral animals.

Other recommendations include:

- If the land use district classification of the mauka portion of the property is changed from Conservation to Agricultural, conduct further biological surveys of the mauka portion of the property above the Ola'a Flume Road
- Avoid wet areas during development
- Use as many existing native trees as possible in landscape during development

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Appendix

**VASCULAR PLANTS
of
Newton Property, Hilo, Hawaii**

Surveyed by

Rexford Palmer and David Paul, Palmer & Associates Consulting

June 1998

VASCULAR PLANTS of Newton Property, Hilo, Hawaii

Surveyed by
Rexford Palmer and David Paul, Palmer & Associates Consulting

PTERIDOPHYTES						
FAMILY	Genus / Species	Common Name	USFWS Wlnds.	USFWS Status	Dist. & Abun.	Flow Type
			Tree Fern Family			
DICKSONIACEAE						
	<i>Cibotium chamissoi</i> Kaulf.	hapu'u 'i'i	FAC*	-	E-C	N, O
	<i>Cibotium glaucum</i> (Sm.) Hook. & Arn.	hapu'u	FAC*	-	E-C	N, O
	<i>Cibotium hawaiense</i> Nakai & Ogura	meu	-	-	E-R	O
	<i>Microlepia strigosa</i> (Thunb.) Presl.	Palapalai	-	-	E-U	O
			Winged Fern Family			
GLEICHENIACEAE						
	<i>Dicranopteris linearis</i> (Burm.) Underw.	uluhe	FACU	-	I-C	N, O
	<i>Hicriopteris pinnata</i> (G. Kunze) Ching	uluhe lau loa	-	-	E-U	O
	<i>Sticheris owhyhensis</i> (Hook.) Ching	uluhe	-	-	E-U	O
			Filmy Fern Family			
HYMENOPHYLLACEAE						
	<i>Gonocormus minutus</i> (Bl.) v.d. Bosch	dwarf filmy fern	-	-	I-U	O
	<i>Mecodium recurvum</i> (Gaud.) Copel	filmy fern	-	-	I-C	N, O
	<i>Sphaeroconium obtusum</i> (H. & A.) Copel	filmy fern	-	-	I-C	O
			Club Moss Family			
LYCOPODIACEAE						
	<i>Lycopodium cernuum</i> L.	wawae'iole	FAC*	-	I-C	N, O
	<i>Lycopodium phyllanthum</i> Hook. & Arn.	wawae'iole	-	-	E-U	O
	<i>Lycopodium venustulum</i> Gaud.	wawae'iole	FACU*	-	E-U	N, O
			Mule's-foot Fern Family			
MARATTIACEAE						
	<i>Angiopteris evecta</i> (Forst.) Hoffm.	angiopteris	-	-	I-R	O
	<i>Marattia douglasii</i> (Presl) Baker	pala	-	-	E-R	O
			Adder's Tongue Fern Family			
OPHIOGLOSSACEAE						
	<i>Ophioderma falcatum</i> Degener	puapua moa	-	-	I-U	O
			Common Fern Family			
POLYPODIACEAE						
	<i>Adenophorus sarmentosus</i> (Brack.) Wilson	adenophorus	FACU	-	E-U	N, O
		syn. <i>A. tripinnatifidus</i> Gaud.				
	<i>Adenophorus tamariscinus</i> (Kaulf.)	wahini noho mauka	FACU	-	E-C	N, O
		Hook. & Grev.				
	<i>Amauropelta globulifera</i> (Brack.) Holt.	palapalai a kamapua'a	-	-	E-U	O
	<i>Asplenium adiantum-nigrum</i> L.	iwaiwa	-	-	I-C	N, O
	<i>Asplenium contiguum</i> Kaulf.	spleenwort	-	-	I-U	O
	<i>Asplenium lobulatum</i>	pi'ipi'i lau manamana	-	-	E-U	O
	<i>Asplenium monanthes</i> L.	spleenwort	-	-	I-U	N, O

PTERIDOPHYTES (con't)

FAMILY	Genus / Species	Common Name	USFWS Wilnds.	USFWS Status	Dist. & Abun.	Flow Type
POLYPODIACEAE (con't)	Common Fern Family					
	<i>Asplenium trichomanes</i> L.	spleenwort	-	-	I-C	N, O
	<i>Athyrium esculentum</i> (Retz.) Copel	pacofern	-	-	A-C	O, D
	<i>Athyrium microphyllum</i> (Sm.) Alston	'akolea	FAC	-	E-U	O
	<i>Athyrium sandwichianum</i> (Brack.) Milde syn. <i>Diplazium sandwichianum</i>	ho'i'o	-	-	E-U	O
CF	<i>Athyrium</i> sp.	trailing athyrium	-	-	E-U	O
	<i>Blechnum occidentale</i> L.	blechnum	-	-	A-C	O
	<i>Coniogramme pilosa</i>	lo'ulu	-	-	E-U	O
	<i>Cyclosorus cyatheoides</i> (Kaulf.) O. Ktze.	kikawaio	-	-	E-C	O
	<i>Dryopteris dentata</i> (Forsk.) C. Chr.	oak fern	-	-	A-C	O, D
	<i>Dryopteris wallichiana</i> (Spreng.) Hyl.	laukahi	-	-	E-C	O
	<i>Elaphoglossum hirtum</i> var. <i>micans</i> (Mett.) C. Chr.	ekaha	-	-	E-C	O
	<i>Elaphoglossum reticulatum</i> (Kaulf.) Gaud.	ekaha	-	-	E-C	N, O
	<i>Elaphoglossum wawrae</i> (Luerss.) C. Chr.	ekaha	FAC	-	E-C	O
	<i>Grammitis tenella</i> Kaulf.	mahinalua	-	-	I-C	N, O
	<i>Microsorium scolopendria</i> (Burm.) Copel syn. <i>Polypodium scolopendria</i> Burm.	laua'e	FACU	-	I-C	N, O
	<i>Nephrolepis cordifolia</i> (L.) K. Presl	sword fern	FACU	-	A-C	N, O, D
	<i>Nephrolepis exaltata</i> (L.) Schott.	ni'ani'au	FAC*	-	I-C	O
	<i>Nephrolepis hirsutula</i> (Forst.) Presl syn. <i>N. multiflora</i>	sword fern	FAC*	-	A-C	N, O, D
	<i>Pellaea ternifolia</i> (Cav.) Link	kalamoho lau li'i	-	-	I-C	N, O
	<i>Phlebodium aureum</i> (L.) J. Sm.	laua'e haole	-	-	A-C	N, O
	<i>Pityrogramma calomelanos</i> (L.) Link	silver fern	-	-	A-C	O, D
	<i>Pityrogramma chrysophylla</i> (Sw.) Link	gold fern-	-	-	A-C	O, D
	<i>Pleopeltis thunbergiana</i> Kaulf.	pakahakaha	-	-	I-C	N, O
	<i>Polypodium pellucidum</i> Kaulf.	'ae	-	-	E-C	O
	<i>Polypodium pellucidum</i> var. <i>vulcanicum</i> Skottsberg	'ae	-	-	E-C	N, O
	<i>Polypodium saffordii</i> Maxon	Safford's fern	-	-	E-U	O
	<i>Pteridium aquilinum</i> var. <i>decompositum</i> (Gaud.) Tryon	pai'a	-	-	E-C	N, O
	<i>Pteris vittata</i> L.	pteris	-	-	A-C	N, O
	<i>Sadleria cyatheoides</i> Kaulf.	'ama'u	FACU	-	E-C	N, O
	<i>Sadleria pallida</i> Hook. & Arn.	'ama'u	FACU	-	E-C	N, O
	<i>Sadleria souleyetiana</i>	'ama'u	-	-	E-U	O
	<i>Sphenomeris chusana</i> (L.) Copel syn. <i>S. chinensis</i> (L.) Maxon	pala'a	FAC*	-	I-C	N, O, D
PSILOACEAE	Wisk Fern Family					
	<i>Psilotum complanatum</i> Sw.	pipi	FAC*	-	I-U	O
	<i>Psilotum nudum</i> (L.) Griseb.	moa	FACU	-	I-C	N, O, D
SELAGINELLACEAE	Cedar Moss Family					
	<i>Selaginella arbuscula</i> (Kaulf.) Spring.	leplepe a moa	-	-	I-U	O

GYMNOSPERMS

<u>FAMILY</u>			USFWS	USFWS	Dist.&	Flow
Genus / Species	Common Name	Wtnds.	Status	Abun.	Type	
ARAUCARIACEAE	Island Pine Family					
<i>Araucaria heterophylla</i> (Salisb.) Frnc.	Norfolk Island pine	-	-	A-C	O	cult.
CUPRESSACEAE	Cypress Family					
<i>Cupressus arizonica</i> Greene	Arizona cypress	-	-	A-C	N	cult.
TAXODIACEAE	Yew Family					
<i>Cryptomeria japonica</i> (L.F.) D. Don	Sugi pine	-	-	A-C	O	cult.

DICOTYLEDONS

<u>FAMILY</u>			USFWS	USFWS	Dist.&	Flow
Genus / Species	Common Name	Wtnds.	Status	Abun.	Type	
ANACARDIACEAE	Mango Family					
<i>Mangifera indica</i> L.	mango	FACU	-	A-C	O	
<i>Rhus sandwicensis</i> A. Gray	neneleau	-	-	E-U	N, O	
<i>Schinus terebinthifolius</i> Raddi	wilelaiki	FACU	-	A-C	O	
APIACEAE	Parsley Family					
<i>Centella asiatica</i> (L.) Urb.	pohe kula	FAC	-	A-C	O, D	
<i>Hydrocotyle bowlesioides</i> Math.& Const. syn. <i>H. sibthorpioides</i> Lam.	pennywort	FAC	-	A-C	O	
APOCYNACEAE	Plumeria Family					
<i>Alyxia oliviformis</i> Gaud.	maile	FACU-	-	E-U	O	
AQUIFOLIACEAE	Holly Family					
<i>Ilex anomala</i> Hook.& Arn.	kawa'u	FACU	-	E-C	O	
ARALIACEAE	Ginseng Family					
<i>Cheirodendron trigynum</i> (Gaud.) Heller	'olapa	FAC	-	E-C	N, O	
<i>Schefflera actinophylla</i> (Endl.) Harms	octopus tree	-	-	A-C	O	
<i>Tetraplasandra oahuensis</i> (Gray) Harms	'ohe mauka	FACU	-	E-R	O	
ASTERACEAE	Sunflower Family					
<i>Achillea millifolium</i> L.	yarrow	-	-	A-C	O, D	
<i>Ageratina riparia</i> (Regel) King & Robns. syn. <i>Eupatorium riparium</i> Regel	pamakani	FACU	-	A-C	O, D	
<i>Ageratum houstonianum</i> L.	maile hohono	-	-	A-C	O, D	
<i>Bidens pilosa</i> L.	ki nehe	-	-	A-C	O, D	
<i>Chrysanthemum leucanthemum</i> L.	pua pake	-	-	A-C	D	

DICOTYLEDONS (con't)

FAMILY	Genus / Species	Common Name	USFWS Wtnds.	USFWS Status	Dist. & Abun.	Flow Type
ASTERACEAE (con't)		Sunflower Family				
	<i>Cirsium vulgare</i> (Savi) Ten.	pua kala	-	-	A-C	O, D
	<i>Conyza bonariensis</i> (L.) Cronq.	hairy horseweed	-	-	A-C	O, D
	<i>Conyza canadensis</i> (L.) Cronq.	horseweed	-	-	A-C	O, D
	<i>Crassocephalum crepidioides</i> (Benth.) S. Moore	pua lele	FAC	-	A-C	O, D
	<i>Crepis capillaris</i> (L.) Wallr.	hawk's beard	-	-	A-C	O, D
	<i>Dubautia linearis</i> (DC) Keck	na'ena'e	-	-	E-U	O
	<i>Dubautia scabra</i> (DC) Keck	na'ena'e	FACU	-	E-C	N, O
	<i>Elephantopus mollis</i> Kunth.	elephant's foot	FACU	-	A-C	O
	<i>Erectites valerianifolia</i> (Wolf) DC	pua lele	FAC	-	A-C	O, D
	<i>Gnaphalium japonicum</i> Thunb.	everlasting	-	-	A-C	D
	<i>Gnaphalium purpureum</i> L.	Cudweed	-	-	A-C	N, O, D
	<i>Gnaphalium sandwicense</i> Gaud.	'ena'ena	-	-	E-U	O, D
	<i>Heterotheca grandiflora</i> Nutt.	telegraph weed	-	-	A-C	D
	<i>Hypochoeris radicata</i> L.	hairy cat's ear	FACU	-	A-C	N, O, D
	<i>Pluchea symphytifolia</i> (Mill.) Gillis syn. <i>P. odorata</i> (L.) Cass.	sourbush	FAC*	-	A-C	N, O, D
	<i>Senecio mikanioides</i> Otto ex Walp.	German ivy	-	-	A-C	O
	<i>Senecio vulgaris</i> L.	groundsel	FAC	-	A-C	O
	<i>Sonchus oleraceus</i> L.	pualele	FACU	-	A-C	O, D
	<i>Taraxacum officinale</i> W.W. Weber	dandelion	-	-	A-C	O, D
	<i>Youngia japonica</i> (L.) DC	hawk's beard	FACU	-	A-C	O, D
BALSAMINACEAE		Touch-me-not Family				
	<i>Impatiens wallerana</i> J.D. Hook.	impatiens	-	-	A-C	O, D
BIGNONIACEAE		Bignonia Family				
	<i>Spathodea campanulata</i> P. Beauv.	African tulip	-	-	A-C	O
BRASSICACEAE		Mustard Family				
	<i>Brassica nigra</i> (L.) W. Koch	black mustard	-	-	A-C	O, D
	<i>Lepidium oblongum</i> Sm.	peppervort	-	-	A-C	O, D
	<i>Nasturtium samentosum</i> (Forst. ex DC)	pa'ih	FACW+	-	A-C	O
BUDDLEIACEAE		Dog Tail Family				
	<i>Buddleia asiatica</i> Lour.	dog tail	-	-	A-C	O, D
CAMPANULACEAE		Lobelia Family				
	<i>Clermontia hawaiiensis</i> (Hillebr.) Rock	'oha kepau	-	-	E-R	O
	<i>Clermontia montis-loa</i> Rock	'oha wai	-	-	E-U	O
	<i>Clermontia parviflora</i> Gaud. ex A. Gray	'oha wai	FACU	-	E-U	O
	<i>Cyanea degneriana</i> F. Wimmer	haha	FAC	-	E-R	O

DICOTYLEDONS (con't)

FAMILY		Common Name	USFWS Wlnds.	USFWS Status	Dist.& Abun.	Flow Type
Genus / Species						
CAMPANULACEAE (con't)		Lobelia Family				
<i>Cyanea pilosa</i> ssp. <i>pilosa</i> A. Gray		haha	FAC*	-	E-R	O
<i>Cyanea platyphylla</i> (A. Gray) Hillebr.		'aku'aku	-	E	E-R	O
<i>Hippobroma longiflora</i> (L.) G. Don		pua hoku	FACU	-	A-C	O, D
CARYOPHYLLACEAE		Pink Family				
<i>Arenaria serpyllifolia</i> L.		scarlet pimpernel	-	-	A-C	D
<i>Dianthus armeria</i> L.		Deptford pink	-	-	A-C	D
<i>Drymaria cordata</i> (L.) Willd. ex Roem.		pipili	FAC	-	A-C	O, D
<i>Polycarpon tetraphyllum</i> (L.) L.		polycarpon	-	-	A-C	O, D
CASUARINACEAE		She-oak Family				
<i>Casuarina equisetifolia</i> L.		paina, ironwood	FACU	-	A-C	N
CELASTRACEAE		Bittersweet Family				
<i>Perrottetia sandwicensis</i> A. Gray		olomea	FACU	-	E-U	O
CLUSIACEAE		Mangosteen Family				
<i>Clusia rosea</i> Jacq.		autograph tree	-	-	A-C	O
<i>Hypericum mutilum</i> L.		St. John's wort	FACW	-	A-C	O, D
CONVULVULACEAE		Morning-glory Family				
<i>Ipomoea indica</i> (J. Burm.) Merr.		koali	FACU	-	I-C	O
EPACRIDACEAE		Epacris Family				
<i>Styphelia tameiameia</i> (Cham. & Schlect.) F.v. Muell.		pukiawe	-	-	I-C	N, O
ERICACEAE		Blueberry Family				
<i>Vaccinium calycinum</i> Sm.		'ohelo la'au	FAC	-	E-C	N, O
<i>Vaccinium dentatum</i> Sm.		'ohelo	FACU	-	E-C	N, O
<i>Vaccinium reticulatum</i> Sm.		'ohelo 'ai	-	-	E-C	N, O
EUPHOBIACEAE		Poinsettia Family				
<i>Antidesma platyphyllum</i> H. Mann.		mehamehame	FACU	-	E-U	O
<i>Chamaesyce hirta</i> (L.) Millsp. syn. <i>Euphorbia hirta</i> L.		garden spurge	FACU	-	A-C	O, D
<i>Chamaesyce prostrata</i> (Aiton) Sm.		prostrate spurge	-	-	A-C	

DICOTYLEDONS (con't)

FAMILY	Genus / Species	Common Name	USFWS Wtlds.	USFWS Status	Dist.& Abun.	Flow Type
FABACEAE		Bean Family				
	<i>Acacia koa</i> A. Gray	koa	-	-	E-C	N, O
	<i>Chamaecrista nictitans</i> (L.) Moench	partridge pea	-	-	A-C	O, D
	<i>Crotalaria assamica</i> Benth.	Rattlepod	-	-	A-C	O, D
	<i>Desmodium incanum</i> DC	ka'imi	-	-	A-C	D
	<i>Desmodium tortuosum</i> (Sw.) DC	Florida beggarweed	-	-	A-C	D
	<i>Desmodium triflorum</i> (L.) DC	tick clover	FACU*	-	A-C	O, D
	<i>Desmodium uncinatum</i> (Jacq.) DC	pua pilipili	FACU*	-	A-C	O, D
	<i>Glycine wightii</i> (Wht. & Arn.) Verdc.	beggar's tick	-	-	A-C	D
	<i>Lotus subbiflorus</i> Lag.	trefoil	-	-	A-C	O, D
	<i>Medicago lupulina</i> L.	black medick	-	-	A-C	O, D
	<i>Mimosa pudica</i> L.	hilahila	FACU	-	A-C	O, D
	<i>Paraserianthes falcataria</i> (L.) I. Neils.	albizia	-	-	A-C	N, O
	<i>Trifolium arvense</i> L.	rabbit's-foot clover	-	-	A-C	O, D
	<i>Trifolium pratense</i> L.	red clover	-	-	A-C	D
	<i>Trifolium repens</i> L.	white clover	-	-	A-C	O, D
GENTIANACEAE		Gentian Family				
	<i>Centaurium erythraea</i> Raf.	bitter herb	-	-	A-C	D
GERANIACEAE		Geranium Family				
	<i>Erodium cicutarium</i> (L.) L' Her.	pin clover	-	-	A-C	D
GESNERIACEAE		African Violet Family				
	<i>Cyrtandra hawaiiensis</i> C.B. Clarke	ha'iwale	-	-	E-U	
	<i>Cyrtandra lysiosepala</i> (A.Gray) C.B. Clark		-	-	E-U	
	<i>Cyrtandra paludosa</i> Gaud.	hahala	-	-	E-U	
	<i>Cyrtandra platyphylla</i> A.Gray	'ilihia	-	-	E-U	
GOODENIACEAE		Half-flower Family				
	<i>Scaevola chamissoniana</i> Gaud.	naupaka kuahiwi	FACW*	-	E-U	N, O
HYDRANGEACEAE		Hydrangea Family				
	<i>Broussasia arguta</i> Gaud.	kanawao	FAC	-	E-C	O
LAMIACEAE		Mint Family				
	<i>Phyllostegia macrophylla</i> (Gaud.) Benth.		-	-	E-R	O
	<i>Stenogyne calaminthoides</i> A. Gray	mohihi	FAC	-	E-U	O
LAURACEAE		Laurel Family				
	<i>Persea americana</i> Mill.	avocado	-	-	A-C	N, O

DICOTYLEDONS (con't)

FAMILY	Genus / Species	Common Name	USFWS Wlnds.	USFWS Status	Dist.& Abun.	Flow Type
LOGANIACEAE		Strychnine Family				
	<i>Labordia hedyosmifolia</i> Baill.	kamakahala	FAC*	-	E-U	O
LYTHRACEAE		Loosestrife Family				
	<i>Cuphea carthagenensis</i> (Jacq.) Macbr.	tarweed	FAC	-	A-C	O, D
	<i>Cuphea hyssopifolia</i> Kunth	false heather	FAC	-	A-C	O, D
MALVACEAE		Hibiscus Family				
	<i>Malva parviflora</i> L.	cheeseweed	-	-	A-C	D
MELASTOMATACEAE		Melastoma Family				
	<i>Arthrostea ciliatum</i> Pav. ex D. Don	arthrostema	FACW	-	A-C	D
	<i>Clidemia hirta</i> (L.) D. Don	Koster's curse	FACU	-	A-C	O, D
	<i>Dissotis rotundifolia</i> (Sm.) Triana	dissotis	-	-	A-C	O, D
	<i>Melastoma candidum</i> D. Don	glorybush	-	-	A-C	N, O, D
	<i>Oxyspora paniculata</i> (D. Don) DC	oxyspora	-	-	A-C	O
	<i>Tibochina herbacea</i> (DC) Cogn.	firebush	FAC	-	A-C	N, O, D
MELIACEAE		Mahogany Family				
	<i>Toona ciliolata</i> M. Roem.	Australian toon	-	-	A-C	N cult.
MORACEAE		Fig Family				
	<i>Ficus microcarpa</i> L. fil.	banyan	-	-	A-C	N, O
MYRSINACEAE		Myrsine Family				
	<i>Myrsine lessertiana</i> A. DC	kolea	FACU*	-	E-C	O
	<i>Myrsine sandwicensis</i> A. DC	kolea lau li'i	FAC	-	E-U	O
MYRTACEAE		Myrtle Family				
	<i>Eucalyptus robusta</i> Sm.	swamp mahogany	FACU	-	A-C	O cult.
	<i>Melaleuca quinquenervia</i> (Cav.) S. Blake	paperbark	FACU	-	A-C	O
	<i>Metrosideros polymorpha</i> Gaud.	'ohi'a	-	-	E-C	N, O
	var. <i>glaberrima</i>		FAC+			
	var. <i>incana</i>		FAC			
	var. <i>macrophylla</i>		FAC			
	var. <i>newellii</i>		FACW			
	var. <i>polymorpha</i>		FAC-			
	<i>Psidium cattleianum</i> Sabine	waiawi	FACU	-	A-C	N, O, D
	<i>Psidium guajava</i> L.	guava	FACU	-	A-C	N, O, D
	<i>Syzygium jambos</i> (L.) Alston	rose apple	FAC	-	A-C	O
	syn. <i>Eugenia jambos</i> L.					

DICOTYLEDONS (con't)

FAMILY			USFWS	USFWS	Dist.&	Flow
Genus / Species	Common Name	Wtnds.	Status	Abun.	Type	
ONAGRACEAE	Evening Primrose Family					
<i>Epilobium billardierianum</i> Ser.	willow herb	-	-	A-C	O, D	
<i>Epilobium ciliatum</i> Raf	willow herb	-	-	A-C	D	
<i>Ludwigia palustris</i> (L.) Elliot	marsh purslane	OBL	-	A-C	O, D	
<i>Ludwigia octovalis</i> (Jacq.) Raven	kamole	OBL	-	P-C	O, D	
OXALIDACEAE	Wood Sorrel Family					
<i>Oxalis corniculata</i> L.	'ihi	FACU	-	P-C	O, D	
PIPERACEAE	Pepper Family					
<i>Peperomia cookiana</i> C. DC	'ala'ala wai nui	FAC*	-	E-U	O	
<i>Peperomia hypoleuca</i> Miq.	'ala'ala wai nui	-	-	E-U	O	
<i>Peperomia macraeana</i> C. DC	'ala'ala wai nui	-	-	E-U	O	
<i>Peperomia tetraphylla</i> (G.Forst.)Hook.&Arn.	'ala'ala wai nui	-	-	I-C	N, O	
PITTIOSPORACEAE	Pittosporum Family					
<i>Pittosporum confertiflorum</i> A. Gray	ho'awa	-	-	E-U	O	
<i>Pittosporum hawaiiense</i> Hillebr.	ho'awa	-	-	E-U	O	
PLANTAGINACEAE	Plantain Family					
<i>Plantago lanceolata</i> L.	plantain	FACU	-	A-C	O, D	
<i>Plantago major</i> L.	plantain	FAC*	-	A-C	O, D	
POLYGALACEAE	Milkwort Family					
<i>Polygala paniculata</i> L.	milkwort	FACU*	-	A-C	D	
POLYGONACEAE	Sorrel Family					
<i>Polygonum capitatum</i> F. Ham.	knotweed	-	-	A-C	O, D	
<i>Polygonum glabrum</i> Willd.	kamole	OBL	-	A-C	O, D	
<i>Rumex acetosella</i> L.	sorrel	FACU	-	A-C	O, D	
RANUNCULACEAE	Buttercup Family					
<i>Anemone hupehensis</i> Lemoine	Japanese anemone	FAC	-	A-C	D	
ROSACEAE	Rose Family					
<i>Fragaria vesca</i> L.	European strawberry	-	-	A-C	O	
<i>Osteomeles anthyllidifolia</i> (Sm.) Lindl.	'ulei	-	-	I-C	O	
<i>Rubus ellipticus</i> Sm.	Himalayan raspberry	-	-	A-C	O, D	

DICOTYLEDONS (con't)

FAMILY	Genus / Species	Common Name	USFWS Wlnds.	USFWS Status	Dist.& Abun.	Flow Type
		Rose Family				
ROSACEAE (con't)		'akala	-	-	E-C	N, O
	<i>Rubus hawaiiensis</i> A. Gray	thimbleberry	FAC	-	A-C	N, O, D
	<i>Rubus rosifolius</i> Sm.					
		Coffee Family				
RUBIACEAE		kukae nene	-	-	E-C	N, O
	<i>Coprosma ernodioides</i> A. Gray	pilo	-	-	E-C	N, O
	<i>Coprosma montana</i> Hillebr.	pilo	FAC	-	E-U	O
	<i>Coprosma ochracea</i> W. Oliver	.kio'ele	FAC	-	E-C	N, O
	<i>Hedyotis centranthoides</i> (Hook.& Arn.) Steud	manono	-	-	E-C	O
	<i>Hedyotis terminalis</i> (Hook.& Arn.) W.L. Wagner & D. Herbst					
	<i>Nertera granadensis</i> (L.fil.) Druce	makole	FACW	-	I-C	O
	<i>Paederia scandens</i> (Lour.) Merr.	pilau maile	-	-	A-C	O, D
	<i>Psychotria hawaiiensis</i> (A. Gray) Fosb.	kopiko	-	-	E-C	O
	<i>Spermacoce assurgens</i> Ruiz & Pav.	buttonweed	-	-	A-C	D
		Citrus Family				
RUTACEAE		alani	FAC	-	E-C	O
	<i>Pelea clusiifolia</i> A. Gray	alani	-	-	E-U	O
	<i>Pelea volcanica</i> A. Gray					
		Sandlewood Family				
SANTALACEAE		'iliahi	-	-	E-U	O
	<i>Santalum paniculatum</i> Hook.& Arn.					
		Soapberry Family				
SAPINDINACEAE		'ali'i	-	-	I-C	N, O, D
	<i>Dodonaea viscosa</i> Jacq.					
		Figwort Family				
SCROPHULARIACEAE		Indian paintbrush	-	-	A-C	N, O, D
	<i>Castilleja arvensis</i> Cham.& Schlect.	Ola'a beauty	FAC	-	A-C	O, D
	<i>Torenia asiatica</i> L.	great mullein	-	-	A-C	O, D
	<i>Verbascum thapsus</i> L.	com speedwell	-	-	A-C	D
	<i>Veronica arvensis</i> L.					
		Tomato Family				
SOLANACEAE		popolo	FACU	-	I-C	O, D
	<i>Solanum americanum</i> Mill. syn. <i>S. nigrum</i> L.	popolo	-	-	A-U	O
	<i>Solanum nigrescens</i> Mart.& Gal.					
		Chocolate Family				
STERCULIACEAE		melochia	-	-	A-C	N, O
	<i>Melochia umbellata</i> (Houtt.) Stapf					

DICOTYLEDONS (con't)

<u>FAMILY</u>			USFWS	USFWS	Dist.&	Flow
Genus / Species	Common Name		Wlnds.	Status	Abun.	Type
THYMELACEAE	'Akia Family					
<i>Wikstroemia sandwicensis</i> Meisn.	'akia		-	-	E-U	O
ULMACEAE	Elm Family					
<i>Trema orientalis</i> (L.) Blume	gunpowder tree		-	-	A-C	O
URTICACEAE	Nettles Family					
<i>Pipturus albidus</i> (Hook.& Arn.) A. Gray	mamaki		-	-	E-C	N, O, D
<i>Touchardia latifolia</i> ssp. <i>angusta</i> St. John	olona		FAC*	-	E-R	O
<i>Touchardia latifolia</i> var. <i>Hawn. cult.</i> Gaud.	olona		FAC*	-	E-U	O
VERBENACEAE	Vervain Family					
<i>Stachytarpheta urticifolia</i> (Salisb.) Sims	blue vervain		FAC*	-	A-C	O, D
<i>Verbena litoralis</i> Kunth	ha'uoi		-	-	A-C	O, D

MONOCOTYLEDONS

<u>FAMILY</u>			USFWS	USFWS	Dist.&	Flow
Genus / Species	Common Name		Wlnds.	Status	Abun.	Type
AGAVACEAE	Agave Family					
<i>Cordyline fruticosa</i> (L.) A. Chev.	ti		-	-	P-C	O
ARECACEAE	Palm Family					
<i>Archontophoenix alexandrae</i> (F.v. Muell.) Wendl.&Drude	alexandra palm		-	-	A-C	O
<i>Pritchardia beccariana</i> Rock	loulu		FAC	-	E-R	O
COMMELINACEAE	Spiderwort Family					
<i>Commelina diffusa</i> L.	honohono		FACW	-	A-C	O, D
CYPERACEAE	Sedge Family					
<i>Bulbostylis capillaris</i> (L.) C.B. Clarke	nutgrass		-	-	A-C	D
<i>Carex alligata</i> Boott	bog sedge		FACW+	-	E-U	O
<i>Cyperus halpan</i> L.	nutgrass		FACW+	-	A-C	O, D
<i>Eleocharis obtusa</i> (Willd.) Schult.	pipiwai		OBL	-	I-C	O
<i>Fimbristylis dichotoma</i> (L.) Vahl	mau'u 'aki'aki		FAC+	-	I-C	D
<i>Gahnia gahniiformis</i> (Gaud.) A. Heller	gahnia		-	-	I-C	O
<i>Kyllinga brevifolia</i> Rottb.	kili'o'opu		-	-	A-C	O, D

MONOCOTYLEDONS (con't)

FAMILY	Genus / Species	Common Name	USFWS Wlnds.	USFWS Status	Dist. & Abun.	Flow Type
CYPERACEAE (con't)		Sedge Family				
	<i>Kyllinga nemoralis</i> (Forst. & Forst.) Dandy ex Hutch. & Dalz.	kili'o'opu	-	-	A-C	D
	<i>Macherina angustifolia</i> (Gaud.) Koyama	'uki	FAC	-	I-C	N, O
	<i>Macherina mariscoides</i> (Gaud.) J. Kern	'uki	FACU	-	I-C	N, O
	<i>Mariscus phleoides</i> Nees ex Kunth	'ahu'awa	-	-	E-U	O
	<i>Oreobolus furcatus</i> H. Mann.	oreobolis	FACW+	-	E-U	O, D
	<i>Pycreus polystachyos</i> (Rottb.) P. Beauv.	mau'u pu'uuka	-	-	I-C	O, D
	<i>Rhynchospora caduca</i> Elliott	beakrush	FACW*	-	A-C	O, D
	<i>Rhynchospora chinensis</i> Nees & Meyen	kuolohia	FACW*	-	I-C	O, D
	<i>Rhynchospora globularis</i> (Chapm.) Sm.	globe beakrush	FAC*	-	A-C	N, D
	<i>Uncinia uncinata</i> (L. fil.) Kukenth.	uncinia	FAC	-	I-C	O
IRIDACEAE		Iris Family				
	<i>Aristea gerrardii</i> Weim.	aristea	-	-	A-C	D
	<i>Crocosmia x crocosmimifolia</i> (Lem. ex Morr.) N.E. Brown	tritonina	-	-	A-C	D
	<i>Sisyrinchium acre</i> H. Mann	mau'u la 'ili	FACU*	-	E-U	O
	<i>Sisyrinchium rosulatum</i> E.P. Bicknell	wild rose iris	-	-	A-C	D
JUNCACEAE		Rush Family				
	<i>Juncus effusus</i> L.	Japanese mat-rush	OBL	-	A-C	O
	<i>Juncus planifolius</i> R. Br.	flat rush	FACW	-	A-C	O
	<i>Luzula hawaiiensis</i> Buch.	wood rush	FACU	-	E-C	O, D
LILIACEAE		Lily Family				
	<i>Astelia menziesiana</i> Sm.	pa'iniu	FAC	-	E-U	N, O
ORCHIDACEAE		Orchid Family				
	<i>Arundina graminifolia</i> (D. Don) Hochr. syn. <i>A. bambusifolia</i> (Roxb.) Lindl.	bamboo orchid	FACU	-	A-C	N, O, D
	<i>Phaius tankervilleae</i> (Banks ex L'Her.) Blume	nun's-hood	FACU	-	A-C	O
	<i>Spathoglottis plicata</i> Blume	Philippine ground orchid	-	-	A-C	O, D
PANDANACEAE		Screw-pine Family				
	<i>Freycinetia arborea</i> Gaud.	'ie'ie	FACU	-	I-C	O
POACEAE		Grass Family				
	<i>Andropogon virginicus</i> L.	broomsedge	FACU	-	A-C	N, O, D
	<i>Anthoxanthum odoratum</i> L.	vernalgrass	-	-	A-C	O, D
	<i>Avena fatua</i> L.	wild oats	-	-	A-C	D
	<i>Brachiaria mutica</i> (Forssk.) Stapf	California grass	FACW	-	A-C	O, D
	<i>Bromus rigidus</i> Roth	ripgut grass	-	-	A-C	D
	<i>Bromus willdenowii</i> Kunth	rescue grass	-	-	A-C	D
	<i>Coix lachryma-jobi</i> L.	Job's tears	FACW+	-	A-C	O, D
	<i>Cynodon dactylon</i> (L.) Pers.	manienie	FACU	-	A-C	D

MONOCOTYLEDONS (con't)

FAMILY	Genus / Species	Common Name	USFWS Wlnds.	USFWS Status	Dist.& Abun.	Flow Type
POACEAE (con't)		Grass Family				
	<i>Dactylis glomerata</i> L.	cock's foot	-	-	A-C	D
	<i>Deschampsia nubigena</i> Hillebr.	pili 'uka	-	-	E-C	O, D
	<i>Digitaria violascens</i> Link	violet crabgrass	FAC	-	A-C	O, D
	<i>Eleusine indica</i> (L.) Gaertn.	goose grass	FACU-	-	A-C	D
	<i>Isachne distichophylla</i> Munro ex Hillebr.	'ohe	FAC	-	E-U	O
	<i>Melinis minutifolia</i> P. Beauv.	molasses grass	-	-	A-C	O, D
	<i>Oplismenus hirtellus</i> (L.) P. Beauv.	honohono	FACU	-	A-C	O
	<i>Panicum maximum</i> Jacq.	Guinea grass	FACU	-	A-C	O, D
	<i>Panicum repens</i> L.	Wainaku grass	FAC+	-	A-C	D
	<i>Paspalum conjugatum</i> Bergius	Hilo grass	FAC+	-	A-C	O, D
	<i>Paspalum dilatatum</i> Poir.	Dallis grass	FACU	-	A-C	D
	<i>Paspalum scrobiculatum</i> L.	mau'u laiki	FAC*	-	I-C	N, O, D
	<i>Paspalum urvillei</i> Steud.	vasey grass	FAC	-	A-C	O, D
	<i>Pennisetum clandestinum</i> Chiov.	kikuyu grass	FACU-	-	A-C	D
	<i>Poa annua</i> L.	bluegrass	FACU-	-	A-C	D
	<i>Poa compressa</i> L.	Canadian bluegrass	-	-	A-C	D
	<i>Poa pratensis</i> L.	Kentucky bluegrass	-	-	A-C	D
	<i>Rhynchelytrum repens</i> (Willd.) Hubb.	Natal redtop	-	-	A-C	D
	<i>Saccharum officinarum</i> L.	sugarcane	FACU	-	A-C	O
	<i>Sacciolepis indica</i> (L.) Chase	Glenwood grass	FAC+	-	A-C	N, O, D
	<i>Schizachyrium condensatum</i> (Kunth) Nees	beardgrass	-	-	A-C	O, D
	<i>Setaria gracilis</i> Kunth	yellow foxtail	FAC*	-	A-C	O, D
	syn. <i>S. glauca</i> (L.) Beauv.					
	<i>Setaria palmifolia</i> (J. Konig) Stapf	palm grass	FACU	-	A-C	O, D
	<i>Sporobolus indicus</i> (L.) R. Br.	rattail	-	-	A-C	D
	<i>Themeda villosa</i> (Poir.) A. Camus	Lyon's grass	-	-	A-C	D
	<i>Vulpia bromoides</i> (L.) S.F. Gray	brome fescue	FACU	-	A-C	D
SMILACACEAE		Sarsaparilla Family				
	<i>Smilax melastomifolia</i> Sm.	hoi kuahiwi	FACU	-	E-U	O
XYRIDACEAE		Yellow-eyed Grass Family				
	<i>Xyris platylepis</i> Chapm.	yellow-eyed grass	OBL*	-	A-C	N, D
ZINGIBERACEAE		Ginger Family				
	<i>Hedychium coronarium</i> J. Konig	white ginger	FAC	-	A-C	O, D
	<i>Hedychium flavescens</i> Carey ex Rosco	yellow ginger	FAC-	-	A-C	O, D
	<i>Hedychium gardnerianum</i> Ker-Gawl	kahili ginger	-	-	A-C	O, D
	<i>Hedychium greenii</i>	orange ginger	-	-	A-C	O, D
	<i>Zingiber zerumbet</i> (L.) Sm.	'awapuhi	FACU*	-	P-C	O

Key:

USFWS STATUS: E = Listed endangered species; SOC = Species of concern.
 USFWS national wetland inventory designations: OBL = Obligate wetland species; FAC = Facultative species;
 FACU = Facultative upland species; FACW = Facultative wetland species.
 DISTRIBUTION: E = Endemic; I = Indigenous; A = Adventive.
 ABUNDANCE: C = Common; U = Uncommon; R = Rare.
 FLOW TYPE: N = new; O = Old.

APPENDIX E

ARCHAEOLOGICAL ASSESSMENT STUDY



Paul H. Rosendahl, Ph.D., Inc.

Archaeological • Historical • Cultural Resource Management Studies & Services

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Letter Report 1735-080196

October 30, 1997

Mr. George Newton
c/o Mr. John Michael White
Hawaii Land Company
P.O. Box 10
Honolulu, Hawaii 96810

Subject: Archaeological Assessment Study
Kukuau 1st Mauka Parcel (TMK:3-2-4-08:33)
Land of Kukuau 1st, South Hilo District
Island of Hawai'i (TMK:3-2-4-08:33)

Dear Mr. Newton:

At your request, Paul H. Rosendahl, Ph.D. Inc. (PHRI) conducted an archaeological assessment study of TMK:3-2-4-08:33, located in the land of Kukuau 1st, South Hilo District, Island of Hawai'i (*Figure 1, at end*). The field work for the study was conducted on July 26 and 29, 1996 by Projects Supervisor Alan T. Walker, B.A., and Field Archaeologists Blair McPhatter, B.A., and Harley Lanham, B.A. Principal Archaeologist Dr. Paul H. Rosendahl provided overall guidance for the project. The field work required about twenty-two man-hours of labor to complete.

The primary objectives of the assessment study were: (a) to determine the general nature and extent of archaeological remains present, and the implications of such remains with regard to the feasibility of development; and (b) to estimate the general scope of any subsequent archaeological work that might be required in the course of the proposed development.

Based on a review of readily available background literature, general familiarity with the project area, and extensive familiarity with the current requirements of review authorities, the following specific tasks were determined to constitute an adequate scope of work:

1. Review and evaluate archaeological and historical documents, including archival literature, legends, records, boundary awards, and cartographic sources relative to the project area;
2. Conduct inspection level field work on a portion of TMK:3-2-4-08:33; and
3. Prepare a final report on the assessment study.

The significance of the archaeological remains identified within the project area was to be assessed in terms of: (a) the National Register criteria contained in the Code of Federal Regulations (36 CFR Part 60), and (b) the criteria for evaluation of traditional cultural properties prepared by the National Park Service (1990). The Department of Land and Natural Resources - State Historic Preservation Division

(DLNR-SHPD) uses these criteria to evaluate eligibility for both Hawaii State and National Registers of Historic Places.

The project area comprises c. 1,646 acres within the Hilo Forest Reserve. It is c. 1,400-2,450 ft above mean sea level, and c. 5.7 miles from the coast. It is bounded on the north, east, and west by the Hilo Forest, and on the south by the Waiākea Forest Reserve. The project terrain slopes gently down to the northeast. The principal soil type present is Keei extremely rocky muck, 6 to 20 percent slopes. The Keei series soils are thin, organic, well-drained soils that overlie pahoehoe bedrock. Twenty to thirty percent of the Keei extremely rocky muck contains rock outcrops and much of this soil is used for pasture (Sato et al. 1973). Rainfall in the project area is c. 200 inches per year, and the average annual temperature is 75-80 degrees F. (Armstrong 1983). The vegetation in the project area includes, primarily, 'ohi'a lehua (*Metrosideros collina*), koa (*Acacia koa*), laua'e (*Microsorium scolopendria*), strawberry guava (*Psidium cattleianum*), uluhe (*Dicanopteris linearis*), bamboo orchid (*Arunzia bambusifolia*), hapu'u (*Cibotium splenens*), and wild iris (*Tritonia sp.*).

Although there has been no previous archaeological work in the project area, a 598-acre parcel located immediately downslope underwent an archaeological field inspection in 1990 (Jensen and Kalima 1990). No archaeological remains of any kind were encountered during the field inspection. Other previous archaeological studies conducted in the general vicinity of the project area are summarized below.

In 1988, PHRI conducted a reconnaissance survey of five proposed Hilo Judiciary Complex sites for an Environmental Impact Statement (EIS) (M.L.K. Rosendahl 1988). One of the five proposed sites (Site 3) is in the Lands of Kukuau 1st and 2nd, and extends from Kilauea Street to Kinoole Street. No archaeological sites were located within Site 3. M.L.K. Rosendahl observed that all five of the proposed sites had "...undergone profound transformation as the city of Hilo has evolved; no traces of prehistoric or early historic land use patterns were present on the ground surface of the sites" (M.L.K. Rosendahl 1988:8).

In 1996, PHRI conducted an assessment study of seven parcels for the proposed Hilo Judiciary Complex (Walker and Rosendahl 1996). During the survey, four previously identified sites (Sites 19431 through 19434) were relocated, and one newly identified site (Site 21133) was recorded. Included in the assessment study was a historical documentary study by PHRI Cultural Resources Specialist Kepā Maly. Although the project area was within Wainaku, Pōnahawai, Pi'ihonua, and Waiākea, Maly's research also included the Land of Kukuau 1st, which is between Waiākea and Kukuau 2nd.

Maly's archaeological sources included Thrum (1907, 1917), Hudson (n.d.), Stokes and Dye (1991), and Boundary Commission information from AD 1873, which contained testimonies of native and foreign residents of Hilo. While all contained relevant archaeological and cultural information, only the Boundary Commission testimony specifically referred to the land of Kukuau 1st. In the testimony describing the boundaries between Kukuau 1st and Waiākea to the south and Kaūmana to the north, reference is made to a *kulana kauhale* (house site, residence) a *Kawalele* (place for sports diving and leaping), a *heiau* (ceremonial site), a wall, and planting grounds. These sites were mentioned as known points along the boundary in c. AD 1873. However, none of these sites appear to be located above 1,000 ft AMSL or within the current project area.

Historical documentary research done as part of an archaeological inventory survey and cultural assessment project recently completed by PHRI in connection with the preparation of a federal EIS for the Saddle Road Project found that the Ola'a Flume (Site 20870) bisects the middle of the current project area (Langlas et al. 1997). It also states the flume is not located adjacent to the existing flume road (*see Figure 1, at end*), but that the road meanders according to elevation while the flume runs straight across the area. According to the report, a person could be within 3.0 m of the flume foundation and not see it because of the dense vegetation. The Saddle Road study (Langlas et al. 1997) has tentatively assessed the Ola'a Flume system as a significant historic site that would be eligible for the National Register of

Historic Places under Criterion A (association with significant local historic events) and Criterion D (has yielded, or is likely to yield, information important in local history).

Also included in the Saddle Road study (Langlas et al. 1997) is documentation that an area named 'Āina Kahukahu is located north of the current project area, on the AD 1881 lava flow, at c. 2,250 ft AMSL in the Land of Pōnahawai. This area was used by residents saying prayers prior to making long journeys and the area is said to contain several *ahu*. Boundary Commission testimony (AD 1873) and a map in the report also identified several traditional cultural areas along the border of Kukuau 1st and Kukuau 2nd or Waiākea. The locations include areas for collecting *koa* for canoes (Nehuiku), for canoe building (Kaileo), a house for carving canoes (Kuakumakau), a *heiau* (Ahuliipe), a bird catching area (Kapalaha), and old planting places (Palau and Kanekaulukanu). The locations of these areas (see *Figure 1*) must be considered as only approximate because they are plotted based on descriptions in the Boundary Commission records.

The present archaeological assessment study consisted of a sample ground survey of the project area performed using both pedestrian and automobile sweeps. The automobile survey involved driving over approximately 1,280.0 m (4,200 ft) along the north-south road and 2,134.0 (7,000ft) along the east-west road. At the time of the survey, the area appeared unaltered except for the two four-wheel drive roads oriented N-S and E-W across the property. Because of the dense vegetation, visibility was only c. 5.0 m (16.4 ft) on each side of the road. Forty-eight pedestrian sweeps were done at 0.1 mile intervals off the main four-wheel drive road (*Figure 1*). Each pedestrian sweep measured c. 20.0 m (65.6 ft) long by 20.0 m wide. Based on the above figures, an estimated sample of approximately 0.7% of the project area was surveyed. The assessment survey focused primarily on the attempted identification of surface structural and portable remains. The survey was facilitated by 1"=2,000' scale photocopies of a USGS Quad map and Map Nos. 573 and 574 (Baker et al. 1965).

No archaeological or cultural sites or features of any kind were found during the assessment study sample ground survey field work. Historic documentary research previously mentioned (Langlas et al. 1997) had indicated that archaeological sites, activity areas, or significant cultural remains (areas for collecting *koa*, and carving and building canoes, a *heiau*, a bird catching area, and old planting places) might be present in the area, but none of these were physically identified.

While no archaeological sites were identified within the project area, previous records indicate that the Ola'a Flume cuts directly across the project area in the vicinity of the north-south four-wheel drive road; therefore, this site has been assessed for significance based on the National Register Criteria for Evaluation, as outlined in the Code of Federal Regulations (36 CFR Part 60). DLNR-SHPD uses the National Register criteria for evaluating archaeological and cultural resources. To be assessed as significant, a site must possess integrity of location, design, setting, materials, workmanship, feeling, and association, and must be characterized by one or more of the following four criteria: (a) it must be associated with events that have made a significant contribution to the broad patterns of our history; (b) it must be associated with the lives of persons significant in the past; (c) it must embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value or represent a significant and distinguishable entity whose components may lack individual distinction; or (d) it must have yielded or may be likely to yield, information important in prehistory or history.

The Ola'a Flume was also assessed for archaeological and cultural significance using: (a) guidelines for evaluating traditional cultural properties prepared by the National Park Service (1990), and (b) guidelines established by the State of Hawaii ("Draft Rules Governing Procedures for Historic Preservation Review" [DNLR 1994]). The Hawaii State guidelines utilize an additional fifth criterion (Criterion E) which defines significant cultural resources as ones that "have an important traditional cultural contribution or value to the native Hawaiian people or to other ethnic groups of the state" (DNLR 1994).

Based on the federal and state criteria referenced above, and in concordance with the findings of the previously mentioned report on the Saddle Road Project (Langlas et al. 1997), it would appear that the Ola'a Flume system, so far as any remains have survived within the present project area, should be tentatively assessed as a significant historic site that would be eligible for both the National and Hawaii State Registers of Historic Places under Criterion A (association with significant local historic events) and Criterion D (has yielded, or is likely to yield, information important in local history). PHRI understands that the client is already aware of the presence of the Ola'a Flume within the property and is receptive to preservation of any surviving portions of the flume system that might be identified.

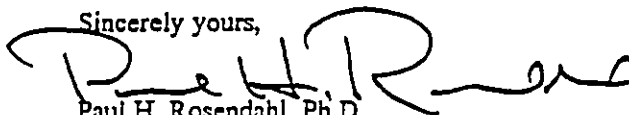
On June 17, 1997, a Subdivision Concept Plan for the property was received from Mr. Glenn Koyama of Belt Collins Hawaii. This plan divided the c. 1,646 ac property into six parcels - four lots of c. 80 ac each at the *makai* end of the property, a *mauka* end lot of c. 860 ac, and a middle one of c. 466 ac. On June 26, 1997, field survey findings and potential impacts of the subdivision scheme were discussed with DLNR-SHPD Chief Archaeologist Dr. Ross H. Cordy. Given the practical difficulties and cost inefficiencies for doing inventory-level survey of such lands prior to the presentation of specific development proposals, Dr. Cordy agreed that he would find it acceptable to defer further archaeological work until parcel-specific development plans were proposed. Once development of a specific parcel is proposed - i.e., access road alignments, building locations, and so on - then appropriate archaeological survey could be conducted.

On July 11, 1997, a revised Subdivision Concept Plan for the property was received from Mr. Koyama. This revised subdivision scheme divided the c. 1,646 ac property into seven parcels - four lots of c. 80 ac each at the *makai* end of the property, a *mauka* end lot of c. 860 ac, and two middle lots of c. 233 ac each. As this revised concept plan is not substantially different from the initial one, Dr. Cordy's concurrence regarding the deferred timing of subsequent archaeological survey should not be affected.

The evaluations and recommendations in this report have been made solely on the basis of an assessment survey. It should be noted that there is always the possibility, however remote, that potentially significant, unidentified subsurface cultural remains and/or surface structural features will be encountered during future archaeological investigations or subsequent development. In such situations, archaeological consultations should be sought immediately.

This letter report summarizes the work conducted and constitutes the final report on the assessment study. If you have any questions, or if we can be of further service to you, please call me at our main Hilo office (808) 969-1763.

Sincerely yours,



Paul H. Rosendahl, Ph.D.
President and Principal
Archaeologist

References Cited

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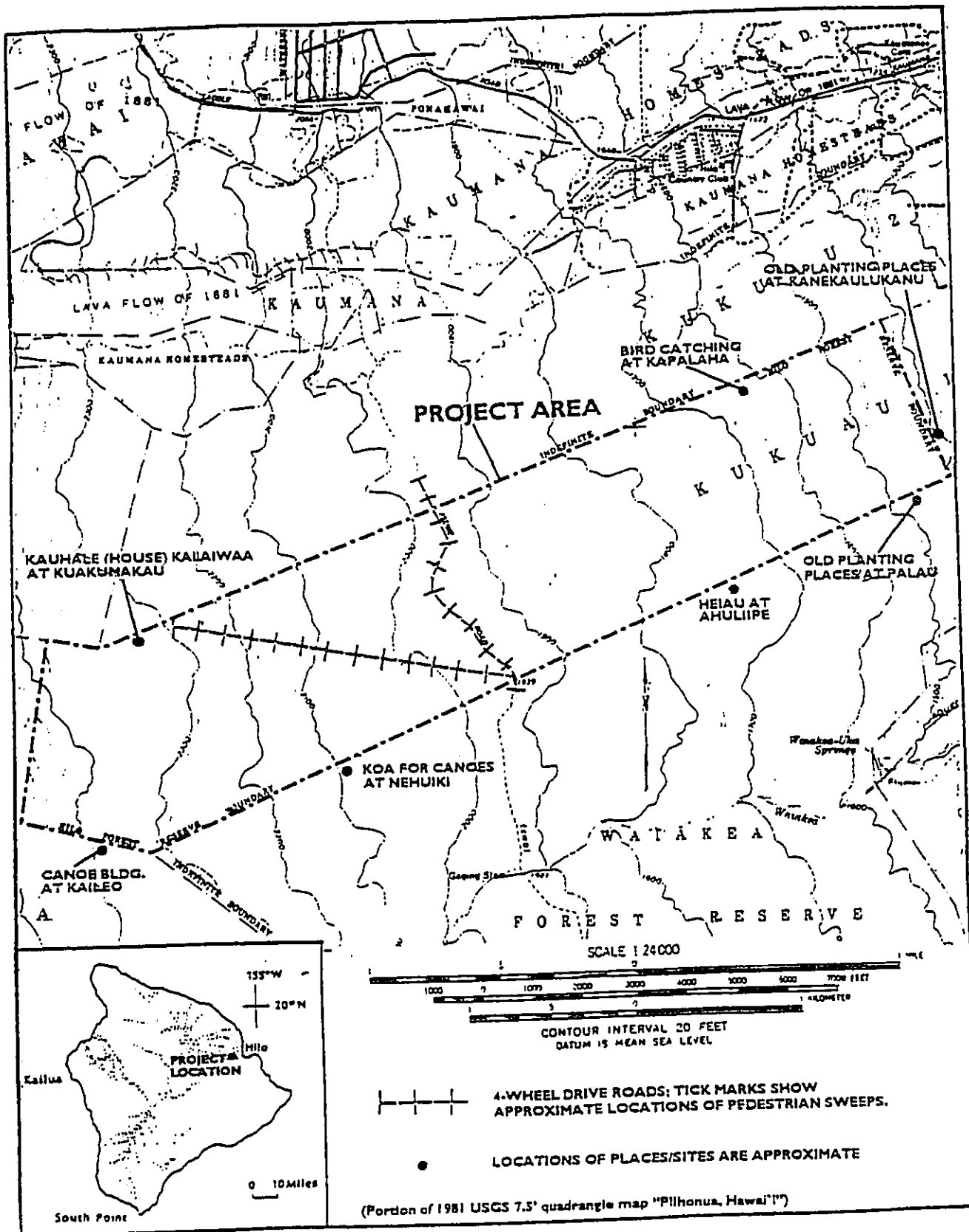


Figure 1. Project Area and Places/Sites Location Map

APPENDIX F

DLNR LETTER ON FURTHER ARCHAEOLOGICAL WORK

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
JANET E. KAWELO
LINNÉL NISHIOKA

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhikawa Building, Room 555
501 Kamakūa Boulevard
Kapehu, Hawaii 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

February 3, 2000

Dr. Paul Rosendahl
PHRI
204 Waianuenu Avenue
Hilo, Hawaii 96720

LOG NO: 24828 ✓
DOC NO: 0002RC01

Dear Dr. Rosendahl:

SUBJECT: LUC Petition -- Newton Family Property
Kukuau, South Hilo, Hawaii. TMK: 2-4-08: 33

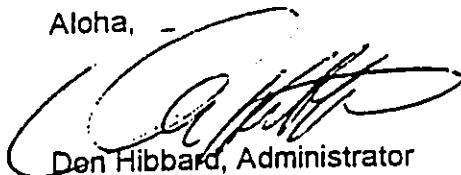
This responds to your letter of January 18, 2000, on this petition.

This project area is divided by a road and the Ola'a Flume (site 20.870)(which we agree is significant). The lands upslope are not proposed for a change in zone, lands which are still in more native forest. The seaward (makai) lands are proposed for a zone change to Agricultural. Your records search indicated that this seaward area was in sugarcane in the early 1900s, and the botanical evidence today supports this with non-native plants in this area. Areas under sugarcane usually have no significant historic sites surviving (with the rare exceptions of heiau or small burial plots which were avoided). Your field checks (not a complete survey) found no sites in the seaward area.

All the above evidence suggests that significant historic sites are unlikely to have survived in the seaward areas, except for in any forested gulches.

The proposal to rezone the land, and then conduct an archaeological survey when each project's-specific area is proposed for development, and probably then locating developments to avoid sites seems quite acceptable -- particularly given the above information. Again, it appears unlikely that the non-gulch land in the seaward area will have sites.

Aloha,


Don Hibbard, Administrator
State Historic Preservation Division

RC:amk



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1999 JUN 20 P 1:36

1999 JUN 20 P 1:36

January 18, 2000

Letter 2040-010300

Ross H. Cordy, Ph.D.
Archaeology Branch Chief
State Historic Preservation Division
555 Kakuhihewa Building
601 Kamokila Boulevard
Kapolei, HI 96707

Subject: Proposed Family Subdivision - The Newton Family Property
State Land Use Commission Petition - Docket No. A99-729

Kukuau 1st Mauka Parcel, Land of Kukuau 1st
South Hilo District, Island of Hawai'i
(TMK:3-2-4-08:33)

Dear Dr. Cordy:

In connection with the above subject State Land Use Commission (SLUC) petition, I am writing to request that you provide a written statement to document your prior oral opinion that you find it acceptable to defer further archaeological work (i.e., inventory survey) within the subject project area until parcel-specific development plans are proposed. PHRI conducted an archaeological assessment study of the project area in July 1996, and a copy of our report (Letter Report 1735-080196) is enclosed for your convenience. Also enclosed for your information and assistance in preparing your response are selected pages from the Draft Environmental Assessment (EA) (BCH 1999) and Revision (BCH 2000) that have been or will be submitted to the SLUC in support of a boundary amendment petition by the landowner to redesignate the makai portion of the subject parcel as Agricultural, while leaving the mauka portion in its current Conservation designation.

As documented in the Draft EA, the mauka portion of the project area situated inland of the old flume road was determined to be essentially in natural condition, with extensive areas of largely native forest and associated native vegetation, while the makai portion of the project area situated seaward of the old flume road had been considerably modified in historic times--initially for cultivation of sugarcane, and subsequently for cattle grazing--and was dominated by introduced floral species. The current proposal of the owner, and the one that forms the basis for the pending SLUC petition, is to have the makai portion only redesignated as Agricultural by the SLUC, and then to submit a change of zone and subdivision application to the County of Hawaii to divide the makai portion into eight agricultural lots. The subdivided lots would then be distributed

Letter 2040-010300
January 18, 2000

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among the members of the Newton family for the development of single-family residences with associated small-scale agricultural activities. Three of the parcels would be put on the market for sale to non-family members to help defray the cost of infrastructure improvements. Later, when individual lot development plans have been formulated and specific areas--relatively small proportions of each lot--potentially to be affected by development are known, appropriate archaeological inventory survey work would be done.

We have discussed the subject parcel several times subsequent to our 1996 archaeological assessment study of the parcel (PHRI 1997); most recently on November 24 and December 8, 1999, when you reaffirmed to me your opinion on the acceptability of deferring inventory survey until after subdivision of the makai portion of the project area and formulation of parcel-specific development plans. You also indicated to me that, given the extensive and substantial historic period modifications to and use of the makai portion of the project area, you believed it possible that a "no effect" determination might become likely.

Please call me if you have any questions or comments, or need any additional information. Your prompt response would be greatly appreciated, as I have just learned that the continuation of the pending petition action is scheduled to be on the agenda of the SLUC meeting on February 3, 2000.

Sincerely yours,



Paul H. Rosendahl, Ph.D.
President and Principal
Archaeologist

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- 2000 Revision--Draft Environmental Assessment and Support Document for Land Use Commission Petition: Proposed Family subdivision, The Newton Family Property; Hilo, Hawaii. Prepared for The Newton Family Limited Partnership. (January 17)

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PHRI (Paul H. Rosendahl, Ph.D., Inc.)

1997 Archaeological Assessment Study, Kukuau 1st Mauka Parcel (TMK:3-2-4-08:33); Land of Kukuau 1st, South Hilo District, Island of Hawai'i (TMK:3-2-4-08:33). Letter Report 1735-080196. Prepared for Mr. George Newton. (October 30)

Encs.: (a) PHRI Letter Report 1735-080196 (6 pp.)
(b) Selected pages from Draft EA (BCH 1999:1-5,7-9,12-14,26-31)
(c) Revision (BCH 2000) (8 pp.)

cc: G. Koyama - Belt Collins Hawaii (w/encls.)
L.L. Brown - Bays, Deaver, Hiatt, Lung, Rose (w/o encls.)

ENCL. (A)

PHRI

Paul H. Rosendahl, Ph.D., Inc.

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Letter Report 1735-080196

October 30, 1997

Mr. George Newton
c/o Mr. John Michael White
Hawaii Land Company
P.O. Box 10
Honolulu, Hawaii 96810

Subject: Archaeological Assessment Study
Kukuau 1st Mauka Parcel (TMK:3-2-4-08:33)
Land of Kukuau 1st, South Hilo District
Island of Hawai'i (TMK:3-2-4-08:33)

Dear Mr. Newton:

At your request, Paul H. Rosendahl, Ph.D. Inc. (PHRI) conducted an archaeological assessment study of TMK:3-2-4-08:33, located in the land of Kukuau 1st, South Hilo District, Island of Hawai'i (*Figure 1, at end*). The field work for the study was conducted on July 26 and 29, 1996 by Projects Supervisor Alan T. Walker, B.A., and Field Archaeologists Blair McPhatter, B.A., and Harley Lanham, B.A. Principal Archaeologist Dr. Paul H. Rosendahl provided overall guidance for the project. The field work required about twenty-two man-hours of labor to complete.

The primary objectives of the assessment study were: (a) to determine the general nature and extent of archaeological remains present, and the implications of such remains with regard to the feasibility of development; and (b) to estimate the general scope of any subsequent archaeological work that might be required in the course of the proposed development.

Based on a review of readily available background literature, general familiarity with the project area, and extensive familiarity with the current requirements of review authorities, the following specific tasks were determined to constitute an adequate scope of work:

1. Review and evaluate archaeological and historical documents, including archival literature, legends, records, boundary awards, and cartographic sources relative to the project area;
2. Conduct inspection level field work on a portion of TMK:3-2-4-08:33; and
3. Prepare a final report on the assessment study.

The significance of the archaeological remains identified within the project area was to be assessed in terms of: (a) the National Register criteria contained in the Code of Federal Regulations (36 CFR Part 60), and (b) the criteria for evaluation of traditional cultural properties prepared by the National Park Service (1990). The Department of Land and Natural Resources - State Historic Preservation Division

(DLNR-SHPD) uses these criteria to evaluate eligibility for both Hawaii State and National Registers of Historic Places.

The project area comprises c. 1,646 acres within the Hilo Forest Reserve. It is c. 1,400-2,450 ft above mean sea level, and c. 5.7 miles from the coast. It is bounded on the north, east, and west by the Hilo Forest, and on the south by the Waiākea Forest Reserve. The project terrain slopes gently down to the northeast. The principal soil type present is Keei extremely rocky muck, 6 to 20 percent slopes. The Keei series soils are thin, organic, well-drained soils that overlie pahoehoe bedrock. Twenty to thirty percent of the Keei extremely rocky muck contains rock outcrops and much of this soil is used for pasture (Sato et al. 1973). Rainfall in the project area is c. 200 inches per year, and the average annual temperature is 75-80 degrees F. (Armstrong 1983). The vegetation in the project area includes, primarily, 'ohi'a lehua (*Metrosideros collina*), koa (*Acacia koa*), laua'e (*Microsorium scolopendria*), strawberry guava (*Psidium cattleianum*), uluhe (*Dicanopteris linearis*), bamboo orchid (*Arundia bambusifolia*), hapu'u (*Cibotium splenens*), and wild iris (*Tritonia sp.*).

Although there has been no previous archaeological work in the project area, a 598-acre parcel located immediately downslope underwent an archaeological field inspection in 1990 (Jensen and Kalima 1990). No archaeological remains of any kind were encountered during the field inspection. Other previous archaeological studies conducted in the general vicinity of the project area are summarized below.

In 1988, PHRI conducted a reconnaissance survey of five proposed Hilo Judiciary Complex sites for an Environmental Impact Statement (EIS) (M.L.K. Rosendahl 1988). One of the five proposed sites (Site 3) is in the Lands of Kukuau 1st and 2nd, and extends from Kilauea Street to Kinoole Street. No archaeological sites were located within Site 3. M.L.K. Rosendahl observed that all five of the proposed sites had "...undergone profound transformation as the city of Hilo has evolved; no traces of prehistoric or early historic land use patterns were present on the ground surface of the sites" (M.L.K. Rosendahl 1988:8).

In 1996, PHRI conducted an assessment study of seven parcels for the proposed Hilo Judiciary Complex (Walker and Rosendahl 1996). During the survey, four previously identified sites (Sites 19431 through 19434) were relocated, and one newly identified site (Site 21133) was recorded. Included in the assessment study was a historical documentary study by PHRI Cultural Resources Specialist Kepā Maly. Although the project area was within Wainaku, Pōnahawai, Pi'ihonua, and Waiākea, Maly's research also included the Land of Kukuau 1st, which is between Waiākea and Kukuau 2nd.

Maly's archaeological sources included Thrum (1907, 1917), Hudson (n.d.), Stokes and Dye (1991), and Boundary Commission information from AD 1873, which contained testimonies of native and foreign residents of Hilo. While all contained relevant archaeological and cultural information, only the Boundary Commission testimony specifically referred to the land of Kukuau 1st. In the testimony describing the boundaries between Kukuau 1st and Waiākea to the south and Kaūmana to the north, reference is made to a *kulana kauhale* (house site, residence) a *Kawalele* (place for sports diving and leaping), a *heiau* (ceremonial site), a wall, and planting grounds. These sites were mentioned as known points along the boundary in c. AD 1873. However, none of these sites appear to be located above 1,000 ft AMSL or within the current project area.

Historical documentary research done as part of an archaeological inventory survey and cultural assessment project recently completed by PHRI in connection with the preparation of a federal EIS for the Saddle Road Project found that the Ola'a Flume (Site 20870) bisects the middle of the current project area (Langlas et al. 1997). It also states the flume is not located adjacent to the existing flume road (see *Figure 1, at end*), but that the road meanders according to elevation while the flume runs straight across the area. According to the report, a person could be within 3.0 m of the flume foundation and not see it because of the dense vegetation. The Saddle Road study (Langlas et al. 1997) has tentatively assessed the Ola'a Flume system as a significant historic site that would be eligible for the National Register of

Historic Places under Criterion A (association with significant local historic events) and Criterion D (has yielded, or is likely to yield, information important in local history).

Also included in the Saddle Road study (Langlas et al. 1997) is documentation that an area named 'Āina Kākūkahu is located north of the current project area, on the AD 1881 lava flow, at c. 2,250 ft AMSL in the Land of Pōnahawai. This area was used by residents saying prayers prior to making long journeys and the area is said to contain several *ahu*. Boundary Commission testimony (AD 1873) and a map in the report also identified several traditional cultural areas along the border of Kukuau 1st and Kukuau 2nd or Waiākea. The locations include areas for collecting *koa* for canoes (Nehuiiku), for canoe building (Kaileo), a house for carving canoes (Kuakumakau), a *heiau* (Ahuliipe), a bird catching area (Kapalaha), and old planting places (Palau and Kanekaulukanu). The locations of these areas (see Figure 1) must be considered as only approximate because they are plotted based on descriptions in the Boundary Commission records.

The present archaeological assessment study consisted of a sample ground survey of the project area performed using both pedestrian and automobile sweeps. The automobile survey involved driving over approximately 1,280.0 m (4,200 ft) along the north-south road and 2,134.0 (7,000ft) along the east-west road. At the time of the survey, the area appeared unaltered except for the two four-wheel drive roads oriented N-S and E-W across the property. Because of the dense vegetation, visibility was only c. 5.0 m (16.4 ft) on each side of the road. Forty-eight pedestrian sweeps were done at 0.1 mile intervals off the main four-wheel drive road (Figure 1). Each pedestrian sweep measured c. 20.0 m (65.6 ft) long by 20.0 m wide. Based on the above figures, an estimated sample of approximately 0.7% of the project area was surveyed. The assessment survey focused primarily on the attempted identification of surface structural and portable remains. The survey was facilitated by 1"=2,000' scale photocopies of a USGS Quad map and Map Nos. 573 and 574 (Baker et al. 1965).

No archaeological or cultural sites or features of any kind were found during the assessment study sample ground survey field work. Historic documentary research previously mentioned (Langlas et al. 1997) had indicated that archaeological sites, activity areas, or significant cultural remains (areas for collecting *koa*, and carving and building canoes, a *heiau*, a bird catching area, and old planting places) might be present in the area, but none of these were physically identified.

While no archaeological sites were identified within the project area, previous records indicate that the Ola'a Flume cuts directly across the project area in the vicinity of the north-south four-wheel drive road; therefore, this site has been assessed for significance based on the National Register Criteria for Evaluation, as outlined in the Code of Federal Regulations (36 CFR Part 60). DLNR-SHPD uses the National Register criteria for evaluating archaeological and cultural resources. To be assessed as significant, a site must possess integrity of location, design, setting, materials, workmanship, feeling, and association, and must be characterized by one or more of the following four criteria: (a) it must be associated with events that have made a significant contribution to the broad patterns of our history; (b) it must be associated with the lives of persons significant in the past; (c) it must embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value or represent a significant and distinguishable entity whose components may lack individual distinction; or (d) it must have yielded or may be likely to yield, information important in prehistory or history.

The Ola'a Flume was also assessed for archaeological and cultural significance using: (a) guidelines for evaluating traditional cultural properties prepared by the National Park Service (1990), and (b) guidelines established by the State of Hawaii ("Draft Rules Governing Procedures for Historic Preservation Review" [DNLR 1994]). The Hawaii State guidelines utilize an additional fifth criterion (Criterion E) which defines significant cultural resources as ones that "have an important traditional cultural contribution or value to the native Hawaiian people or to other ethnic groups of the state" (DNLR 1994).

Based on the federal and state criteria referenced above, and in concordance with the findings of the previously mentioned report on the Saddle Road Project (Langlas et al. 1997), it would appear that the Ola'a Flume system, so far as any remains have survived within the present project area, should be tentatively assessed as a significant historic site that would be eligible for both the National and Hawaii State Registers of Historic Places under Criterion A (association with significant local historic events) and Criterion D (has yielded, or is likely to yield, information important in local history). PHRI understands that the client is already aware of the presence of the Ola'a Flume within the property and is receptive to preservation of any surviving portions of the flume system that might be identified.

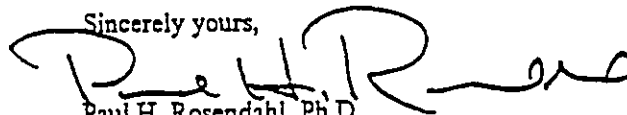
On June 17, 1997, a Subdivision Concept Plan for the property was received from Mr. Glenn Koyama of Belt Collins Hawaii. This plan divided the c. 1,646 ac property into six parcels - four lots of c. 80 ac each at the *makai* end of the property, a *mauka* end lot of c. 360 ac, and a middle one of c. 466 ac. On June 26, 1997, field survey findings and potential impacts of the subdivision scheme were discussed with DLNR-SHPD Chief Archaeologist Dr. Ross H. Cordy. Given the practical difficulties and cost inefficiencies for doing inventory-level survey of such lands prior to the presentation of specific development proposals, Dr. Cordy agreed that he would find it acceptable to defer further archaeological work until parcel-specific development plans were proposed. Once development of a specific parcel is proposed - i.e., access road alignments, building locations, and so on - then appropriate archaeological survey could be conducted.

On July 11, 1997, a revised Subdivision Concept Plan for the property was received from Mr. Koyama. This revised subdivision scheme divided the c. 1,646 ac property into seven parcels - four lots of c. 80 ac each at the *makai* end of the property, a *mauka* end lot of c. 360 ac, and two middle lots of c. 233 ac each. As this revised concept plan is not substantially different from the initial one, Dr. Cordy's concurrence regarding the deferred timing of subsequent archaeological survey should not be affected.

The evaluations and recommendations in this report have been made solely on the basis of an assessment survey. It should be noted that there is always the possibility, however remote, that potentially significant, unidentified subsurface cultural remains and/or surface structural features will be encountered during future archaeological investigations or subsequent development. In such situations, archaeological consultations should be sought immediately.

This letter report summarizes the work conducted and constitutes the final report on the assessment study. If you have any questions, or if we can be of further service to you, please call me at our main Hilo office (808) 969-1763.

Sincerely yours,



Paul H. Rosendahl, Ph.D.
President and Principal
Archaeologist

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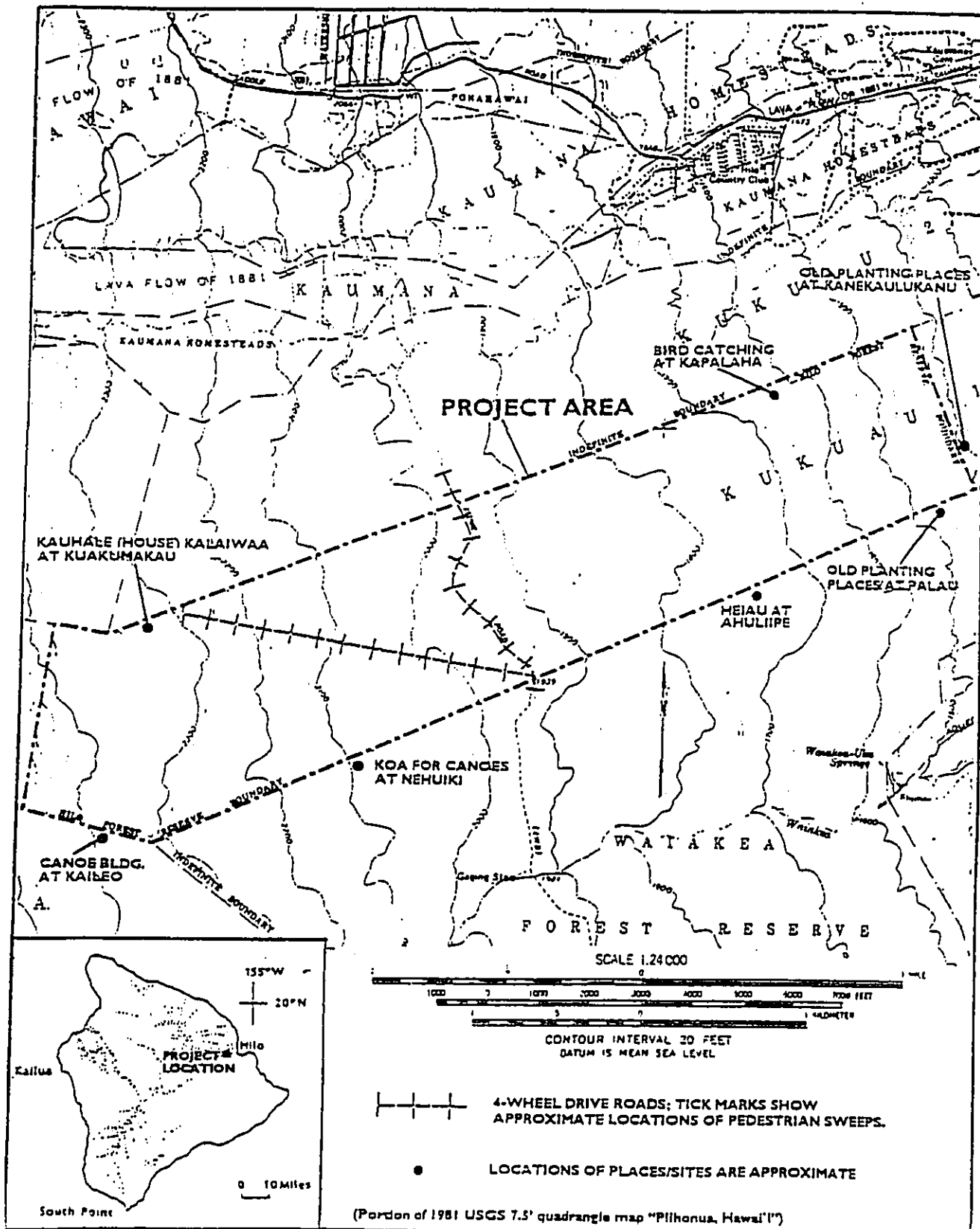


Figure 1. Project Area and Places/Sites Location Map

ENCL. (B)

[SELECTED PAGES FROM]

**DRAFT ENVIRONMENTAL ASSESSMENT
AND SUPPORT DOCUMENT
FOR LAND USE COMMISSION PETITION**

**PROPOSED FAMILY SUBDIVISION
THE NEWTON FAMILY PROPERTY
HILO, HAWAII
TMK 2-4-08: 33, Third Division**

August 24, 1999

Prepared for:

**The Newton Family Limited Partnership
Hawaii**

Prepared by:

**Belt Collins Hawaii
Honolulu, Hawaii**

JAN-17-2000 MON 04:06 PM BELT COLLINS HAWAII

FAX NO. 808 538 7819

P. 02

ENCL. (C)

REVISION

**DRAFT ENVIRONMENTAL ASSESSMENT AND SUPPORT
DOCUMENT FOR LAND USE COMMISSION PETITION**

**Proposed Family Subdivision
The Newton Family Property
Hilo, Hawaii**

January 17, 2000

**Prepared for:
The Newton Family Limited Partnership
Hawaii**

**Prepared by:
Belt Collins Hawaii
Honolulu, Hawaii**

APPENDIX G

CULTURAL CONCERNS: POTENTIAL IMPACTS UPON TRADITIONAL
AND CUSTOMARY NATIVE HAWAIIAN ACCESS AND USE RIGHTS



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Report 2040-012100

RESEARCH AND EVALUATION REPORT

Cultural Concerns: Potential Impacts Upon Traditional and Customary Native Hawaiian Access and Use Rights

Proposed Family Subdivision - The Newton Family Property
State Land Use Commission Petition - Docket No. A99-729
Kukuau 1st Mauka Parcel, Land of Kukuau 1st
South Hilo District, Island of Hawai'i (TMK:3-2-4-08:33)

INTRODUCTION

At the request of Mr. A. Bernard Bays, Esq., of the firm Bays, Deaver, Hiatt, Lung, Rose, and on behalf of their client, The Newton Family Limited Partnership, Paul H. Rosendahl, Ph.D., Inc. (PHRI) has researched and evaluated the cultural concerns raised by the Office of Hawaiian Affairs (OHA), the State Office of Planning (OSP), and the State Land Use Commission (LUC) in connection with the subject petition for the reclassification from Conservation to Agricultural of approximately 885 acres of land located in the mauka (inland) section of the land of Kukuau 1st, North Hilo District, Island of Hawai'i. More specifically, the cultural concerns raised were related to the potential impact of the proposed land use classification change and subsequent development upon any traditional and customary access and use rights that might be currently exercised by native Hawaiian cultural practitioners within the overall approximately 1,646 acre parcel of land owned by the petitioner, The Newton Family Limited Partnership, and identified as TMK:3-2-4-08:33.

As proposed and discussed in detail in the Draft Environmental Assessment (EA) (BCH 1999) and Revision (BCH 2000) that have been or will be submitted to the LUC in support of the boundary amendment petition, the landowner proposes to reclassify the makai (seaward) portion (c. 885 ac) of the subject parcel to Agricultural, while leaving the mauka portion (c. 760 ac) in its current Conservation designation. The mauka portion of the parcel situated inland of the old Ola'a Flume Road was determined to be essentially in natural condition, with extensive areas of largely native forest and associated native vegetation. In contrast, the makai portion of the parcel situated seaward of the old Ola'a Flume Road had been considerably modified in historic times--initially for the cultivation of sugarcane, and subsequently for cattle grazing--and was dominated by introduced floral species. The proposal forming the basis for the pending LUC petition is to reclassify only the makai portion to Agricultural, and then to submit a change of zone and subdivision application to the County of Hawaii to divide the makai portion into eight agricultural lots. The subdivided lots would then be distributed among the members of the Newton family for the development of single-family residences with associated small-scale agricultural activities. Three of the parcels would be put on the market for sale to non-family members to help defray infrastructure improvement costs.

GENERAL BACKGROUND

The general purpose of the present research and evaluation was to assess the potential impact of the proposed land use reclassification petition upon any cultural resources within the subject parcel in accordance with the general guidance provided by the "Guidelines for Assessing Cultural Impacts" prepared by the Office of Environmental Quality Control (OEQC) and adopted by the Environmental Council in November 1997 (OEQC 1997). The guidelines evolved out of what are commonly referred to as "PASH/Kohanaiki" issues--issues relating to native Hawaiian traditional and customary access and land use rights as they were reaffirmed by the Hawai'i State Supreme Court decision in August 1995 in Public Access Shoreline Hawaii v. Hawai'i County Planning Commission, commonly referred to as the "PASH decision," and as further clarified more recently in its 1998 decision in State of Hawai'i v. Alapai Hanapi--and the need for appropriate means to address these issues within the State environmental impact review process. For a good discussion of the issues and options involved, the "Report on Native Hawaiian Traditional and Customary Practices Following the Opinion of the Supreme Court of the State of Hawai'i in Public Access Shoreline Hawaii v. Hawai'i County Planning Commission" prepared by the PASH/Kohanaiki Study Group (1998) should be consulted.

Initial attempts to address various issues relating to native Hawaiian traditional and customary access and land use rights within the framework of the State environmental impact review process were made in the form of proposed changes to the State EIS law as contained in Chapter 343 (HRS). These attempts to require a formal cultural impact assessment failed to pass the State legislature in 1996 and 1997. A subsequent, second attempt was made in the form of proposed changes in the "Administrative Rules" for compliance with Chapt. 343 (DOH Title 11, Chapt. 200). This attempt to require an explicitly defined cultural impact assessment also failed, as the governor declined to approve the proposed amendments. The third attempt to address various issues relating to native Hawaiian traditional and customary access and land use rights within the State environmental impact review process resulted in the current OEQC "Guidelines for Assessing Cultural Impacts" (OEQC 1997). Draft guidelines were initially issued for public review and comment on September 8, 1997, and the guidelines in their final form were formally adopted by the Environmental Council on November 19, 1997.

The relationship of the OEQC guidelines to the State Supreme Court "PASH decision" was clearly stated on the front page of the September 8, 1997 issue of the OEQC bulletin, "The Environmental Notice", when the draft guidelines were first issued for public review and comment:

For years, a controversy has simmered over developer's responsibility to perform a "Cultural Impact Study" prior to building a project. The recent Supreme Court "PASH" decision reaffirmed the state's duty to protect the gathering rights of native Hawaiians. In light of these events, the Environmental Council has drafted a guidance document to provide clarity on when and how to assess a project's impacts on the cultural practices of host communities.

As "guidelines", the OEQC guidelines would seem to have neither the specific statutory authority of law, nor the regulatory authority of administrative

rules. As guidelines, they should be regarded as providing general guidance; that is, they represent general suggestions and recommendations as to how to approach the assessment of potential cultural impacts. The guidelines provide little or no guidance relative to many important questions relating to the identification and evaluation of specific cultural claims, and the assessment of potential impacts upon any such claims. (See PHRI 1998:7-8 for a list of principal questions.) It should also be noted that the guidelines for cultural impact assessment are meant to include consideration of the cultural resources of all the different groups comprising the multi-ethnic community of Hawaii; however, this inclusiveness is generally understated, and the clear emphasis is meant to be upon aspects of native Hawaiian culture.

Generally speaking, cultural resources include a broad range of often overlapping categories of cultural items--places, behaviors, practices, values, beliefs, objects, records, stories, and so on. A traditional cultural property (TCP) is one specific type of cultural resource that falls within the purview of the historic preservation review process. A TCP is a historic property or place that is important because it possesses "traditional cultural significance":

"Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices....

A traditional cultural property, then, can be defined generally as one that is...[important/significant]...because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community (Parker and King 1990:1).

In addition, it is important is to realize that sometimes a traditional cultural property may not have a visible physical manifestation:

Although many traditional cultural properties have physical manifestations that anyone walking across the surface of the earth can see, others do not have this kind of visibility, and more important, the meaning, the historical importance of most traditional cultural properties can only be evaluated in terms of the oral history of the community (Sebastian 1993:22).

There are at least two significant differences which distinguish traditional cultural properties as a subset within the larger sphere of cultural resources. First, while cultural resources such as practices and beliefs may be spatially associated with general types of geographical areas, such as mauka forest regions like the inland portion of the subject parcel, a traditional cultural property is a specific physical entity or feature with a definable boundary, such as a specific location within the subject parcel. Second, while cultural resources such as practices and beliefs can include general cultural

behaviors such as the gathering of various plants for general subsistence or ceremonial uses, a traditional cultural property is a specific place or feature directly associated with specific behaviors the continuity of which over time can be demonstrated.

Based on these two significant distinctions, it is possible to suggest three types of practitioner claims relating to cultural practices, beliefs, and features that are likely to be encountered in the course of conducting a cultural impact assessment study. These claims can be referred to as (a) traditional cultural property claims, (b) traditional and customary cultural practice claims, and (c) contemporary, or neo-traditional, cultural practice claims.

Traditional cultural property claims would be those which lie within the purview of the current historic preservation review process; that is, they are claims involving the traditional practices and beliefs of a local ethnic community or members of that community that (a) are associated with a definable physical property (and entity such as a site, building, structure, object, or district), (b) are founded in the history of the local community, (c) contribute to the maintenance of the cultural identity of the community, and (d) demonstrate a historical continuity of practice or belief up to the present--through either actual practice or historical documentation. Furthermore, to qualify as a legitimate traditional cultural property within the historic preservation context, a potential traditional cultural property must be able to demonstrate its historical significance in terms of established evaluation criteria, such as those of the National Register of Historic Places and/or the Hawaii Register of Historic Places.

Traditional and customary cultural practice claims would be those which lie within the purview of Article XII, Section 7, of the Hawaii State Constitution ("Traditional and Customary Rights"), and various other state laws and court rulings, particularly as reaffirmed in 1995 in the "PASH decision," and as further clarified more recently in its 1998 decision in State of Hawaii v. Alapai Hanapi. The notable points of the decisions in PASH and in Hanapi can be summarized as follows: (a) the reasonable exercise of ancient/traditional native Hawaiian usage is entitled to protection under Article XII, Section 7 of the Hawaii State Constitution; and (b) those persons claiming their conduct is constitutionally protected must establish that (1) they are a native Hawaiian as defined in PASH, (2) the claimed right is constitutionally protected as a traditional and customary native Hawaiian practice, and (3) the exercise of the right is occurring on undeveloped or less than fully developed property.

While traditional cultural property claims, as defined above, would certainly fall within the general domain of traditional and customary cultural practice claims, not all traditional and customary cultural practice claims would necessarily qualify as traditional cultural property claims. Traditional and customary cultural practice claims subsume a broad range of cultural practices and beliefs associated with a general geographical area or region, rather than a clearly definable property or site--for example, the gathering of various plant products from an upland or forest area for traditional subsistence or ceremonial purposes, in contrast to the gathering of a specific plant

species for a specific use by current generation members of a family that had obtained the same plant from the same recognized site for several generations.

Contemporary, or neo-traditional, cultural practice claims overlap with neither traditional property claims nor traditional and customary practice claims. Contemporary cultural practice claims would be those made by cultural practitioners relating to current practices or beliefs for which no clear specific basis in traditional culture can be clearly established or demonstrated--for example, the conducting of ritual ceremonies of uncertain authenticity at sites or features for which no such prior use can be demonstrated, or the gathering or collecting of plant or animals resources for which no native Hawaiian traditional or customary use can be documented.

ARCHAEOLOGICAL ASSESSMENT STUDY

In July 1996, PHRI conducted an archaeological assessment study of the subject parcel (P.H. Rosendahl 1997). As part of this assessment study, a number of previous PHRI studies (Jensen and Kalima 1990; Langlas et al. 1999; Maly 1996; M.L.K. Rosendahl 1988; Walker and Rosendahl 1996) which included historical documentary research that covered the subject parcel and/or its general vicinity were reviewed for relevant information, which was then incorporated into the report on the archaeological assessment study of the subject parcel (P.H. Rosendahl 1997). Of particular interest were several traditional cultural areas and associated activities mentioned in Boundary Commission records from AD 1873, which contained testimonies of both native and foreign residents on Hilo:

...While all [references consulted] contained relevant archaeological and cultural information, only the Boundary Commission testimony specifically referred to the land of Kukuau 1st. In the testimony describing the boundaries between Kukuau 1st and Waiakea to the south and Kaumana to the north, reference is made to a kulana kauhale (house site, residence), a kawalele (place for sports diving and leaping), a heiau (ceremonial site), a wall, and planting areas. These sites were mentioned as known points along the boundary in c. AD 1873. However, none of these sites appear to be located above 1,000 ft AMSL or within the current project area (P.H. Rosendahl 1997:2).

...Boundary Commission testimony (AD 1873) and a map contained in the [Langlas et al. 1999] report also identified several traditional cultural areas along the boundary of Kukuau 1st and Kukuau 2nd or Waiakea. These locations included areas for collecting koa for canoes (Nehiku), for canoe building (Kaileo), a house for carving canoes (Kuakumakau), a heiau (Ahuliipe), a bird catching area (Kapalaha), and old planting places (Palau and Kanekaulukanu). The locations of these areas (see Figure 1) must be considered as only approximate because they are plotted based on descriptions in the Boundary Commission records (P.H. Rosendahl 1997:3).

No tangible archaeological remains of any traditional cultural sites, features, or areas were identified in the course of the sample ground survey

fieldwork carried out as part of the archaeological assessment study of the subject parcel. The historical documentary research reviewed for the study had indicated that archaeological remains--i.e., physical remains traditional cultural sites or activity areas--might be present within or in the immediate general vicinity of the subject parcel, even though none had been physically identified.

NATIVE HAWAIIAN CULTURAL CONCERNS

In an effort to determine if any native Hawaiian cultural practitioners might currently be exercising traditional and customary access and use rights within the subject parcel, or might have knowledge of any specific cultural sites or areas within the subject parcel that might qualify as legitimate traditional cultural properties, four local Hilo area residents believed to be regarded as Hawaiian cultural experts--i.e., individuals recognized by the local native Hawaiian community as knowledgeable in various aspects of traditional Hawaiian culture--were identified and consulted. These four individuals were Ululani Sherlock, Kepa Maly, Charles Langlas, and Edward Kanahele.

Ululani Sherlock is of native Hawaiian ancestry and is currently serving as the Community Resource Coordinator and East Hawai'i liaison officer for the Office of Hawaiian Affairs (OHA). She has been active for many years in various Hawaiian Civic Clubs and other Hawaiian organizations. During our meeting at her Hilo office on December 28, 1999, I provided her with project background and information, and we discussed alternative means to deal with native Hawaiian cultural impact assessment issues and concerns. She herself had no specific knowledge relating to the subject parcel; nor did her mother, who she had queried after my initial telephone contact, but prior to our actual meeting. While she also stated that she did not know of any individual cultural practitioners that she thought likely to be accessing the subject parcel or its general vicinity, she did suggest several sources she believed knowledgeable in traditional Hawaiian culture and worth contacting for possible knowledge of current practitioners. The sources she suggested included the Edith Kanaoale Foundation, Cultural Resources Specialist Kepa Maly, and UH-Hilo Cultural Anthropologist Chuck Langlas.

Kepa Maly is fluent in the Hawaiian language and knowledgeable in both the unwritten content of Hawaiian culture and the historical documentary resources of Hawaiian history and traditions, and he is recognized by the native Hawaiian community as an expert in many aspects of native Hawaiian culture. For many years, one of his principal activities has been the preservation of traditional Hawaiian culture and history through the recording of oral history interviews with knowledgeable elderly Hawaiians and part-Hawaiians, and he has maintained a wide network of contacts with other cultural experts and practitioners throughout the islands. Based in Hilo, he works as a cultural resources specialist through Kumu Pono Associates, and in recent years has conducted numerous historical documentary research and oral history projects focused on different areas of Hawai'i Island. As Kepa is quite familiar with the general area of the subject parcel and because we had worked together on many projects in prior years, I was able to consult with him by telephone on December 28, 1999. Based on his cultural informant contacts and extensive research--particularly into the Boundary Commission records, he felt he had a good understanding

of the variety and general location of traditional cultural areas and activities likely to have taken place in the general vicinity of the subject parcel; however, he himself did not have knowledge specific to the subject parcel, and he did not know any individual cultural practitioners currently believed likely to be accessing the subject parcel or its general vicinity. Furthermore, he said that he could not suggest any other cultural experts or informants that he believed might well have knowledge specific to the subject parcel.

Chuck Langlas is a cultural anthropologist who has lived and worked for many years on Hawai'i Island, and he currently teaches cultural anthropology and ethnography at UH-Hilo. He is proficient in the Hawaiian language and knowledgeable in both Hawaiian culture and the literature of Hawaiian history and traditions. He has carried out several oral history projects with native Hawaiian cultural informants--of particular value was his extensive work with the Kalapana community, and has studied and worked closely with "Papa" Henry Auwae of Hilo, who is widely recognized throughout Hawai'i for his knowledge of traditional Hawaiian culture and his familiarity with places and areas of traditional cultural use and importance. As Chuck and I have known each other for many years--having initially been graduate students together in anthropology at UH-Manoa in the mid-late 1960s, and he had recently worked with PHRI conducting a study of traditional Hawaiian cultural sites potentially impacted by the Saddle Road Corridor Project (Langlas et al. 1999), I was able to consult with him by telephone on December 29, 1999. He himself did not have knowledge specific to the subject parcel, and he did not know any individual cultural practitioners currently believed likely to be accessing the subject parcel or its general vicinity. Furthermore, he said that he could not suggest any other cultural experts or informants that he believed might well have knowledge specific to the subject parcel. He did, however, believe it possible that unidentified younger Hawaiian cultural practitioners might be accessing the general area for gathering purposes. He strongly suggested that cultural experts at the Edith Kanakaole Foundation be consulted for their possible knowledge of any possible current users, or potential uses, of the either the subject parcel or the general vicinity.

I established initial contact with the Edith Kanakaole Foundation on January 3, 2000, when Ed Kanahale was able to return my earlier call of December 29, 1999. The Edith Kanakaole Foundation was established as a living memorial to the knowledge and spirit of "Aunty" Edith Kanakaole, who was perhaps the most widely recognized and revered native Hawaiian cultural expert, educator, and kupuna (literally, "grandparent;" figuratively, "knowledgeable, respected elder") on Hawai'i Island. Over many years, she worked to perpetuate and pass on her knowledge of all aspects of traditional native Hawaiian culture to younger generations, and especially to her daughters Pualani and Nalani, who have continued to work in her spirit through the Edith Kanakaole Foundation.

I know Ed Kanahale, who is married to Pua Kanakaole, from his previous service on the Hawai'i Island Burial Council and our mutual involvement in the cultural impact assessment aspects of several more recent projects. Initially we discussed general project background and information, particularly concerns relating to the identification of any traditional cultural areas within the subject parcel or its vicinity, and any cultural practitioners that might be

accessing the subject parcel. We mutually agreed that I would prepare and transmit to him a packet of relevant project background and information for him to review, and that he would contact me again later. On January 21, 2000, Ed called me back; he said he had reviewed the packet of information I had provided for him on January 3, 2000, and that he had subsequently consulted with other cultural experts at the Edith Kanakaole Foundation, and had also contacted several local native Hawaiian cultural practitioners that he knew. He stated that he himself had no specific knowledge of the subject parcel or its immediate vicinity. With regard to traditional and customary native Hawaiian uses of the subject parcel or its immediate vicinity, he said that he himself did not personally know any cultural practitioners currently exercising their rights of access and use, nor did any of the several local cultural practitioners he had contacted have any such knowledge. Finally, he said that both he and the local cultural practitioners he had consulted all agreed that the *portion of the subject parcel above the old Ola'a Flume Road that was still in native forest was perhaps likely to be accessed by unidentified maile pickers, but probably only very infrequently.*

CONCLUDING ASSESSMENT

Based on the review of relevant project background and information, and previous archaeological and historical documentary studies, and on consultations with local Hawaiian cultural experts--four individuals recognized by the native Hawaiian community for their knowledge of traditional Hawaiian culture, a general consensus about the subject parcel and its immediate general vicinity was reached with regard to any cultural practitioner claims relating to native Hawaiian cultural sites or areas (traditional cultural property claims), traditional access and use rights (traditional cultural practice claims), and contemporary access and use rights (contemporary, or neo-traditional, cultural practice claims):

1. No specific traditional cultural properties, areas, or sites known to any of the four cultural experts or any individual native Hawaiian cultural practitioners have been identified as being present;
2. No specific or individual native Hawaiian cultural practitioners have been identified as currently exercising their rights of access and use for traditional and customary cultural practices;
3. No specific or individual cultural practitioners have been identified as currently taking advantage of unrestricted access for any contemporary cultural practices;
4. While there may be unidentified individual cultural practitioners accessing the subject parcel for various traditional and customary uses, or contemporary uses, such incidence of access is probably only infrequent; and
5. Given the nature of the proposed LUC petition--which would affect only the makai portion which has been extensively modified in historic times, and which would leave the native forest of the

mauka portion protected in its current condition, it is believed that any current or future accessing of the subject parcel by any as yet unidentified cultural practitioners would not in any way constrain, restrict, prohibit, or eliminate the exercise of any native Hawaiian rights for traditional and customary access and use.

Based on the research and evaluation presented here, it is my professional opinion that the proposed LUC petition for the reclassification from Conservation to Agricultural of approximately 885 acres of land located in the mauka (inland) section of the land of Kukuau 1st, North Hilo District, Island of Hawai'i (TMK:3-2-4-08:33) should have no significant or adverse effect on any existing, but as yet unidentified, cultural practices or sites. More specifically, it is my professional opinion that the cultural concerns raised by the Office of Hawaiian Affairs, the State Office of Planning, and the State Land Use Commission related to the potential impact of the proposed land use classification change and subsequent development upon any traditional and customary access and use rights that might be currently exercised by native Hawaiian cultural practitioners within the overall approximately 1,646 acre subject parcel have been adequately addressed in that (a) a reasonable, good faith effort to identify any cultural practitioners who might currently access the subject parcel for traditional native Hawaiian or contemporary uses has been demonstrated, (b) no specific individual practitioners making any claims relating to traditional cultural properties, traditional and customary access and cultural practices, or contemporary cultural practices have been identified, and (c) given the nature of the proposed LUC petition, any current or future accessing of the subject parcel by any as yet unidentified cultural practitioners to exercise their native Hawaiian rights for traditional and customary access and use would not in any way be constrained, restricted, prohibited, or eliminated.

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Report 2040-081300

ADDENDUM TO PHRI Report 2040-012100:

RESEARCH AND EVALUATION REPORT

**Cultural Concerns: Potential Impacts Upon Traditional
And Customary Native Hawaiian Access and Use Rights**

**Proposed Family Subdivision – The Newton Family Property
State Land Use Petition – Docket No. A99-729
Kukuau 1st Mauka Parcel, Land of Kukuau 1st
South Hilo District, Island of Hawai'i (TMK:3-2-4-08:33)**

Introduction and Background

This report has been prepared by Paul H. Rosendahl, Ph.D., Inc. (PHRI), at the request of Mr. A. Bernard Bays, Esq., of the firm Bays, Deaver, Hiatt, Lung, Rose, and on behalf of their client, The Newton Family Limited Partnership, as an addendum to the Research and Evaluation Report (PHRI 2000) previously prepared and submitted in January 2000 in support of a State Land Use Petition (Docket No. A99-729) for the Proposed Family Subdivision of The Newton Family Property. The latter report presented the results of research into and evaluation of cultural concerns that had been raised by the Office of Hawaiian Affairs (OHA), the State Office of Planning (OP), and the State Land Use Commission (LUC) in connection with the subject petition for the reclassification from Conservation to Agriculture of approximately 885 acres of land in the *mauka* (inland) section of the Land of Kukuau 1st, South Hilo District, Island of Hawai'i.

At a meeting held on April 13, 2000 at the LUC office in Honolulu to discuss the status of the Revised Draft Environmental Assessment (RDEA) being prepared in support of the LUC petition, OP recommended that the petitioner's consultant meet once again with OHA to obtain their confirmation that their concerns had been adequately addressed. To this end, Dr. Paul H. Rosendahl of PHRI met on May 12, 2000 with OHA staff members Mr. C. Sebastian Aloom, Director, Hawaiian Rights Division, and Ms. Lynn J. Lee, Policy Analyst. The extent of PHRI's previously prepared study was discussed, and it was mutually agreed that more work should be done in order to produce the level of information and confidence that will allow decisions-makers to reach an informed decision" (letter of May 19, 2000, from OHA Deputy Administrator Colin C. Kippen, Jr., to Paul H. Rosendahl, PHRI). More specifically, the meeting was concluded with an agreement that additional effort would be made to reach the Hawaiian community with information about the project by means of the following actions:

1. A Public Notice would be placed in the local East Hawai'i newspaper, the *Hawaii Tribune-Herald*, to explain the project, and to seek information from the community on access and uses issues related to the lands that were the subject of the LUC petition;
2. A Public Notice would be placed in the OHA newspaper, *Ka Wai Ola o OHA*, to explain the project, and to seek information from the community on access and uses issues related to the lands that were the subject of the LUC petition;
3. PHRI would contact representatives of the Kona Hawaiian Civic Club to seek information from the community on access and uses issues related to the lands that were the subject of the LUC petition; and

4. PHRI would work with the Hilo Community Affairs Office of OHA to seek information from the community on access and uses issues related to the lands that were the subject of the LUC petition.

If any additional information were to be acquired through these or any other actions taken, PHRI would revise the previously prepared Research and Evaluation Report to include such additional information.

Publication of Public Notices

An appropriate public notices was published in newspapers of both local and statewide distribution. The published notice addressed the full undeveloped parcel (c. 1,646 ac) identified as TMK:3-2-4-08:33, and contained (a) descriptive and locational information, (b) identification of several contact persons, and (c) indication of the landowner/applicant's intent to petition the LUC to reclassify the *makai* portion (c. 885 ac) of the parcel to Agricultural District, while leaving the *mauka* portion (c. 760 ac) in Conservation District. Copies of each Affidavit of Publication and Public Notice are attached to this addendum report (Attachments A and B). Notices were published as follows:

- *Hawaii Tribune-Herald* – three consecutive Sundays, June 4, 11, and 18, 2000 (Attachment A); and
- *Ka Wai Ola o OHA*– the June 2000 issue (Attachment B)

Notices requested that all Native Hawaiian cultural practitioners, or person having knowledge of any such practitioners, currently accessing the *mauka* portion of the *ahupua'a* of Kukuau 1st, South Hilo District, Island of Hawai'i, for purposes of exercising their rights of access and use for traditional and customary cultural practices to contact, within 30 days of the notice publication date, any of the following individuals: G. Ululani Sherlock, Community Resources Coordinator, OHA (West Hawai'i); Paul H. Rosendahl, Principal, PHRI (Hilo); and/or P. Holly McEldowney, History and Culture Section, Department of Land and Natural Resources–State Historic Preservation Division (SHPD).

Mrs. Sherlock of OHA did receive two limited responses to the publication of the notices. On June 23, 2000, she received a telephone call from Mr. Kenneth Amaral of Hilo requesting clarification of the location of the parcel described in the published notices, and asking why the notices did not refer to the Land of Kukuau 2nd, as the referenced Hilo Country Club Estates subdivision was in the latter *ahupua'a*. Upon being provided with clarification that the Hilo Country Club Estates subdivision had been referenced only to provide general location information for the subject parcel, he did not indicate that he had knowledge of any Native Hawaiian cultural practitioners currently accessing the *mauka* portion of the *ahupua'a* of Kukuau 1st.

On July 5, 2000, Mrs. Sherlock received a telephone call from Mr. James Helenihi of Hilo requesting clarification of the location of the parcel described in the published notice he had found in the June issue of *Ka Wai Ola o OHA*. Upon receiving such clarification, Mr. Helenihi—who Mrs. Sherlock believed to be in his 50s—related how, as a youngster, he had been taken hunting and hiking in the general vicinity by his grandfather, but that he had not engaged in such activities recently. He also did not indicate that he had knowledge of any Native Hawaiian cultural practitioners currently accessing the *mauka* portion of the *ahupua'a* of Kukuau 1st.

Neither Dr. Rosendahl of PHRI nor Dr. McEldowney of SHPD received any responses to the publication of the notices.

Consultations

Two representatives of the Kona Hawaiian Civic Club were contacted in an effort to seek information from the community on access and uses issues related to the lands that were the subject of the LUC petition. Mr. Eugene "Bucky" Leslie, current President of the Kona Hawaiian Civic Club, and Mrs. Ruby McDonald, Liaison Officer in the West Hawai'i Office of OHA and an active, long-time member of the Kona Hawaiian Civic Club, were both contacted and consulted; neither of these individuals knew of any Native Hawaiian cultural practitioners, nor any persons having knowledge of any such practitioners, currently accessing the *mauka* portion of the *ahupua'a* of Kukuau 1st, South Hilo District, Island of Hawai'i, for purposes of exercising their rights of access and use for traditional and customary cultural practices. Upon being advised of the identity of the four local Hilo area residents consulted as Hawaiian cultural experts—i.e., individuals recognized by the local native Hawaiian community as knowledgeable in

various aspects of traditional Hawaiian culture—during the preparation of the previous research and evaluation report, Mr. Leslie opined that these individuals were certainly likely to be able to identify, if anyone were, any Native Hawaiian cultural practitioners, or any persons having knowledge of any such practitioners, currently accessing the Kukuau 1st parcel, and that he could provide no additional information. Mrs. McDonald expressed much the same opinion.

Mrs. G. Ululani Sherlock, Community Resource Coordinator with the Hilo Community Affairs Office of OHA was contacted and consulted several times as part of a further effort to seek additional information from the community on access and uses issues related to the lands that were the subject of the LUC petition. While she did provide a list of local community members—including several *kupuna* knowledgeable in traditional Hawaiian culture and practice, she felt upon careful review of this list that none of the individuals would be likely to provide any additional information regarding any Native Hawaiian cultural practitioners, or any persons having knowledge of any such practitioners, currently accessing the Kukuau 1st parcel. She also reiterated her belief that the three local Hilo residents, in addition to herself, that had been consulted as Hawaiian cultural experts during the preparation of the previous research and evaluation report represented the best possible local sources of relevant information.

Concluding Assessment

At the request of the Office of Hawaiian Affairs, additional efforts were made to reach the Hawaiian community with information about the project in order to assess further the potential impacts of the subject LUC petition for the reclassification from Conservation to Agriculture of approximately 885 acres of land in the *mauka* (inland) section of the Land of Kukuau 1st, South Hilo District, Island of Hawai'i upon traditional and customary native Hawaiian access and use rights, and to provide the level of information and confidence that will allow decisions-makers to reach an informed decision. More specifically, the additional efforts included (a) the placing of public notices in the local East Hawai'i newspaper, the *Hawaii Tribune-Herald*, and in the OHA newspaper, *Ka Wai Ola o OHA*, to explain the project and to seek information from the community on access and uses issues related to the lands that were the subject of the LUC petition, and (b) consultations with representatives of the Kona Hawaiian Civic Club and the Hilo Community Affairs Office of OHA to seek information from the community on access and uses issues related to the lands that were the subject of the LUC petition.

Neither the publication of the public notices nor the consultations provided any new or additional information regarding native Hawaiian cultural practitioners, or person having knowledge of any such practitioners, currently accessing the *mauka* portion of the *ahupua'a* of Kukuau 1st, South Hilo District, Island of Hawai'i, for purposes of exercising their rights of access and use for traditional and customary cultural practices. Thus there is no reason to alter in any way the conclusion of the previous research and evaluation report that the proposed LUC petition "...should have no significant or adverse effect on any existing, but as yet unidentified, cultural practices or sites. More specifically,..."

...[T]he concerns raised by the Office of Hawaiian Affairs, the State Office of Planning, and the State Land Use Commission related to the potential impact of the proposed land use classification change and subsequent development upon any traditional and customary access and use rights that might be currently exercised by native Hawaiian cultural practitioners within the overall approximately 1,646 acre subject parcel have been adequately addressed in that (a) a reasonable, good faith effort to identify any cultural practitioners...has been demonstrated, (b) no specific individual practitioners making any claims...have been identified, and (c) given the nature of the proposed LUC petition, any current or future accessing of the subject parcel by any as yet unidentified cultural practitioners to exercise their native Hawaiian rights for traditional and customary access and use would no in any way be constrained, restricted, prohibited, or eliminated (PHRI 2000:9).

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ATTACHMENTS

- A. Affidavit of Publication and Public Notice: *Hawaii Tribune-Herald*; June 4, 11, and 18, 2000
- B. Public Notice from the June 2000 issue of *Ka Wai Ola o OHA* (Volume 17, Number 6)

AFFIDAVIT OF PUBLICATION

State of Hawaii

County of Hawaii

LEILANI K.R. HIGAKI .being first
duly sworn, deposes and says:

1. That she is the BUSINESS MANAGER of

HAWAII TRIBUNE-HERALD .a

newspaper published in the City of Hilo, State of Hawaii.

2. That the- Public Notice- All Native Hawaiian cultural practitioners, or persons having knowledge of any such practitioners, who might be currently accessing the mauka portion of the ahupua'a of Kukuau 1st, South Hilo District, Hawai'i Island, etc.,

was published in said newspaper on the following date:(s)

June 4,11,18,2000

#138651



Subscribed and sworn to before me

this 23rd day of June .2000



SHARON H.P. OGATA
Notary Public, Third Circuit, State of Hawaii

My commission expires October 1, 2000

Public Notice

All Native Hawaiian cultural practitioners, or persons having knowledge of any such practitioners, who might be currently accessing the mauka portion of the ahupua'a of Kukuau 1st, South Hilo District, Hawai'i Island -- more specifically, that 1.845-acre unencumbered parcel identified as TMK 3-2-4-0823, which is situated south of the Saddle Road and the general vicinity of Kaumana Cay Subdivision, Kaumana neighborhoods, and Hilo Country Club Estates, and accessed by the old Oia & Flume Road -- be advised of exercising their rights of access and use for traditional and customary cultural practices are hereby requested to contact one of the following: G. Uluani Sherock, Community Resources Coordinator, Office of Hawaiian Affairs, 234 Waihanuenue Ave., Suite 104, Hilo, HI 96720, (808) 933-0419; Pua H. Rosenblatt, Principal, PHRI, 204 Waihanuenue Ave., Hilo, HI 96720, (808) 969-1753; or P. Holly McEldowney, History and Culture Section, Department of Land and Natural Resources-State Historic Preservation Division, Kakaunuiwa Bldg, Rm 555, 501 Kamehaha Blvd., Kapaeha, HI 96707, (808) 692-8028.

The property owner has petitioned the State Land Use Commission to reclassify the mauka portion of the parcel (c.585 acres) to Agricultural District, while leaving the mauka portion (c.740 acres) in the present Conservation District designation. In connection with its petition (LUC District No. 499-729), the property owner is currently preparing an Abandoned Environmental Assessment (EAI). All parties having information should respond within thirty (30) days of this notice and provide relevant information to one of the contact parties listed above so that all cultural concerns can be accurately and appropriately addressed.

(138651)Hawaii Tribune-Herald; June 4, 11, 18, 2000

Ka Wai Ola o OHA

VOLUME 17, NUMBER 6

The living water of OHA

JUNE (JUNE) '00

Public Notice

ALL NATIVE Hawaiian cultural practitioners, or persons having knowledge of any such practitioners, who might be currently accessing the mauka portion of the ahupua'a of Kukuan 1st, South Hilo District, Hawaii Island—more specifically, that 1,646-acre undeveloped parcel identified as TMK-3-2-4-08-33, which is situated south of the Saddle Road and the general vicinity of Kaūmana City Subdivision, Kaūmana Homesteads and Hilo Country Club Estate, and bisected by the old Ōla'a Flume Road—for purposes of exercising their rights of access and use for traditional and customary cultural practices are hereby requested to contact one of the following: G. Ululani Sherlock, community resources coordinator, Office of Hawaiian Affairs, 234 Waiānuenue Ave., Suite 104, Hilo, HI 96720, (808)933-0418; Paul H. Rosendahl, principal, PHRI, 204 Waiānuenue Ave., Hilo, HI 96720,

(808)969-1763; or P. Holly McEl-downey, History and Culture Section, Department of Land and Natural Resources State Historic Preservation Division, Kākuhihewa Bldg. Rm. 555, 601 Kamōkila Blvd., Kapolei, HI 96707, (808)692-8028.

The property owner has petitioned the State Land Use Commission to reclassify the makai portion of the parcel (c. 885 acres) to Agricultural District, while leaving the mauka portion (c. 760 acres) in the present Conservation District designation. In connection with its petition (LUC Docket No. A99-729), the property owner is currently preparing an Amended Environmental Assessment (EA). All parties having information should respond within thirty (30) days of this notice and provide relevant information to one of the contact parties listed above so that all cultural concerns can be adequately and appropriately addressed.

APPENDIX H

FUTURE MAJOR ROADWAY SYSTEM
IN VICINITY OF NEWTON FAMILY LAND

Future Major Roadway System in Vicinity of Newton Family Land

The future major roadway system in the vicinity of the Newton Family land is shown in the Facilities Map of the Hawaii County General Plan. A copy of this map for the Hilo area is shown as Figure 1. The system includes: 1) the Saddle Road upgraded, 2) Puainako Street extended, 3) Ponoahawai Street and/or Akolea Street extended, and 4) a planned secondary arterial on the approximate alignment of the old Ola'a Flume Road. Additional smaller roadways are shown on the Hawaii County's Road Alignments, Rights of Way, and Zoning Map. A copy this map in the vicinity of the Newton Family land is shown in Figure 2. The additional roadways shown are: 5) the extension of Wilder Road to the south and east and 6) a collector road to the north and east. In addition, Norman Hayashi of the County Planning Department and Galen Kuba of the County Public Works Department have been consulted on the future major road in the Hilo area.

1. **Saddle Road Upgraded.** This major roadway is in the process of being upgraded with Federal, State, and County funds. A Record of Decision (ROD) dated October 30, 1999 covering the improvements proposed for the Saddle Road indicates that in the vicinity of the Newton Family land, Alternative E-3 has been selected. Figure 3 is a portion of Figure 3.3.3 from the EIS for the Saddle Road project and shows the location of the alignment of Alternative E-3 in relation to the Newton Family land. Detailed design of this roadway is scheduled to commence in 2000. There are no funds as yet authorized for its construction.

2. **Puainako Street Extension.** A Final EIS for this extension project with a proposed 120-foot right-of-way has been completed and accepted. The roadway improvements are to be financed by Federal, County, and State funds. Alternative 10 has been identified as the preferred alternative and its approximate location is shown in Figure 4. This alternative was selected because it minimizes costs, minimizes adverse effects to the environmental resources and represents the "least environmentally damaging practicable

alternative" in terms of the Clean Water Act. Construction is projected to begin in 2000 and be completed in 2002.

3. **Ponohawai Street and/or Akolea Street Extensions.** Both of these extensions with 80-foot right-of-ways are shown either on the General Plan or the County Roadway Alignments maps and are subject to future availability of funds and/or subdivision of the lands that they may cross. When the land is subdivided, the provision of the right-of-way will be a condition of the subdivision process. Both facilities are to the east of the Newton Family land and are part of the major roadway system through the urban and agricultural area of Hilo. There is no definitive schedule for either of these extensions.

4. **Secondary Arterial near the Old Ola'a Flume Road.** This road will traverse the Newton Family land at the proposed location of the boundary between Conservation and Agriculture. The County will acquire the 80-foot wide right-of-way from the Newton Family at the time of subdivision for the lots proposed in this petition. The funds for constructing this road may come from Federal, State, and County sources. The Newton Family contribution will be the 6+ acres (80' x 3300') needed for the right-of-way. There is no definitive schedule for the development of this secondary arterial.

It should be noted that the County is currently updating its General Plan as part of its comprehensive 10-year revisions to the long-range planning document and is currently reconsidering the status of the secondary arterial as a planned road for the area.

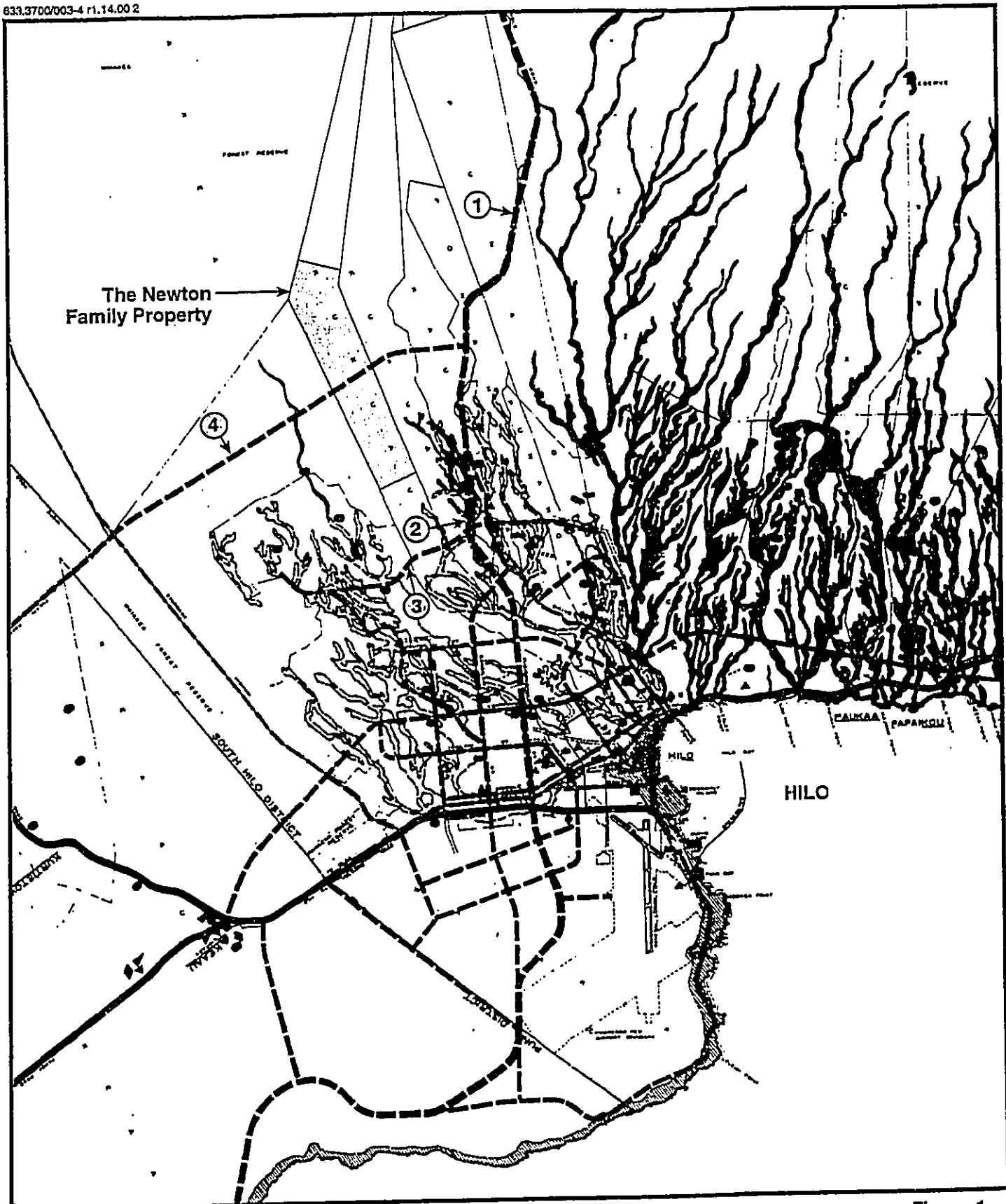
5. **Wilder Road Extension.** This secondary arterial with an 80-foot wide right-of-way will be extended to the south and then to the east in accordance with the County's plans. The extension will take place at the time of subdivision of the land it will cross. There is no schedule for development of this extension.

6. **Collector Road to the North.** This 60-foot wide right-of-way would be provided at the time of subdivision of the land it crosses. It is planned to connect Akolea Street extended to the Saddle Road. There is no schedule for development of this collector road.

The proposed Newton Family subdivision will not rely on any of the above major roadways for access. The secondary arterial crossing the Newton Family parcel near the Old Ola'a Flume road would be at the west boundary of the proposed Agriculture reclassification. The Newton Family land to the west of the proposed roadway would remain in the Conservation District.

JRB:gk
Attachments

Belt Collins Hawaii
June 19, 2000
April 4, 2001 (Revised)



NORTH

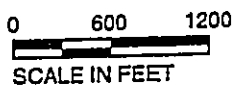


Figure 1
FACILITIES MAP -
COUNTY OF HAWAII GENERAL PLAN
The Newton Family Property
Hilo, Hawaii
Belt Collins Hawaii

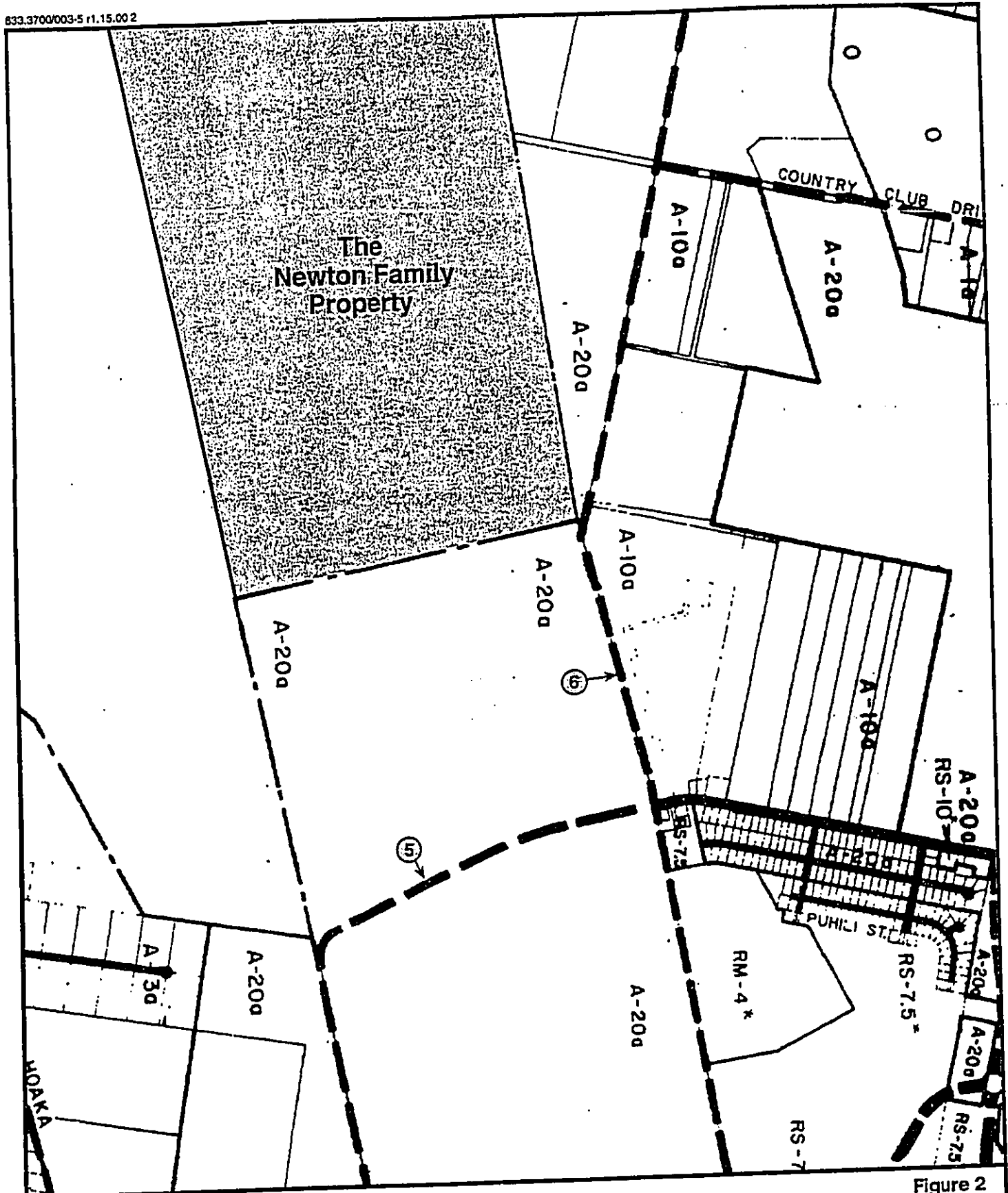
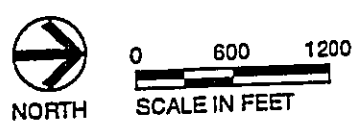


Figure 2
ROAD ALIGNMENTS, RIGHTS-OF-WAY AND
ZONING MAP - COUNTY OF HAWAII

The Newton Family Property
Hilo, Hawaii
Beit Collins Hawaii



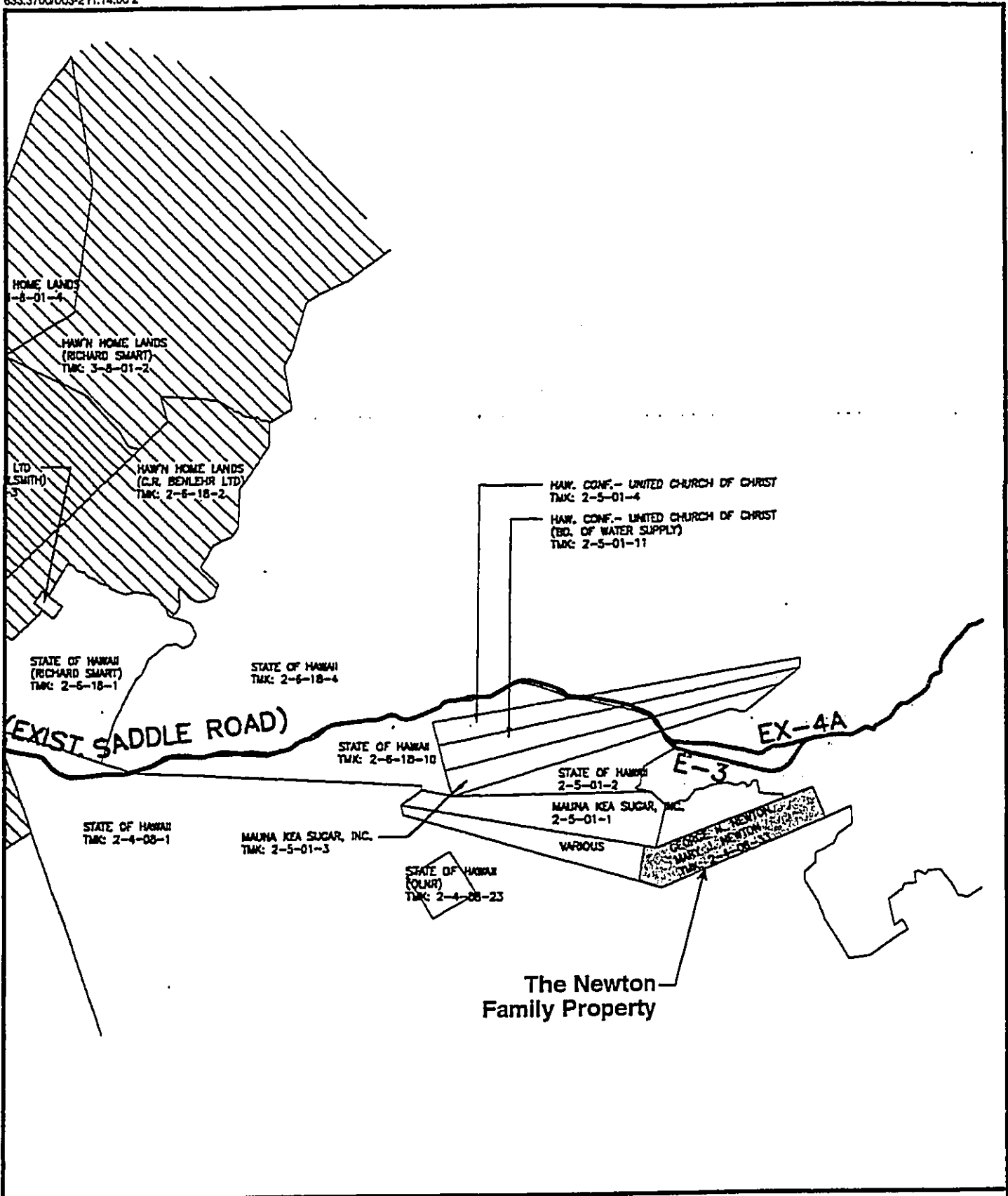


Figure 3
FIGURE 3.3.3 OF SADDLE ROAD EIS
The Newton Family Property
- Hilo, Hawaii
Belt Collins Hawaii

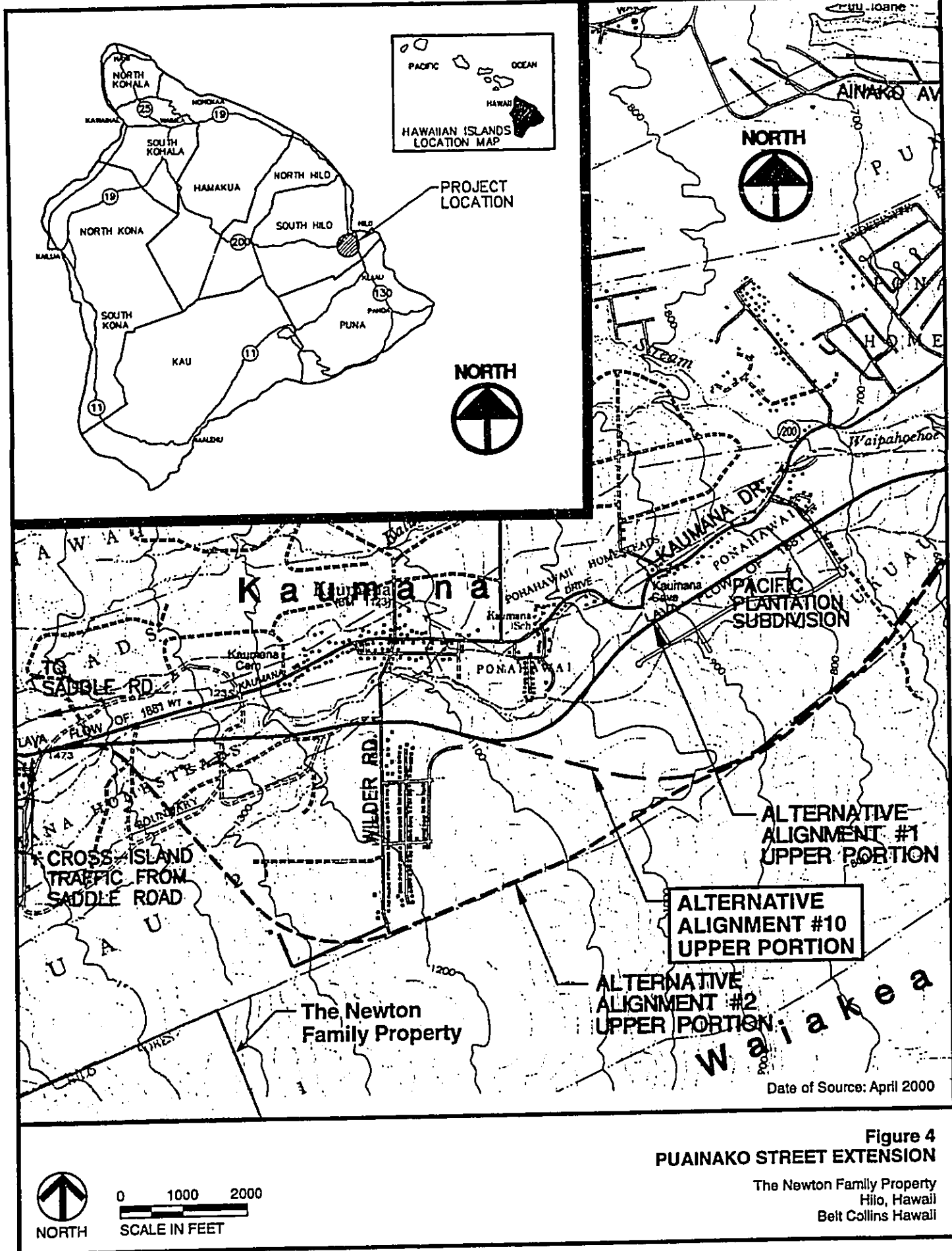



Figure 4
PUAINAKO STREET EXTENSION
 The Newton Family Property
 Hilo, Hawaii
 Belt Collins Hawaii

 NORTH
 0 1000 2000
 SCALE IN FEET

APPENDIX I

JAMES R. BELL RESUME

BELT COLLINS

JAMES R. BELL
Chairman, BCA Holding Company, Ltd.



The Chairman of BCA Holding Company, Ltd. has been with the firm for more than 20 years and has over 30 years of international experience in land use planning, master plan studies, site planning, and management of large multi-discipline projects.

His planning and management expertise includes detailed land planning for implementation of development; resort planning and development; city, county, and regional planning; urban renewal, parks and tourism planning; zoning, subdivision and other development permitting; and master planning for educational facilities.

Mr. Bell's successful experience with major clients and projects in Hawaii and around the world demonstrates the high standards set for all work of the firm.

EXPERTISE

Detailed Land Planning for Implementation of Development

Resort Planning and Development

City, County and Regional Planning

Urban Renewal, Parks and Tourism Planning

Zoning, Subdivision, and Other Development

Permitting

School Master Planning

EDUCATION

M., Regional Planning, Cornell University, New York, 1957
B.S., Land Planning, Cornell University, 1956

REGISTRATION

Landscape Architect - Hawaii #2786, 1971

PROFESSIONAL AFFILIATIONS

American Planning Association (Officer, 1968 - 1974)
Urban Land Institute
American Institute of Certified Planners
Chamber of Commerce of Hawaii (Director)
Fellow American Society of Landscape Architects

SELECTED PROJECTS

Land Use Planning/Urban Planning

Amfac Ninini Point Land Planning, Kauai, Hawaii
Campbelltown Expansion Plan, Australia
Davies Kukaiiau and Hamakua Land Planning, Hamakua, Hawaii
Hilo Downtown Redevelopment Plan, Hawaii
Kohala Ranch Plan, Hilton Head Co., North Kohala, Hawaii
Land Use Entitlements for Hamakua Sugar Lands, Hawaii

Resort Development

Keauhou Resort Expansion Plan, Kona, Island of Hawaii
Mauna Kea Beach Resort, Island of Hawaii
Mauna Lani Resort, South Kohala, Island of Hawaii

Community Development

Discovery Bay Development, Hong Kong
Haleakala Ranch Piilani Plan, Maui, Hawaii
Knudsen Trusts Poipu-Koloa Master Planning, Kauai, Hawaii
Mililani Town Development, Oahu, Hawaii
South Padre Island Master Plan, Padre Island, Texas
Taman Dayu, Surabaya, Indonesia