

COUNTY OF HAWAI'I PLANNING DEPARTMENT
BACKGROUND REPORT

WHC, LTD.

AMENDMENT TO SPECIAL PERMIT NO. 833 (DOCKET NO. 92-000001)

WHC, LTD. is requesting amendments to Special Permit No. 833 which was originally approved to allow for the operation of a quarry and related uses on approximately 219.990 acres of land situated within the State Land Use Agricultural District. The requested amendments include: 1) an amendment to Condition No. 12 (life of the permit) to allow a time extension until December 31, 2043 or a longer period of time; 2) to allow greenwaste composting, and 3) to allow the processing and recycling of Portland cement concrete and asphalt concrete pavement. The affected property is located on the south side of Waikoloa Road approximately 1,500 feet west of the 3 Mile Marker, Waikoloa, South Kohala, Hawai'i, TMK: 6-8-001:portion of 066 (formerly 6-8-001:portion of 005).

PLANNING COMMISSION ACTION

1. **Authority:** Since the requested amendment to Special Permit No. 833 affects uses on lands greater than 15 acres, the Planning Commission's action will be a recommendation to the State Land Use Commission, who would then render a final decision.

PROPOSED REQUESTED AMENDMENTS

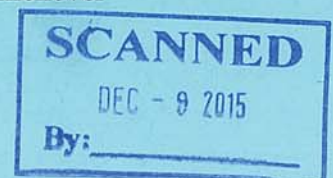
2. **Applicant's Proposed Amendment Requests:** The applicant is requesting several amendments to Special Permit No. 833. Special Permit No. 833 was approved to allow the establishment of a quarry operation and related uses, including blasting, drilling, rock crushing and screening, concrete ready-mix batching, pre-casting, asphaltic concrete products manufacturing, equipment and materials storage and repair, and other necessary uses and activities related to providing a source of rock aggregate and concrete and asphaltic products. The requested amendments include the following:

- 1) An amendment to Condition No. 12 to extend the life of the permit from December 31, 2018 until December 31, 2043, or a longer period of time (2063).

Condition No. 12 currently states:

"12. The life of this permit shall be until December 31, 2018; the date of completion of the proposed quarrying; or its amendment, whichever comes first."

EXHIBIT
17



- 2) Additionally, the applicant is requesting that greenwaste composting be permitted on a portion of the subject property, which consists of approximately 3 acres; and
- 3) Lastly, the applicant is requesting to allow for the processing and recycling of Portland Cement Concrete (PCC) and Asphalt Concrete Pavement (ACP) on a portion of the subject property, which consists of approximately 10 acres.

(Planning Department Exhibit 1 – Special Permit Amendment Requests with Attachments)

3. **Applicant's Objectives:** According to the application, the applicant has successfully operated a quarry at the petition area for 20 years, and wishes to continue those operations. Although material has been removed to a depth of approximately 5 feet from most of the 219.990-acre petition area, the property contains a great deal of additional materials to be quarried. Additionally, the applicant wishes to conduct recycling activities in the petition area, including the recycling of Portland cement concrete and asphalt concrete pavement, and greenwaste composting activities. These permitted activities would help reduce these materials from being dumped into the local landfill and to reuse and recycle them.
4. **Days and Hours of Operation:** Condition No. 9 of Special Permit No. 833 listed the days and hours of operation for the quarry activities. They are limited to the hours of 6:30 a.m. to 5:30 a.m. daily, provided that active noise-generating activity (i.e. blasting, crushing) shall commence no earlier than 7:30 a.m. The applicant has stated that they will continue to adhere to this condition if the amendment request is approved.
5. **Employees:** According to the application, employees work at the quarry as needed, and employees are most often not needed on site except during periods of rock crushing, which take place on average during three months of the year. During these times there may be from 6 to 8 employees. During other times, there will be one employee that will load material into the trucks. There are no additional employees needed for the ACP and PCC recycling operations as the quarry employees will be directed to help with the recycling activities. The greenwaste composting activities require only one additional employee.

6. **Landowner:** The landowners, WQJ2008 Investment, LLC and Ukumehame Quarry Company Limited Partnership, have authorized the applicant to submit the amendment requests.

CHRONOLOGY

7. **January 19, 1993:** Effective date of Decision and Order by State Land Use Commission to approve Special Permit No. 833 to allow the establishment of quarry operations and related uses. (**Planning Department Exhibit 2 – Special Permit No. 833 – Docket No. 92-381 Dated January 19, 1993**)
8. **November 29, 1993:** An administrative extension to Condition No. 2 (time in which to secure Final Plan Approval) was granted by the Planning Director until January 19, 1995.
9. **August 25, 1994:** The Planning Commission recommended approval on the request for an amendment to Condition No. 2 (secure Final Plan Approval). Subsequently, the State Land Use Commission granted the amendment request on November 2, 1994.
10. **December 12, 1997:** An administrative extension to Condition No. 3 (time to commence quarry operations) was granted by the Planning Director until December 10, 1998.
11. **December 3, 1998:** The Planning Commission recommended approval on the request for amendments to Condition No. 3 (commence operations) and Condition No. 12 (life of the permit). Subsequently, the State Land Use Commission granted the amendment request on February 26, 1999. (**Planning Department Exhibit 3 – Amendment to Special Permit No. 833 – Docket No. 92-381 Dated February 26, 1999**)
12. **November 18, 2008:** Subdivision No. 07-000696 was approved, which separated the quarry area (TMK: 6-8-001:066) from the original larger property (TMK: 6-8-001:005).

STATE AND COUNTY PLANS

13. **SLUC:** Agricultural.
14. **General Plan LUPAG Map Designation:** Urban Expansion.
15. **County Zoning:** Agricultural 5-acre (A-5a).
16. **South Kohala Community Development Plan (SKCDP):** The SKCDP, adopted by Ordinance No. 08 159 on December 1, 2008, affects the subject property.
17. **SMA:** The property is not situated within the Special Management Area (SMA).

DESCRIPTION OF PROPERTY AND SURROUNDING AREAS

18. **Subject Property:** The subject property consists of approximately 244 acres of land and is comprised of vacant lava land. The total land area for the project site is approximately 219.990 acres. The site is located approximately 2 miles southeast (mauka) from the Queen Ka'ahumanu Highway-Waikoloa Road intersection. The project site is accessed from of Waikoloa Road. Additionally, there is a 14.77-acre portion of the 244-acre property has been approved for the use of a baseyard to provide equipment and motor vehicle maintenance and repair services under Special Permit No. 08-000064 to Goodfellow Brothers, Inc. The life of the permit expires on December 31, 2018 and will require an amendment to continue operations beyond 2018.
19. **Surrounding Zoning/Land Uses:** Surrounding properties are similarly zoned A-5a for the County and Agricultural for the State. There is an existing quarry complex located to the east (mauka) and a former quarry located to the west (makai) of the project site. Waikoloa Village is located approximately 3 miles to the east of the project site. There are two other quarry sites located near the Waikoloa Village area.
20. **Archaeological/Historical/Cultural Resources:** According to the application, an Archeological Inventory Survey was prepared by PHRI in 1991 of a 300-acre area for the original Special Permit application. The AIS identified 19 sites along the margin of a ridge in the northern portion of the 300-acre area. Five of the sites were assessed as significant for information content; none of these sites represented unique, one-of-a kind sites, or excellent examples of a site type. Thirteen of the sites were assessed to be significant for information value, and potentially significant because of possible burials. One site, which is a trail, was assessed as significant for informational purposes and cultural value. None of these 19 sites are located within the project area. All 19 sites were preserved "as is" with a 50-foot wide buffer around the collective sites. The boundary of the project area was located outside of the buffer area. Condition No. 6 of Special Permit No. 833 listed procedures for archaeological site mitigation, which has been complied with by the applicant. Additionally, in June of 2015, an Archaeological Assessment Survey (AAS) of West Hawai'i Concrete's Waikoloa Quarry was conducted by ASM Affiliates (Dr. Robert Rechtman, Ph.D., and Teresa Gotay), which was

submitted to the Department of Land and Natural Resources-State Historic Preservation Division (DNLR-SHPD). DLNR-SHPD confirmed the recommendation in the AAS that no further archaeological work is necessary within the project area. Lastly, a report called West Hawai'i Concrete Waikoloa Quarry Ka Pa'akai Discussion was prepared by Dr. Robert Rechtman, Ph.D. of ASM Affiliates, which concluded that there are no specific valued natural or cultural resources within the project area and that there is no evidence of any traditional or customary practices being exercised within the project area.

21. **Flora/Fauna Resources:** According to the application, there are no endangered, threatened or candidate plant or animal species within the project area. A Biological Survey and Vertebrate Fauna Assessment was prepared for the project area in June of 2015, which confirmed the above referenced conclusion.
22. **U.S. Soil Survey:** The subject property is comprised of A'a lava (rLV).
23. **Land Study Bureau Soil Rating:** The Land Study Bureau overall Master Productivity Rating classifies the soils within the project site as Class "E" or Very Poor for agricultural activity.
24. **ALISH:** The Agricultural Lands of Importance to the State of Hawaii (ALISH) Map does not classify the soils within the project site.
25. **Flood Insurance Rate Map:** The subject property is located outside the 500-year flood plain (Zone X).
26. **Public Access:** There is no public access to the mountains or the shoreline that runs through the property.

PUBLIC UTILITIES AND SERVICES

27. **Access:** Access will be from Waikoloa Road, which is a County maintained roadway that has 22 feet of pavement within an 80-foot wide right-of-way.
28. **Water:** According to the application, water to the project site is provided by a 4-inch waterline, which connects to a 16-inch waterline that runs along the south side of Waikoloa Road and is owned by West Hawai'i Water Company. The water is used for dust control during quarrying activities as required by Condition No. 13 and to keep moisture in the compost pile as required by the Department of Health.
29. **Wastewater:** Wastewater demands are addressed through the use of chemical toilets.

30. **Services:** All essential utilities, consisting of solar power and cell phone usage, and emergency services are available to the subject property.

AGENCIES' COMMENTS

31. **Department of Public Works: (Planning Commission Exhibit 4 – October 23, 2015 Memo)**
32. **Department of Water Supply: (Planning Commission Exhibit 5 – October 15, 2015 Memo)**
29. **Department of Environmental Management: (Planning Commission Exhibit 6 – September 28 & October 15, 2015 Memos)**
30. **Police Department: (Planning Commission Exhibit 7 – October 12, 2015 Memo)**
31. **Fire Department: (Planning Commission Exhibit 8 – October 1, 2015 Memo)**
32. **Department of Land and Natural Resources-Land Division: (Planning Commission Exhibit 9 – October 20 & 22, 2015 Letters)**
33. **Department of Health: (Planning Commission Exhibit 10 – October 16, 2015 Memo)**

AGENCIES - NO RESPONSE

34. Department of Land and Natural Resources-Historic Preservation Division, Department of Health-Solid Hazardous Waste Division, State Land Use Commission, Office of Planning and the Department of Agriculture.

APPLICANT'S RESPONSE TO COMMENTS

35. The applicant has submitted several letters in response to agency comments. :
(Planning Commission Exhibit 11 – Response Letters to Agencies from Applicant)

PUBLIC COMMENTS

36. As of the date of this writing, the Planning Department has not received any objections from the general public or adjacent landowners on the subject application.

SPECIAL PERMIT APPLICATION
COUNTY OF HAWAII
PLANNING DEPARTMENT

2015 SEP 15 AM 11 13

(Type or Print the requested information)

PLANNING DEPARTMENT
COUNTY OF HAWAII

APPLICANT: WHC, Ltd., a Hawaii corporation d/b/a West Hawaii Concrete

APPLICANT'S SIGNATURE: *Janet Lim*, attorney for applicant DATE: 09/14/2015

ADDRESS: West Hawaii Concrete LTD., P.O. Box 1390, Kailua Kona, HI 96745

LIST APPLICANT'S INTEREST IF NOT OWNER: Licensee (Quarry operator)

TELEPHONE: (Bus.) 808-329-3561 __ (Home) N/A _____ (Fax) 808-329-2267 _____

REQUEST: Extension and Modification to Special Use Permit No. 833 for quarry

TAX MAP KEY: (3) 6-8-001:066 _____ ZONING: A-5a

AREA OF PROPERTY/AREA OF REQUESTED USE: 219.990 acres

LANDOWNER: WQJ2008 Investment, LLC, a Washington limited liability company, and Ukumehame Quarry Company Limited Partnership, a Hawaii limited partnership, as tenants in common

LANDOWNER'S SIGNATURE: _____ DATE: _____
See Exhibit 3
(May be by letter)

LANDOWNER'S ADDRESS: _____
WQJ200 Investment, LLC, c/o Agent, Charlie Jencks, Pacific Rim Land Inc., P.O. Box 220, 1300 N. Honopono Street #201, Kihei, Hawaii 96753

Ukumehame Quarry Limited Partnership, c/o Agent, Charlie Jencks, Pacific Rim Land Inc., P.O. Box 220, 1300 N. Honopono Street #201, Kihei, Hawaii 96753

AGENT: Jennifer A. Lim, Carlsmith Ball LLP. (See Exhibit 3A).

ADDRESS: 1001 Bishop Street, Suite 2100, Honolulu, Hawaii 96813. EMAIL: jlim@carlsmith.com

TELEPHONE: (Bus.) 808-523-2557 (Home) N/A (Fax) 808-523-0842

Please indicate to whom original correspondence and copies should be sent to:

ORIGINAL: Mel Macy, West Hawaii Concrete

COPIES: Jennifer A. Lim, Esq.

Planning Dept.
Exhibit 1

**SPECIAL PERMIT APPLICATION
REQUEST FOR MODIFICATION TO
AND EXTENSION OF SPECIAL
PERMIT NO. 833 (SP92-381)**

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**SPECIAL PERMIT APPLICATION REQUEST FOR MODIFICATION TO AND
EXTENSION OF SPECIAL PERMIT NO. 833 (SP92-381)**

I SUMMARY

Applicant / Owner: WHC, Ltd, a Hawaii corporation doing business as West Hawaii Concrete ("**Applicant**") / WQJ2008 Investment, LLC, a Washington limited liability company (as to an undivided 85.714% interest), and Ukumehame Quarry Company Limited Partnership, a Hawaii limited partnership (as to an undivided 14.286% interest), as tenants in common ("**Owner**").

Property Location: 219.990 acres of land, approximately 4 miles mauka of Queen Kaahumanu Highway, in South Kohala, south of Waikoloa Road.

Tax Map Key: (3) 6-8-001:066 [formerly TMK: (3) 6-8-001:005 (por.)]

Request: Special Permit No. 833 was issued in January 1993. *See Findings of Fact, Conclusions of Law, and Decision and Order of the State Land Use Commission issued January 19, 1993.* The term of Special Permit No. 833 ends December 31, 2018. Applicant seeks approval to: (i) extend the life of the Special Permit so that the quarrying and other activities can continue to 2043 or longer (i.e., for as long as the Owner allows Applicant to continue quarry operations, which could extend to 2063); (ii) include greenwaste composting as an expressly permitted use under the Special Permit; and (iii) allow for the processing and recycling of Portland cement concrete and asphalt concrete pavement on the Special Permit site.

Petition Area:	219.990 acres
State Land Use District:	Agricultural District
General Plan (LUPAG):	Urban Expansion
Community Development Plan:	Within the South Kohala CDP
Zoning:	Agricultural-5 acres (A-5a)
Special Management Area:	Outside of Special Management Area
Land Study Bureau:	"E" Very Poor
ALISH:	Unclassified
Archaeological Resources:	Archaeological Inventory Survey prepared in 1991 (PHRI, Jensen and Burgett); Archaeological Assessment Survey was prepared in June 2015 (ASM affiliates, Gotay and Rechtman)
Access:	From Waikoloa Rd. (a two-lane paved County road), to a private quarry access road
FIRM:	Zone X
Drainage:	Site will be graded and sloped for proper drainage
Police and Fire Services:	Services are available; no additional services needed
Telephone and Electrical:	Telephone - N/A. Electrical - solar and occasional generator
Water System:	Provided by West Hawaii Water Company (private, PUC regulated)
Wastewater:	Portable chemical toilets

II PROPOSAL FOR SPECIAL PERMIT

WHC, Ltd, a Hawaii corporation doing business as West Hawaii Concrete ("**Applicant**"), whose mailing address is P.O. Box 1390, Kailua-Kona, Hawaii, 96745, has operated a quarry at the 219.990 acre site ("**Petition Area**") since 1995 under a license agreement with the Owner and under Special Permit No. 833 ("**SP 833**").¹ The County of Hawaii Planning Commission authorized SP 833 at its hearing on September 22, 1992, and the State Land Use Commission ("**LUC**") issued its Findings of Fact, Conclusions of Law, and Decision and Order in LUC Docket No. SP92-381 authorizing SP 833 on January 19, 1993 ("**LUC D&O**").

SP 833 allows the Petition Area to be used for blasting, drilling, rock crushing and screening, concrete ready-mix batching, pre-casting, asphaltic concrete products manufacturing equipment and materials storage and repair, and other necessary uses and activities related to providing a source of rock aggregate and concrete and asphalt products. Condition 12 of SP 833 provides:

The life of this permit shall be until December 31, 2018; the date of completion of the proposed quarrying; or its abandonment, whichever comes first.

In light of the timeframe established under condition 12, Applicant seeks approval to extend the life of SP 833 so that the quarrying and other activities can continue to 2043 or longer i.e., for as long as the Owner allows Applicant to continue quarry operations, which could extend to 2063, pending the outcome of Applicant's request to the Planning Commission and LUC. In addition, Applicant seeks to amend SP 833 to: (i) include greenwaste composting as an expressly permitted use under SP 833; and (ii) allow for the processing and recycling of Portland cement concrete ("**PCC**") and asphalt concrete pavement ("**ACP**") within the Petition Area. Should any

¹ Actual quarry operations started in 1999, but Applicant secured rights to the property under a license agreement with the landowner starting in 1995.

additional future uses within the Petition Area be desired which are not allowed by right within the State Land Use Agricultural District under Chapter 205, Hawaii Revised Statutes ("HRS"), the Owner or the Applicant will seek a further amendment to this SP 833.

A **PROPERTY LOCATION, DESCRIPTION AND OWNERSHIP**

The Petition Area is approximately 219.990 acres, located at Waikoloa, South Kohala, Island and County of Hawaii. At the time that SP 833 was issued the Petition Area was within a Tax Map Key parcel consisting of 3,049.994 acres, identified as TMK No. (3) 6-8-001: 005. In compliance with condition 4 of SP 833, a map and metes and bounds description of the 219.990-acre Petition Area was submitted to the Planning Department by letter dated October 2, 1992, and the Planning Department acknowledged receipt of the map and metes and bounds description by letter dated October 22, 1992. Copy enclosed as Applicant's **Exhibit 1**.

In November 2008, TMK No. (3) 6-8-001: 005 was subdivided under County Subdivision No. 07-000696. The resulting properties are: (i) Lot 3-B-1, consisting of 1,871.540 acres; (ii) Lot 3-B-2, consisting of 243.794 acres, which includes all of the Petition Area and additional lands; and (iii) Lot 3-B-3, consisting of 934.660 acres. A copy of the subdivision map is enclosed as Applicant's **Exhibit 2**.

Lot 3-B-1 (aka TMK No. 6-8-001: 005), and Lot 3-B-3 (aka TMK No. 6-8-001: 067), are owned by Waikoloa Mauka LLC; these properties are not within the Petition Area and are not part of this Application. Lot 3-B-3 (aka TMK No. 6-8-001: 066) is owned by 2WQJ2008 Investment, LLC, a Washington limited liability company (as to an undivided 85.714% interest), and Ukumehame Quarry Company Limited Partnership, a Hawaii limited partnership (as to an undivided 14.286% interest), as tenants in common ("**Owner**"). Owner acquired Lot 3-B-3 from

Waikoloa Mauka LLC by Deed dated December 29, 2008, and recorded in the Bureau of Conveyances of the State of Hawaii as Document No. 2008-193969.

Owner and Applicant have both provided authorization to allow Applicant, and Applicant's attorneys, CARLSMITH BALL LLP, to prepare and process this amendment to SP 833, to allow for additional uses within the Petition Area, and to extend the term of SP 833. *See* Applicant's **Exhibit 3** and **Exhibit 3A**, attached hereto and incorporated herein. Applicant does not seek, and Owners do not authorize, any changes to the boundaries of the Petition Area, or any increase or decrease to the size of the 219.990-acre Petition Area.

B PROPOSED PROJECT: BACKGROUND AND OBJECTIVES

The original application for SP 833 was submitted by Waikoloa Development Company to the Planning Department in 1992. The landowner at that time was Waikoloa Land and Cattle Company. The quarry was needed to support the long-term build out of the Waikoloa Beach Resort, Waikoloa Village and other developments in South Kohala. SP 833 was issued subject to 16 conditions of approval. Conditions 2, 3 and 12, which required certain actions to be taken within a set timeframe, were modified by orders dated November 2, 1994, and February 26, 1999.

Applicant, and its predecessor Shield Pacific Ltd., has been in operation on the Big Island since the mid 1960's. Applicant has extensive experience in the field of quarry operations and related businesses. Applicant has operated hard rock quarries in Kau, Kona, Waimea, Puuanahulu Landfill, Puhakuloa Military Reserve, and Waikoloa, and currently has hard rock mining operations in Waimea, Kona, Waikoloa and the Puuanahulu Landfill. Applicant also operates a cinder quarry in the Waimea area. Applicant also owns and operates ready-mix concrete operations in Waimea and Kona. A cut stone operation and hollow tile block plant

owned and operated by Applicant is in operation at the Waimea base yard. A concrete recycling operation is in place at the Kona quarry operated by Applicant.

Applicant began using the Petition Area in 1995 under a license agreement with Waikoloa Land & Cattle Co. Although Applicant has been operating the Petition Area since 1995, no material was quarried at the Petition Area until 1999; construction demand was too low to necessitate commencing quarry operations prior to July 1999. The quarried material at the Petition Area has primarily been aggregate, and not concrete or asphalt.

The amount of quarried material has varied over the years, from a high of 438,138 tons in 2002, to 5,635 tons in 2011. The amount of material quarried during 2013 and 2014 is approximately 33,000 tons each year, which roughly translates into 2,750 tons/month.

SP 833 allows Applicant to conduct concrete ready-mix batching and asphaltic concrete products manufacturing. At present that is not a regular part of Applicant's operations. However, it is anticipated that concrete and asphalt production will continue to be needed in the future, and Applicant's operations will supply those needs.

1 **CONDITIONS OF APPROVAL, SPECIAL PERMIT NO. 833**

Applicant is in compliance with all conditions of approval. A copy of the Annual Monitoring Report, covering the period of 2008 to 2015, was filed with the LUC and County Planning Department in April 2015, and is attached hereto and incorporated herein as Applicant's **Exhibit 4**. The Annual Monitoring Report sets forth the specifics regarding compliance with the conditions of approval. Therefore, the status of only certain conditions of approval will be addressed in the text of this application.

As required under condition 2 of SP 833, Final Plan Approval of the Petition Area was issued by the County Planning Department on December 10, 1996. See Applicant's **Exhibit 5**.

As required under condition 4, a map and metes and bounds description of the Petition Area was submitted to the Planning Department in October 1992. *See Applicant's Exhibit 1.* As required under condition 5 of SP 833, the construction of the intersection of the quarry access road with Waikoloa Road has been completed, and the quarry access road was completed in June 1999.

Condition 8 required Applicant to consult with the State Department of Land and Natural Resources regarding the possibility of a particular plant being found within the Petition Area. As more fully addressed in Section V.E (Floral and Faunal Resources) *infra*, this condition has been satisfied. There are no threatened, endangered or candidate plant species within the Petition Area.

Condition 9 limited the quarry activities within the Petition Area to the hours of 6:30 a.m. to 5:30 p.m. daily; provided that active noise-generating activity (i.e., blasting, crushing) shall commence no earlier than 7:30 a.m. As more fully addressed in Section IV.C (Days and Hours of Operation) *infra*, Applicant has operated the quarry in compliance with this condition. Applicant will continue to adhere to this condition should the requested amendment be approved.

Condition 13 of SP 833 required an adequate supply of water to be made available for dust control and fire prevention. In 1999, Applicant completed the construction of the 4-inch waterline that supplies the Petition Area. The waterline connects to the 16-inch waterline owned by West Hawaii Water Company that runs along the south side of Waikoloa Road.

Applicant does not seek any amendments to conditions 10 or 11 of SP 833, which provide as follows:

10. The applicant shall submit an Erosion Control and Site Restoration Plan for review and approval by the Planning Director, in consultation with the Department of Public Works, one year prior to the expiration date of the permit or prior to termination of the operations, whichever occurs first.

11. Upon termination of the operations or abandonment of any portion of the affected site, the land shall be graded to blend with the surrounding area and rehabilitated as approved by the Erosion Control and Site Restoration Plan. The affected site shall be left in a non-hazardous condition. Appropriate documentation which demonstrates compliance with this condition shall be submitted to the Planning Department and the Department of Public Works for review and approval within ninety (90) days from the date of termination or abandonment.

The requirement to submit an Erosion Control and Site Restoration Plan for County review and approval is not triggered until December 31, 2017 (i.e., one year prior to the expiration of SP 833). Should the Planning Commission and LUC grant Applicant's request for an extension to SP 833, Applicant understands that it will be required to submit an Erosion Control and Site Restoration Plan to the Planning Department for review and approval no later than one year prior to the new expiration date of SP 833, or prior to termination of quarrying operations at the Petition Area, whichever occurs first.

All mining activities must follow the regulations of the Mining Safety and Health Administration ("MSHA"), which typically inspects the quarry three times a year. Applicant's operations at the Petition Area have complied with all MSHA requirements and this quarry has never been cited for any violations by MSHA.

Excavation is done in a manner such that the established elevations are continued throughout the site. Applicant is required to maintain property perimeter finished slopes from the existing ground to the finished grade of the quarry floor in a manner not to exceed a ratio of 1:1 in steepness. Although not required, in certain areas Applicant may establish a slope ratio of 1.5:1 or even 2:1. The finished floor of the quarry area is left with a slight negative/decline of approximately 1% slope from east to west.

Applicant reaffirms its commitment that upon termination of the quarrying operations, the Petition Area will be graded to blend with the surrounding areas. The quarried land will be returned flat, with a slight decline in grade from east to west. Upon termination of the quarrying operations, the Petition Area will be left in a non-hazardous condition. Additional specifics will be addressed no later than one year prior to the termination of SP 833, when Applicant provides to the Planning Department for review and approval an Erosion Control and Site Restoration Plan.

C **OBJECTIVES**

Applicant has successfully operated a quarry at the Petition Area for 20 years, and wishes to continue those operations. Although the top approximately 5 feet of surface has been removed from most of the 219.990-acre Petition Area, the property contains a great deal of additional materials to be quarried. Applicant estimates that 15 acres have been quarried to a depth of 40 feet, and that the average excavation depth that can be pursued at the Petition Area, taking into account the commitment to maintain at least a 1:1 ratio, is 125 feet. This means that the quarry can safely provide several million tons of material and therefore easily several decades of quarry activity. Optimizing the use of the Petition Area for quarrying means that more locally sourced materials can be used for construction. Similarly, the on-going flexibility of being permitted to conduct concrete ready-mix batching and asphalt concrete manufacturing will also allow for use of locally sourced and produced materials.

Applicant, in addition, wishes to conduct recycling activities within the Petition Area, such as recycling of Portland Cement Concrete and Asphalt Concrete Pavement. By allowing Applicant to use the Petition Area for recycling of these materials, Applicant anticipates the avoidance of approximately 2,000 tons of materials being dumped into the local landfill

(Applicant's estimates are 1,000 tons/year of each, as discussed in Section III.C. (Recycling of Portland Cement Concrete and Asphalt Concrete Pavement) *infra*).

In addition to the benefits of diverting materials from the landfill, the recycling will result in high quality but less expensive materials becoming available for use by local contractors, including road construction crews. For example, the Queen Kaahumanu Highway widening project, which will widen the Highway from two lanes to four between Kealakehe Parkway and Kona International Airport, requires that 10% recycled asphalt concrete be added to any new asphalt used on the widening project. Mandatory use of recycled materials is becoming common throughout the Country. Applicant's proposed ACP and PCC processing and recycling will provide these needed materials for use in Hawaii projects.

Applicant also wishes to continue its greenwaste composting activities within a portion of the Petition Area. In the absence of options for greenwaste composting, greenwaste is often deposited in landfills. This takes up space in the landfills, which could be avoided by providing better options for the use of greenwaste. Composting is an environmentally friendly option to filling a landfill. In addition, the valuable natural byproduct of mulch, which results from the composting process, is not produced when greenwaste is dumped into a landfill.

III PROJECT DESCRIPTION - AMENDMENT TO SPECIAL PERMIT NO. 833

As mentioned above, the County issued Final Plan Approval for the Petition Area in December 1996. *See* Applicant's Exhibit 5 (1996 plan showing the areas of operation within the Petition Area). Attached hereto and incorporated herein by reference as Applicant's **Exhibit 6** is a site plan showing the current most active quarry area, the proposed location of the recycling areas for Portland Cement Concrete ("PCC") and Asphalt Concrete Pavement ("ACP"), and the greenwaste composting area.

Noted on Applicant's Exhibit 6 is a 14.77-acre area labeled SPP 08-000064. This area is within Lot 3-B-2 (and therefore within TMK 6-8-001: 066), but is not part of the Petition Area for SP 833. This 14.77 acre area is permitted under Special Permit SPP 08-000064, which was issued to Goodfellow Brothers, Inc., by the Planning Commission in October 2008 to allow for the establishment of a baseyard to provide equipment and motor vehicle maintenances and repair services (the "**GBI Permit**"). The life of the GBI Permit for the baseyard facility expires on December 31, 2018. Applicant is not seeking an amendment to the GBI Permit.

Accessing the quarry Petition Area requires Applicant to cross through a small portion of the GBI Permit area. This is the area between the access roadway, which is noted on Applicant's Exhibit 2 as "Easement 3" (7.794 acres), and the Petition Area. The activities authorized under the GBI Permit and SP 833 (the quarry permit) are compatible, and have co-existed for several years. The Owner and Goodfellow Brothers, Inc., have authorized Applicant to continue to use the existing access route from Waikoloa Road to the Petition Area.²

A **QUARRY**

The term of SP 833 expires on December 31, 2018, per condition 12 of SP 833. Applicant would like to continue quarry operations at the Petition Area to 2043 or longer — (i.e., for as long as the Owner allows Applicant to continue quarry operations, which could extend to 2063). This request is based upon the term of the license agreement between Applicant and Owner. As stated above, Applicant has been operating the quarry under a license agreement with the landowner since 1995. The current license agreement term is proposed to run to December 31, 2043, pending the outcome of Applicant's current request to the Planning

² Lot 3-B-2 contains 243.794 acres. 234.76 acres of which are covered by SP No. 833 and the GBI Permit (219.990 + 14.77). The remainder of Lot 3-B-2 is comprised of Easement 3 for access and utility purposes (7.794 acres), and a small area of 1.24 acres which is at the south/mauka portion of the area covered by the GBI Permit.

Commission and LUC, and it is expected that Applicant's license agreement could be further extended should the requested extension to SP 833 be approved.

In the 20 years that Applicant has operated the quarry the readily accessible surface material has been removed to a depth of approximately 5 feet from almost the entire Petition Area. Active quarry uses are taking place within the northwest corner of the Petition Area, to a depth of 40 to 45 feet. Approximately 15 acres have been mined to a depth of 40 feet. Over time the active mining area will expand laterally to the south and east. Generally, the quarry supplies aggregate to building contractors, site work contractors and concrete and asphalt producers.

B GREENWASTE COMPOSTING

Applicant has set aside an approximately 3-acre area for greenwaste composting. Applicant obtained a Solid Waste Management Permit from the State Department of Health ("**DOH**") in 2011 to allow for greenwaste composting of less than 3,000 tons/year (DOH Solid Waste Management Permit by Rule, Permit # CO-0012-09). This allows for the collecting of greenwaste such as grass and shrub clippings and coconut tree prongs, and composting. The greenwaste must be clean, source-separated greenwaste. The materials collected and composted are treated bi-monthly to control insects. In addition, all incoming materials must be screened to ensure that the materials meet with the requirements of the Solid Waste Management Permit.

The current DOH Permit for the greenwaste composting (Permit # CO-0076-11), expires on March 6, 2016. See Applicant's **Exhibit 7**, attached hereto and incorporated herein by reference. The actual composting work is done by Puna Certified Nursery, a private contractor that is under a sublicense agreement with Applicant.

Applicant intends to continue the greenwaste composting within the identified portion of the Petition Area. Although the County has determined that the composting activities are allowed within the Petition Area (the DOH required an executed Attachment P-5, zoning clearance form, to be issued by the County before the DOH would issue the Solid Waste Management Permit, see **Exhibit 7**), Applicant seeks to obtain formal approval from the County Planning Commission and the LUC for the greenwaste composting operation.

C **RECYCLING OF PORTLAND CEMENT CONCRETE AND ASPHALT CONCRETE PAVEMENT**

Applicant has set aside approximately 10 acres within the Petition Area to be used for the processing and recycling of PCC and ACP. See **Exhibit 6**. The raw PCC and ACP will be stored within the designated portion of the Petition Area until a sufficient quantity has been collected, at which time Applicant will process and recycle the PCC and ACP. The processing may be done by a portable processing machine that Applicant would bring to the property as needed, or Applicant may install a processing machine within the Petition Area to remain in place for the life of the Special Permit. The proposed recycling of PCC and ACP will prevent those materials from taking up space in the landfill.

1 **PORTLAND CEMENT CONCRETE**

Applicant estimates that it may process 1,000 tons/year of PCC. Applicant operates a PCC recycling facility at its Kona quarry site near to Honokohau Harbor. Over the past 5 years approximately 125 tons/year of PCC has been processed at that site. The PCC recycled at the Kona quarry site does not include PCC from any large structures, such as would be expected should large concrete structures be torn down. Large concrete remodels or teardowns can generate several thousand tons of PCC for recycling in a short period of time. Should the

requested amendment to SP 833 be approved, Applicant anticipates phasing out its PCC recycling activities at the Kona site.

Recycling of PCC is a relatively simple process. It involves breaking, removing, and crushing existing concrete into a material with a specified size and quality. Product for recycling will be visually inspected prior to being accepted at the Petition Area. The only acceptable additions to the PCC that is accepted will be rebar and wire mesh. All rebar and wire mesh will be removed as part of the recycling process. Painted PCC will be tested in accordance with the DOH requirements to insure no hazardous materials are present before the materials are allowed to remain on the site. The PCC will be crushed and screened into a marketable product size. Processed materials will be tested in accordance with DOH standards, and then sold as fill material. Applicant anticipates that in most cases the product size will be 2½" or 1½".

All recycling will be done in accordance with the Solid Waste Permit that will be issued by the DOH. No chemicals are used in the recycling PCC. The byproducts from the PCC are rebar and steel mesh from the inside of the concrete. Applicant will provide that byproduct to a local metal recycler. Applicant anticipates that contractors will make use of the recycled PCC for road construction, fill material and other uses for which rock products are typically used.

2 ASPHALT CONCRETE PAVEMENT

Applicant anticipates that it may process 1,000 tons/year of ACP, based in part upon discussions with local paving contractors. The process for recycling the ACP is substantially similar to that used for the PCC. For example, asphalt concrete that is removed from pavement will be stockpiled at the Petition Area until a sufficient amount has accumulated. At that point, the ACP will be crushed and screened to a size of ¾". Applicant estimates that the crushing and screening will take place less than once a year, and perhaps once every 5 years, depending upon

the amount of PCC and ACP is brought to the Petition Area. However, the DOH will set the limits on the amount of material that can be stored prior to processing.

All recycling will be done in accordance with the Solid Waste Permit that will be issued by the DOH. No chemicals are used in the recycling of ACP. The ACP will be turned into recycled asphalt pavement ("**RAP**"). No byproducts are produced by the recycling ACP into RAP. Applicant anticipates that the RAP will be used for road and parking lot surfacing and stabilization. RAP is less expensive than the more traditional asphalt concrete used for these purposes.

IV **PROPERTY DESCRIPTION**

The Petition Area consists of 219.990 acres within a 243.7940-acre parcel designated as TMK (3) 6-8-001: 066, aka Lot 3-B-2. See **Exhibit 6**. The Petition Area has been approved for quarry operations since 1993, and has been in active quarry use since 1999. Approximately 95% of the Petition Area has been quarried to a depth of approximately five feet. Currently active quarry uses are taking place within the northwest corner of the Petition Area, to a depth of 40 to 45 feet.

A **ACCESS, PARKING AND TRAFFIC**

Access to the Petition Area is from a private road that connects to Waikoloa Road, which is a two-lane paved County roadway. The private quarry access road, which is described as Easement 3 (7.794 acres) on Subdivision 07-000696 (see Exhibit 2), enters Lot 3-B-2 at the northwest corner of the Lot. The quarry road has 26-foot wide pavement within a 100-foot right-of-way. The private quarry access road is also used to access the adjacent contractors' baseyard, which is allowed under the GBI Permit. Entrance to the quarry is gated. Parking for Applicant's employees is, and will continue to be, provided within the Petition Area.

The current activities at the Petition Area generate little traffic and the proposed additional activities are not expected to generate any significant additional traffic. Quarry employees typically arrive before 7 a.m. and leave after 5:30 p.m.

Current quarrying activities average 8 truckloads a day of aggregate leaving the site. This average is based upon the annual tonnage of aggregate, which amounts are established by the load station located by the site entry.

Current activities generate approximately 36,360 tons of aggregate per year. The trucks that deliver and remove the aggregate product have a 12 to 24 ton capacity, and average 18 tons per load. Dividing the amount of aggregate by 18 ton truckloads results in 2020 truckloads/year, which averages out to 8 truckloads each business day (assuming 250 business days/year).

The greenwaste composting activities have averaged between 159 to 1,300 tons/year from 2008 through mid-2013. Between July 1, 2014 and June 30, 2015, approximately 179.28 tons of greenwaste were delivered to the Petition Area. Applicant's DOH Permit allows for under 3,000 tons/year. Applicant expects the amount of greenwaste processed at the Petition Area to increase to that maximum amount. Under the most aggressive estimates, assuming 2,999 tons of greenwaste a year, the peak hour employee vehicle traffic from greenwaste activities is anticipated to be minimal. At most two employees would be needed to operate the greenwaste operations. The greenwaste composting business is not a "retail" operation where members of the public regularly come to drop off greenwaste or purchase compost. Therefore, few employees are needed and little commercial traffic is generated.

Applicant estimates that the PCC and ACP recycling will divert approximately 2,000 tons/year from local landfills. The addition of 2,000 tons of material coming onto the Petition Area each year amounts to less than 1 additional truckload per business day.

Even under the most aggressive traffic estimates, the existing and proposed uses at the Petition Area will not generate fifty or more peak hour trips. *See* Hawaii County Code Section 25-2-46. Although the County's concurrency requirements under Section 25-2-46 only require the preparation of a traffic impact analysis report ("**TIAR**") for applications for zoning amendments, and not for applications to extend or modify Special Permits, Applicant has nevertheless reviewed the TIAR requirements under Section 25-2-26 to confirm that no TIAR is needed in order to process this proposed amendment to SP 833.

Hawaii County Code Section 25-2-46(d) requires a TIAR to be prepared for any zoning amendment that can generate 50 or more peak hour trips. Peak hour trips are understood to mean trips between 7:00 a.m. and 9:00 a.m., and between 4:00 p.m. and 6:00 p.m.

Current quarry and greenwaste composting activities at the Petition Area involve very little peak hour traffic. For most of the year the quarry does not require on-site employees. Instead, trucks are dispatched from off-site to the Petition Area to load aggregate, which is then delivered to end users. For a period of approximately three months during the year when active rock crushing and quarrying activities are taking place, the Applicant has six or seven employees on site. These employees arrive before 7:00 a.m. and leave the site between 3:30 p.m. and 4:00 p.m. The current greenwaste processing activities require one employee who arrives by 7:00 a.m. and leaves the site around 3:30 p.m., and is therefore not on the road during the peak traffic hours.

With the addition of PCC recycling and ACP recycling, and an increase in greenwaste composting activities to the maximum allowed under the DOH permit, Applicant's maximum anticipated a.m. and p.m. peak hour trips would be 10 to 11, but as described above, few employees actually arrive at, or exit, the Petition Area during the a.m. or p.m. peak hours. Most

traffic in and out of the Petition Area occurs throughout the day and not allocated solely to peak hours, or to any specific non-peak hours. These vehicles include employees, truck drivers that enter the site to pick up aggregate and leave with the aggregate, and the occasional contractor or commercial purchaser of aggregate.

B NUMBER OF EMPLOYEES / NUMBER OF CLIENTELE

Employees work at the quarry as needed, and employees are most often not needed on site except during periods of rock crushing, which take place on average during three months during the year. Most often the trucks that enter and leave the site load their materials at the aggregate stock piles in various locations around the Petition Area, where the materials are weighed and a load ticket is printed from a remote station located at Applicant's Waimea operations site. Occasionally Applicant sends a single employee down to operate the loader if several truckloads of materials are anticipated to go out on a particular day. During periods of rock crushing, which typically run for up to six weeks at a time, a full crew of eight to ten employees are on site.

No additional employees are anticipated to be needed in order to operate the ACP and PCC recycling operations. Applicant plans to direct 6 employees toward the recycling plant, which is anticipated to be operated once every five to ten years, depending upon the volume of ACP and PCC on site, and the requirements that will be imposed by the DOH in the issuance of the Solid Waste Permit.

In addition to the quarrying and recycling activities, the greenwaste composting activities require one person on site. Even if the greenwaste composting was increased to the maximum (which is less than 3,000 tons/year), the anticipated employees needed at the Petition Area would be no more than two. The greenwaste composting business is not a "retail" operation where

members of the public regularly come to drop off greenwaste or purchase compost. Therefore, few employees are needed.

C **DAYS AND HOURS OF OPERATION**

SP 833 authorized quarry activity between 6:30 am to 5:30 pm, and allows noise-generating activities to begin no earlier than 7:30 am. Applicant's operations conform to these requirements. The quarry is open Monday through Friday, and only very rarely on Saturday. The same hours will be maintained for the proposed additional uses at the Petition Area.

D **TIMETABLE**

Applicant intends to continue quarrying operations and greenwaste composting through the term of SP 833, as amended. Applicant intends to initiate the recycling of ACP and PCC upon receipt of a solid waste permit from the DOH.

V **DESCRIPTION OF AREA AND SURROUNDING PROPERTIES**

The Petition Area is situated roughly 4 miles mauka of the beachfront at 'Anaeho'omalu Bay, 2 miles mauka of Queen Kaahumanu Highway and 2 miles southwest of Waikoloa Village. The Pu'uana'hulu Landfill is approximately 1 mile to the south. The Petition Area is bounded at its south end by a transmission line corridor and unpaved access road, and the east, west and north sides of the Petition Area are adjacent to undeveloped land. The property that borders the Petition Area to the north and east, TMK (3) 6-8-001:067, contains an archaeological preserve containing nineteen sites within a roughly 30 acre area.

The Petition Area is within the State Land Use Agricultural District, and is surrounded by lands that are also within the Agricultural District. *See* Applicant's **Exhibit 8** attached hereto and incorporated herein by reference. The Petition Area is zoned by the County as Agricultural A-

5a, and is surrounded by lands that are also zoned A-5a, as shown on Applicant's Exhibit 9, attached hereto and incorporated herein by reference.

A **FLOOD INSURANCE RATE MAP DESIGNATION**

The Petition Area is within FIRM Zone X, which is an area determined to be outside of the 0.2% annual chance floodplain. See Applicant's Exhibit 10 attached hereto and incorporated herein by reference.

B **ARCHAEOLOGICAL AND HISTORICAL RESOURCES**

An Archaeological Inventory Survey ("AIS") was prepared by PHRI in 1991 (Archaeological Inventory Survey Waikoloa Beach Resort Reserve Lands 300-Acre Quarry Site, Jensen and Burgett, 1991). The AIS identified 19 sites located along the margin of a ridge in the northern portion of the 300-acre property. Five of the sites were assessed as significant for information content; none of those sites represented unique, one-of-a-kind sites, or excellent examples of a site type. Thirteen of the sites were assessed to be significant for information value, and potentially significant because of possible burials. One site, a trail, was assessed as significant for informational purposes and cultural value. None of these 19 sites are located within the Petition Area.

As a result of the PHRI AIS, all 19 sites were preserved "as is." A 50 foot wide buffer area was created around the collective sites, and the boundary of the Petition Area was located outside of the buffer area. In light of the AIS, SP 833 was issued with the following condition of approval:

6. The following procedures shall be instituted for archaeological site mitigation:

A. Possible burial sites identified in the Archaeological Inventory Survey (PHRI ms 1041-122091) shall be approved by the Hawaii Island Burial Council prior to receipt of Final Plan Approval.

- B. The preservation area, including a 50-foot buffer zone, shall be staked/flagged prior to receipt of Final Plan Approval. A confirming letter from the archaeologist shall be submitted.
- C. Construction workers and quarry operational personnel shall be informed of the significance of the staked preservation area. Construction plans shall also note the area.
- D. An archaeologist shall be on site to monitor initial land preparation activities that occur in the vicinity of the preservation area.

All of these conditions have been satisfied. Upon information and belief, by letter dated November 2, 1992, the State Historic Preservation Division ("**SHPD**") informed the Planning Director that approval by the Hawaii Island Burial Council would be required only if the area where the sites are located was to be developed. In light of the fact that no burial sites or possible burial sites are located within the Petition Area, and that all such sites are located adjacent to the Petition Area, in a preservation area that has been preserved "as-is", and the fact that the County issued Final Plan Approval in December 1996 (*see* Applicant's Exhibit 5) the requirements under condition 6.A. and 6.B have been satisfied.

The Applicant was notified of the significance of the preservation area. The Applicant also informed all construction and operations personnel of the significance of the preservation area. On May 10, 1999, Robert B. Rechtman, Ph.D., performed archaeological monitoring in order to direct the construction crew to avoid the buffer area that was established around the preservation area. *See* Dr. Rechtman's letter enclosed as Applicant's **Exhibit 11**. As confirmed by Dr. Rechtman, the quarry access road is located well makai of the buffer zone, and the northern boundary of the Petition Area is approximately 50 meters south of the buffer zone. As such, the Petition Area is entirely outside of the preservation area, and entirely outside of the buffer zone.

In June 2015 ASM Affiliates, by Dr. Robert Rechtman, Ph.D. and Teresa Gotay, prepared An Archaeological Assessment Survey of West Hawaii Concrete's Waikoloa Quarry ("AAS"). A copy of that AAS, which was submitted to SHPD Hilo on June 18, 2015, is attached hereto and incorporated herein as Applicant's Exhibit 12. Attached hereto and incorporated herein by reference as Exhibit 12A is SHPD's letter dated August 12, 2015, confirming the recommendation under the AAS that no further archeological work is necessary within the project area.

The AAS describes the Petition Area as being situated at elevations ranging between 694 and 925 feet above sea level, within two lava flows that emanated from Mauna Loa known as the Kanikū Lava Flow. Both flows are rugged expanses of 'a'ā with near complete absence of soil. The earliest flow dates from between 3,000 and 5,000 years ago while the more recent flow occurred between 1,500 to 3,000 years ago. Most of the Kanikū flow within the Petition Area has been altered by the ground disturbance associated with the quarry operations.

On May 20, 2015, Robert B. Rechtman, Ph.D., Teresa Gotay, M.A. and Layne Krause, B.A. performed a field survey of the Petition Area. No archaeological features or portable cultural material was encountered during the pedestrian survey. A small amount of metal shrapnel was observed, which is likely related to the former use of the Waikōloa Maneuver Area by the U.S. Military. Given the negative findings of the AAS, which findings are supported by the earlier AIS, the consultants concluded that that the proposed extension and amendment to SP 833 will not significantly impact any known historic properties. No further historic preservation work was recommended. As confirmed by SHPD, Applicant's project should not affect or impair any valued historical resources.

C CULTURAL RESOURCES

Article XII, section 7, of the Hawai'i State Constitution requires the State and its political subdivisions to protect native Hawaiian traditional and customary rights. The State and its agencies are obligated to protect the reasonable exercise of customarily and traditionally exercised native Hawaiian rights to the extent feasible. *Public Access Shoreline Hawai'i v. Hawai'i County Planning Commission*, 79 Haw. 425, 450, n. 43, cert. denied, 517 U.S. 1163 (1996); *Ka Pa 'akai O Ka 'Aina v. Land Use Commission*, 94 Hawai'i 31, 7 P.3d 1068 (2000). In addition to a review of any historical resources within the Petition Area, Applicant had prepared an analysis to identify whether any valued cultural or natural resources are present within the Petition Area, and to identify the extent to which any traditional and customary native Hawaii rights are being, or have been, exercised within the Petition Area. No specific valued natural or cultural resources have been identified within the Petition Area, and no evidence has been identified to indicate that traditional and customary cultural practices are being exercised within the Petition Area currently, or have been in the past.

Attached hereto and incorporated herein as Applicant's **Exhibit 13** is a report entitled West Hawaii Concrete Waikoloa Quarry *Ka Pa'akai* Discussion (July 2015) by Robert B. Rechtman, Ph.D. of ASM Affiliates ("**Ka Pa'akai Report**"). The *Ka Pa'akai Report* concludes that there are no specific valued natural or cultural resources within the Petition Area, and that there is no evidence of any traditional or customary practices being exercised within the Petition Area. The *Ka Pa'akai Report* reviewed historical, archaeological and cultural reports that were prepared for properties in the vicinity of the Petition Area.

A Section 106 study prepared in 2005 for the Saddle Road Extension Project, which included consultation with 18 individuals, none of whom identified any traditional or customary

practices taking place within the vicinity of the Petition Area. Other cultural studies done on lands just to the north of the Petition Area came to a similar conclusion.

Prior studies have shown that the Waikoloa area contains two significant sources of cultural resources. There are pu'u and trails. As confirmed in the Ka Pa'akai Report, the Petition Area does not contain any trails or pu'u and none are in proximity to the Petition Area. Applicant's project should not affect or impair any valued cultural or natural resources, or the practice of any traditional or customary native Hawaiian rights.

D **SOILS**

The soils within the Petition Area are not well suited for agricultural uses. The U.S.D.A. soil types found within the Petition Area are Lave Flows, Aa (rLV). This is a rough, broken lava that has little to no soil coverage and is bare of vegetation.

The Land Study Bureau soil rating within the Petition Area is "E" which indicates very poor productivity. See Applicant's **Exhibit 14**. The ALISH rating for the Petition Area is unclassified, further indicating that the land is not important for agricultural production. See Applicant's **Exhibit 15**.

E **FLORAL AND FAUNAL RESOURCES**

No endangered, threatened or candidate plant or animal species are within the Petition Area. At the time that SP 833 was issued there was a concern that the pololei fern, *Ophioglossum concinnum*, might be located within the Petition Area. As such, under condition 6 the Planning Commission and LUC required the Applicant to employ mitigation measures for the fern if required by the State Department of Land and Natural Resources.

By letter dated October 20, 1993, the U.S. Fish & Wildlife Service confirmed that the pololei fern was not endangered or threatened, and was no longer being considered for listing under the Endangered Species Act. Therefore no mitigation measures were required.

Although the virtually the entire Petition Area has been cleared and mined, leaving an unwelcoming habitat for plants or animals, in an abundance of caution Applicant had a General Botanical Survey and Vertebrate Fauna Assessment prepared for the Petition Area in June 2015 ("**Biological Assessment**"), a copy of which is attached hereto and incorporated herein as Applicant's **Exhibit 16**. The Biological Assessment was prepared by Ron Terry, Ph.D. and Patrick J. Hart, Ph.D. of Geometrician Associates, LLC.

The Biological Assessment confirmed that no threatened or endangered plant species are located within the Petition Area, and that no portion of the Petition Area is designated as critical habitat. The Biological Assessment noted that the history of heavy, continuous disturbance coupled with the lowland context, has resulted in a flora and vegetation within the Petition Area that has little value in terms of conserving native vegetation or threatened or endangered plant species. The only large tree (i.e., over 15 feet tall) within the Petition Area is a single kiawe tree. As such, no adverse botanical impacts on the property are expected as a result of the continuing and proposed uses.

The five bird species observed are all common, non-native, birds. Goats were observed on the property. No other mammals were seen, but the consultants had expected that the small Indian mongoose, mice, rates and perhaps feral cats would be seen. The Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) was not observed, but the consultants noted that the Hawaiian Hoary Bat is present in many areas on the island of Hawaii.

Although no threatened or endangered species were observed, the consultants recommended that Applicant follow certain minimization measures to avoid potential impacts to native birds and the Hawaiian Hoary Bat. Those measures are: (i) limiting the removal or trimming of trees taller than 15 feet so that such actions are not taken during the bat birthing and pup rearing season (June 1 through September 15); (ii) no construction or unshielded equipment maintenance lighting after dark between the months of April and October; (iii) all permanent lighting should be shielded in strict conformance with the Hawai'i County Outdoor Lighting Ordinance (Hawai'i County Code Chapter 9, Article 14), which requires shielding of exterior lights so as to lower the ambient glare caused by unshielded lighting.

While the Biological Assessment determined that no threatened or endangered species were located within the Petition Area, Applicant had an additional survey conducted in order to confirm that the Petition Area is free to the Blackburn's Sphinx Moth (*Manduca blackburni*) ("**BSM**"). The BSM's preferred host plant is a native dry forest canopy tree (aiea or *Nothocestrum breviflorum*). However, the BSM is known to use the tree tobacco plant (*Nicotiana glauca*), an alien invasive weed, as a host plant, particularly during the BSM egg and larval stages. The tree tobacco plant is common in North Kona and other dry areas of Hawaii, and tree tobacco had been seen within the quarry property.

To document the results of the BSM survey, a report titled *Blackburn's Sphinx Moth Surveys Conducted for West Hawaii Concrete's Waikoloa Quarry, South Kohala District, Island of Hawai'i* was prepared by Reginald E. David of Rana Biological Consulting and Eric B. Guinther of AECOS Consultants, a copy of which is attached hereto as Applicant's **Exhibit 17**.

The consultants made two visits to the Petition Area. An initial visit was made in early May, and extensive fieldwork was done in early June, 2015. The consultants were tasked with

inspecting all tree tobacco plants on site for any BSM eggs and larvae, and to identify any tree tobacco plants that showed browse marks of a size and scale that were indicative of BSM larvae. The consultants noted that the tree tobacco plants within the Petition Area were healthy, with thick green leaves, which would be attractive to BSM if any were in the area.

The consultants conducted an intensive survey of an approximately 60-acre portion of the Petition Area and confirmed that not BSM were present, and no evidence of browsing was observed on any of the tree tobacco plants on site.

F **WATER USE, GROUNDWATER AND SURFACE WATER RESOURCES**

The continuation of quarry and greenwaste composting activities and the addition of recycling activities is not expected to result in any significant increase of water demand at the Petition Area. Presently water is used at the Petition Area to control dust during quarrying activities, and to moisturize the compost pile. This use averages 3,300 gallons per day. With the addition of the recycling activities there will be an occasional increase of water use during the actual processing of the ACP and PCC. The increase will be in the order of ten percent per annum. No new water sources will be required for the proposed amendment to SP 833.

It is not anticipated that the existing and proposed uses will have any impact on groundwater resources. Sufficient water is available for the additional uses, and the existing and proposed activities do not generate pollutants that could be discharged to groundwater. A report titled Hydrologic Assessment of Present and Proposed Future Uses of the West Hawaii Concrete Quarry Site prepared by Tom Nance Water Resource Engineering ("**Water Assessment**") is attached hereto and incorporated herein as Applicant's **Exhibit 18**.

The Water Assessment focuses on potential impacts to groundwater as a result of the existing and proposed uses. The groundwater beneath the Petition Area is approximately four

feet above sea level, and the Petition Area is between 680 to 920 feet above sea level. The Petition Area is located in the Anaehoomalu Aquifer System Area as delineated by the State Commission on Water Resource Management ("CWRM"). At the quarry site, the delineated aquifer is 5.7 miles wide and the quarry is situated midway across that width. The CWRM has set the sustainable yield of the Anaehoomalu Aquifer System Area based on a calculated recharge of 69 million gallons per day ("MGD") over its 291 square mile area. There are no operating wells upgradient of the Petition Area, so this recharge rate translates to a flow on the order of 12 MGD per mile of width beneath the Petition Area. More recent recharge calculations put the total recharge at 182 MGD. If correct, that recharge would suggest a flowrate of 32 MGD per mile beneath the Petition Area. However, TNWRE's analysis is that the actual flowrate is significant less. TNWRE estimates that the flowrate is no more than 8 MGD per mile. This is based upon the performance of wells located downgradient of the Petition Area, and the one unused well located upgradient.

The Water Assessment determined that the present and proposed uses at the Petition Area will result in no consequential change to the groundwater flowrate or shoreline discharge. The two potential sources of impacts to flowrate are the water wells that currently serve the Petition Area, and the amount of water that may be discharged along the shoreline due to the use of water onsite that percolates to the groundwater flowing beneath the Petition Area.

On an annual average basis, the private wells that supply the Petition Area pump about 6.0 MGD, and the water used within the Petition Area is 0.0033 MGD or 0.055 percent of that pumpage. The possible additional water demand arising from the occasional recycling operations is expected to be no more than 10 percent. This would increase the water usage at the Petition Area by no more than 0.06 percent of the well pumpage, which far too small to be

detectable to have any impact on downstream use of the groundwater naturally flowing to and discharging along the shoreline.

With respect to the groundwater flowing directly beneath the Petition Area, present onsite water use is 0.0033 MGD, of which a conservative estimate is that 0.00033 MGD percolates to the groundwater beneath the Petition Area. The slight projected increase in water use will increase these figures to 0.0036 MGD and 0.00036 MGD. This would amount to an increase on the order of 0.006 to 0.007 percent to groundwater flowing beneath the Petition Area. This would have an inconsequential change to the current flow, and an even smaller change to the potential discharge of groundwater along the Anaehoomalu to Makaiwa shoreline.

As mentioned in the Water Assessment, the present and proposed future activities within the Petition Area will have no impact on surface water. The LUC previously found that no well-defined drainageways exist within the Petition Area. *See* LUC D&O, FOF 50. The Water Assessment acknowledges that the USGS Puu Hinai quadrangle map shows a blue line indicating a surface water course passing along the north side of the Petition Area with continuous definition to and through a large culvert in Queen Kaahumanu Highway. However, there is no field evidence anywhere along this alleged water course that it has ever carried surface runoff. As confirmed by the Water Assessment, no present or proposed activities at the Petition Area will change that.

The conclusions reached in the Water Assessment is that the continuation of the quarrying operation, the composting, and the intermittent processing of PCC and ACP for recycling will have no detectable or actual significant impact on the underlying groundwater.

G **PUBLIC ACCESS**

There is no known public access to the mountains or the shoreline that traverses through the Petition Area. *See* Ka Pa'akai Report attached as Applicant's Exhibit 13.

H **AIR AND NOISE QUALITY**

Over the 20 years of operations the Applicant has not received any complaints about air quality, dust or noise due to operations at the quarry. With respect to air quality, the DOH requires Applicant to control fugitive dust. Applicant uses a water truck for this purpose and sprays water on its crushing equipment during periods of rock crushing.

With respect to noise control, daily operations at the Petition Area are relatively limited. However, during periods of rock crushing, noise could be a concern. In this case, there have not been any noise complaints, in part due to the fact that the closest residence is approximately 2 miles from the Petition Area. In addition, the nature of the quarry is such that the areas now used for blasting and crushing, and proposed for such uses in the future, are surrounded by 40 foot high walls, which work as sound buffers.

I **SCENIC AND OPEN SPACE RESOURCES**

It was previously determined that the quarry could have minimal impacts on views from the Waikoloa Beach Resort and from Queen Kaahumanu Highway toward Mauna Kea. However, the quarry is not visible from Waikoloa Road or Waikoloa Village because of distance and because it is screened by a bluff. *See* LUC D&O, FOF 42. The continuation of the quarry operations and the additional uses will not alter that analysis.

Applicant's **Exhibit 19** shows photographs taken in July 2015 from various vantage points identified on the map made a part thereof. Applicant's Exhibit 19 demonstrates that the

current and proposed activities within the Petition Area have no impact on views or open space resources.

J **PUBLIC FACILITIES AND SERVICES**

The current and proposed uses at the Petition Area generate no demands on public facilities and services. Water is provided by a private water company. Wastewater demands, which are fairly minimal, are addressed through the use of chemical toilets that are provided by Applicant. Electricity is provided through solar power, and Applicant intends to use a generator to power the recycling plant for the ACP and PCC.

Continuing the current uses and expanded the uses to include recycling will not require additional police services. There is no history of fire (wildfires or otherwise) at the Petition Area. The additional uses being requested under this amendment to SP 833 will not change that.

VI **STATE AND COUNTY LAND USE PLANS AND DESIGNATIONS**

A **STATE LAND USE DISTRICT**

The Petition Area is within the State Land Use Agricultural District, as shown on Applicant's Exhibit 8. Under Chapter 205, HRS, when establishing the boundaries of the State Agricultural Districts, "the greatest possible protection shall be given to those lands with a high capacity for intensive cultivation." HRS § 205-2(a)(3).

The legislature recognized that some lands could be placed within the State Agricultural District, but not especially well suited for agricultural activities. In addition, certain activities could be considered reasonable, although not strictly agricultural in nature. In light of these considerations, the legislature provided for a Special Permit process to allow the various Planning Commissions to permit certain "unusual and reasonable uses within agricultural and rural districts other than those for which the district is classified." HRS § 205-6(a).

The LUC already determined that the establishment of the quarry and related uses constituted an "unusual and reasonable" use as defined under HRS § 205-6. *See* LUC D&O, COL. Continuing the quarry operations would also be an unusual and reasonable use within the Petition Area. Similarly, the addition of PCC and ACP recycling is not agricultural in nature, and is therefore unusual, but it is reasonable in light of the fact that the Petition Area is not well suited for agricultural production.

The proposed greenwaste activities within the Petition Area are somewhat different in that greenwaste composting is arguably a suitable agricultural-type use, and therefore may not be considered an "unusual" use within the State Agricultural District. However, Applicant requests that the Planning Commission and LUC formally authorize the greenwaste composting activities within the Petition Area so that Applicant can be assured of its right to continue greenwaste composting in the future. This concern arises based upon a bill (Senate Bill No. 320) that was before the legislature in 2015.

Senate Bill No. 320 was not passed into law, but it went through the Senate and passed third reading in the House of Representatives, indicating that the measure had support, which could mean that similar legislation may be proposed in the future. SB No. 320 proposed to add composting operations of off-site materials as a permitted use within the State Agricultural District, provided that a Special Permit was obtained.³ As indicated above, Applicant obtained a Solid Waste Management Permit from the DOH in 2009, which allows for the current greenwaste composting at the Petition Area. The County Planning Department has already confirmed that the greenwaste composting approved by the DOH for the Petition Area under

³ SB No. 320 also sought to limit composting operations on State Agricultural District lands with a LSB rating of A or B to on-site composting uses, and to limit those uses to a land area of no more than one acre or 10% of the land, whichever was lesser.

Permit # CO-0012-09 is permitted under County zoning. See Attachment P-5 of Applicant's Exhibit 7. Nevertheless, Applicant wishes to formally request that the Planning Commission, and later the LUC, authorize the ongoing greenwaste activities under this amendment to SP 833.

B CONFORMANCE WITH THE GOALS, OBJECTIVES AND POLICIES OF THE HAWAII STATE PLAN

HRS §205-16 provides that "No amendment to any land use district boundary nor any other action by the land use commission shall be adopted unless such amendment or other action conforms to the Hawaii state plan." The proposed amendment to SP 833 is consistent with applicable goals, objectives and policies of the Hawai'i State Plan, HRS Chapter 226.

One of the State goals is to achieve a strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations. See HRS § 226-4(1). Continuing the quarry operations and increasing the permitted activities within the Petition Area is consistent with this goal in that Applicant's business will continue to provide employment opportunities to Hawaii residents, and supply materials that can be used in development, landscaping, and in the repair of roads and other facilities.

The proposed amendment to SP 833 is consistent with the following objectives and policies of the Hawai'i State Plan for population, the economy, agriculture and the physical environment:

HRS §226-5: Objectives and Policies for Population

(a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter.

(b) To achieve the population objective, it shall be the policy of this State to:

(1) Manage population growth statewide in a manner that provides increased opportunities for Hawaii's people to pursue

their physical, social, and economic aspirations while recognizing the unique needs of each county.

(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.

** * **

(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.

The requested amendment to SP 833 will allow the existing employment opportunities from the quarry to continue, and will increase economic opportunities within Hawaii County by making construction materials more readily available for use in local projects.

HRS §226-6: Objectives and Policies for the economy - In general

(a) Planning for the State's economy in general shall be directed toward achievement of the following objectives:

(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.

(b) To achieve the general economic objectives, it shall be the policy of this State to:

(1) Promote and encourage entrepreneurship within Hawaii by residents and nonresidents of the State.

** * **

(7) Expand existing markets and penetrate new markets for Hawaii's products and services.

** * **

(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.

** * **

(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawaii.

The requested amendment to SP 833 will continue the economic benefits presently derived from the quarry, and will provide additional economic benefits through the establishment

of a recycling facility that will avoid the use of landfills, and will make new construction and repair materials available for local markets.

HRS §226-7: Policies for the economy - Agriculture

(b) To achieve the agriculture objectives, it shall be the policy of this State to:

(2) Encourage agriculture by making best use of natural resources.

** * **

(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.

(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.

The Petition Area is not suited for agricultural activities. The soils are extremely poor, the climate is dry and the water availability is limited. The quarry, greenwaste composting and recycling operations will continue to make economically productive use of the Agricultural District land, without the added pressure of seeking to reclassifying additional State Agricultural District lands into State Urban District lands.

HRS §226-11: Objectives and Policies for the physical environment - Land based, shoreline, and marine resources

(a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:

(1) Prudent use of Hawaii's land-based, shoreline, and marine resources.

(2) Effective protection of Hawaii's unique and fragile environmental resources.

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

** * **

(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.

(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

** * **

(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.

(8) Pursue compatible relationships among activities, facilities, and natural resources.

Use of the Petition Area as a quarry, greenwaste composting site and ACP and PCC recycling operation is consistent with these goals and objectives. The Petition Area is far from areas of existing and proposed future residential or resort development. Quarrying operations have been underway for 20 years without complaint, demonstrating that the use is compatible with the area at this time.

C COUNTY GENERAL PLAN

The Petition Area is designated as Urban Expansion on the County General Plan Land Use Pattern Allocation Guide. See Applicant's **Exhibit 20**, attached hereto and incorporated herein by reference. Urban Expansion allows for a mix of high, medium and low density residential, industrial, industrial-commercial and open land uses. The proposed amendment to SP 833 is consistent with this designation.

D SOUTH KOHALA COMMUNITY DEVELOPMENT PLAN

The Petition Area is within the jurisdiction of the South Kohala Community Development Plan ("**SKCDP**"), Waikoloa Village Plan area. Figure 5.3 of the SKCDP is the Waikoloa Village Conceptual Plan, which presents general policies and strategies for the long-range (20+ years) future of Waikoloa Village. A modified version of SKCDP Figure 5.3, identifying the Petition Area in white, is attached hereto as Applicant's **Exhibit 21**. The desire of the community is to retain the Petition Area, and the lands surrounding the Petition Area, as status quo.

The SKCDP notes the desire to preserve Waikoloa's scenic views, landscapes and pu'u. The SKCDP notes that the pu'u named Hina'i in the vicinity of Waikoloa, and the several other pu'u in the area are being mined. The SKCDP recommends that the pu'u should be protected and

preserved in their natural state. There are no pu'u within the Petition Area as confirmed by the Ka Pa'akai Discussion. Therefore this strategy is not applicable within the Petition Area.

E **ZONING**

The Petition Area is zoned A-5a and is surrounded by properties also zoned A-5a. These surrounding properties are undeveloped. *See* Applicant's Exhibit 9.

VII **CONSISTENCY WITH OBJECTIVES UNDER CHAPTER 205, HAWAII REVISED STATUTES AND HAR §15-15-95**

The proposed amendment to SP 833 is not contrary to the objectives sought to be accomplished under HRS Chapter 205 and the related regulations. The Planning Commission and LUC already determined that the establishment of the quarry and related uses constituted an "unusual and reasonable" use as defined under HRS § 205-6. *See* LUC D&O, COL. Continuing the quarry operations would also be an unusual and reasonable use within the Petition Area. Similarly, the addition of PCC and ACP recycling is not agricultural in nature, and is therefore unusual, but it is reasonable in light of the fact that the Petition Area is not well suited for agricultural production. Acknowledging the existing greenwaste composting activities as a permitted use under SP 833 will ensure that this environmentally friendly activity, which is monitored by the DOH, can continue.

Article XI, Section 3, of the Hawai'i State Constitution requires the State to conserve and protect agricultural lands, promote diversified agriculture, increase agricultural self-sufficiency, and assure the availability of agriculturally suitable lands. The Petition Area is not classified as Important Agricultural Land under Part III of HRS chapter 205. The current requested amendment is not contrary to the objectives of Chapter 205, HRS, which seeks to protect lands that have a high potential of being agriculturally productive from inappropriate or premature development.

A **CONSISTENCY WITH OBJECTIVES UNDER CHAPTER 205A, HAWAII REVISED STATUTES**

The requested amendment to SP 833 is consistent with the objectives and policies of HRS Chapter 205A, the Coastal Zone Management Act, and the guidelines contained in Rule No. 9 of the Planning Commission Rules of Practice and Procedure.

The Petition Area is not located within the Special Management Area. *See* Applicant's **Exhibit 22** attached hereto and incorporated herein by reference. The Petition Area is located more than three miles from the nearest shoreline and therefore will not be affected by coastal hazards and beach erosion, and will not negatively affect coastal ecosystems, marine resources, public access to the shoreline or shoreline recreational resources. *See* HRS § 205A-2(b).

Although the Petition Area is not within the Special Management Area, it is within the Coastal Zone Management Area. As evidenced by the AIS and AAS, the proposed amendment to SP 833 should have no effect on natural and manmade historic and prehistoric resources that are significant in Hawaiian and American history and culture. *See* HRS § 205A-2(b)(2); (c)(2).

The requested amendment will not have an adverse impact to traditional and customary Hawaii rights. The early biological assessments, and the Biological Assessment conducted in 2015 confirmed that no floral or faunal resources that are gathered by native Hawaiians are located within the Petition Area. As described in Applicant's Exhibit 13 (Ka Pa'akai Report), there is no evidence of any traditional and customary native Hawaiian rights being practiced within the Petition Area, nor any known valued cultural, historical or native resources within the Petition Area.

Article XI, Section 7, of the Hawai'i State Constitution states that the State has an obligation to protect, control, and regulate the use of Hawai'i's water resources for the benefit of its people. Article XI, Section 1, of the Hawai'i State Constitution states that all public natural

resources are held in trust by the State for the benefit of the people. When an agency is confronted with its duty to perform as a public trustee under the public trust doctrine, it must preserve the rights of present and future generations in the waters of the state. The agency's duty and authority is to maintain the purity and flow of our waters for future generations and to assure that the waters of our land are put to reasonable and beneficial use public benefit. *Kauai Springs v. Planning Comm'n of the Cnty. of Kauai*, 324 P.3d 951, 984, 133 Hawaii 141, 174 (2014). As addressed in the Water Assessment, the proposed amendment will not entail any significant use of, nor generate significant impacts to, groundwater resources.

B EFFECTS ON SURROUNDING PROPERTY

As discussed above, the Applicant has operated a quarry at the Petition Area for over 20 years without complaints from area residents. The closest residential development is Waikoloa Village, which is approximately two miles northeast of the Petition Area, and the Waikoloa Beach Resort area is a little over two miles makai of the Petition Area. See Applicant's Exhibit 19. The Petition Area is surrounded by vacant land, with the exception of the contractor's baseyard, which is immediately adjacent to the Petition Area. A heliport and wastewater treatment plan are located approximately two miles to the west.

C IMPACTS ON PUBLIC AGENCIES

The approval of the proposed amendment to SP 833 and the continuation of the quarry activities and additional activities does not trigger any requirements under Hawaii's environmental review law, HRS Chapter 343. The proposed amendment will not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage and school improvements, and police and fire protection.

Roads to the Petition Area were constructed by the Applicant several years ago and approved by the County Department of Public Works in 1996. The quarry and related operations require very little in terms of wastewater services, and what is needed is addressed through private chemical toilets. Water service is provided by a private water company, and no significant increase in water demand will occur as a result of the proposed amendment. Due to the topography of the Petition Area, the existence of man-made berms and the very high permeability of the surface lava, it is not physically possible for surface runoff to leave the Petition Area. The project does not put additional demands on existing public services.

D **UNUSUAL CONDITIONS, TRENDS AND NEEDS HAVE ARISEN SINCE THE LAND WAS FIRST PUT INTO THE STATE AGRICULTURAL DISTRICT**

Applicant has operated the quarry at the Petition Area for over 20 years. If anything, the pressure to retain Agricultural District land within the Agricultural District is stronger now than when the district boundaries were first put into place. Continuing the use of the property as a quarry, and with expanded uses such as greenwaste composting and recycling, will allow for productive use of this land, without perhaps prematurely seeking a district boundary amendment. The nature of the quarry is that it is not permanent. Once the requisite amount of rock is removed, the quarry will be closed. Therefore, it is not appropriate to seek reclassification into the Urban District for a use that is not intended to be permanent.

The other quarry that is operated in Waikoloa, by the pu'u Hina'i (Edwin DeLuz Trucking & Gravel, LLC, SP70-85), is anticipated to terminate operations in December 2015, pursuant to the conditions of approval on that Special Permit. If that quarry does cease operations, the need for Applicant's operations will be even stronger. Should that quarry not terminate operations, the need to provide an area where local contractors can obtain recycled materials is strong, and

anticipated to grow stronger and more builders and contractors seek to comply with requests to use recycled materials.

E **LAND IS UNSUITED FOR AGRICULTURAL PURPOSES**

Soils within the Petition Area are classified as "E" or "Very Poor" for agricultural productivity by the Land Study Bureau, and are unclassified by the Agricultural Lands of Importance to the State of Hawaii Map. *See* Applicant's Exhibits 14 and 15. Additionally, the U.S.D.A. Soil Survey Report identifies the soil type as Aa Lava (rLV), which is rough, broken lava with almost no soil or vegetative cover. In light of these characteristics, the Petition Area is not well suited for agricultural purposes.

F **PROPOSED USE WILL NOT SUBSTANTIALLY ALTER OR CHANGE THE ESSENTIAL CHARACTER OF THE LAND AND THE PRESENT USE**

The essential character of the Petition Area and surrounding lands is barren lava fields. The quarry has been located at the Petition Area for over 20 years, without complaints, and is adjacent to a contractor's baseyard. As such, the requested amendment will not alter or change the essential character of the land and the present use.

G **PROPOSED USE IS NOT CONTRARY TO THE GENERAL OR THE COMMUNITY DEVELOPMENT PLAN**

The proposed amendment to SP 833 is consistent with the General Plan and the SKCDP. The General Plan Land Use Pattern Allocation Guide Map component of the General Plan is a representation of the goals and policies to guide coordinated growth and development within the County of Hawaii. The Petition Area is located within an area designated as Urban Expansion on the General Plan LUPAG Map. This allows for industrial uses of land where new settlements may be desirable, but where specific settlement patterns and mixes of uses have not yet been determined.

In addition to consistency with the Urban Expansion designation, the proposed amendment is also consistent with certain goals and policies of the General Plan. The Land Use Element: Industrial goal states that industrial activities may be located close to raw materials or key resources. Also, that industrial development shall be located in areas adequately serviced by transportation, utilities and other essential infrastructure. The quarry and related uses meet these goals. It also supports the Economic Element of the General Plan by providing for diversification of the economy by strengthening existing industries (the quarry) and attracting new endeavors (the ACP and PCC recycling).

Under the SKCDP the Petition Area is proposed to remain zoned Agricultural for the long-range future. The requested amendment to SP 833 is consistent with that proposition. In addition, the existing and proposed activities within the Petition Area do not interfere with scenic views, and do not alter any pu'u, the protection of which is a concern under the SKCDP.

VIII CONCLUSION

Applicant respectfully requests approval of an amendment to Special Permit No. 833, which was issued in January 1993 and allows the 219.990-acre Petition Area to be used for blasting, drilling, rock crushing and screening, concrete ready-mix batching, pre-casting, asphaltic concrete products manufacturing equipment and materials storage and repair, and other necessary uses and activities related to providing a source of rock aggregate and concrete and asphalt products. The term of SP 833 ends on December 31, 2018. However, the Applicant has invested significant resources in establishing a quarry at the Petition Area, and requests permission to continue the quarry operations until 2043 or longer, i.e., for as long as the Owner allows Applicant to continue quarry operations, which could extend to 2063, pending the outcome of this Request for Modification To and Extension of Special Permit No. 833.

In addition, Applicant respectfully requests permission to incorporate recycling activities at the Petition Area for Portland cement concrete and for asphalt concrete pavement. The onsite storage and recycling of these materials will divert these materials from local landfills, and provide high-quality, lower cost, recycled materials that can be used by local builders and road repair crews. Applicant also asks that the Planning Commission and Land Use Commission acknowledge and approve Applicant's greenwaste compositing operations, which have been authorized and permitted by the State Department of Health.



JENNIFER A. LIM

Attorney for Applicant
WHC, LTD, A HAWAII CORPORATION
dba WEST HAWAII CONCRETE

Dated: Honolulu, Hawai'i, September 14,
2015

SPECIAL PERMIT APPLICATION

EXHIBIT 1

MAP & METES AND BOUNDS SUBMITTED TO
PLANNING DEPARTMENT, DATED 10/2/92

AND

PLANNING DEPARTMENT ACCEPTANCE, DATED
10/22/92



RECEIVED
'92 OCT 5 PM 1 31
PLANNING DEPT.
COUNTY OF HAWAII

October 2, 1992

Mr. Norman Hayashi
Planning Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

RE: Special Permit Application (SP 92-1)
for Establishment of Quarry Operations and
Related Uses
TMK: 6-8-01: Portion of 5

Dear Mr. Hayashi:

In compliance with Condition 4 of the above-referenced Special Permit Application as approved by the Planning Commission on September 22, 1992, enclosed are two copies each of a map and metes and bounds description of the 219.990-acre quarry area.

Sincerely,

Ken Melrose
Vice President/Planning

ac

Enclosure

cc: Mr. Glen Koyama,
Belt Collins & Associates

HIGHLANDS OFFICE

Post Office Box 383028 Waikoloa, Hawaii 96738 Phone (808) 883-1000 Fax (808) 883-1404

EXHIBIT 1

DESCRIPTION
Proposed Quarry Site

*Being a portion of Lot 3 of Waikoloa Parcel 4
Subdivision No. 2 (File Plan 1653)
Being, also, a portion of Royal Patent 5671,
Land Commission Award 8521-B, Apana 1 to G.D. Hueu*

Situated at Waikoloa, South Kohala, Island of Hawaii, Hawaii

Beginning at the Southwest corner of this parcel of land, the coordinates of said point of beginning referred to Government Survey Triangulation Station "PUU HINAI" being 2,326.68 feet South and 14,417.41 feet West, thence running by azimuths measured clockwise from True South:

1. 103° 43' 46.6" 4,222.58 feet along the Government Land of Puuanahulu;
2. 193° 43' 47" 2,935.00 feet along the remainder of Lot 3 of Waikoloa Parcel 4 Subdivision No. 2 (File Plan 1653);
3. 315° 06' 1,921.00 feet along same;
4. 249° 48' 1,012.00 feet along same;
5. 294° 54' 775.00 feet along same;
6. 325° 06' 1,309.07 feet along same;
7. 13° 43' 47" 1,484.53 feet along same to the point of beginning and containing an Area of 219.990 Acres, more or less.

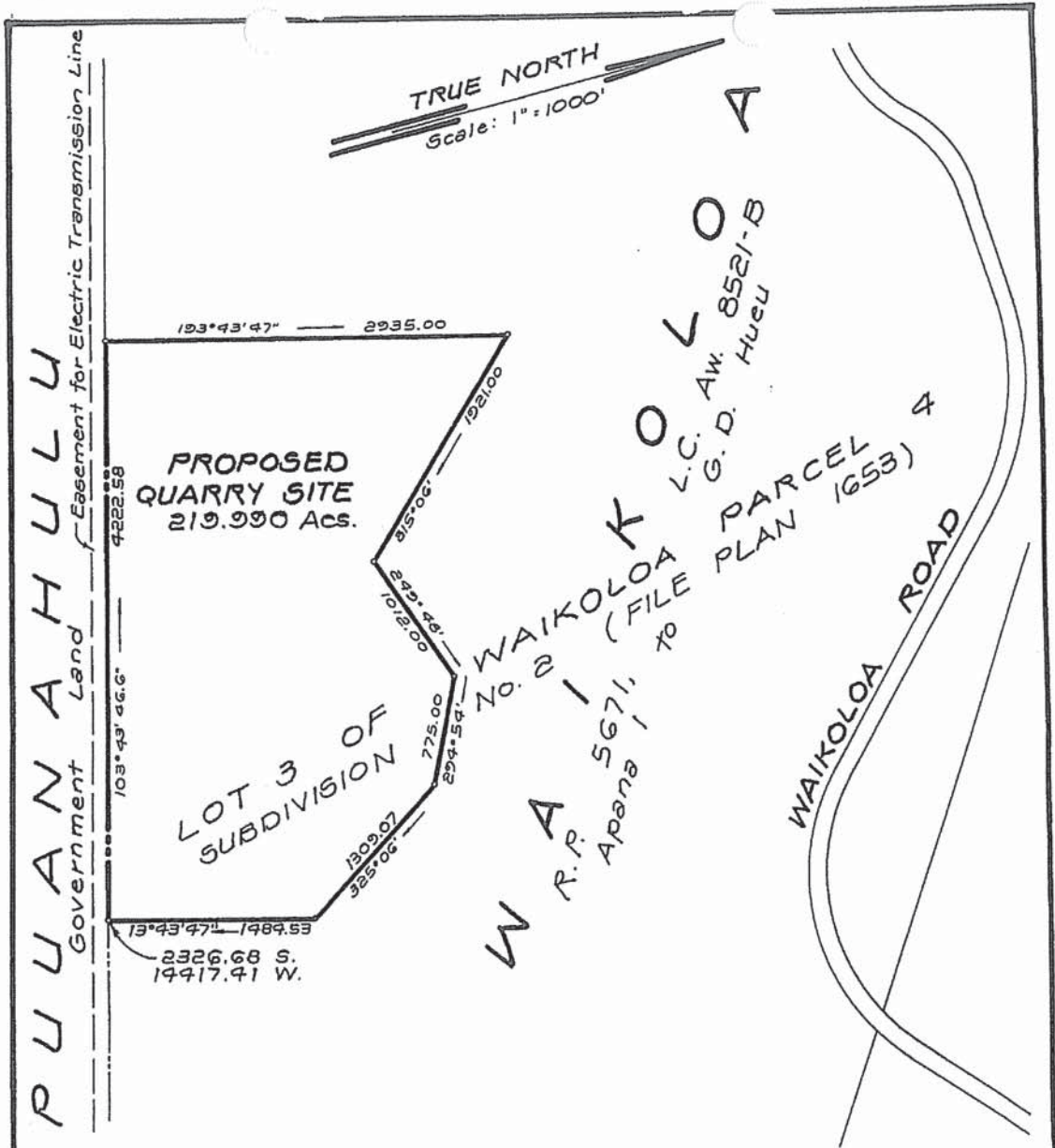
680 Ala Moana Blvd.
First Floor
Honolulu, Hawaii 96813
September 30, 1992



BELT COLLINS & ASSOCIATES

Robert W. Cunningham
Registered Professional Surveyor
Certificate Number 4188

RECEIVED
1992 OCT 5 PM
PLANNING DEPT
COUNTY OF HAWAII



MAP SHOWING
PROPOSED QUARRY SITE
 AT WAIKOLOA, SOUTH KOHALA
 ISLAND OF HAWAII, HAWAII

Tax Map Key: 6-8-01: portion of 5

NOTE:
 Coordinates referred to
 "Puu HINAI" Δ

BELT COLLINS & ASSOCIATES
 680 Ala Moana Boulevard
 Suite 100
 Honolulu, Hawaii 96813

September 30, 1992

October 22, 1992

Mr. Ken Melrose
Waikoloa Development Corporation
P. O. Box 383028
Waikoloa, HI 96738

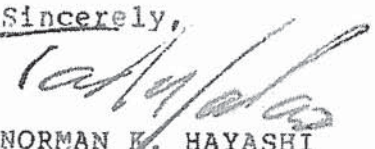
Dear Mr. Melrose:

Special Permit Application (SP 92-1)
Applicant: Waikoloa Development Company
Request: Establish Quarry Operations and
Related Uses
TMK: 6-8-01:Portion of 5

This is to acknowledge receipt of a revised map and metes and bounds description in conformance with the requested acreage and as required by proposed Condition No. 4. The information has been transmitted to the State Land Use Commission for its files.

Should you have any questions, please feel free to contact Connie Kiriu of this office.

Sincerely,


NORMAN K. HAYASHI
Planning Director

CRK:ska
9637J (3)

cc: State Land Use Commission (w/letter and metes & bounds)
West Hawaii Office (w/letter and metes & bounds)

OCT 22 1992

SPECIAL PERMIT APPLICATION

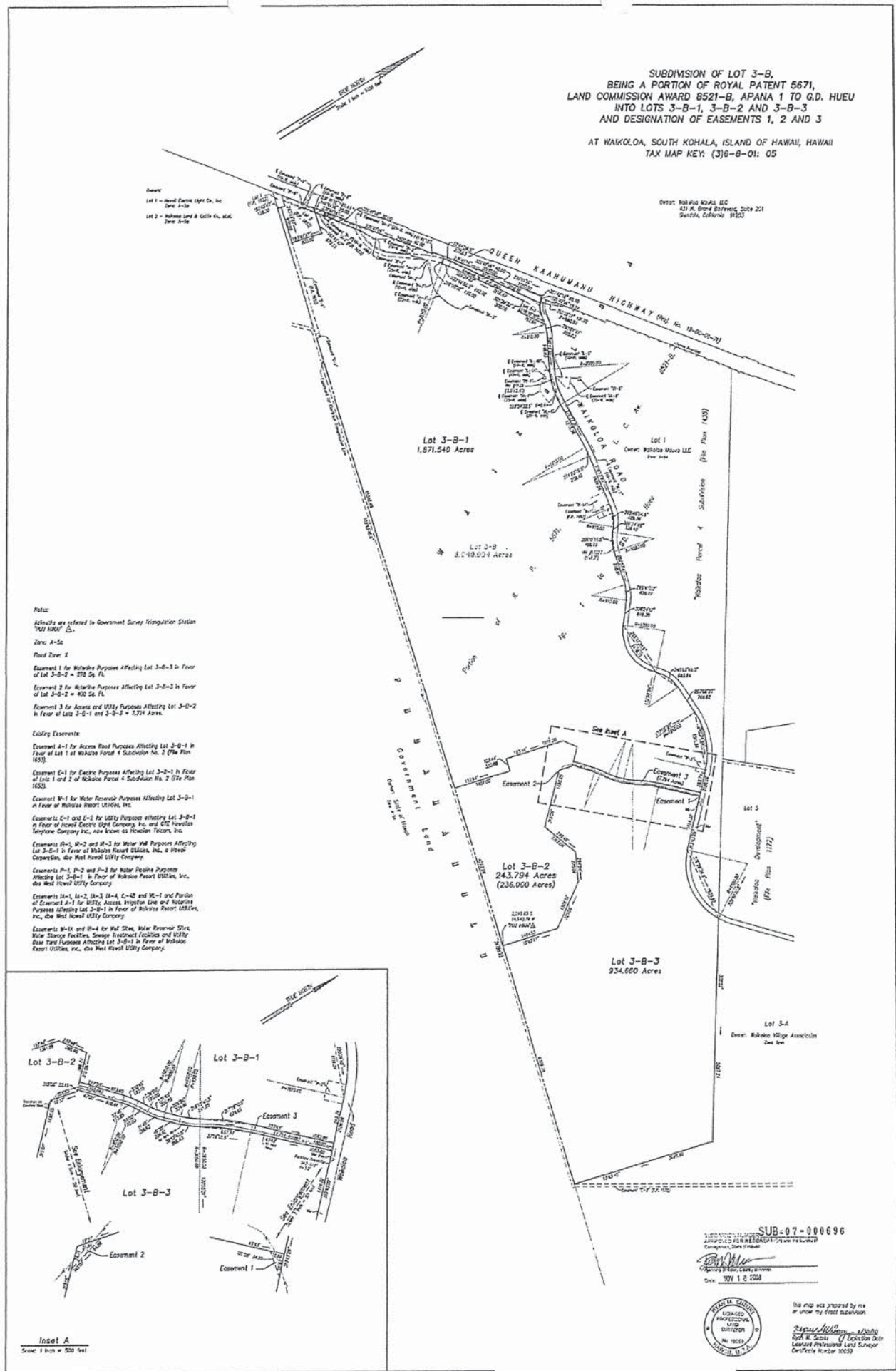
EXHIBIT 2 - SUBDIVISION MAP

**SUBDIVISION OF LOT 3-B,
BEING A PORTION OF ROYAL PATENT 5671,
LAND COMMISSION AWARD 8521-B, APANA 1 TO G.D. HUEU
INTO LOTS 3-B-1, 3-B-2 AND 3-B-3
AND DESIGNATION OF EASEMENTS 1, 2 AND 3**

AT WAIKOLOA, SOUTH KOHALA, ISLAND OF HAWAII, HAWAII
TAX MAP KEY: (3)6-B-01: 05

Owner:
Lot 1 - Royal Electric Light Co., Inc.
Zone 3-30
Lot 2 - Kahala Land & Golf Co., Ltd.
Zone 3-30

Owner: Kahala Water, LLC
431 K. Road, Suite 201
Waikoloa, Hawaii 96791



Notes:
Allotments are referred to Government Survey Triangulation Station 7011 1000' S.

Zone: A-5c

Flood Zone: X

Easement 1 for Water Purposes Affecting Lot 3-B-3 in Favor of Lot 3-B-2 - 270 Sq. Ft.

Easement 2 for Water Purposes Affecting Lot 3-B-3 in Favor of Lot 3-B-2 - 400 Sq. Ft.

Easement 3 for Access and Utility Purposes Affecting Lot 3-B-2 in Favor of Lots 3-B-1 and 3-B-3 - 7,724 Acres.

Existing Easements:

Easement A-1 for Access Road Purposes Affecting Lot 3-B-1 in Favor of Lot 1 of Waikoloa Forest 4 Subdivision No. 2 (File Plan 1433).

Easement C-1 for Electric Purposes Affecting Lot 3-B-1 in Favor of Lots 1 and 2 of Waikoloa Forest 4 Subdivision No. 2 (File Plan 1433).

Easement W-1 for Water Renewal Purposes Affecting Lot 3-B-1 in Favor of Waikoloa Resort Utilities, Inc.

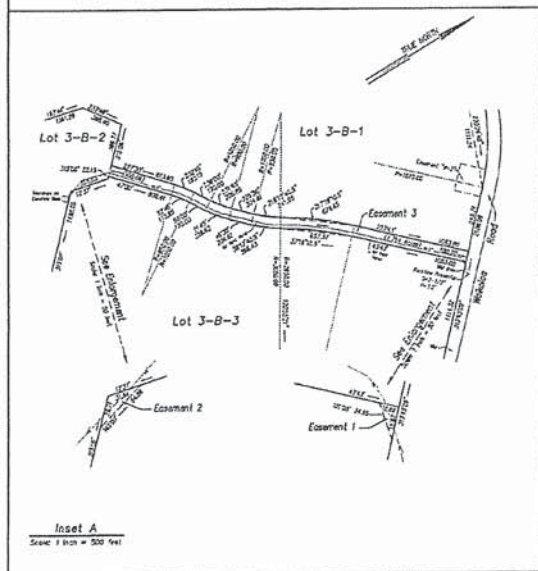
Easements E-1 and E-2 for Utility Purposes affecting Lot 3-B-1 in Favor of Royal Electric Light Company, Inc. and OTC Hawaii Telephone Company, Inc., now known as Hawaiian Telecom, Inc.

Easements W-2, W-3 and W-4 for Water and Sewer Purposes Affecting Lot 3-B-1 in Favor of Waikoloa Resort Utilities, Inc., a Hawaii Corporation, and West Hawaii Utility Company.

Easements P-1, P-2 and P-3 for Water Purposes Affecting Lot 3-B-1 in Favor of Waikoloa Forest Utilities, Inc., a Hawaii Corporation, and West Hawaii Utility Company.

Easements W-5, W-6, W-7, W-8, W-9, W-10 and W-11 in Favor of Lot 3-B-1 for Utility, Access, Ejection Line and Water Purposes Affecting Lot 3-B-1 in Favor of Waikoloa Forest Utilities, Inc., a Hawaii Corporation, and West Hawaii Utility Company.

Easements W-12 and W-13 for Water, Sewer, Water Renewal, Storm Water Storage Facilities, Sewer Treatment Facilities and Utility Base Road Purposes Affecting Lot 3-B-1 in Favor of Waikoloa Forest Utilities, Inc., a Hawaii Corporation, and West Hawaii Utility Company.



SUB-07-000696
APPROVED FOR RECORD BY THE HAWAII
COUNTY DEPARTMENT OF LAND AND NATURAL RESOURCES
DATE: MAY 18, 2004

This map was prepared by me or under my direct supervision.
Raymond Williams 4/10/04
Raymond Williams, Licensed Professional Land Surveyor
Certificate Number 10053



SPECIAL PERMIT APPLICATION

EXHIBIT 3 - FEE OWNER AUTHORIZATION

FEE OWNER'S LETTER OF AUTHORIZATION

Tax Map Key No: (3) 6-8-001:066, fka (3) 6-8-001:005 (por.) ("Property")
Special Permit Docket No. SP92-381 (Special Permit No. 833)

WQJ2008 Investment, LLC, a Washington limited liability company ("WQJ2008"), holds an undivided 85.714% fee interest in that certain real property identified above. Ukumehame Quarry Company Limited Partnership, a Hawaii limited partnership ("UQC"), holds an undivided 14.286% fee interest in that certain real property identified above. WQJ2008 and UQC (collectively the "Fee Owner"), hold title to the Property as Tenants in Common.

The Fee Owner hereby authorizes WHC, LTD., a Hawaii corporation, doing business as West Hawaii Concrete, and its attorneys, CARLSMITH BALL LLP, to prepare and process an amendment to State Special Permit Docket No. SP92-381 with the County of Hawaii Planning Department, County of Hawaii Leeward Planning Commission and the State Land Use Commission to allow for additional uses within the Property and to extend the term of the Special Permit.

Pursuant to Hawaii Administrative Rules §15-15-95(a), this Fee Owner's Letter of Authorization is given to show that WQJ2008 and UQC have given written authorization for the filing of the amendment to State Special Permit No. SP92-381, and that WQJ2008, who holds an undivided 85.714% fee interest in the Property, and UQC, who holds an undivided 14.286% fee interest in the Property, each acknowledge that it, and its successors, shall be bound by the State Special Permit Docket No. SP92-381 and its conditions.

A photostatic, facsimile or electronic copy of this executed authorization shall also be considered as effective and valid as the original.

WQJ2008 Investment, LLC,
a Washington limited liability company

By Columbia Valley Investments, Inc.,
a Washington corporation
Its: Manager

By:
Name: John Zapotocky
Its: Vice President

"WQJ2008"

FEE OWNER'S LETTER OF AUTHORIZATION

Tax Map Key No: (3) 6-8-001:066, fka (3) 6-8-001:005 (por.) ("Property")

Special Permit Docket No. SP92-381

Ukumehame Quarry Company Limited
Partnership, a Hawaii limited partnership

By Ukumehame Quarry Management, Inc.
a Hawaii corporation
Its: ~~General Partner~~

By: 

Name: John Zapstachy

Its: President

"UQC"

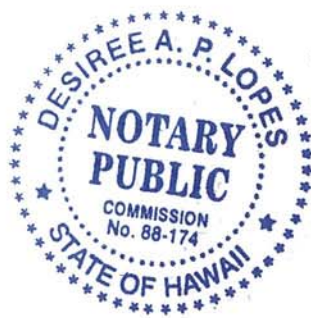
STATE OF WASHINGTON HAWAII)
)
COUNTY OF MAUI)

SS.

On this 10th day of Sept., 2015, before me personally appeared John Zapotocky, to me personally known, who, being by me duly sworn or affirmed, did say that such person executed the foregoing instrument as the free act and deed of such person, and if applicable in the capacity shown, having been duly authorized to execute such instrument in such capacity.

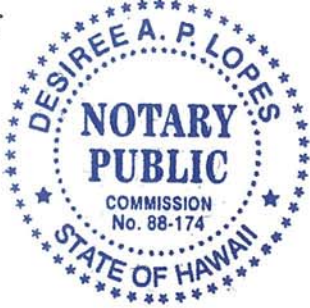
Desiree A. P. Lopes

Name: _____
Notary Public, State of Washington Hawaii
My commission expires:



DESIREE A. P. LOPES
My commission expires 3/30/2016

Doc. Date: none # Pages: 4
Doc. Description: Fee Owner's
Letter of Authorization
Desiree A. P. Lopes 9.10.15
Notary Signature Date
DESIREE A. P. LOPES
Notary Public, Second Circuit



SPECIAL PERMIT APPLICATION

EXHIBIT 3A-
LICENSEE'S AUTHORIZATION

LICENSEE'S LETTER OF AUTHORIZATION

Tax Map Key No: (3) 6-8-001:066, fka (3) 6-8-001:005 (por.) ("**Property**")
Special Permit Docket No. SP92-381 (Special Permit No. 833)

WHC, LTD., a Hawaii corporation doing business as West Hawaii Concrete ("**WHC**"), is a "Licensee" under that certain First Amended and Restated Quarry Site License Agreement with WQJ2008 Investment, LLC, a Washington limited liability company and Ukumehame Quarry Company Limited Partnership, a Hawaii limited partnership as the fee simple owners of the certain real property identified above, which property is the subject of the License Agreement.

WHC hereby authorizes JENNIFER A. LIM and the law firm of CARLSMITH BALL LLP, to prepare and process an amendment to State Special Permit Docket No. SP92-381 with the County of Hawaii Planning Department, County of Hawaii Leeward Planning Commission and the State Land Use Commission to allow for additional uses within the Property and to extend the term of the Special Permit.

A facsimile or electronic copy of this executed authorization shall also be considered as effective and valid as the original.

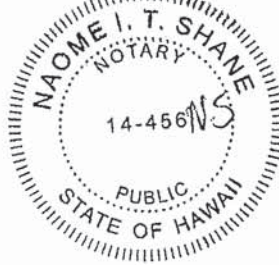
WHC, LTD, a Hawaii corporation,
By: Melvin D. Macy
Name: Melvin D Macy
Its: Manager

STATE OF HAWAII)
) ss.
COUNTY OF HAWAII)

The attached document: Fee Owner's Letter of Authorization, dated Sept 10, 2015, 2015, which consists of three (3) pages (including this page), was executed by Mevin D. Macy on this 2 day of _____, 2015 in the Third Judicial Circuit of the State of Hawaii, personally known/proved to me on the basis of satisfactory evidence to be the person, who personally appeared before me and being by me duly sworn or affirmed, did say that he/she/they is/are the Manager of WHC, LTD, a Hawaii corporation, and that such person executed the foregoing instrument as the free act and deed of such person, and if applicable in the capacity shown, having been duly authorized to execute such instrument in such capacity.

[Signature]
[Notary Signature]

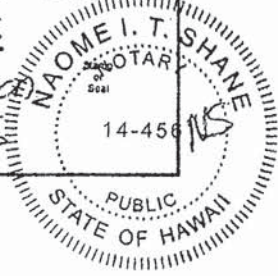
(Notary stamp or seal)



Printed Name: Notary Name Naome I. T. Shane

My commission expires: 12/28/18

Doc. Date: <u>9/10/15</u>	# Pages: <u>2</u>
Notary Name: <u>Naome I. T. Shane</u>	<u>Third Circuit</u>
Doc. Description: <u>Licensees</u>	
<u>Letter of Authorization</u>	
<u>[Signature]</u>	<u>9/10/15</u>
Notary Signature	Date



SPECIAL PERMIT APPLICATION

EXHIBIT 4 -
2008-2015 ANNUAL MONITORING REPORT

WQJ 2008 Investment, LLC
P.O. Box 1826
Wenatchee, WA 98807

LAND USE COMMISSION
STATE OF HAWAII

2015 APR 24 A 9:46

April 23, 2015

Daniel E. Orodener
Executive Director
State of Hawaii Land Use Commission
Department of Business, Economic Development & Tourism
P.O. Box 2359
Honolulu, Hawaii 96804

Re: **2008 to 2015 Annual Monitoring Report**
Land Use Commission Docket No. SP 92-381
Original Petitioner: Waikoloa Development Company
Special Permit for Quarry Operations and Related Uses.
Tax Map Key No.: (3) 6-8-001:066 [formerly TMK: (3) 6-8-001:005 (por.)]

Dear Mr. Orodener:

By Findings of Fact, Conclusions of Law, and Decisions and Order filed on January 19, 1993 in Docket No. SP 92-381, the State Land Use Commission ("**Commission**") approved the issuance of a Special Permit to allow the establishment of a quarry operation and related uses on approximately 219.990 acres of land in the State Land Use Agricultural District at Waikoloa, District of South Kohala, Island and County of Hawaii, on TMK: (3) 6-8-001:005 (por.), now designated as TMK No.: 6-8-001:066 (the "**Property**"). The Special Permit was issued subject to 16 conditions of approval, and the Commission issued an order dated November 2, 1994 modifying condition 2, and an order dated February 26, 1999, modifying conditions 3 and 12.

The rock quarry proposed under the Special Permit included operations such as blasting, drilling, rock crushing and screening, concrete ready-mix batching, pre-casting, asphaltic concrete products manufacturing and related uses including the storage and repair of equipment and the storage of materials and the repair of equipment

Although the subject property has changed hands over the years, WHC, Ltd., a Hawaii corporation, doing business as West Hawaii Concrete ("**WHC**"), has been operating the quarry on the subject property since 1995.

The original holder of the Special Permit was Waikoloa Development Company. Waikoloa Mauka, LLC, a Delaware limited liability company, acquired the subject property by Deed dated September 20, 2005 (recorded as Document No. 2005-188909). Waikoloa Mauka, LLC conveyed the subject property by Deed dated December 29, 2008 (recorded as Document No. 2008-193969), to the current owners, WQJ2008 Investment, LLC, a Washington limited liability company (as to an undivided 85.714% interest), and Ukumehame Quarry Company

Limited Partnership, a Hawaii limited partnership (as to an undivided 14.286% interest), as tenants in common. This annual monitoring report is submitted on behalf of WQJ2008 Investment, LLC and Ukumehame Quarry Company Limited Partnership (collectively "Owners").

We understand that the last annual monitoring report in this Docket was submitted to the Commission by Waikoloa Mauka, LLC on January 14, 2008. The Owners acquired the subject property almost a year later and assumed, without seeking confirmation from WHC or the Commission, that the annual monitoring reports were being prepared by WHC, as the operator of the quarry. Only recently did it come to our attention that responsibility for the annual monitoring reports had never been allocated to WHC, and that the prior landowners had submitted such reports to the Commission in the past. We respectfully apologize to the Commission for this oversight.

The Owners hereby submit the 2008 to 2015 Annual Monitoring Report, in compliance with condition No. 15 of the Special Permit. We sincerely apologize for the delay in providing the required annual monitoring reports. We have taken steps to insure that the annual monitoring reports are timely filed in the future (i.e., prior to the January 19 anniversary date of the Special Permit).

The Owners would also like to take this opportunity to inform the Commission that the quarry operator, WHC, obtained a Solid Waste Management Permit from the State Department of Health in 2009 to allow for greenwaste composting of less than 3,000 tons/year (DOH Solid Waste Management Permit by Rule, Permit # CO-0012-09). The current DOH Permit for the greenwaste composting (Permit # CO-0076-11), expires on March 6, 2016. WHC intends to continue the greenwaste composting within the Property and will secure all necessary DOH permits for that purpose.

Please do not hesitate to contact me should you have any questions concerning this submittal. Thank you for your consideration.

Very truly yours,
WQJ 2008 Investment, LLC
By Columbia Valley Investment, Inc
Its Manager

By _____
John Zapotocky
Its Vice President

Enclosure

xc with enclosures: Director D. Kanuha, County of Hawaii Planning Department
West Hawaii Concrete
Jennifer A. Lim, Esq.

**State Land Use Commission Docket No. SP 92-381
2008-2015 Annual Monitoring Report**

No.	Condition	Comments
1.	The applicant, its successors and assigns shall be responsible for complying with all stated conditions of approval.	The Applicant shall continue to comply with all stated conditions of approval.
2.	Final Plan Approval for the quarry operation shall be secured from the Planning Department on or before January 19, 1997. To assure adequate time for plan review and in accordance with Chapter 25-244 (Zoning Code), plans for the quarry operation shall be submitted a minimum of forty-five days prior to the date by which plan approval must be secured. Plans shall identify structures and parking associated with the proposed quarry operations.	The Applicant has satisfied this condition. The Planning Department issued Final Plan Approval on December 10, 1996.
3.	The quarry operations and related activities shall commence on or before December 10, 2003. A letter informing of commencement of operations shall be submitted to the Planning Department.	The Applicant has satisfied this condition. The LUC and the Planning Department were notified of the commencement of quarry operations by letter dated July 2, 1999, which notice was acknowledged by the Planning Department by letter dated July 15, 1999.
4.	A metes and bounds description and map shall be submitted with plans for plan approval review. The area described shall contain less than 220 acres and the operation confined within the described area.	The Applicant has satisfied this condition. The metes and bounds description and map were submitted to the Planning Department on October 2, 1992. The Planning Department by letter dated October 22, 1992, acknowledged satisfaction of this condition, and a copy was transmitted to the Commission.
5.	Access onto Waikoloa Road from the project site, including provision of adequate sight distance, shall meet with the approval of the Department of Public Works prior to final plan approval. Should additional intersection improvements such as channelization be required by the Department of Public Works during the life of the permit, such improvements shall be provided in a timely manner by the applicant at no cost to the County of Hawaii.	The Applicant shall continue to comply with this condition. Construction of the intersection of the access road with Waikoloa Road was completed in 1997, and the A/C paved access road leading to the quarry site was completed in June 1999.

**State Land Use Commission Docket No. SP 92-381
2008-2015 Annual Monitoring Report**

No.	Condition	Comments
6.	<p>The following procedures shall be instituted for archaeological site mitigation:</p> <p>A. Possible burial sites identified in the Archaeological Inventory Survey (PHRI ms 1041-122091) shall be approved by the Hawaii Island Burial Council prior to receipt of Final Plan Approval.</p> <p>B. The preservation area, including a 50-foot buffer zone, shall be staked/flagged prior to receipt of Final Plan Approval. A confirming letter from the archaeologist shall be submitted.</p> <p>C. Construction workers and quarry operational personnel shall be informed of the significance of the staked preservation area. Construction plans shall also note the area.</p> <p>D. An archaeologist shall be on site to monitor initial land preparation activities that occur in the vicinity of the preservation area.</p>	<p>The Applicant has satisfied this condition.</p> <p>A. By letter dated November 2, 1992, the State Historic Preservation Division ("SHPD") informed the Applicant that approval by the Hawaii Island Burial Council ("HIBC") would be required only if the area where the sites are located is to be developed. The preservation area has been preserved "as-is."</p> <p>B. The preservation area was surveyed and staked on December 19, 1995. By confirmation letter dated July 6, 1999, the Applicant notified the LUC and Planning Department that the preservation area (including the 50-ft. buffer) was staked/flagged.</p> <p>C. Quarry operator, WHC, was notified of the significance of the preservation area.</p> <p>D. By letter dated May 10, 1999, the Applicant verified that archaeological monitoring of the site was conducted during initial land preparation activities.</p>
7.	<p>Should any unidentified sites or remains, such as artifacts, shell, bone or charcoal deposits, human burials, rock or coral alignments, paving or walls be uncovered during land preparation activities, work in the area shall immediately cease and the Planning Department notified. No work within the affected area shall resume until clearance from the Planning Department is received.</p>	<p>The Applicant shall continue to comply with this condition.</p> <p>No new sites or remains have been discovered during the on-going operations on the Property.</p>
8.	<p>If required by the Department of Land and Natural Resources, a survey of the area identified as 'Suitable Habitat for the Ophioglossum Fern' in the "Botanical Assessment" conducted by Winona Char shall be performed prior to any land alterations of the affected area. The survey and any mitigation measures shall be reviewed and approved by the Planning Department, in consultation with the Department of Land and Natural Resources.</p>	<p>The Applicant has satisfied this condition.</p> <p>In October 1993, the US Fish & Wildlife Service provided written confirmation to the County Planning Director that the Pololei fern (Ophioglossum concinnum) was not a threatened or endangered species.</p> <p>By letter dated March 1, 1994, a copy of which was sent to the Commission, the Planning Department confirmed that Condition No. 8 had been deemed satisfied.</p>
9.	<p>The quarry activity shall be limited to the hours of 6:30 a.m. to 5:30 p.m. daily; provided active noise-generating activity (i.e., blasting, crushing) shall commence no earlier than 7:30 a.m.</p>	<p>The Applicant shall continue to comply with this condition.</p>

**State Land Use Commission Docket No. SP 92-381
2008-2015 Annual Monitoring Report**

No.	Condition	Comments
10.	The applicant shall submit an Erosion Control and Site Restoration Plan for review and approval by the Planning Director, in consultation with the Department of Public Works, one year prior to the expiration date of the permit or prior to termination of the operations, whichever occurs first.	The Applicant shall comply with this condition.
11.	Upon termination of the operations or abandonment of any portion of the affected site, the land shall be graded to blend with the surrounding area and rehabilitated as approved by the Erosion Control and Site Restoration Plan. The affected site shall be left in a non-hazardous condition. Appropriate documentation which demonstrates compliance with this condition shall be submitted to the Planning Department and the Department of Public Works for review and approval within ninety (90) days from the date of termination or abandonment.	The Applicant shall comply with this condition.
12.	The life of this permit shall be until December 31, 2018; the date of completion of the proposed quarrying; or its abandonment, whichever comes first.	The Applicant acknowledges this condition.
13.	An adequate supply of water shall be made available for dust control and for fire prevention and pre-suppression.	The Applicant has complied with this condition. Water to the site is provided by a pipeline, with backflow preventer, connected to the existing 16-inch water line owned by West Hawaii Water Company which runs along the south side of Waikoloa Road.
14.	Comply with all other laws, rules, regulations and requirements, including those of the Department of Health, Hawaii Electric Light Company, and the Department of Public Works.	The Applicant shall continue to comply with this condition.

**State Land Use Commission Docket No. SP 92-381
2008-2015 Annual Monitoring Report**

No.	Condition	Comments																
15.	<p>An annual monitoring report shall be submitted to the Planning Director and Land Use Commission prior to each anniversary date of the approval of the permit.</p> <p>The report shall include, but not be limited to, the amount of material quarried, a detailed listing of public complaints or problems and their disposition.</p> <p>Should a conflict arises, which cannot be mitigated or mediated, the quarry operations shall cease upon appropriate findings by the Planning Commission that the introduced use will have an adverse impact on surrounding properties.</p> <p>The report shall also include Applicant's progress in complying with the conditions imposed.</p>	<p>The Applicant hereby submits its annual monitoring report for the 2008 to 2014 calendar years. Applicant shall continue to comply with this condition.</p> <p>The Applicant is not aware of any public complaints or problems associated with the quarry operation during calendar years 2008 to 2014.</p> <p>The quarry has not produced concrete products or asphalt products during calendar years 2008 to 2014. The annual aggregate volumes of material quarried from January 1 to December 31 for each calendar year are as follows:</p> <table border="1"> <thead> <tr> <th></th> <th style="text-align: center;">Aggregates (tons)</th> </tr> </thead> <tbody> <tr> <td>2008</td> <td style="text-align: right;">117,063</td> </tr> <tr> <td>2009</td> <td style="text-align: right;">26,344</td> </tr> <tr> <td>2010</td> <td style="text-align: right;">12,125</td> </tr> <tr> <td>2011</td> <td style="text-align: right;">5,635</td> </tr> <tr> <td>2012</td> <td style="text-align: right;">27,533</td> </tr> <tr> <td>2013</td> <td style="text-align: right;">33,049</td> </tr> <tr> <td>2014</td> <td style="text-align: right;">32,771</td> </tr> </tbody> </table>		Aggregates (tons)	2008	117,063	2009	26,344	2010	12,125	2011	5,635	2012	27,533	2013	33,049	2014	32,771
	Aggregates (tons)																	
2008	117,063																	
2009	26,344																	
2010	12,125																	
2011	5,635																	
2012	27,533																	
2013	33,049																	
2014	32,771																	
16.	<p>An extension of time for the performance of conditions within the permit, with the exception of Condition 12, may be granted by the Planning Director upon the following circumstances: a) the non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence; b) granting of the time extension would not be contrary to the general plan or zoning code; c) granting of the time extension would not be contrary to the original reasons for the granting of the permit; and d) the time extension granted shall be for a period not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended for up to one additional year). Further, should any of the conditions not be met or substantially complied with in a timely fashion, the Director shall initiate procedures to revoke the permit.</p>	<p>The Applicant acknowledges that a time extension for the performance of conditions within the permit, with the exception of Condition 12, may be granted by the Planning Director.</p>																

SPECIAL PERMIT APPLICATION

EXHIBIT 5 - 1996 FINAL PLAN APPROVAL

C.C. Goldstein, etc

Stephen K. Yamashiro
Mayor



Virginia Goldstein
Director

Norman Olesen
Deputy Director

County of Hawaii

PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 • Fax (808) 961-9615

December 10, 1996

Mr. Ken Melrose
Waikoloa Development Company
150 Waikoloa Drive
Waikoloa, Hawaii 96743

Dear Mr. Melrose:

PLAN APPROVAL APPLIED FOR: Waikoloa Development Company
Quarry Operations and Related Uses
Tax Map Key: 6-8-001: Por of 5

We have reviewed and approved the plans for the subject improvements for FINAL PLAN APPROVAL. Enclosed is a copy of FINAL PLAN APPROVAL SHEET dated December 9, 1996 your file.

Conditions of approval have been included as part of the FINAL PLAN APPROVAL for the subject improvements. They are listed on page 2 of this document. For your information, these items need to be completed and installed prior to the issuance of any certificate of occupancy for the subject improvements.

Should you have any questions, please feel welcome to contact Royden Yamasato of my staff at 327-3510.

Sincerely,

VIRGINIA GOLDSTEIN
Planning Director

SSO:rld
a:\68001005\waikoloa.ltr

Enclosure

xc: West Hawaii Office

EXHIBIT 5

COUNTY PLANNING DEPARTMENT

**FINAL
PLAN APPROVAL**

Applicant: Waikoloa Development Company Date: December 10, 1996

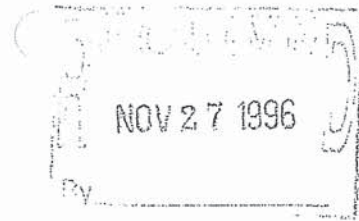
Tax Map Key: 6-8-001: Portion of 5 Location: Por. Waikoloa, S. Kohala, HI

Proposed Use: Quarry Operations and Related Uses

Zone: Unplanned Parcel Area: 219.990 acres

As Shown on Plan	Comments
Front Yard:	OK As per plan
Rear Yard:	OK As per plan
Side Yard:	OK As per plan
Side Yard:	OK As per plan
Ht. of Structure:	OK As per plan
Access to parking: Driveway off Waikoloa	OK Driveway to conform to County
Road	Driveway Code and paved with all weather, dust free surface
Off-Street Parking:	OK As per plan
Loading and Unloading space:	
Density:	
Fencing: Material:	
Height:	
Location:	
Landscaping: As per plan	

To - B 14-16B



November 25, 1996

Planning Department
County of Hawaii
Attn: Mr. Royden Yamasato
West Hawaii Coordinator
75-5706 Kuakini Highway, Suite 108
Kailua-Kona, Hawaii 96740

RE: Plan Approval
LUC Docket No. SPP 92-381 (SPP 833)
Applicant: Waikoloa Development Co.
Approved Use: Quarry Operations and Related Uses
TMK 6-8-1:Portion of 5

Dear Mr. Yamasato:

In compliance with Condition No. 2 of the above-referenced Special Permit, as amended by Order Granting Request for Time Extension to Comply with Condition No. 2, enclosed for review and Final Plan Approval are:

1. Plan showing Quarry Site and Access Road.
2. Plan showing areas of operation within the approved Quarry site.
3. Diagram/Flow Chart for Stone Quarrying and Processing Plant.
4. Site Plan showing Portable Concrete Batch Plant; and
5. Process Flow Diagram for Portable Concrete Batch Plant.

It is the intent of the quarry operator, West Hawaii Concrete, to begin the operation using portable equipment only, with operations beginning in the lower northwest corner and moving south and east. The areas designated as Miscellaneous Products, Redi-Mix, Asphalt, Precast Products, Equipment and Material Storage, and Screening, Crushing and Stockpiling will be excavated first to provide areas for location of these activities, before moving east to the area designated as Quarry.

Since the quarry operations will be moving as the land is graded to an established elevation and sloped to provide proper drainage, it is not intended that marked parking stalls will be provided. Rather, as the operation moves, an adequate area will be graded to provide a surface for the parking of vehicles at each site.

Planning Department
November 25, 1996
Page Two

As the market improves and other, permanent structures are warranted to accommodate equipment and materials repair and storage and asphalt and precast products processing, plans will be submitted to your Department for Plan Approval, prior to construction.

The Department of Public Works has issued the permit for the access road and its connection to Waikoloa Road. Copies of the applicable permits are attached for your files. This road will be the focus of activity during early 1997, with set up of quarry operations targeted for later 1997 or early 1998.

The issuance of Final Plan Approval for this first phase of quarry operation would be appreciated. Should you have any questions or comments regarding the plans for the quarry, please do not hesitate to contact me.

Sincerely,

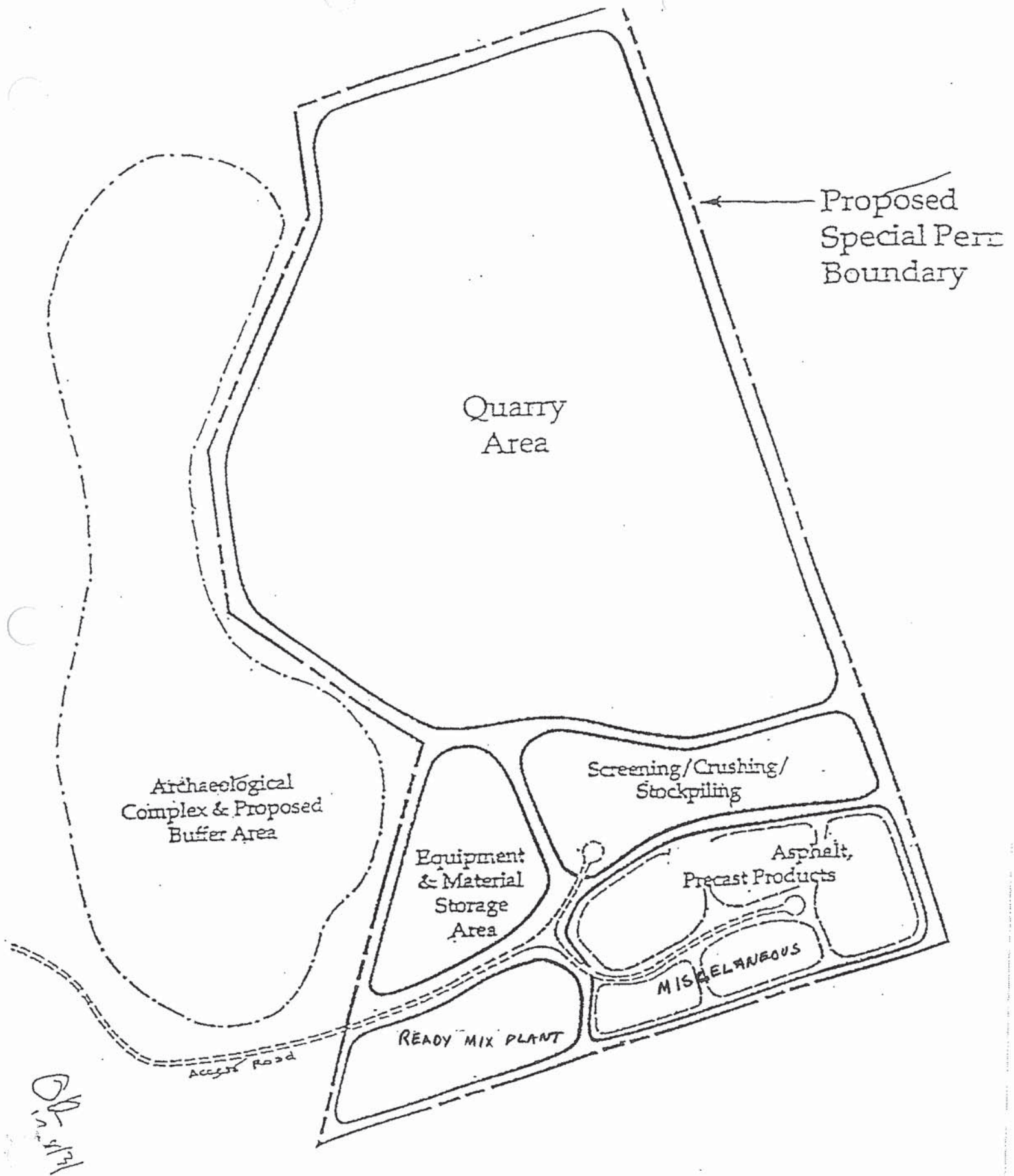


Ken Melrose
Vice President/Development

ac

Enclosures

c: Carl Simons, West Hawaii Concrete



SPECIAL PERMIT APPLICATION

EXHIBIT 6-
SITE PLAN OF CURRENT QUARRY AREA AND
PROPOSED QUARRY, RECYCLING,
AND GREENWASTE COMPOSTING
AREA AND ACTIVITIES

SPECIAL PERMIT APPLICATION

EXHIBIT 7 -
2011 DOH SOLID WASTE MGT APP AND PERMIT



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

In reply, please refer to:
EMD/SHWB

October 7, 2011

S1012SL

CERTIFIED MAIL NO. 7010 2780 0000 4780 2659
RETURN RECEIPT REQUESTED

Mr. Jason Macy, Vice President
Mr. George Purdy III, Aggregate Division Manager
West Hawaii Concrete
P.O. Box 1390
Kailua-Kona, Hawaii 96745

Dear Messrs. Macy and Purdy III:

SUBJECT: Solid Waste Management Permit by Rule No. CO-0076-11
Greenwaste Composting Operations
West Hawaii Concrete
68-1244 Waikoloa Road
TMK: 6-8-001:066, Lot 3-B-2 (Portion, 2 acres)

This is in response to your solid waste management permit application, which was initially received on July 12, 2011, requesting a permit for a greenwaste composting facility at the subject location. Your application was incomplete until your revised application package was received on October 3, 2011. Your revised application package included the following items:

1. An application form dated July 18, 2011 with corrected TMK (TMK 6-8-001:006),
2. A new Attachment P-5, which was approved by the County on September 12, 2011,
3. Attachment P-6 dated July 28, 2011, and
4. An authorization and confirmation letter dated September 6, 2011.

We understand that your operation remains the same, based on our telephone conversation with Mr. Mel Macy of West Hawaii Concrete on September 22, 2011. The operations narrative entitled, *West Hawaii Concrete – Processing Procedures for Recycling Green Waste* and the site plan *Figure A* submitted with your 2009 application will be followed.

In accordance with the provisions of Chapter 58.1, *Solid Waste Management Control*, of the Hawaii Administrative Rules (HAR), West Hawaii Concrete is approved to operate a greenwaste composting facility that processes not more than three thousand (3,000) tons of greenwaste per year. Enclosed is a copy of the *Permit-by-Rule for Certain Solid Waste Handling and Disposal Facilities of Limited Impact*. West Hawaii Concrete, as permittee, must comply with the enclosed permit by rule conditions listed under items A, B, C and E, and additional conditions as specified below, in accordance with HAR §11-58.14(i)(1)(B)(iv). This permit expires on March 6, 2016.

Mr. Jason Macy
Mr. George Purdy III
October 7, 2011
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Additional Permit Conditions:

1. Should the permittee choose to operate the facility after the expiration date, the permittee shall submit a permit renewal application at least thirty (30) days prior to the expiration date. The application for a renewal permit shall contain an operations narrative, a site plan drawn to appropriate scale, a zoning clearance form, a property owner approval form, and filing fee. The operations narrative should include a brief description of the greenwaste operations, screening procedures for incoming materials, quantities of materials accepted, processing procedures and storage capacities, equipment usages and processing rate, fire and nuisance control measures, and final use of the processed material.
2. The permittee shall notify the Department of Health (DOH) of its intent to close ninety (90) days prior to final closure. Closure shall consist of the removal and proper management of the accumulated solid waste from the facility, assessment of the site, and any remedial activity, as necessary. Removed waste shall only be transported to DOH-permitted solid waste management facilities.
3. This facility may only accept and process less than three thousand (3,000) tons per year of clean, source-separated greenwaste as defined in HAR 11-58.1-03. No other municipal solid waste shall be accepted at this facility.
4. No regulated hazardous waste as defined in the state hazardous waste laws and regulations shall be accepted at this facility.
5. The permittee shall screen incoming materials to ensure that incoming greenwaste entering the facility, meet the conditions of this permit. Should waste other than greenwaste inadvertently enter the facility, these wastes should be removed, properly managed, and disposed of or recycled at an appropriate DOH-permitted solid waste facility prior to causing or creating a nuisance condition, health, safety, or environmental hazard.
6. The facility shall be supervised, secured, and have a permanent sign identifying the facility, hours of operation, materials accepted, operator name, and a telephone number to contact in case of emergencies.
7. Scavenging at the facility by the general public is prohibited.
8. Adequate measures shall be provided to control litter, scattering of wastes, dust, insects, odors, and vectors. Incoming greenwaste shall be handled and managed properly as soon as it arrives to prevent a litter, fire, vector, or nuisance situation.
9. Suitable means shall be provided to minimize fire hazards and prevent fires. Adequate spacing shall be provided between all windrows to provide firebreaks and

Mr. Jason Macy
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to ensure access to these piles in case of an emergency. A minimum twenty-foot buffer zone shall be provided between windrows and composting operation boundaries.

10. The site shall be provided with suitable surface water control and adequate drainage shall be provided to prevent standing water inside the facility. Any discharges from the site shall be in accordance with applicable federal, state, and local laws and regulations.
11. The application dated July 18, 2011, the operations narrative and site plan submitted on February 17, 2009, and any approved subsequent submissions shall become part of this permit. A copy of the operations narrative and site plan shall be maintained at or near the facility. Should there be any discrepancies between the submitted operations narrative, site plan, and these permit conditions, these conditions will take precedence.
12. Incoming greenwaste shall be taken directly to a designated location to form a windrow and to start the composting process as soon as it arrives. The size of the windrow shall not exceed four (4) feet in height, twelve (12) feet in width, and seventy (70) tons or three hundred fifty (350) cubic yards in total weight or volume. The total composting material at the facility shall not exceed eight (8) windrows.
13. Temperature monitoring shall be conducted on a daily basis for the active composting period, and it may be reduced to once a week during the curing period.
14. Greenwaste windrows shall be monitored for moisture content and turned at a minimum of once every week during the active composting period. The windrows may be turned once every three (3) weeks during the curing period.
15. The composting time including both active and curing composting periods shall not be less than six (6) months. The composted material shall be screened at the facility using a one-inch screener and conveyor to produce final compost, and the rejected material shall be further composted to meet the requirement in this permit.
16. If composting material leaves this facility before it reaches the final composting stage and before it meets the full requirements of this permit (i.e., unscreened or having partially decomposed material), this compost material shall only be transported to a facility that is permitted by DOH to accept this material.
17. The finished compost must be sufficiently stable that it can be stored or applied on land without producing a nuisance.
18. The permittee shall maintain the records on greenwaste processing including, but not limited to, date and weight or volume of greenwaste received; date, time,

Mr. Jason Macy
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Page 4

windrow turning and temperature monitoring; and type of complaint and incidents. The identification number of the windrow shall be included in Figure D on the "Greenwaste Temperature Log." Records shall be maintained by the facility and shall be made available to the DOH.

19. An annual report shall be submitted to the DOH reporting the quantities by weight or volume of greenwaste received and processed, and of finished compost distributed, and by-products or unacceptable items disposed. The report shall also include a summary of incidents outside of normal operations. The report shall be for July 1 to June 30 of the previous year and submitted by July 31 of each year. Reports shall be submitted to:

Department of Health
Environmental Management Division
Solid and Hazardous Waste Branch
919 Ala Moana Blvd., Room 212
Honolulu, Hawaii 96814

The permittee may appeal to the Director of Health any of the conditions to the subject permit. The appeal must be in writing and submitted to the Director of Health within twenty (20) days after the receipt of this notice.

Hawaii Revised Statutes 342H-14 states that unless the submitted documents and other information secured by the DOH from the permittee contain confidential information, such as secret processes or methods of manufacture, they shall be made available for inspection by the public. Please notify the Solid and Hazardous Waste Branch within twenty (20) days of the receipt of this letter if you would like to make a claim of confidentiality. Otherwise, your entire application will be available for public inspection.

Should you have any questions regarding this letter, please call Ms. Sue Liu of the Solid and Hazardous Waste Branch at (808) 586-4226.

Sincerely,



STUART YAMADA, P.E., CHIEF
Environmental Management Division

Enclosure: Permit by Rule

c: Mr. Stephen Goodfellow, WQJ2008 Investment, LLC, Ukumehame Quarry
Company Limited Partnership (w/o enc.)

**PERMIT BY RULE FOR CERTAIN SOLID WASTE HANDLING AND
DISPOSAL FACILITIES OF LIMITED IMPACT**

Permit by rule: Small, low impact solid waste management facilities such as convenience centers, composting facilities handling not more than three thousand tons per year of green wastes, clearing and grubbing landfills, certain agricultural landfills, and recycling drop-off facilities shall be deemed to have a solid waste handling and disposal permit if the following conditions are met:

- A. Notification. At least thirty days prior to commencing solid waste handling activities which are covered under a permit by rule, written notification of such activity must be made to the director. Written notification shall be made on such forms as are provided by the director. Persons failing to notify the director of such activities shall be deemed to be operating without a permit. Notification shall include a site plan of appropriate scale and an operations narrative describing the proposed activity.
- B. Submittal of a \$25.00 application filing fee.
- C. General conditions of every facility.
 - 1. No regulated hazardous waste in accordance with 40 CFR Part 261 may be collected, transported, or disposed at any of the facilities.
 - 2. Nuisance control. Suitable means shall be employed to prevent solid wastes from scattering, control of litter, odors, and vectors such as rodents and insects.
 - 3. Suitable means shall be provided to prevent and control fires, including an emergency response plan when appropriate.
 - 4. It is the responsibility of the owner and/or operator to comply with all the local rules, regulations, and ordinances, and the director may add additional conditions deemed appropriate.
 - 5. Each facility shall be supervised, secured, and have a permanent sign identifying the facility, hours and days of operation, materials accepted or not accepted, the owner and/or operator, a person to contact, and other pertinent information.
- D. Convenience centers.
 - 1. Only household and/or residential solid waste will be accepted.
 - 2. Car batteries and waste oil may be collected at the convenience centers but must be collected and stored in a safe and orderly manner.

- E. Green wastes (landscape waste) composting facilities.
1. Composting facilities accepting only green waste, less than three thousand tons per year, are permitted by rule unless exempted.
 2. The finished compost must be sufficiently stable that it can be stored or applied on land without producing a nuisance.
 3. The facility must control surface water run-on and run off from a twenty-five year, twenty-four hour storm.
 4. An annual report shall be prepared and submitted to the department, reporting the tonnage of green waste accepted, the composted tonnage produced, and residual disposed.
 5. The department reserves the right to add additional requirements as necessary.
- F. Land clearing, grubbing, and certain agricultural landfills and inert waste landfills.
1. All persons exempted under Section 11-58.1, 4(b)(3) and landfilling more than one hundred fifty tons per year shall be permitted by rule.
 2. Only waste that will not or is not likely to produce leachate of environmental concerns shall be disposed of in the landfill. Acceptable materials for disposal in the land clearing, grubbing, and certain agricultural landfill are earth and earth-like products, and land clearing debris such as stumps, limbs, and leaves. Acceptable materials for disposal in the inert waste landfill are earth and earth-like products, concrete, cured asphalt, rocks, and bricks.
 3. Materials placed in the landfill shall be generated on site and spread in layers and compacted to the smallest practicable volume.
 4. Public access to the landfills shall be limited to authorized entrances which shall be closed when the site is not in operation.
 5. The final cover shall consist of eighteen inches of earthen material to minimize infiltration and six inches of earthen material to minimize erosion or as approved by the director. A vegetative cover shall be placed over the final lift, not later than one month following final placement of waste within that lift. The vegetative cover must be maintained a minimum of a year after the closure of the landfill.
 6. A written notice of final closure must be provided to the director within one hundred eighty (180) days of receiving the final load of material. Any site not receiving waste for in excess of 180 days shall be deemed abandoned and in violation of these rules unless properly closed. Notice of closure must include the date of final material receipt and an accurate legal description of the boundaries of the landfill.

7. A permanent notation of the landfill location shall be added at the bureau of conveyances to the facility property and on any other instrument that would normally be examined during the title search and note any land use restrictions from the closure plan. The notation shall notify any potential purchaser of the property that the area has been used for land clearing and grubbing and agricultural solid waste landfills.
 8. All other applicable federal, state, and local laws, rules, and ordinances, including erosion and sediment control, and any applicable federal wetlands permit, must be fully complied with, prior to commencement of land filling operations.
- G. Recycling drop-off and processing facilities.
1. An annual report shall be prepared and submitted to the department, reporting the amounts and types of recyclable materials or scrap metals received and distributed by weight. The report is due on July 31 of each year for the preceding fiscal year.
 2. Scavenging at the facility by the general public is prohibited.
 3. Recycling processing facilities utilizing single source-separated material for reuse. The single source-separated items include, but are not limited to: cardboard, newspaper print, office paper, glass, aluminum containers, plastics, tires, and nonferrous scrap metals.

Mailed Original
Signature to Sub 9/22/11

STATE OF HAWAII
DEPARTMENT OF HEALTH
ENVIRONMENTAL MANAGEMENT DIVISION
SOLID AND HAZARDOUS WASTE BRANCH
PERMIT BY RULE APPLICATION FOR
CERTAIN SOLID WASTE MANAGEMENT FACILITIES

This permit application was developed in accordance with the requirements of Hawaii Administrative Rules (HAR), Title 11, Chapter 58.1. **In order for this application to be considered complete, the site plan, operations narrative, Attachments P-5 and P-6, and filing fee must accompany this application form.** Please read the general instructions before completing.

- I. Type of Application (check all that apply)
 - A. Permit to establish a new facility
 - B. Permit to modify an existing facility
 - C. Permit renewal with no modification
 - D. Permit renewal with modification
 - E. Change in ownership
 - F. Other
- Describe _____

- II. Type of Facility (check one)
 - A. Convenience center (residential transfer station, <40 tons/day)
 - B. Greenwaste composting facility (<3,000 tons/year)
 - C. Land clearing, grubbing, and certain agricultural or inert waste landfill
 - D. Recycling drop-off and single source-separated processing facility

III. Existing pollution control permits and/or variances issued to facility:

IV. General Information

A. Name and address of the owner of the solid waste facility:
Jason E. Macy – Vice President - West Hawaii Concrete
P.O. Box 1390
Kailua- Kona, Hawaii, 96745 Telephone: 808-329-3561

B. Name and address of the operator of the solid waste facility:
George Purdy III – Aggregate Division Manager - West Hawaii Concrete
P.O. Box 1390
Kailua- Kona, Hawaii, 96745 Telephone: 808-329-3561 – cell 960-3048

C. Name and address of individual authorized to act for the owner and operator:
George Purdy III – Aggregate Division Manager - West Hawaii Concrete
P.O. Box 1390
Kailua- Kona, Hawaii, 96745 Telephone: 808-329-3561 – cell 960-3048

D. Name and address of landowner (If landowner is other than the owner/operator of the solid waste facility, include Attachment P-6):

WQJ2008 Investment, LLC
P.O. Box 220
Kihei, HI 96753-0000 Telephone: 808-874-5263

E. Name and address of lessee, if appropriate:
West Hawaii Concrete – P.O. Box 1390 – Kailua-Kona, HI 96745
P.O. Box 1390
Kailua Kona, HI 96745 Telephone: 808-329-3561

F. Facility Name and Location:
Name: West Hawaii Concrete
Address: 68-1244 Waikoloa Raod
Waikoloa, HI 96738-3729

Tax Map Key: 6-8-01:0066, Lot 3-B-2

(if appropriate)

Latitude: _____ ° _____ ' _____ " N
Longitude: _____ ° _____ ' _____ " W
UTM Coordinates: Zone _____ East _____ North _____

V. Normal Operating Schedule

A. Shifts Worked: HOURS OF DAY

1. From: 6:00 am To: 6:00 pm
2. From: _____ To: _____
3. From: _____ To: _____

B. Days per week: 6 days per week, Monday – Saturday

C. Weeks per year: 52

D. Operation is seasonal or irregular, describe:

VI. For Permit Renewals and Modifications: Is the existing facility in compliance with Hawaii Revised Statutes (HRS) 342G, 342H and 342I; and Hawaii Administrative Rules (HAR), Title 11, Chapter 58.1, "Solid Waste Management Control"?

Yes No

If the existing facility is not in compliance with HRS 342G, H and/or I; and/or HAR, Title 11, Chapter 58.1, "Solid Waste Management Control", provide a detailed implementation plan as an attachment to the application. The implementation plan should include but is not limited to areas of noncompliance, reason for noncompliance, proposed actions towards achieving compliance, and implementation schedule, as an attachment to the application.

VI. Certification by owner and operator:

We, Jason E. Macy, Vice President (owner)
(name) (title)
and George Purdy III, Aggregate Division Manager (operator)
(name) (title)

certify that we have knowledge of the facts hereby submitted and that the same are true and correct to the best of our knowledge and belief, and that all information not identified as confidential in nature shall be treated by the Department of Health as public record. We further state that we will assume responsibility for the construction, modification, operation, maintenance, closure and post-closure of the facility in accordance with Hawaii Revised Statutes, 342G, H and I; and Hawaii Administrative Rules, Title 11, Chapter 58.1, and any permit issued thereof. As co-permittees, we understand that we share joint and several liability for compliance with aforementioned statutes, regulations, and permits. We also understand that we are responsible to construct and operate the facility in accordance with the conditions listed in Hawaii Administrative Rules Chapter 11-58.1-04(i), and any other conditions that may be specified by the Department. If the owner/operator is a partnership or group other than a corporation or a county, one individual who is a member of the group shall sign the application. If the applicant is a corporation or a county, an officer of the corporation, general manager of the facility, or an authorized representative of the county shall sign the application.

Date: 7-18-11 Owner: Jason E. Macy
Signature: 
Title: Vice President
Company Name: West Hawaii Concrete
Address: P.O. Box 1390, Kailua-Kona, HI 96745
Telephone: 808-329-3561

Date: 7-18-11 Operator: George Purdy III
Signature: 
Title: Aggregate Division Manager
Company Name: West Hawaii Concrete
Address: P.O. Box 1390, Kailua-Kona, HI 96745
Telephone: 808-329-3561 cell 808-960-3048

DO NOT WRITE BELOW ----- FOR AGENCY USE ONLY

VII. Date application received: _____

VIII. Received by: _____

IX. Application number: _____

X. Evaluating Official: _____

XI. Filing fee attached: Yes _____ No _____

XII. Site Plan attached: Yes _____ No _____

Operations Narrative attached: Yes _____ No _____

Attachment P-5 attached: Yes _____ No _____

Attachment P-6 attached: Yes _____ No _____

XIII. Action on application: Approved: _____

Disapproved: _____

Conditional Approved: _____

XIV. Date of action on application: _____

XV. Permit number: _____

**ATTACHMENT P-5
ZONING CLEARANCE FORM
SOLID WASTE PERMIT APPLICATION**

TO THE APPLICANT:

Please be advised that a requirement for the issuance of a solid waste management permit in Hawaii is that the facility meets local ordinances and zoning requirements, including the recording of its disposal facility with the Bureau of Conveyances.

In order that the SHWB may determine whether the facility is in compliance with local land use policy, **we require that this attachment be completed and signed by the appropriate county**

land use/planning agency (on Oahu, contact the Department of Planning and Permitting). No permit will be issued unless this form has been properly completed and returned. If a Use Permit or SMA Permit is required, submit a copy of said permit with this form.

Name of Applicant: West Hawaii Concrete
Name and phone number of primary contact for applicant:
George Purdy III, Aggregate Division Manager
office 808-329-3561 cell 808-960-3048

Address of proposed facility:
Waikoloa Quarry 68-1244 Waikoloa Rd.
Waikoloa, HI 96738

Tax Map Key: (TMK) 6-8-001:0066 Lot 3-B-2

Description of proposed facility [e.g., waste processing, waste storage (indoor or outdoor), recycling, composting, waste disposal, etc.): collecting green waste such as grass and shrub clippings and coconut tree fronds and composting. Once the composting process is complete the product will be removed from the site, mixed with cinder or soil and used as a soil amendment, on local landscaping projects.

COUNTY AGENCY APPROVAL:

The Current Zoning of the Proposed site for the Proposed Activity / Facility / Operation is:

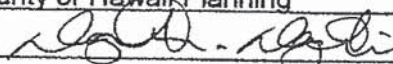
Allowed Identify Approved Use Permit/SMA, other Restrictions/Limitations:
Property is zoned Agricultural-5 acres (A-5a). Proposed facility is a permitted use within this zoning classification.

Not Allowed Reason (ex: Use Permit/SMA required, application pending, etc.):

Name: Daryn Arai

Title: Planning Program Manager

Agency: County of Hawaii Planning

Signature:  Date: 9/12/11

**ATTACHMENT P-6
PROPERTY OWNER APPROVAL FORM
SOLID WASTE PERMIT APPLICATION**

TO THE APPLICANT:

In order that the SHWB may determine whether the property owner and/or master lessee is knowingly allowing the proposed solid waste activity, we require that this attachment be completed and signed by the property owner and the master lessee, if appropriate. **No permit will be issued unless this form has been properly completed and returned.**

Name of Applicant: West Hawaii Concrete
Name and phone number of primary contact for applicant:
George Purdy III, Aggregate Division Manager
office 808-329-3561 cell 808-960-3048


Address of proposed facility:
68-1244 Waikoloa Road
Waikoloa, HI 96738

Tax Map Key: (TMK) 6-8-01: Parcel 4 Subdivision No. 2, Lot 3-B-2

PROPERTY OWNER / MASTER LESSEE APPROVAL:

I/We certify that I/we have knowledge and approve of the applicant's proposed solid waste management facility for the subject location. I/We further certify that I/we fully understand the requirements under HAR Chapter 11-58.1, Subchapter 6, such that I/we am/are also responsible for the aesthetic, nonhazardous, sanitary storage, and removal of solid waste to approved solid waste management facilities.

If the property owner/master lessee is a partnership or group other than a corporation, a county, or state entity, one individual who is a member of the group shall sign this form. If the property owner/master lessee is a corporation, a county, or a state entity, an officer of the corporation, or an authorized representative of the county or state shall sign this form.

Property Owner: WQJ2008 Investment, LLC
Name of Authorized Representative: Daniel R. Goodfellow
Signature:  Date: July 13, 2011
Title: Secretary, Columbia Valley Investments, Inc., Manager Telephone: 808-879-5205
Company Name: _____
Termination Date of Lease: No Specific Termination Date, until material runs out
current land use permit runs out in 2018 -
Address: P.O. Box 220, Kihei, Hawaii 96753 lease/approval: Same as above

Master Lessee:
Name of Authorized Representative: _____
Signature: _____ Date: _____
Title: _____ Telephone: _____
Company Name: _____ Termination date of
Address: _____ lease/approval: _____

Master Lessee:

Name of Authorized Representative: _____
Signature: _____ Date: _____
Title: _____ Telephone: _____
Company Name: _____ Termination date of
Address: _____ lease/approval: _____

September 6, 2011

To: Sue Liu, State of Hawaii

From: The property owners of the Waikoloa Quarry Co-tenancy

Dear Sue:

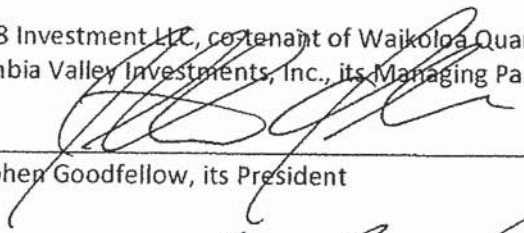
Please accept this letter as our authorization & confirmation that Columbia Valley Investments Inc. is authorized to sign all business documents on behalf of the Waikoloa Quarry Co-tenancy.

To recap the "chain of ownership", the Waikoloa quarry property is operated as a co-tenancy. The co-tenants are WQJ2008 Investment LLC and Ukumehame Quarry Company Limited Partnership. The co-tenants jointly own an undivided interest in the subject quarry property; i.e. the co-tenants are the Property Owners.

The managing partner of WQJ is Columbia Valley Investments Inc.


The managing partner of Ukumehame Quarry Company Limited Partnership is Ukumehame Quarry Management Inc.

WQJ2008 Investment LLC, co-tenant of Waikoloa Quarry Co-tenancy
By Columbia Valley Investments, Inc., its Managing Partner

By 

J. Stephen Goodfellow, its President

Ukumehame Quarry Company Limited Partnership, co-tenant of Waikoloa Quarry Co-tenancy
By Ukumehame Quarry Management Inc., its Managing Partner

By 

J. Stephen Goodfellow, its President

SPECIAL PERMIT APPLICATION

EXHIBIT 8 - SLU DISTRICT MAP

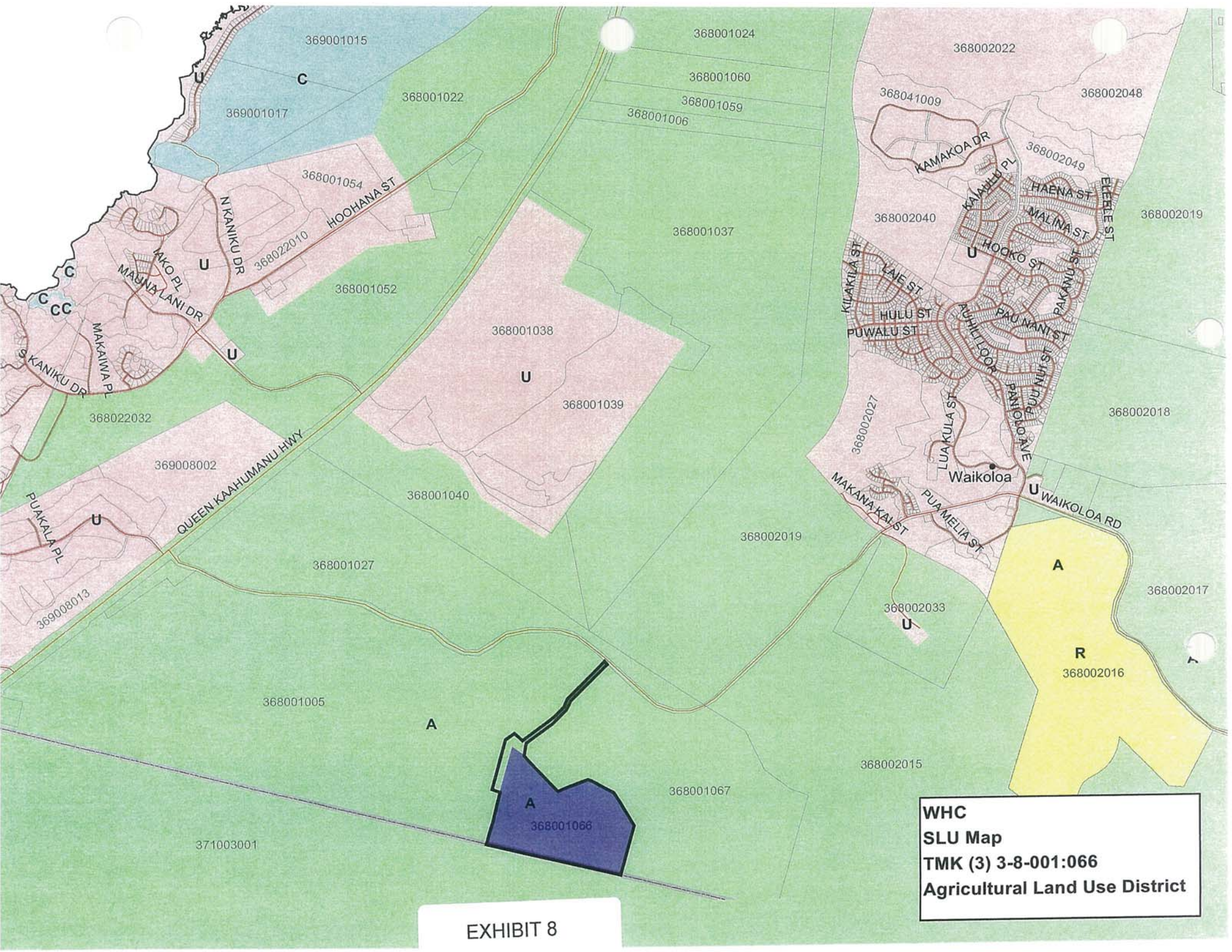


EXHIBIT 8

WHC
SLU Map
TMK (3) 3-8-001:066
Agricultural Land Use District

SPECIAL PERMIT APPLICATION

EXHIBIT 9 - ZONING MAP

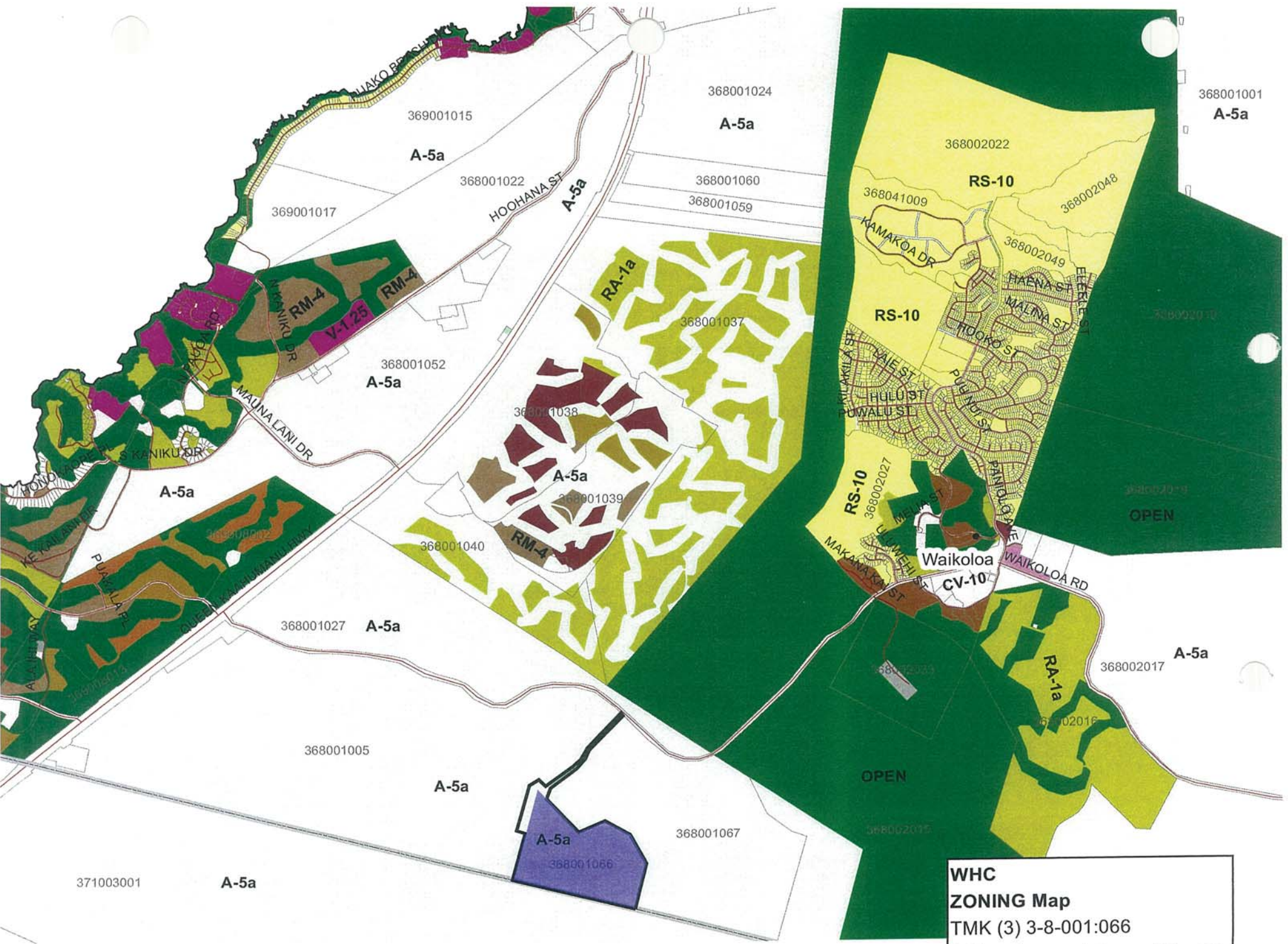


EXHIBIT 9

WHC
ZONING Map
TMK (3) 3-8-001:066
A-5a - 5 acre minimum bldg site



FLOOD HAZARD ASSESSMENT REPORT

UNOFFICIAL

WAIKOLOA RD

0287C

PANEL NOT PRINTED
(AREA ALL IN ZONE X)

PRELIMINARY
ZONE X

(3) 6-8-001:066

0813F
Preliminary

0820F
Preliminary

Contact County of Hawaii (808) 961-8327
for official flood zone determination

0289C

PANEL NOT PRINTED
(AREA ALL IN ZONE X)

PRELIMINARY
ZONE D

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

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

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

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

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

OTHER FLOOD AREAS

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

PROPERTY INFORMATION

COUNTY: HAWAII
TMK NO: (3) 6-8-001-066
PARCEL ADDRESS:
FIRM INDEX DATE: APRIL 02, 2004
LETTER OF MAP CHANGE(S): NONE
FEMA FIRM PANEL(S):
 1551660287C - PANEL NOT PRINTED
 1551660289C - PANEL NOT PRINTED

PARCEL DATA FROM: JUNE 2013
IMAGERY DATA FROM: MAY 2005

IMPORTANT PHONE NUMBERS

County NFIP Coordinator
 County of Hawaii
 Frank DeMarco, CFM (808) 961-8042
State NFIP Coordinator
 Carol Tyau-Beam, P.E., CFM (808) 587-0267

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

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

SPECIAL PERMIT APPLICATION

EXHIBIT 11 - DR. ROBERT RECHTMAN 1999 LETTER



Paul H. Rosendahl, Ph.D., Inc.

Archaeological • Historical • Cultural Resource Management Studies & Services

204 Waiānue Avenue • Hilo, Hawaii 96720 • (808) 969-1763 • FAX (808) 961-6998
P.O. Box 23305 • G.M.F., Guam 96921 • (671) 472-3117 • FAX (671) 472-3131

10 May 1999

98-1929

Mr. Mel Macy
West Hawaii Concrete
P.O. Box 1390
Kailua-Kona, HI 96745
Fax (808) 885-6175

ATTN: Anne Cobb

Dear Mel,

As per our agreement, Paul H. Rosendahl, Ph.D. Inc. (PHRI) provided archaeological monitoring services in conjunction with the development of your new quarry and access road in Waikoloa Ahupua'a. The purpose of the monitoring was to direct the construction crew to avoid the previously established buffer zone. The buffer zone is a preservation measure protecting nineteen archaeological sites. This current field effort was undertaken in compliance with permit stipulations for final project plan approval by the County of Hawai'i

On May 10, 1999, PHRI Senior Archaeologist, Robert B. Rechtman, Ph.D. performed the monitoring. Dr. Rechtman met with representatives of West Hawaii Concrete and Goodfellow Construction to point out in the field exactly where the buffer boundary is located. The access road to the quarry is well *maka'i* of the buffer zone, and the northern limit of the quarry area was set at about 50 meters south of the buffer zone. If the construction crew follows the guidance established in the field, there will be no danger of encroaching into the archaeological buffer zone.

Please find enclosed an invoice as per our agreement. Should you have any question, or would like further information please feel free to contact me at our Hilo office (808) 969-1763.

Sincerely,

Bob Rechtman, Ph.D.
Senior Archaeologist

Enclosures (1): Invoice

SPECIAL PERMIT APPLICATION

EXHIBIT 12 - 2015 SHPD SUBMITTAL SHEET AND
2015 ARCHAEOLOGICAL ASSESSMENT



Report submitted directly to Hilo Office Date:

Submittal Sheet for Historic Preservation Review Filing Fees

State Historic Preservation Division
601 Kamokila Blvd., #555, Kapolei, Hawai'i 96707

Agency/Firm (Requesting Review):

Contact:
Phone: Fax: E-Mail:
Address:

Title of Report/Plan:
.....
.....

Island: District: Ahupua'a:
TMK [(1) 1-1-001:001]:

Submitted Plan/Report Fee & Type: (All reports or plans submitted to the SHPD for review shall be accompanied by the appropriate fee in accordance with HAR §13-275-4 and §284-4).

- | | |
|-------------|--|
| ..... | Indicate here (X) if report is a re-submittal (no fee charged) |
| \$50 | Archaeological Assessment |
| \$150 | Archaeological Inventory Survey Plan |
| \$450 | Archaeological, Architectural or Ethnographic Survey Report |
| \$150 | Preservation Plan |
| \$25 | Monitoring Plan |
| \$150 | Archaeological Data Recovery Plan |
| \$250 | Burial Treatment Plan |
| \$100 | Archaeological Monitoring Report, if resources reported |
| \$450 | Archaeological Data Recovery Report |
| \$450 | Ethnographic Documentation Report |
| \$25 | Burial Disinterment Report |
| \$50 | Osteological Analysis Report |

Make check payable to "Hawai'i Historic Preservation Special Fund." A service charge of \$15 will be assessed on all dishonored checks pursuant to HRS §40-35.5" A copy of this form will be mailed or faxed back to you and will serve as your receipt.

Fee Total: S

For Office Use Only:

Date Received:	Receipt No.:
	Payment Method: Cash \$ Check: Check No.:
Log. No.:	Receipt Issued by: Treasury Deposit Receipt No:

An Archaeological Assessment Survey of West Hawaii Concrete's Waikōloa Quarry

TMK: (3) 6-8-001:066 (por.)

Waikōloa Ahupua'a
South Kohala District
Island of Hawai'i

DRAFT VERSION



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June 2015

ASM Project Number 24370.00

ASM 
affiliates

Archaeology • History • Ethnography • Architectural History

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An Archaeological Assessment Survey of West Hawaii Concrete Waikōloa Quarry

TMK: (3) 6-8-001:066 (por.)

Waikōloa Ahupua‘a
South Kohala District
Island of Hawai‘i

EXECUTIVE SUMMARY

At the request of Jennifer Lim of Carlsmith Ball LLP, on behalf of West Hawaii Concrete, ASM Affiliates conducted an archaeological assessment survey of a roughly 220 acre portion of TMK: (3) 6-8-001:066 within the West Hawaii Concrete Waikōloa Quarry Property, Waikōloa Ahupua'a, South Kohala District, Island of Hawai'i. The current study area is located along the boundary between the districts of South Kohala and North Kona and surrounded by undeveloped 'a'ā lava flows on all sides. West Hawaii Concrete has been operating a concrete quarry within the study area since at least 1995. West Hawaii Concrete intends to seek approval from the Leeward Planning and State Land Use Commissions to extend the duration of the Special Permit and expand the permitted uses to include the following activities in addition to the currently permitted concrete quarrying: green waste processing and composting, cement concrete recycling and asphalt concrete recycling.

This survey was undertaken in accordance with Hawai'i Administrative Rules 13§13-284, and was performed in compliance with the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports as contained in Hawai'i Administrative Rules 13§13-276. According to 13§13-284-5 when no archaeological resources are discovered during an archaeological survey the production of an Archaeological Assessment report is appropriate. Compliance with the above standards is sufficient for meeting the historic preservation review process requirements of both the Department of Land and Natural Resources—State Historic Preservation Division (DLNR—SHPD) and the County of Hawai'i Planning Department.

PHRI (Jensen and Burgett 1991) previously prepared an archaeological inventory survey of a roughly 300-acre parcel of land that included the 220 acre parcel which constitutes the current study area. PHRI recorded an absence of cultural resources within the current study area and the presence of nineteen sites in an area adjacent to the current study parcel. Intensive archaeological survey for the current study was conducted on May 20, 2015 by Teresa Gotay, M.A. and Layne Krause, B.A. under the direction of Robert B. Rechtman, Ph. D. Archaeological survey focused on the limited undeveloped sections around the periphery of the quarry site within the study area. Walking north-south transects spaced approximately 25 meters apart, fieldworkers did not encounter any archaeological resources.

Given the negative findings of the prior study and the similar findings of the current study, it is concluded that the proposed extension and amendment of the existing Special Permit will not impact any known historic properties. It is therefore recommended that no further historic preservation work is needed.

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1. INTRODUCTION

At the request of Jennifer Lim of Carlsmith Ball LLP, on behalf of West Hawaii Concrete, ASM Affiliates conducted an archaeological assessment survey of a roughly 220 acre portion of TMK: (3) 6-8-001:066 within the West Hawaii Concrete Waikōloa quarry site, Waikōloa Ahupua'a, South Kohala District, Island of Hawai'i (Figures 1, 2, and 3). West Hawaii Concrete intends to obtain approval from the Leeward Planning Commission and the State Land Use Commission to extend and amend the existing Special Permit, which allows for the operation of a quarry, to include the following activities: green waste processing and composting, cement concrete recycling and asphalt concrete recycling. This project area was subject to an archaeological inventory survey (Jensen and Burgett 1991) conducted in 1991 prior to the establishment of the quarry operation. As the Special Permit process dictates compliance with HRS Chapter 6E, and in an abundance of caution, the landowner decided to provide an updated archaeological study to verify that no historic properties would be affected by the proposed expanded operations.

This survey was undertaken in accordance with Hawai'i Administrative Rules 13§13-284, and was performed in compliance with the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports as contained in Hawai'i Administrative Rules 13§13-276. According to 13§13-284-5 when no archaeological resources are discovered during an archaeological survey the production of an Archaeological Assessment report is appropriate. Compliance with the above standards is sufficient for meeting the historic preservation review process requirements of the Department of Land and Natural Resources–State Historic Preservation Division (DLNR–SHPD), the State Land Use Commission (LUC), and the County of Hawai'i Planning Department with respect to the issuance of permits for land use and ground-altering activities. This report contains background information outlining the current study area's environmental and cultural contexts, a review of the findings from one previous archaeological study conducted within the current study area, and survey expectations based on the culture-historical context and previous investigation. An explanation of the current survey methods and findings will also be presented in addition to conclusions and recommendations based on the results of the current study.

1. Introduction

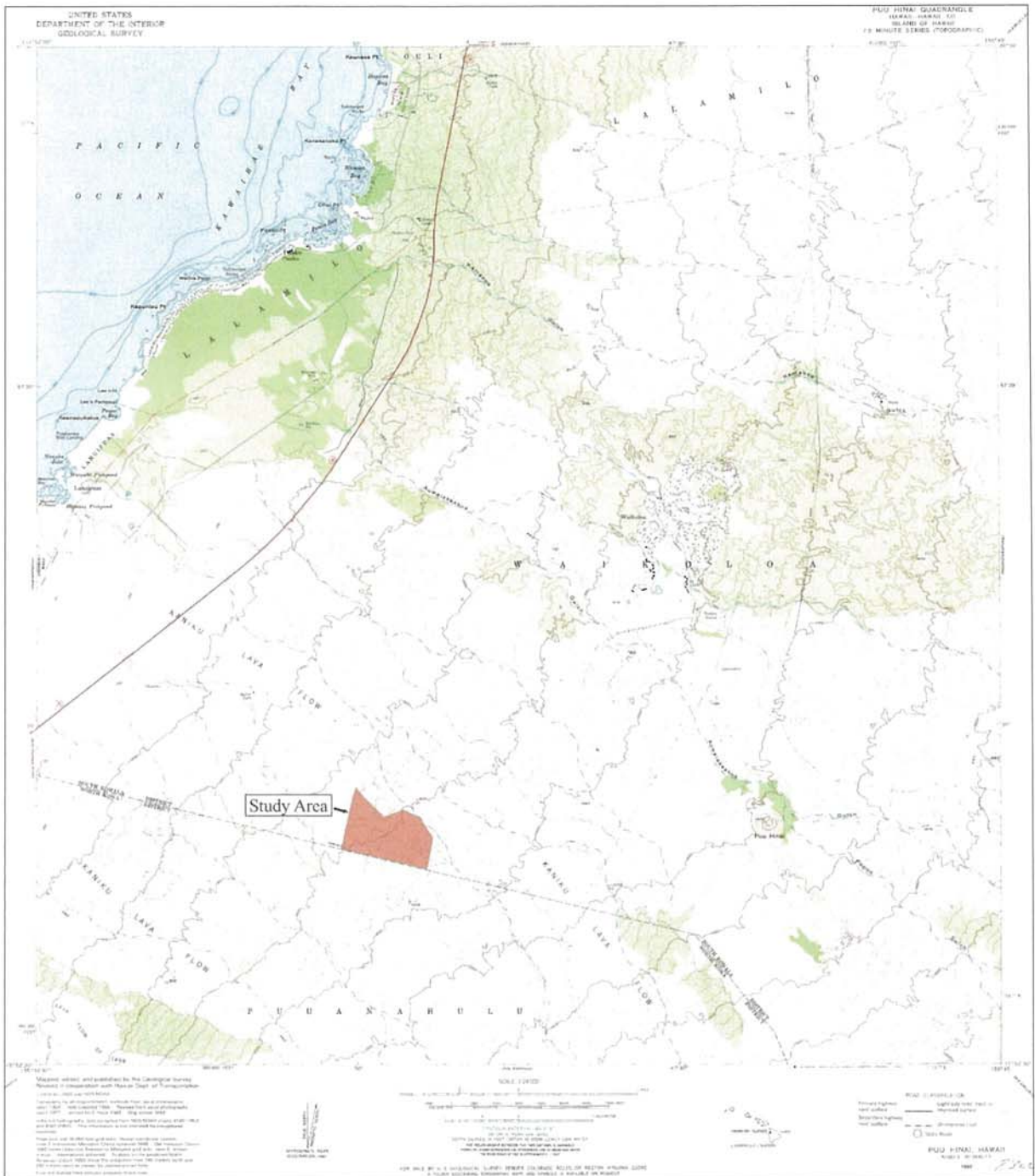


Figure 1. Study area location.



Figure 2. Tax Map Key (TMK) (3): 6-8-001 showing location of current study area (portion of Parcel 066).



Figure 3. Google Earth™ satellite image showing location of current study area outlined in red.

STUDY AREA DESCRIPTION

The current study area consists of 219.990 acres of land within a portion of TMK: (3) 6-8-001:066 located in Waikōloa Ahupua‘a, South Kohala District, Hawai‘i Island. The study area is situated roughly 4 miles *mauka* of the beachfront at ‘Anaeho‘omalū Bay, and is located along the South Kohala/North Kona boundary (see Figure 1). The study area is bounded at its south end by a transmission line corridor and unpaved access road (Figure 4), while the east, west, and north sides of the project area terminate in undeveloped land corresponding with the following TMK parcels: (3) 6-8-001:005 (west) and (3) 6-8-001:067 (north and east). Bordering the study area to the north, on TMK (3) 6-8-001:067, is an archaeological preserve containing nineteen sites within a roughly 30 acre area.

A gated access road enters the northwest corner of the study area from Waikōloa Road. This access road leads directly into a graded area with a weigh station (Figure 5) that marks the northwest boundary of the quarry site. Evidence of prior and current mechanical quarrying activity was observed during the field investigation (Figures 6 and 7). These quarried areas and the associated network of ungraded and graded access roads extend south-southeast from the northwest corner of the study area and cover roughly ninety-five percent of the approximately 220 acre property (Figure 8). The study area lands have been operated as a quarry by West Hawaii Concrete since 1995; Figure 9 shows a comparison of aerial photos of the study area taken 14 years apart, which highlights the mechanical alterations to the terrain over time.

The study area is situated at elevations ranging between 694 and 925 feet (211 and 282 meters) above sea level, within two lava flows that emanated from Mauna Loa known as the Kanikū Lava Flow (see Figure 1). Both flows within the study area are rugged expanses of ‘a‘ā with near complete absence of soil. The earliest flow dates from between 3,000 and 5,000 years ago while the more recent flow occurred between 1,500 to 3,000 years ago (Wolfe and Morris 1996). Most of the Kanikū flow within the current study area has been altered by the ground disturbance associated with the quarry operations (see Figure 8).



Figure 4. Transmission line and access road marking the southern boundary of study area, view to the east.



Figure 5. Weigh station and graded access road near the entrance to study area, view to the northwest.



Figure 6. Mechanical quarrying activity within the current study area, view to the east.



Figure 7. Quarrying activity within the central portion of the study area, view to the northeast.



Figure 8. 2015 Google Earth aerial of study area showing network of access roads and quarried areas.

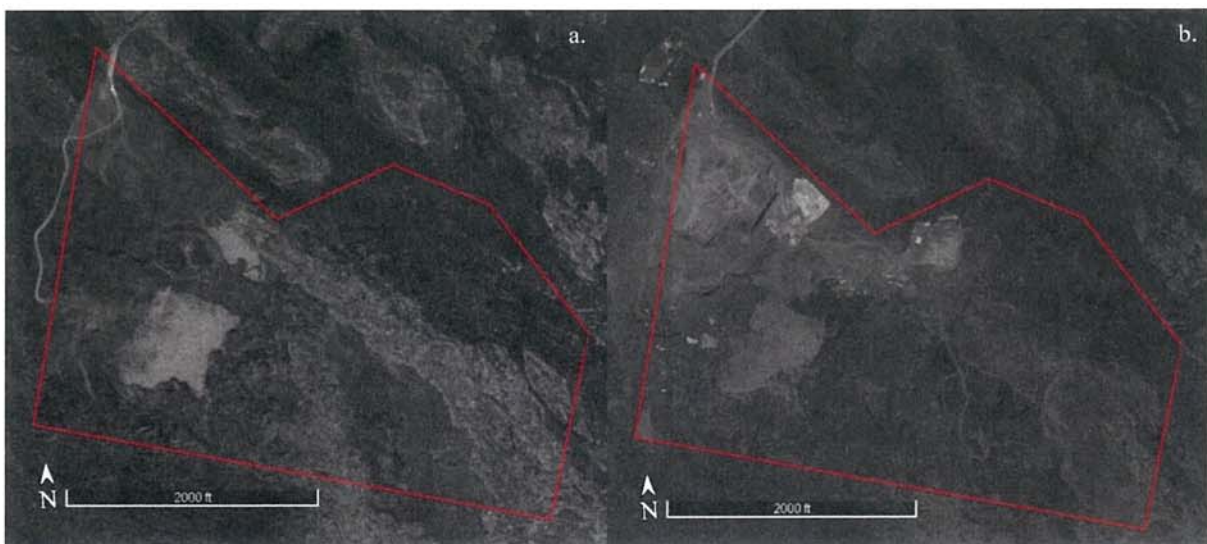


Figure 9. Aerial comparison showing quarry activity within study area: a. April 2000, b. August 2014.

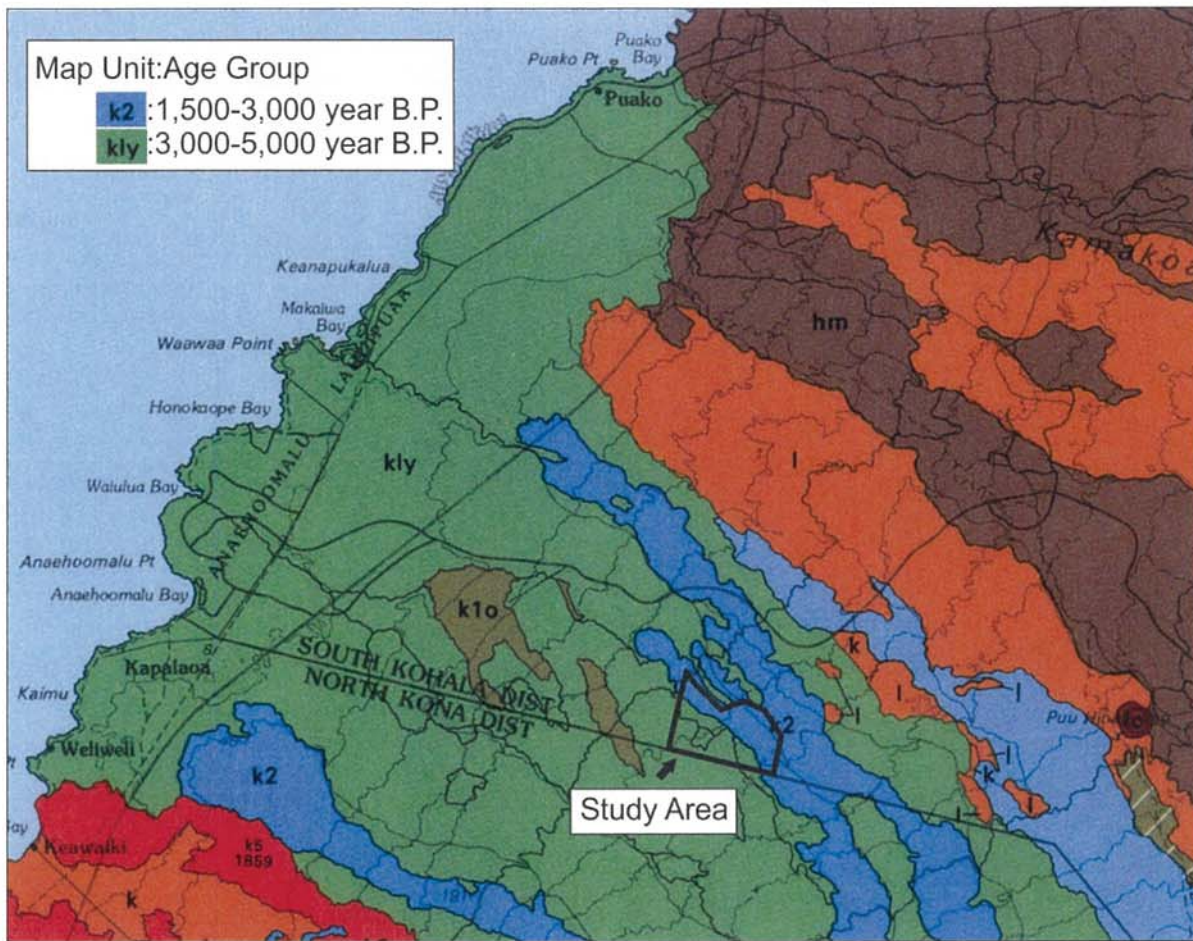


Figure 10. Geologic map (Wolfe and Morris 1996) showing study area within lava flows and corresponding dates.

The mean annual rainfall within the project area is 290.4 millimeters, with most of the rain (39-47 millimeters) falling during the wettest winter months of December and January, and very little rainfall (9-12 millimeters) during the driest summer months of June, July, and August (Giambelluca et al. 2013). As a result of the arid conditions, vegetation is sparse (see Figure 4), consisting primarily of scattered tufts of fountain grass (*Pennisetum setaceum*). Fauna in the study environment is also limited by the harsh climate; however, fieldworkers did observe the droppings and skeletal remains of feral goats (*Capra* sp.).

2. BACKGROUND

To generate a set of expectations regarding the types of archaeological resources that might be encountered within the study area, and to establish an environment within which to assess the function, age, and significance of any such resources, a general cultural-historical background for the region is presented. The following section consists of a synthesis of Precontact settlement patterns and historically documented land use combined with a review of the findings of a prior archaeological investigation conducted in the current study area.

CULTURE-HISTORICAL CONTEXT

As previously discussed, the current project area is situated in what is today referred to as the *ahupua'a* of Waikōloa in South Kohala District on the leeward side of the Island of Hawai'i (Figure 11). It is within this context that the following discussion of the history and culture of the study area is framed. The chronological summary presented below begins with the peopling of the Hawaiian Islands and includes the presentation of a generalized model of Hawaiian prehistory containing specific legendary references to the vicinity of the study area and a discussion of the general settlement patterns for the district of South Kohala. This is followed by a summary of events in South Kohala after European contact, which includes a discussion of the changing lifeways and population decline of the early Historic Period, a review of land tenure in the study *ahupua'a* during the *Māhele 'Āina* of 1848, and ends with a summary of land use within the current study area during the late Historic Period.

A Generalized Model of Hawaiian Prehistory

The generalized cultural sequence that follows is based on Kirch's (1985) model, and amended to include recent revisions offered by Kirch (2011). The conventional wisdom has been that the first inhabitants of Hawai'i Island probably arrived by at least A.D. 300, and focused habitation and subsistence activity on the windward side of the island (Burchard 1995; Kirch 1985; Hommon 1986). However, there is no archaeological evidence for occupation of Hawai'i Island (or elsewhere in the archipelago of Hawai'i) during this initial settlement, or colonization stage (A.D. 300 to 600). More recently, Kirch (2011) has convincingly argued that Polynesians may not have arrived to the Hawaiian Islands until at least A.D. 1000 and simply expanded rapidly thereafter. This revision would alter the timing of Kirch's (1985) Settlement, Developmental, and Expansion Periods, possibly shifting the Settlement Period to A.D. 1000 to 1100, the Developmental Period to A.D. 1100 to 1350, and the Expansion Period to A.D. 1350 to 1650.

The Settlement Period is believed to have been initiated by the arrival of settlers from the southern Marquesas Islands. This was a period of great exploitation and environmental modification, when early settlers adapted their familiar patterns and traditional tools into subsistence strategies suited to their new Hawaiian environment (Kirch 1985; Pogue 1978). Their ancient and ingrained philosophy of life tied them to their environment and kept order, which was maintained by the conical clan principle of genealogical seniority (Kirch 1984). According to Fornander (1969), the early Hawaiians brought from their homeland certain universal Polynesian customs: the major gods Kāne, Kū, and Lono; the *kapu* system of law and order; cities of refuge; the *'aumakua* concept; various epiphenomenal beliefs; and the concept of *mana*.

In the traditional district or *moku* of Kohala, the long ridge of the Kohala Mountains extends perpendicular to the predominant northeasterly trade winds, creating an orographic rainfall pattern that separates the district into two distinct environmental zones; a wetter windward zone on the eastern (Hāmākua) side, and a drier leeward zone on the western (Kona) side. The first settlers of Kohala likely established a few small communities, primarily in the windward valleys and gulches, near sheltered bays with access to fresh water and had an occupational focus on the collection of marine resources. Evidence of the earliest occupation of leeward Kohala has been collected from Kapa'anui, where Dunn and Rosendahl (1989) recovered radiocarbon samples with a potential early date (A.D. 461), and from 'Anaeho'omalū where Barrera (1971) reported A.D. 900 as the initial date for settlement. These early dates should be viewed with suspicion (see Kirch 2011), but it is possible that they represent the earliest establishment of small, short-term camps to exploit seasonal, coastal resources in leeward Kohala. Data recovered from Māhukona, along the leeward coast of North Kohala, suggest initial occupation taking place there by about A.D. 1280 (Burgett and Rosendahl 1993:36); while Cordy (2000) reported on sites in windward Kohala that are believed to have been utilized in the early thirteenth century. Permanent settlement in Kohala has been reported as early as A.D. 1300 at Koai'e, a coastal settlement, with subsistence primarily derived from marine resources and likely supplemented by small-scale agriculture (Tomonari-Tuggle 1988).

2. Background

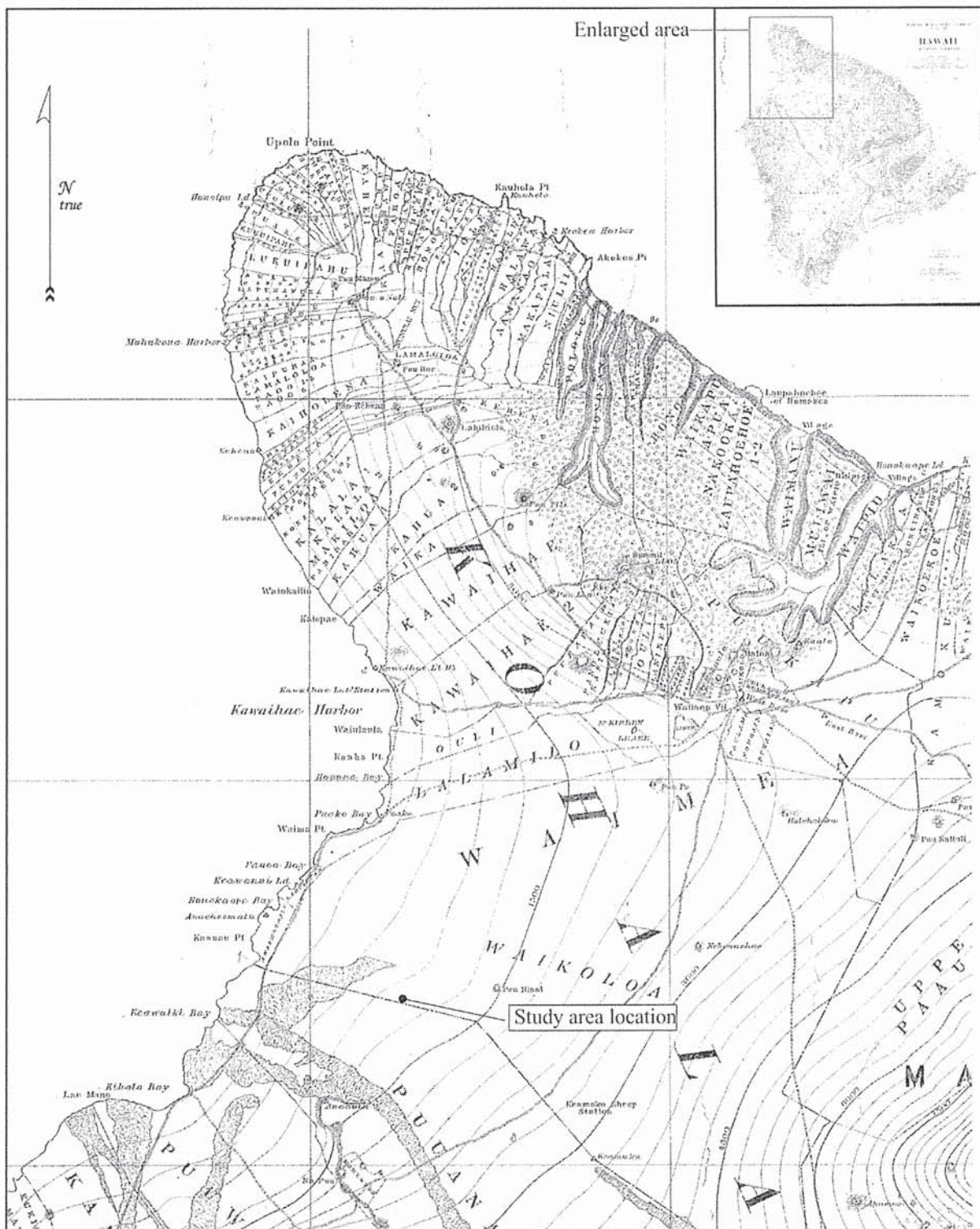


Figure 11. Portion of Hawai'i Registered Map No. 2124 showing Waikōloa Ahupua'a ca. 1901 and current study area location.

During the Developmental Period, a uniquely Hawaiian culture emerged. The portable artifacts found in archaeological sites of this period reflect not only an evolution of the traditional tools, but some distinctly Hawaiian innovations. The two-piece fishhook and the octopus-lure breadloaf sinker are Hawaiian inventions of this period, as are 'ulu maika stones and lei niho palaoa. The latter was a status item worn by those of high rank, indicating a trend toward greater status differentiation. The very standard Hawaiian rectangular quadrangular tanged adze (*ko'i*) evolved from the typical Polynesian variations of plano-convex, trapezoidal, and reverse-triangular cross-sections (Kirch 1985). A few areas in Hawai'i produced quality basalt for adze production including a well-known quarry on Mauna Kea on the island of Hawai'i. As the island reached its maximum carrying capacity, the limited resources resulted in social stress and hostility that led to wars between neighboring groups (Kirch 1985). Soon, large areas of Hawai'i were controlled by a few powerful chiefs.

The Expansion Period of Hawaiian prehistory is characterized by extreme social stratification, major socioeconomic changes, and intensive land modification, which included expanded efforts to intensify upland agriculture. During this period, most of the ecologically favorable zones of the windward and coastal regions of all major islands were settled and the more marginal leeward areas were being developed. The greatest population growth occurred during this time, which included a second major migration to Hawai'i from Tahiti, in the Society Islands. One of the earliest specific references to Waikōloa appears in the work of Samuel Mānaiakalani Kamakau who recounted the chants and legendary traditions of Hawaiian prehistory in his writings. According to Kamakau (1976) the priest Pā'ao arrived in the Hawaiian Islands during the 13th century from Kahiki, which has since been interpreted as Tahiti. Pā'ao was the keeper of the god Kū'kā'ilimoku, who had fought bitterly with his older brother, the high priest Lonopele, who expelled him from his homeland (Kamakau 1991).

Lonopele did not let Pā'ao leave peacefully, but instead called on the cold north winds to sink his canoes; one of the winds was named "Waikōloa" (Kamakau 1991:5). Despite Lonopele's best efforts, Pā'ao's canoe was not destroyed and he and his companions (thirty eight men, two stewards, his sister, chief Pili and his wife and the prophet Makuaka'ūmana) arrived safely in Hawai'i after their perilous journey. Kamakau (1991) recounts the following details of Pā'ao and Pili's arrival in Hawai'i:

It is thought that Pā'ao came to Hawai'i in the time of the *ali'i* La'au because Pili ruled as *mo'i* after La'au. You will see Pili there in the line of succession, the *mo'o kū'auhau*, of Hanala'anui. It is said that Hawai'i Island was without a chief, and so a chief was brought from Kahiki; this is according to chiefly genealogies. Hawai'i Island had been without a chief for a long time, and the chiefs of Hawai'i were *ali'i maka'āinana* or just commoners, *maka'āinana*, during this time.

. . . There were seventeen generations during which Hawai'i Island was without chiefs—some eight hundred years. . . . The lack of a high chief was the reason for seeking a chief in Kahiki, and that is perhaps how Pili became the chief of Hawai'i. He was a chief from Kahiki and became the ancestor of chiefs and people of Hawai'i Island. (1991:100–102)

The *moku* of Kohala appears in several versions of the Pili ruling line's origin story; such as a version discussed by Beckwith (1976) in which Mo'okini and Kaluawilinau, two *kāhuna* of Moikeha, decide to stay on at Kohala. In addition, Kamakau (1964) recounts that

In the burial cave of Pu'uwepa in Kohala, Hawaii are deposited the bones of Pa'ao, the famous kahuna who built the heiau of Mo'okini at Kohala, and who lived a span of 15 generations before he died. Its entrance is said to be beneath the sea (1964:41)

The Pili chiefs initial ruling center was likely in Kohala too, but Cartwright (1933) suggests that Pili later resided in and ruled from Waipi'o Valley in the Hāmākua District.

Rosendahl (1972) has proposed that settlement in leeward Kohala during the Expansion Period was related to seasonal, recurrent occupation. Coastal sites were occupied in the summer to exploit marine resources, while upland sites were occupied during the winter months with a primary focus on agriculture. According to Hommon (1976), an increasing reliance on agricultural products may have caused a shift in social networks as well; kinship links between coastal settlements disintegrated as those links within the *mauka-makai* settlements expanded to accommodate the exchange of agricultural products for marine resources. This shift is believed to have resulted in the establishment of the *ahupua'a* system. The implications of this model include a shift in residential patterns from seasonal/temporary occupation to permanent, dispersed occupation of both coastal and upland areas.

According to Kirch's (1985) model, the concept of the *ahupua'a* was established sometime during the A.D. 1400s, adding another component to a well-stratified society. This land unit became the equivalent of a local community, with its own social, economic, and political significance. *Ahupua'a* were ruled by *ali'i 'ai ahupua'a* or lesser chiefs;

2. Background

who, for the most part, had complete autonomy over this generally economically self-supporting piece of land, which was managed by a *konoiki*. *Ahupua'a* were usually wedge or pie-shaped, incorporating all of the eco-zones from the mountains to the sea and for several hundred yards beyond the shore, assuring a diverse subsistence resource base (Hommon 1986). This form of district subdividing was integral to early Hawaiian life, and was the product of strictly adhered to resource management planning. In this system, the land provided fruits and vegetables and some meat for the diet, and the ocean provided a wealth of protein resources (Rechtman and Maly 2003). The *ali'i* and the *maka'ainana* (commoners) were not confined to the boundaries of their *ahupua'a*; when there was a perceived need, they also shared with their neighbor *ahupua'a* 'ohana (Hono-ko-hau 1974). The *ahupua'a* were further divided into smaller sections such as the 'ili, *mo'o'aina*, *pauku'aina*, *kihapai*, *koele*, *hakuone*, and *kuakua* (Hommon 1986, Pogue 1978). The chiefs of these land units gave their allegiance to a territorial chief or *mō'ī* (king).

Traditionally, Waikōloa was an 'ili of the *kalana* (or 'okana) of Waimea (Figure 12), a land division that in ancient times was treated as a sub-district, smaller than a district (*moku o loko*), but comprised of several other land divisions that contributed to its wealth (Maly and Maly 2002). The lands within the *kalana* of Waimea were those that form the southern limits of present day South Kohala District including 'Ōuli, Wai'aka, Lālānilo, Puakō, Kalāhuipua'a, 'Anaeho'omalū, Kanakanaka, Ala'ōhi'a, Paulama, Pu'ukalani, Pu'ukapu, and Waikōloa, where the current study area is located (Figure 13).

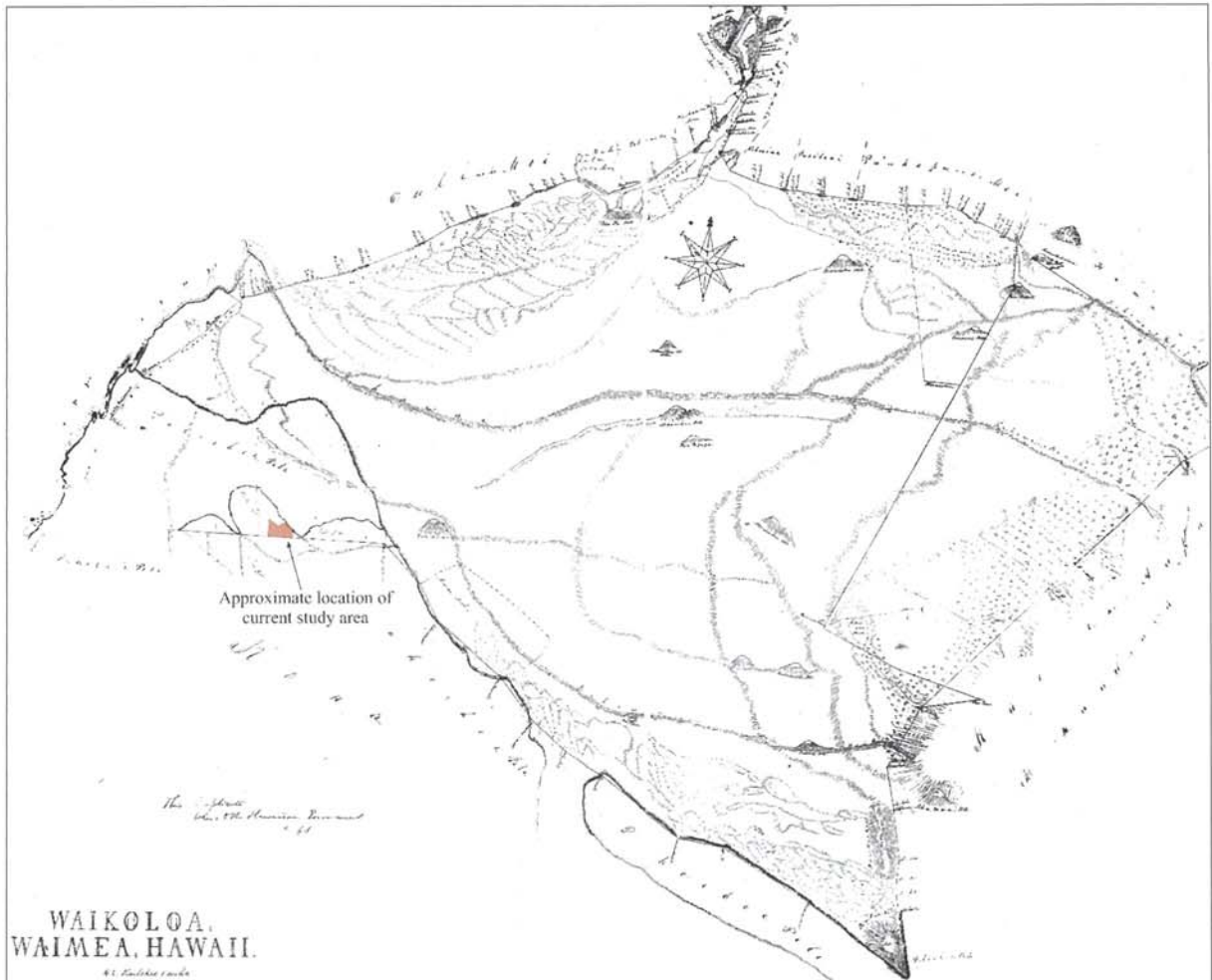


Figure 12. Registered Map No. 574 showing Waikōloa, the *kalana* of Waimea and the approximate location of the current study area (prepared by Kaelemakule, n.d.).

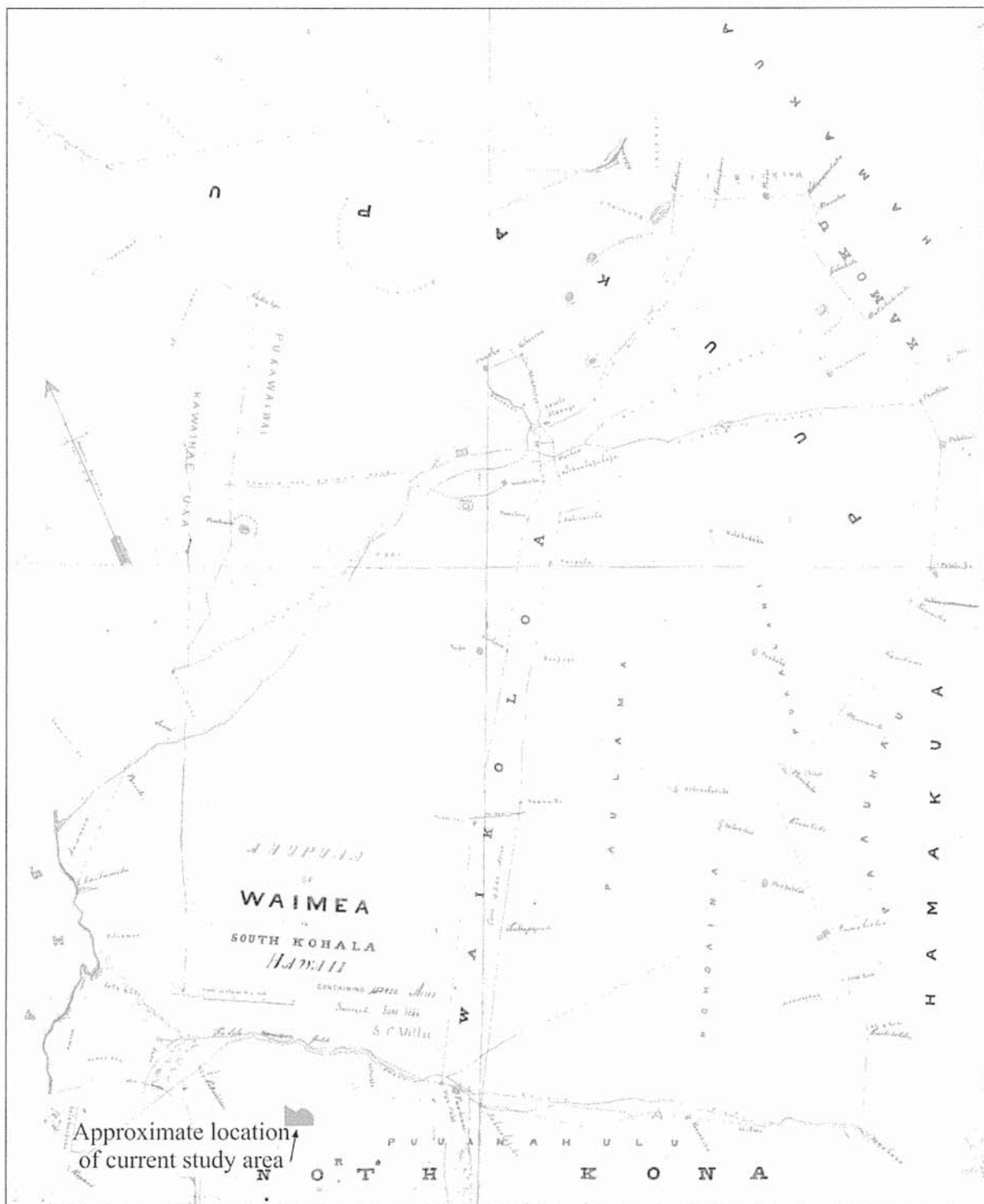


Figure 13. Hawai'i Registered Map No. 712 showing the *kalana* of Waimea and associated *ahupua'a* ca. 1866 with approximate location of the current study area.

Bernice Judd, a former librarian at the Hawaiian Mission Children's society, explains that:

In the early days Waimea meant all the plateau between the Kohala Mountains and Mauna Kea, inland from Kawaihae. This area is from eight to ten miles long and from three to five miles wide. There was no running water on Mauna Kea, so the inhabitants lived at the base of the Kohala Mountains, where three streams touched the plain on their way towards the sea. . . The middle stream, which was famous for wild ducks, was named Waikoloa, or Duckwater. This and the most westerly stream, called Kahakohau, went towards Kawaihae, but neither reached the sea, except in times of flood. (Judd 1932:14)

In some early accounts, Waikōloa Ahupua'a was referred to as Waikōloa Nui, and the neighboring *ahupua'a* of Lālāmilo as Waikōloa Iki (Maly 1999). Unlike the early maps of Waimea prepared by Kaelemakule (see Figure 12) and S.C. Wiltse in 1866 (see Figure 13), Hawaiian Government Survey maps prepared by John M. Donn in 1901 (see Figure 11) and by C.J. Lyons in 1928 (Figure 14) both show the *ahupua'a* of Waikōloa as it appears today.

Heiau construction flourished during the Expansion Period as religion became more complex and embedded in a sociopolitical climate of territorial competition. Monumental architecture "played a key role as visual markers of chiefly dominance" (Kirch 1990:206). This pattern continued to intensify from A.D. 1500 until contact (A.D. 1778), and archaeological evidence suggests that substantial revisions were made to the political system as well. Within Kohala, the Great Wall complex at Koai'e is organized with platforms in the complex set apart from contemporaneous features; Griffin et al. (1971) interpret this separation within the complex as symbolic of class stratification.

During the Expansion Period agricultural intensification occurred primarily in the uplands of South Kohala. Although most of the taro and sweet potato fields of South Kohala were located in the rainier uplands near the present day town of Waimea (where there was also a sizable permanent population), Handy and Handy relate that:

the coastal section of Waimea, now called South Kohala, has a number of small bays with sandy shores where fishermen used to live, and where they probably cultivated potatoes in small patches... Puako near the Kona border was a sizable fishing village at one time where there were undoubtedly many sweet potato patches" (1991:532)

In addition to taro and sweet potato fields, *kō kea* (white cane), the most common variety of sugarcane (*Saccharum officinarum*) was often planted near Hawaiian homes and was utilized for a variety of medicinal and culinary purposes (Handy and Handy 1991). Sugar cane was also used as thatch for houses when *pili* grass (*Heteropogon contortus*) or *lau hala* (*Pandanus odortissimus*) were in short supply (Malo 1903). The name of the village of Puakō, literally translates as "sugarcane blossom" (Pukui et al. 1974). Pukui (1983) cites the following ancient proverb that references the sugar cane in Kohala:

I 'ike 'ia no o Kohala i ka pae kō, a o ka pae kō ia kole ai ka waha.

One can recognize Kohala by her rows of sugar cane which can make the mouth raw when chewed.

Pukui stresses that Hawaiian proverbs have layers of meaning that are best left to the imagination of the reader and offers the following interpretation of this proverb:

When one wanted to fight a Kohala warrior, he would have to be a very good warrior to succeed. Kohala men were vigorous, brave, and strong. (1983:127)

Another Hawaiian legend, the Legend of Kanikū and Kanimoe, two *mo'o* or water-spirits with lizard bodies, is worth mentioning as part of the current investigation because the study area is located within the lava flow (Figure 15) that bears the water spirit's name. According to an interview documented by Wolforth et al., these two *mo'o* took the form of beautiful women and lived in the "large coastal fishpond of Wainānāli'i in Pu'uanahulu" (2005:6). According to the legend, Kanikū and Kanimoe were turned to stone when a lava flow covered the fishpond and as a result, their bodies still lie side by side in the middle of the 'a 'ā flow, which is how the Kanikū Lava Flow got its name (Wolforth et al 2005).

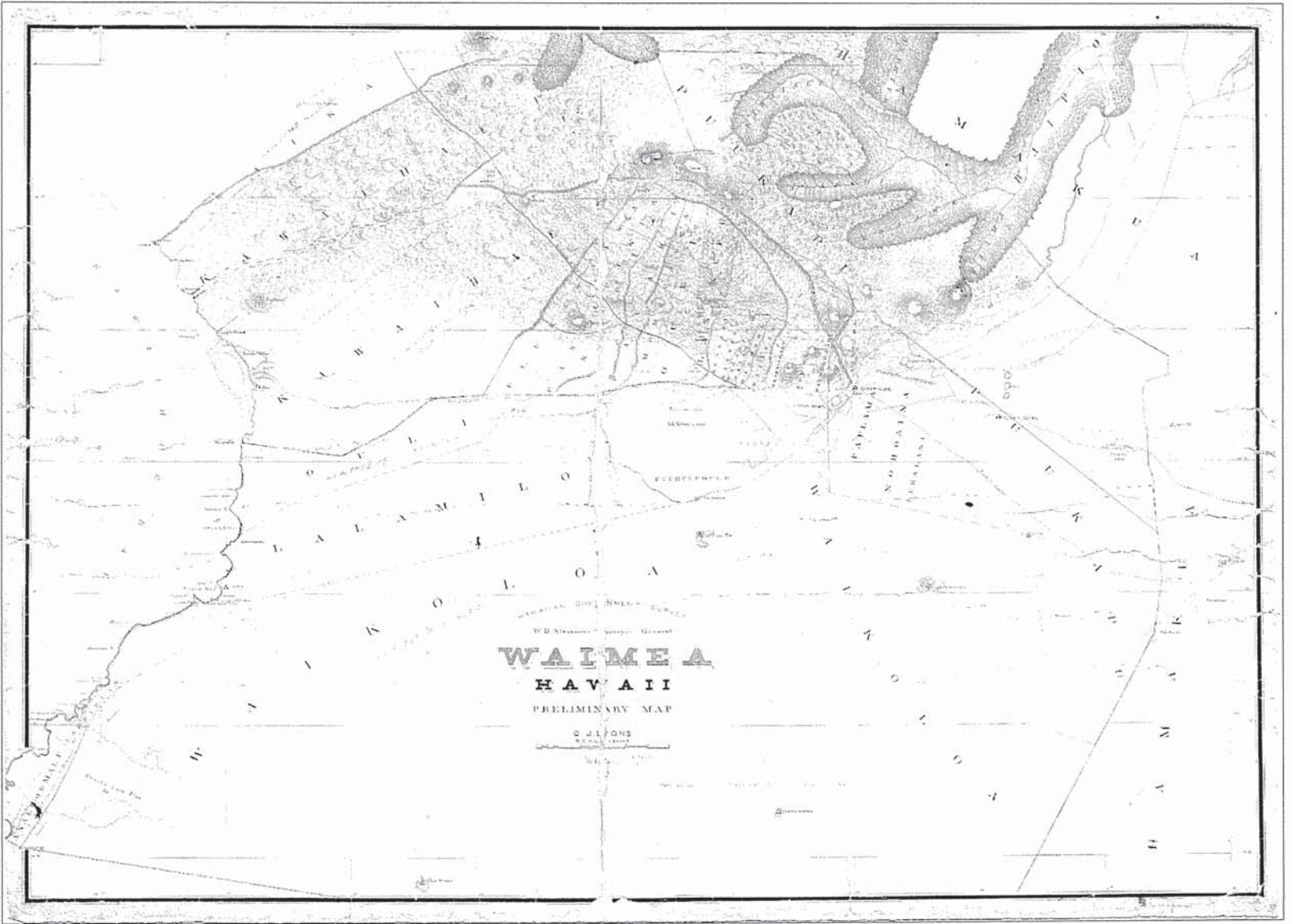


Figure 14. Hawai'i Registered Map No. 1080 showing *kalana* of Waimea with Waikōloa Ahupua'a as it appears today.

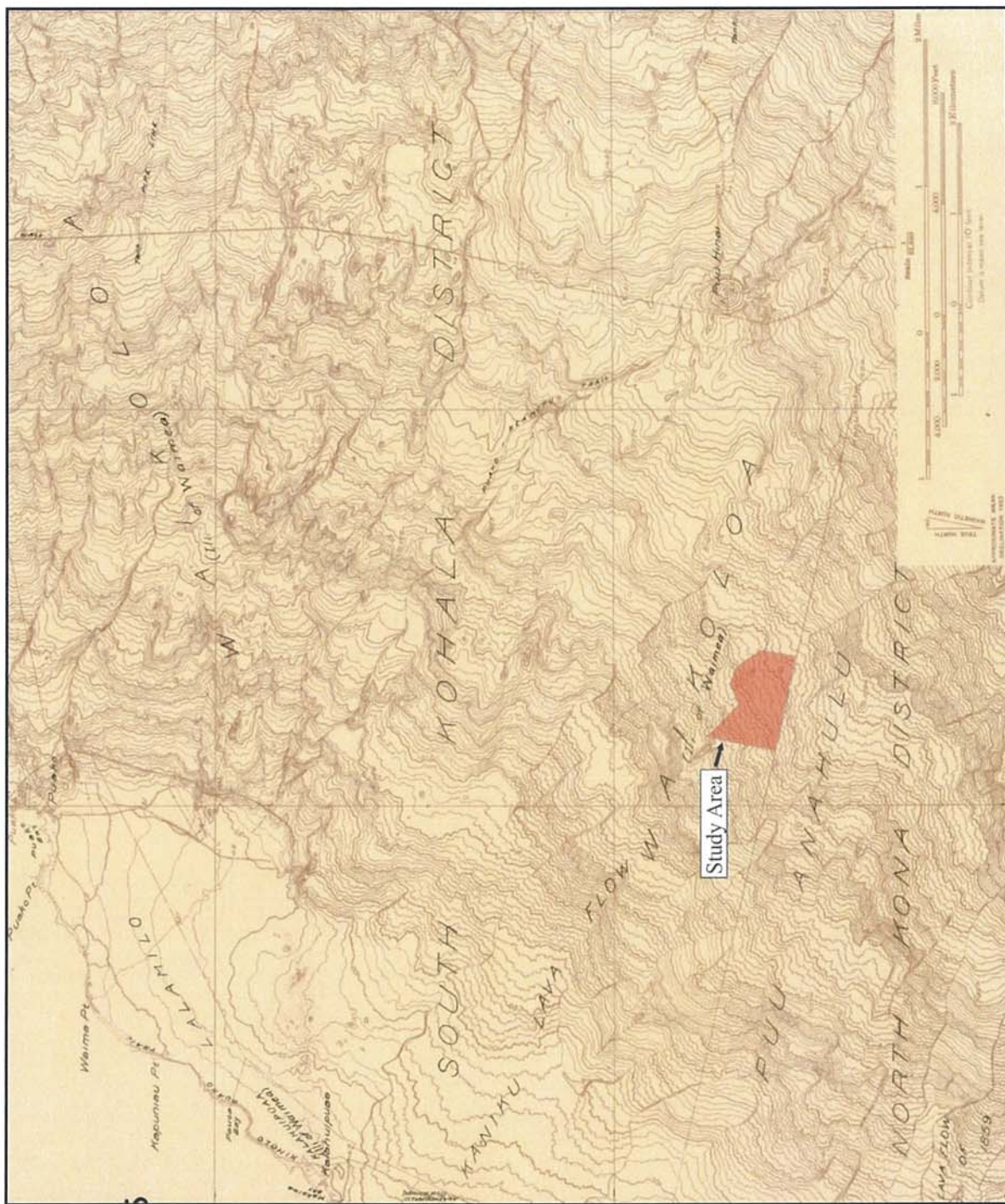


Figure 15. Portion of the 1923 U.S.G.S. Pu'u Hinai quadrangle showing the current study area within Kanikū Lava Flow.

By the seventeenth century, large areas of Hawai'i Island (*moku āina* – districts) were controlled by a few powerful *ali'i 'ai moku*. There is island-wide evidence to suggest that growing conflicts between independent chiefdoms were resolved through warfare, culminating in a unified political structure at the district level. It has been suggested that the unification of the island resulted in a partial abandonment of portions of leeward Hawai'i, with people moving to more favorable agricultural areas (Barrera 1971; Schilt and Sinoto 1980). 'Umi a Līloa, a renowned *ali'i* of the Pili line who ruled from Waipi'o Valley, is often credited with uniting the island of Hawai'i under one rule (Cordy 1994). According to Kamakau (1992) 'Umi was a skilled fisherman, and fishing for *aku*, his favorite fish, often brought him to the beaches of South Kohala from Kalahuipua'a to Makaula, where he also fished for *'ahi* and *kala* with many other famed fishermen and all the chiefs of the kingdom. 'Umi's reign lasted until around ca. A.D. 1620, and was followed by the rule of his son, Keawenui a 'Umi, and then his grandson, Lonoikamakahiki (Cordy 1994).

Kirch (1985) places the beginning of the Proto-Historic Period (A.D. 1650–1795) during the rule of Lonoikamakahiki. This period was marked by both political intensification and continual conquest by the reigning *ali'i*. Wars occurred regularly between intra-island and inter-island polities during this period, and included battles that transpired in the vicinity of the current study area. One such battle was fought between Lonoikamakahiki (Lono) and his older brother, Kanaloakua'ana, who rebelled against him. According to Fornander, Kanaloakua'ana and his rebel forces were situated at:

. . . the land called Anaehoomalu, near the boundaries of Kohala and Kona. The rebel chiefs were encamped seaward of this along the shore. The next day Lono marched down and met the rebels at the place called Wailea, not far from Wainanalii, where in those days a watercourse appears to have been flowing. Lono won the battle, and the rebel chiefs fled northward with their forces. At Kaunooa [Kauna'oa], between Puako and Kawaihae, they made another stand, but were again routed by Lono, and retreated to Nakikiaianihau, where they fell in with reinforcements from Kohala and Hamakua. Two other engagements were fought at Puupa [on the plain north of Waikōloa] and Puukohala, near the Heiau of that name, in both of which Lono was victorious. . . (Fornander 1996:120-121)

Later, Lonoikamakahiki battled the forces of Maui led by Kamālālawalu (Kama) on the plain of Waikōloa below Pu'u 'Ōā'oaka (Maly and Maly 2002). According to Kamakau:

After Kama-lala-walu's warriors reached the grassy plain, they looked seaward on the left and beheld the men of Kona advancing toward them. The lava bed of Kaniku and all the land up to Hu'ehu'e was covered with the men of Kona. Those of Ka'u and Puna were coming down from Mauna Kea, and those of Waimea and Kohala were on the level plain of Waimea [Waikōloa]. The men covered the whole of the grassy plain of Waimea like locusts. Kamalalawalu with his warriors dared to fight. The battlefield of Pu'oa'oaka was outside of the grassy plain of Waimea, but the men of Hawaii were afraid of being taken captive by Kama, so they led [Kamalalawalu's forces] to the waterless plain lest Maui's warriors find water and hard, waterworn pebbles. The men of Hawaii feared that the Maui warriors would find water to drink and become stronger for the slinging of stones that would fall like raindrops from the sky. The stones would fall about with a force like lightning, breaking the bones into pieces and causing sudden death as if by bullets . . .

. . . The Maui men who were used to slinging shiny, water-worn stones grabbed up the stones of Pu'oa'oaka. A cloud of dust rose to the sky and twisted about like smoke, but the lava rocks were light, and few of the Hawaii men were killed by them. This was one of the things that helped to destroy the warriors of Kama-lala-walu: They went away out on the plain where the strong fighters were unable to find water . . . The warriors of Maui were put to flight, and the retreat to Kawaihae was long. [Yet] there were many who did reach Kawaihae, but because of the lack of canoes, only a few escaped with their lives . . . Kamalalawalu, ruler of Maui, was killed on the grassy plain of Puako, and some of his chiefs were also destroyed. (Kamakau 1991:58-60)

By the 1700s, the rule of Hawai'i Island was divided amongst the chiefs of Kona and Hilo (Kamakau 1992). Keawe, a Pili line ruler and the son of Kanaloakapulehu, was the chief of Kohala, Kona, and Ka'ū. When Keawe died, he split the rule of his lands between two of his sons, further dividing the island's chiefdoms; Kalaninui'iamamao became the ruling chief of Ka'ū, and Ke'eaumoku became the ruling chief of Kona and Kohala (Kamakau 1992). Wars between the *ali'i* continued unabated through this transition.

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During this time of warfare, and following the death of Keawe, Kamehameha was born in North Kohala District in the *ahupua'a* of Kokoiki, near the *heiau* of Mo'okini (Kamakau 1992). There is some controversy about the year of his birth, but Kamakau (1992) places the birth event sometime between A.D. 1736 and 1758, most likely nearer to the later date. Kamehameha's ancestral homeland was in Hälawa, North Kohala District (Williams 1919).

About A.D. 1759, Kalani'ōpu'u conquered East Maui and defeated his wife's brother, the Maui king Kamehamehanui, by using Hāna's prominent Pu'u Kau'iki as his fortress. He appointed one of his Hawai'i chiefs, Puna, as governor of Hāna and Kīpahulu. Following this victory, Ke'eaumoku, the son of Keawepoepoe who had originally supported Kalani'ōpu'u against Keawe'ōpala, rebelled against the Hawai'i chief. He set up a fort on a hill between Pololū and Honokāne Valleys in windward North Kohala, but Kalani'ōpu'u attacked him there and reigned victorious. Using ropes, Ke'eaumoku escaped to the sea and fled in a canoe to Maui where he lived under the protection of the Maui chiefs (Kamakau 1992).

In A.D. 1766 Kamehamehanui, the king of Maui, died following an illness and Kahekili became the new ruler of that island. Ke'eaumoku took Kamehamehanui's widow, Namahana, a cousin of Kamehameha I, as his wife, and their daughter, Ka'ahumanu, the future favorite wife of Kamehameha I, was born in a cave at the base of Pu'u Kau'iki, Hāna, Maui in A.D. 1768 (Kamakau 1992). In A.D. 1775 Kalani'ōpu'u and his Hāna forces raided and destroyed the neighboring district of Kaupō in Maui, and then launched several more raids on Moloka'i, Lāna'i, Kaho'olawe, and parts of West Maui. It was at the battle of Kalaeoka'ilio that Kamehameha, a favorite of Kalani'ōpu'u, was first recognized as a great warrior and given the name of Pai'ea (hard-shelled crab) by the Maui chiefs and warriors (Kamakau 1992). During the battles between Kalani'ōpu'u and Kahekili (1777–1779), Ka'ahumanu and her parents left Maui to live on the island of Hawai'i (Kamakau 1992). Kalani'ōpu'u was fighting on Maui when the British explorer Captain James Cook first arrived in the islands.

History After Contact

The arrival of Western explorers in Hawai'i marked the end of the Precontact Period and the beginning of the Historic Period. With the arrival of foreigners, Hawai'i's culture and economy were drastically altered. Demographic trends during this period indicate population reduction in some areas, due to war and disease, yet increases in others, with relatively little modification of material culture. There was a continued trend toward craft and status specialization, intensification of agriculture, *ali'i* controlled aquaculture, upland residential sites, and the enhancement of traditional oral history. The Kū cult, *luakini heiau*, and the *kapu* system were at their peaks, although Western influence was already altering the cultural fabric of the Islands (Kirch 1985; Kent 1983). Foreigners very quickly introduced the concept of trade for profit, and by the time Kamehameha I had conquered O'ahu, Maui and Moloka'i, in 1795, Hawai'i had seen the beginnings of a market system economy (Kent 1983). Some of the work of the commoners shifted from subsistence agriculture to the production of foods and goods that they could trade with early visitors. Introduced foods often grown for trade with Westerners included yams, coffee, melons, potatoes, corn, beans, figs, oranges, guava, and grapes (Wilkes 1845). Later, as the Historic Period progressed, Kamehameha I died, the *kapu* system was abolished, Christianity established a firm foothold in the islands, and introduced diseases and global economic and political forces began to have a devastating impact on traditional Hawaiian lifeways. This marked the end of the Proto-Historic Period and the decline of the uniquely innovative Hawaiian culture.

The Arrival of Captain James Cook and the End of Kalani'ōpu'u's Reign (1778-1782)

British explorer Captain James Cook, in command of the ships *H.M.S. Resolution* and *H.M.S. Discovery*, first landed in the Hawaiian Islands on January 18, 1778. The following January, Cook returned to Kealahou Bay in South Kona District during the annual *Makahiki* festival. According to John Ledyard, a British marine on board Cook's ship, more than 15,000 inhabitants were present at the bay at that time, and as many as 3,000 canoes came out to greet the ships (Jarves 1847). It has been suggested that Captain Cook was mistaken for the returned god Lono himself, as men would not normally be allowed to paddle out during the *Makahiki* without breaking the *kapu* and forfeiting all of their possessions (Kamakau 1992). Cook set sail shortly thereafter but a storm forced him to return to Kealahou Bay for repairs. Cook's return set off a series of unfortunate events that ended in Cook's death along with four of his men and several natives on the shores of Ka'awaloa (Kamakau 1992).

After Captain Cook was struck down, the British ships fired cannons into the crowd at the shore and several more natives were killed. Kalani'ōpu'u and his retinue retreated inland, bringing the body of Cook with them. Kamakau writes:

... The bodies of Captain Cook and the four men who died with him were carried to Ka-lani-'opu'u at Maaunaloia, and the chief sorrowed over the death of the captain. He dedicated the body of Captain Cook, that is, he offered it as a sacrifice to the god with a prayer to grant life to the chief (himself) and to his dominion. Then they stripped the flesh from the bones of Lono. The palms of the hands and the intestines were kept; the remains (*pela*) were consumed with fire. The bones Ka-lani-'opu'u was kind enough to give to the strangers on board the ship, but some were saved by the kahunas and worshiped. (1992:103)

After the death of Captain Cook and the departure of the *H.M.S. Resolution* and *Discovery*, Kalani'ōpu'u moved to Kona (Kamakau 1992). When famine struck in Kona District, Kalani'ōpu'u ordered that all the cultivated products in Kona be seized. He then set out on a circuit of the island; his first stop was Hinakahua in Kapa'au, North Kohala. During his stay in Kohala, Kalani'ōpu'u proclaimed that his son Kiwala'ō would be his successor, and he gave the guardianship of the war god Kūka'ilimoku to Kamehameha. However, Kamehameha and a few other chiefs were concerned about their land claims, which Kiwala'ō did not seem to honor (Fornander 1996; Kamakau 1992). The *heiau* of Moa'ula was erected in Waipi'o at this time (ca. 1781), and after its dedication Kalani'ōpu'u set out for Hilo to quell a rebellion by a Puna chief named Imakakolo'a.

Imakakolo'a was defeated in Puna by Kalani'ōpu'u's superior forces, but he managed to avoid capture and hide from detection for the better part of a year. While the rebel chief was sought, Kalani'ōpu'u "went to Ka-'u and stayed first at Punalu'u, then at Waiohinu, then at Kama'oa in the southern part of Ka-'u, and erected a *heiau* called Pakini, or Halauwailua, near Kama'oa" (Kamakau 1992:108). Imakakolo'a was eventually captured and brought to the *heiau*, where Kiwala'ō was to sacrifice him. "The routine of the sacrifice required that the presiding chief should first offer up the pigs prepared for the occasion, then bananas, fruit, and lastly the captive chief" (Fornander 1996:202). However, before Kiwala'ō could finish the first offerings, Kamehameha, "grasped the body of Imakakolo'a and offered it up to the god, and the freeing of the tabu for the *heiau* was completed" (Kamakau 1992:109). Upon observing this single act of insubordination, many of the chiefs believed that Kamehameha would eventually rule over all of Hawai'i. After usurping Kiwala'ō's authority with a sacrificial ritual in Ka'ū, Kamehameha retreated to his home district of Kohala. While in Kohala, Kamehameha farmed the land, growing taro and sweet potatoes (Handy and Handy 1972). Kalani'ōpu'u died in April of 1782 and was succeeded by his son Kiwala'ō.

The Rule of Kamehameha I (1782-1819)

After Kalani'ōpu'u died, several chiefs were unhappy with Kiwala'ō's division of the island's lands, and civil war broke out. Kiwala'ō, Kalani'ōpu'u's son and appointed heir, was killed in July of 1782 at the battle of Moku'ōhai in South Kona. Supporters of Kiwala'ō, including his half-brother Keōua and his uncle Keawemauhili, escaped the battle of Moku'ōhai with their lives and laid claim to the Hilo, Puna, and Ka'ū Districts. According to 'I'i (1963), nearly ten years of almost continuous warfare followed the death of Kiwala'ō, as Kamehameha endeavored to conquer the islands of Maui and O'ahu and unite the island of Hawai'i under one rule. Keōua became Kamehameha's main rival on the island of Hawai'i, and he proved difficult to defeat (Kamakau 1992). Keawemauhili would eventually give his support to Kamehameha, but Keōua never stopped resisting. Around 1790, in an effort to secure his rule, Kamehameha began building the *heiau* of Pu'ukoholā at Kawaihae, which was to be dedicated to the war god Kūka'ilimoku (Fornander 1996).

When construction of Pu'ukoholā Heiau was completed in the summer of 1791, Kamehameha sent two of his counselors, Keaweheulu and Kamanawa, to offer peace to Keōua. Keōua was enticed to the dedication of the Pu'ukoholā Heiau by this ruse and when he arrived at Kawaihae he and his party were sacrificed to complete the dedication (Kamakau 1992). The assassination of Keōua gave Kamehameha undisputed control of Hawai'i Island by about 1792 (Greene 1993). Between 1792 and 1796 Kamehameha mostly resided at Kawaihae and worked the lands of the Waikōloa-Waimea region (Maly and Maly 2002). By 1796, Kamehameha had conquered all the island kingdoms except for Kaua'i. It wasn't until 1810, when Kaumuali'i of Kaua'i gave his allegiance to Kamehameha, that the Hawaiian Islands were unified under one ruler (Kuykendall and Day 1976).

In the twelve years following the death of Captain Cook, sixteen foreign ships (all British and American) visited Hawaiian waters (Restarick 1927). In 1790, two sister ships, the *Eleanora* and the *Fair American*, were trading in Hawaiian waters when a skiff was stolen from the *Eleanora* and one of its sailors was murdered. The crew of the *Eleanora* proceeded to slaughter more than 100 natives at Olowalu on Maui. After leaving Maui, the *Eleanora* sailed to Hawai'i Island, where one of its crew, John Young, went ashore and was detained by Kamehameha's men. The other vessel, the *Fair American*, was captured by the forces of Kamehameha off the coast of North Kona, and in an

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act of retribution for the Olowalu massacre, they slaughtered all but one crew member, Isaac Davis. Guns and a cannon (later named “Lopaka”) were recovered from the *Fair American*, and were kept by Kamehameha as part of his fleet (Kamakau 1992). Kamehameha made John Young and Isaac Davis his advisors.

In 1792, Captain George Vancouver, who had sailed with Cook during his 1778-1779 voyages, arrived in Kealahou Bay with a small fleet of British ships, where he met with Kamehameha. Vancouver stayed only a few days during this first visit, but returned again in 1793 and 1794 to resupply his fleet. Vancouver introduced cattle to the Island of Hawai‘i during his 1793 and 1794 visits, giving them as gifts to Kamehameha I, who immediately made the cattle *kapu*, thus preventing them from being killed (Kamakau 1992). Five cows, two ewes, and a ram brought by Vancouver in 1793 were set free to roam in the saddle area of Waimea between Mauna Kea, Mauna Loa, and Hualāli (Escott 2008).

During one of his visits Vancouver anchored at Kawaihae and a member of his crew, Archibald Menzies, a surgeon and naturalist, trekked inland towards Waimea. Menzies’ journal records the journey and describes the land in the vicinity of the current study area as follows:

I travelled a few miles back...through the most barren, scorching country I have ever walked over, composed of scorious dregs and black porous rock, interspersed with dreary caverns and deep ravines...The herbs and grasses which the soil produced in the rainy seasons were now mostly in the shriveled state, thinly scattered and by no means sufficient to cover the surface from the sun’s powerful heat, so that I met with few plants in flower in this excursion. (Menzies 1920:55)

Around the turn of the century, Kamehameha gave control of present day Waikōloa then Waikōloa Nui Ahupua‘a (excluding the coastal ‘ili of ‘Anaeho‘omalua and Kalāhuipua‘a) to Isaac Davis (Rosendahl 2000). Although the land of Waikōloa Nui gifted to Davis encompassed a large area, it lacked extensive resources, and was primarily a place for catching birds and gathering *pili* grass. When Davis died in 1810 without naming an heir, John Young took control of the land and protected it for Davis’ children, who were at that time too young to take on the responsibility (Rosendahl 2000).

Waikōloa Nui would eventually become a favored pasture for the cattle given by Vancouver to Kamehameha. By the early nineteenth century the *kapu* cattle quickly multiplied in the region to the extent that they became a scourge for the native planters of the Waimea area. In order to protect the upland agricultural fields from the overwhelming number of grazing cattle, sometime between 1813 and 1819, Kamehameha ordered the construction of a wall extending from the northern boundary of Waikōloa Nui to near Pu‘u Huluhulu (Barrère 1983). The wall was designed to keep wild cattle in Waikōloa Nui and out of the more agriculturally productive areas on the Waimea side. The wall was called *Pā* of Kauliokamoa after the *konohiki* who oversaw its construction (Wolforth 2000).

During the first part of the nineteenth century, Hawaiian culture and economy continued their radical transformation as capitalism and industry established a tight grip on the islands. The sandalwood (*Santalum ellipticum*) trade, established by Euro-Americans in 1790 and turned into a viable commercial enterprise by 1805, was flourishing by 1810 (Oliver 1961). This added to the breakdown of the traditional subsistence system, as farmers and fishermen were ordered to spend most of their time logging, which resulted in food shortages and famine and eventually led to population decline. Kamehameha, who resided on the Island of O‘ahu at this time, did manage to maintain some control over the trade on Hawai‘i Island (Kuykendall and Day 1976; Kent 1983).

Upon returning to Kailua in 1812, Kamehameha ordered men into the mountains of Kona to cut sandalwood and carry it to the coast, paying them in cloth, *tapa* material, food and fish (Kamakau 1992). Kamakau indicates that:

this rush of labor to the mountains brought about a scarcity of cultivated food . . . The people were forced to eat herbs and tree ferns, thus the famine [was] called Hi-laulele, Haha-pilau, Laulele, Pualele, ‘Ama‘u, or Hapu‘u, from the wild plants resorted to. (1992:204)

Once Kamehameha realized that his people were suffering, he declared all the sandalwood to be government property and ordered the people to return to their cultivation of the land and devote only part of their time to sandalwood production (Kamakau 1992). In the uplands of Kailua, a vast plantation named Kuaheua was established where Kamehameha himself worked as a farmer. Kamehameha enacted the law that anyone who took one corm of taro or one stalk of sugarcane must plant one cutting of the same in its place (Handy and Handy 1991). While in Kailua, Kamehameha resided at Kamakahonu, from where he continued to rule the islands for another nine years. He and his high chiefs participated in foreign trade, but also continued to enforce the rigid *kapu* system.

The Death of Kamehameha I and the Abolition of the Kapu System (1819-1820)

Kamehameha I died on May 8, 1819 at Kamakahonu in Kailua-Kona, and the changes that had been affecting the Hawaiian culture since the arrival of Captain Cook in the Islands began to accelerate. Following the death of a prominent chief, it was customary to temporarily eliminate all of the regular *kapu* that maintained social order through the strict separation between men and women; elite and commoner. Thus, following Kamehameha's death, a period of *'ai noa* (free eating) was observed along with the relaxation of other traditional *kapu*. It was the responsibility of the new ruler and *kahuna* to re-establish *kapu* and restore social order, but at this point in history traditional customs were significantly altered:

The death of Kamehameha was the first step in the ending of the tabus; the second was the modifying of the mourning ceremonies; the third, the ending of the tabu of the chief; the fourth, the ending of carrying the tabu chiefs in the arms and feeding them; the fifth, the ruling chief's decision to introduce free eating (*'ainoa*) after the death of Kamehameha; the sixth, the cooperation of his aunts, Ka-ahu-manu and Ka-heihei-malie; the seventh, the joint action of the chiefs in eating together at the suggestion of the ruling chief, so that free eating became an established fact and the credit of establishing the custom went to the ruling chief. This custom was not so much of an innovation as might be supposed. In old days the period of mourning at the death of a ruling chief who had been greatly beloved was a time of license. The women were allowed to enter the heiau, to eat bananas, coconuts, and pork, and to climb over the sacred places. You will find record of this in the history of Ka-ula-hea-nui-o-ka-moku, in that of Ku-ali'i, and in most of the histories of ancient rulers. Free eating followed the death of the ruling chief; after the period of mourning was over the new ruler placed the land under a new tabu following old lines. (Kamakau 1992: 222)

Immediately upon the death of Kamehameha I, his son and would be successor, Liholiho was sent away to Kawaihae to keep him safe from the impurities in Kamakahonu brought about by his father's death. After purification ceremonies Liholiho returned to Kamakahonu:

Then Liholiho on this first night of his arrival ate some of the tabu dog meat free only to the chiefesses; he entered the *lauhala* house free only to them; whatever he desired he reached out for; everything was supplied, even those things generally to be found only in a tabu house. The people saw the men drinking rum with the women *kahu* and smoking tobacco, and thought it was to mark the ending of the tabu of a chief. The chiefs saw with satisfaction the ending of the chief's tabu and the freeing of the eating tabu. The *kahu* said to the chief, "Make eating free over the whole kingdom from Hawaii to Oahu and let it be extended to Kauai!" and Liholiho consented. Then pork to be eaten free was taken to the country districts and given to commoners, both men and women, and free eating was introduced all over the group. Messengers were sent to Maui, Molokai, Oahu and all the way to Kauai, Ka-umu-ali'i consented to the free eating and it was accepted on Kauai. (Kamakau 1992: 225)

The indefinite period of free-eating initiated by Liholiho and his failure to reinstate the *kapu* system from Hawai'i to Kaua'i made the traditional religion of Hawai'i vulnerable to the Christian missionaries who began to arrive shortly thereafter. As a result, within one year after Kamehameha I's death Christianity had officially replaced the native Hawaiian religious practices. By December of 1819, Kamehameha II had sent edicts throughout the kingdom renouncing the ancient state religion, ordering the destruction of the *heiau* images, and ordering that the *heiau* structures be destroyed or abandoned and left to deteriorate. He did, however, allow the personal family religion, the *'aumakua* worship, to continue (Oliver 1961; Kamakau 1992). With the end of the *kapu* system, modifications in the social and economic patterns began to affect the lives of the common people.

Kohala 1820-1848: A Land in Transition

In October of 1819, seventeen Protestant missionaries set sail from Boston to Hawai'i and arrived in Kailua-Kona on March 30, 1820. Many of the *ali'i*, who were already exposed to western material culture had adopted their dress and religion and welcomed the opportunity to become educated in a western style. Soon they were rewarding their teachers with land and positions in the Hawaiian government. During this period, the sandalwood trade wreaked further havoc on the lives of the commoners, as they weakened from the heavy production, exposure, and famine just to fill the coffers of the *ali'i*, who were no longer under any traditional constraints (Oliver 1961; Kuykendall and Day 1976). The lack of control of the sandalwood trade was to soon lead to the first Hawaiian national debt as promissory notes and levies were initiated by American traders and enforced by American warships (Oliver 1961). The Hawaiian culture

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was well on its way towards Western assimilation as industry in Hawai'i went from the sandalwood trade, to a short-lived whaling industry, and gave way to the more lucrative, but environmentally destructive sugar industry.

Some of the earliest written descriptions of Kohala come from the accounts of the first Protestant Missionaries that visited the island. In 1823 the Reverend William Ellis described Waimea as a fertile, well watered land "capable of sustaining many thousands of inhabitants" (Ellis 1969:399). Ellis notes that another missionary, Asa Thurston, had counted 220 houses in the area, and estimated the population at between eleven and twelve hundred. During his travels along the coast of North Kohala Ellis noted that most of the villages were empty as the men of the region had been ordered to the mountains by the King to collect sandalwood. He writes:

About eleven at night we reached Towaihae [Kawaihae], where we were kindly received by Mr. Young. . . . Before daylight on the 22nd, we were roused by vast multitudes of people passing through the district from Waimea with sandal-wood, which had been cut in the adjacent mountains for Karaimoku, by the people of Waimea, and which the people of Kohala, as far as the north point, had been ordered to bring down to his storehouse on the beach, for the purpose of its being shipped to Oahu. There were between two and three thousand men, carrying each from one to six pieces of sandal-wood, according to their size and weight. It was generally tied on their backs by bands of ti leaves, passed over the shoulders and under the arms, and fastened across their breasts. (Ellis 2004:405-406)

The population of South Kohala continued to reside either near the shore or in the uplands of Waimea throughout the first half of the nineteenth century, but as previously discussed, the arrival of foreigners, their introduction of a western economy, and the rise of the sugar and cattle industries had a profound impact on daily life in Kohala. Even the landscape of Waimea was substantially altered; initially through deforestation associated with the sandalwood trade, followed by the effects of countless grazing cattle (Rechtman and Prasad 2006). A network of stone walls began to appear as a way for people to keep feral cattle out of their gardens and house lots. Commercial ventures soon replaced traditional agricultural practices and introduced crops (Irish potatoes, watermelons, cabbage, onions, tomatoes, mulberries, figs, and beans) were grown to replenish the cargo ships at Kawaihae Harbor; and in the late 1840s many of the potatoes grown in the Waimea area were shipped to California to help feed the gold rush (Haun et al. 2003). In addition, a sugar mill operated in the Waimea area from the 1820s until the 1840s.

The 1835 missionary census lists 6,175 people living in Kohala and another 1,396 people, including 500 men, 510 women, and 386 children, living in Waimea (Schmitt 1977). In 1837 there were sixty foreigners in Waimea employed as mechanics and bullock hunters (Brundage 1971); and in his report to the American Board of Commissioners to Foreign Missions in 1840, Lorenzo Lyons stated "in my field are sixty or seventy foreigners, from seven or eight different nations. They are beef catchers, sugar manufacturers, shoe makers, merchants, masons, doctors, farmers, and what not" (Doyle 1953:118). By 1840, bullock hunting had drastically reduced the population of wild cattle on Hawai'i Island, so much so that a five year *kapu* was placed on hunting them solely for their hides and tallow (Bergin 2004). This led to further efforts to tame, brand, fence, and herd privately owned cattle (Wilkes 1845). The decline of the whaling industry in Hawaiian waters during this time, combined with the *kapu* on killing wild cattle, led to a period of economic hardship and population decline in the Waimea area (Escott 2008).

By the mid-nineteenth century, the agriculturally marginal areas of leeward Kohala were abandoned in favor of more productive and wetter lands in windward Kohala. According to Tomonari-Tuggle (1988), the remnant leeward population was concentrated into a few small coastal communities (such as Puakō, located roughly 5 miles northwest of the current study area) and dispersed upland settlements. These settlements were no longer based on traditional subsistence patterns, largely because of the loss of access to the full range of necessary resources. As a result, the windward slopes of North Kohala and the Waimea plain eventually became the population centers for the district. Tomonari-Tuggle clarifies some of the reasons for this migration:

Outmigration and a demographic shift from rural areas to growing urban centers reflected the lure of a larger world and world view on a previously isolated community. Foreigners, especially whalers and merchants, settled around good harbors and roadsteads. Ali'i and their followers gravitated towards these areas, which were the sources of Western material goods, novel status items which would otherwise be unavailable. Associated with the emergence of the market, cash-based economy, commoners followed in search of paying employment. (1988:33)

The population of the district of Kohala declined rapidly as native populations were decimated by disease and a depressed birth rate. Postcontact epidemics in 1848 and 1849 killed more than 10,000 people in twelve months

throughout the Hawaiian Islands (Tomonari-Tuggle 1988). In 1848 in North Kohala, Rev. Bond reported that 100 people had died within a three week period, and in October of that year he reported that a measles epidemic had nearly every resident of the district in the hospital (Damon 1927). Following these epidemics, the population of the district had been reduced to nearly half of the more than 6,000 people reported in the 1835 census (Schmitt 1977). The number of coastal residents soon dwindled and most of the coastal villages were inhabited by only a few solitary residents. An 1848 description of the town of Waimea cited by McEldowney stated that “it can scarcely be said that there is any native population at all.” (1983:432). This statement seems to sum up the devastating demographic changes that were taking place as the native population had been reduced by disease, displacement, and ongoing revisions in land tenure.

Legacy of the Great Māhele (1848-1895)

By the middle of the nineteenth century, the ever-growing population of Westerners forced socioeconomic and demographic changes that promoted the establishment of a Euro-American style of land ownership in the Hawaiian Islands, and the Great *Māhele* became the vehicle for determining ownership of native lands. During this period, land interests of the King (Kamehameha III), the high-ranking chiefs, the *ali'i*, and the low-ranking chiefs, the *konohiki*, were defined. The chiefs and *konohiki* were required to present their claims to the Land Commission to receive awards for lands provided to them by Kamehameha III. They were also required to provide commutations to the government in order to receive royal patents on their awards. The lands were identified by name only, with the understanding that the ancient boundaries would prevail until the land could be surveyed. This process expedited the work of the Land Commission (Chinen 1961:13).

During the *Māhele*, all lands were placed in one of three categories: Crown Lands (for the occupant of the throne), Government Lands, and *Konohiki* Lands. All three types of land were subject to the rights of the native tenants therein. In 1862, the Commission of Boundaries (Boundary Commission) was established in the Kingdom of Hawai'i to legally set the boundaries of all the *ahupua'a* that had been awarded as part of the *Māhele*. Subsequently, in 1874, the Boundary Commission was authorized to certify the boundaries for lands brought before them. The primary informants for the boundary descriptions were elderly native residents of the land. The boundary information was collected primarily between 1873 and 1885 and was usually given in Hawaiian, but transcribed in English.

The disposition and distribution of the lands of Waimea was rather complicated and was under dispute between the Boundary Commissioners, *kama'āina* informants, and land petitioners. Waimea was a discrete land unit (see Figure 13) considered to be a *kalana* (county) or *'okana* (subdistrict) as opposed to an *ahupua'a* (Pukui and Elbert 1986). To further confound the issue, some of the land units within Waimea were considered *ahupua'a* while others were considered *'ili kūpono*, defined by Puhui and Elbert as “A nearly independent *'ili* land division within an *ahupua'a* paying tribute to the ruling chief and not the chief of the *ahupua'a*. Transfer of the *ahupua'a* from one chief to another did not include the *'ili kūpono* located within its boundaries” (1986:98). As a result of the *Māhele* and Boundary Commission testimonies, many smaller *ahupua'a* names were dropped and the *'ili kūpono* were given *ahupua'a* status; the majority of the Waimea area was retained as Crown Lands, with the exception of a portion of Waikōloa Ahupua'a that was awarded as *Konohiki* Lands. Over 140 claims for Land Commission Awards (LCAw.) were made by native tenants within the Waimea area. Nearly all of these claims were for house lots or cultivated sections (Haun et al. 2003). Of the land commission awards reviewed by Kelly and Nakamura (1981:30), over twenty percent were issued to persons with non-Hawaiian surnames.

During the *Māhele*, Waikōloa (Nui) Ahupua'a was awarded to George Davis Hū'eu (LCA 8521-B; see Figure 2), son of Isaac Davis, one of Kamehameha I's trusted advisors. According to Wolforth et al. (2005), Kamehameha I had given Davis the land as a reward for his service, but after Davis died prematurely under suspicious circumstances in 1810, his friend John Young (another advisor to Kamehameha I) took it upon himself to make sure that Isaac Davis' children would receive their father's lands when they came of age. A portion of Young's Last Will and Testament read as follows (Cahill 1999:167):

... I give and bequeath to be equally divided between my surviving children and the surviving children of my departed friend, the late Isaac Davis, of Milford in England, in such manner as it may please His Majesty the King and his Chiefs; Provided always that each and all of the said children receive a just and equal portion. (reproduced in Wolforth et al. 2005:12)

As a result, John Young's lands were designated *'ina ho'oilina* or inherited lands, during the *Māhele*, a designation applied only to these lands that does not appear elsewhere in the *Māhele* records (Wolforth et al 2005).

Royal Patent number 5671 was issued to Isaac Davis that consisted of a large area of dry, non-arable terrain on

2. Background

grassy slopes known as *pili* lands (after the *pili* plant that grew in abundance there), which extended to the 'a'ā on the Kona District boundary; and did not include any portion of the fertile uplands or shoreline access (Wolforth et al. 2005). In 1865, George Hū'e'u, Davis's only surviving heir, received Waikōloa as an unsurveyed Land Commission Award.

We consider it clear that in making the grant the King intended to give, and did give to Isaac Davis, a tract of land of very great extent, although not of proportionate value, There were no cattle or sheep in this country when the grant was made, and the land given to Isaac Davis only yielded what revenue could be derived from wild birds and *pili* grass (Boundary Commission 1867 in Wolforth et al 2004:13)

In 1868, George Hū'e'u leased his remaining lands in Waikōloa to the Waimea Grazing and Agricultural Company, which made them the largest ranching operation on the island (Escott 2008). Under the terms of the lease, the Hū'e'u family was allowed to continue grazing their 1,000 head of cattle, 1,000 head of sheep, and 100 horses there (Escott 2008). By the late-1870s, largely due to persistent drought conditions within its grazing lands, the Waimea Grazing and Agricultural Company went out of business; Parker Ranch purchased their herd and acquired their lease for roughly 95,000 acres of Waikōloa. A sketch map prepared by J. S. Emerson in 1882 during the Hawaiian Government Survey of South Kohala (Figure 16), shows the Parker Ranch grazing lands and the network of trails that ran through them.

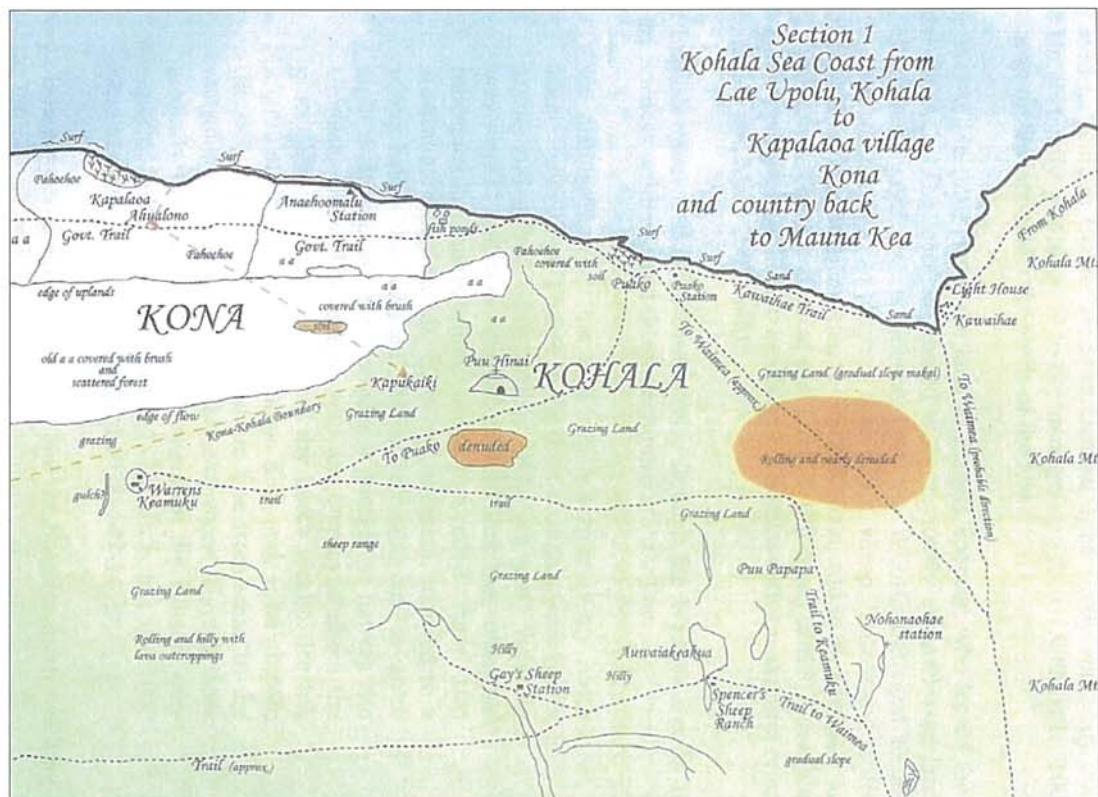


Figure 16. Emerson sketch map of South Kohala coast ca/ 1882 (from Escott 2008:43).

The coastal areas of Waikōloa, 'Anaeho'omalu and Kalāhuipua'a had been passed from Kamehameha I to Kamehameha II and then to Kamehameha III who retained them as Crown Lands until he passed them on to his wife Queen Kalama (LCA 4452; Wolforth et al. 2005). Only nine small residential *kuleana* were awarded in the uplands of Waikōloa near the town of Waimea and none were awarded within or in close proximity to the current study area (Maly 1999). Coastal residents in South Kohala, relied primarily on the ocean for sustenance, and they augmented their diet with produce procured through trade with the upland areas. In addition, according to testimony from 1865 Boundary Commission hearings, Waikōloa Ahupua'a was known as a place for bird catching; Ehu testified, "Waikōloa was the land that had the birds" (Maly 1999:88).

In the decades following the *Māhele* of 1848, the population along the Kohala coast continued to decline and the remnant inland agricultural fields were abandoned as they succumbed to the ravages of free-range cattle or were bought up by ranching and sugar interests. The remaining tenants built *kuleana* walls to enclose their homes, gardens, and domesticated animals in an effort to keep free-ranging animals out of their property and also to mark property boundaries as part of the new land tenure system (Tomonari-Tuggle 1988). The economy also transitioned, becoming cash based and taxes were collected. Foreigners controlled much of the land and most of the businesses, and the native population was largely dependent on these foreigners for food and money (Haun et al. 2003). By the early 1860's, Western Contact had made its inevitable mark on Kohala, but the community remained essentially Hawaiian in nature, and foreigners were still only a small minority in actual numbers (Tomonari-Tuggle 1988).

Oral histories indicate that a dry land planting area referred to as Makahonu was present in Waikōloa near the intersection of Waikōloa Road and Queen Ka'ahumanu Highway, *makai* of the current study area. There is no information in the oral histories of what was specifically cultivated in the planting area although 'Anaeho'omalua and other proximal locations were favorable areas for growing sweet potatoes (Handy and Handy 1991). According to Maly, Makahonu "was still used through the turn of the [twentieth] century" (1999:153).

The Study Area Vicinity during the Twentieth Century

Between the years of 1895 and 1913, the Puakō Sugar Plantation and Mill operated on 1800 acres along the bay in Puakō (Puakō Historical Society). This short-lived operation was run by the Hinds who also founded the Hāwī Mill and Plantation in North Kohala and included leased portions of the Parker Ranch. The Plantation and Mill were forced to close as a result of damaging floods, the lack of freshwater and the high winds that plagued the area (John Hind n.d.). While operational, the Puakō Sugar Plantation led to an influx of population in the area and helped spur the development of roadways connecting Puakō with Kawaihae and Waimea. Upon cessation, the leased lands reverted back to Parker Ranch. The landholdings of Parker Ranch continued to grow as then manager Alfred W. Carter acquired thousands of acres in Waikōloa and neighboring *ahupua'a* that included the Pu'uloa Sheep and Stock Company, which encompassed over 3,700 acres and the Ke'amuku Sheep Station in Waikōloa. Over the next decade these lands were converted to cattle ranching. By 1932, Parker Ranch had grown to include over 325,000 acres of fee lands (Bergin 2004). With the expansion of ranching operations, population also expanded in Waimea.

In December of 1943, nearly 123,000 acres of land in the Waimea-Waikōloa area were leased by the U. S. War Department for use as a troop training area (Escott 2008). The U.S. Military's 91,000-acre Waikōloa Maneuver Area was the site of an artillery firing range on which live ammunition and other explosives were employed, with the remaining acreage utilized for troop maneuvers. The Waikōloa Maneuver Area extended from the coast to present-day Pohakuloa Training Area, and from the Waimea-Kawaihae Road to south of Waikoloa Road, where the current study area is located. According to Escott:

The military utilized portions of this property for troop maneuvers and weapons practice, while other areas served as artillery, aerial bombing and naval gun fire ranges. Troop exercises were conducted using 30 caliber rifles, 50 caliber machine guns, hand grenades, bazookas, flame throwers, and mortars. Larger ordnance and explosive (OE) or unexploded ordnance (UXO) items used included 37 millimeter (mm), 75 mm, 105 mm, and 155 mm high explosive (HE) shells, 4.2 inch mortar rounds, and barrage rockets. From 1943 through 1945 nearly the entire Waikoloa Maneuver Area was in constant use, as the Marine infantry reviewed every phase of training from individual fighting to combat team exercises

In September of 1946, the Waikōloa Maneuver Area, with the exception of the 9,141 acre Lālāmilo Firing Range, was returned to Parker Ranch (Haun et al. 2010). When the use permit was cancelled in December of that year, the lands once again reverted to leased cattle pasture administered by the Territory of Hawai'i. Following World War II, the lands in the vicinity of the current study area were once again used for cattle ranching and bird hunting; however, clean-up of unexploded ordnance within the Waikōloa Maneuver Area is still ongoing.

Since the 1950s modern development, concentrated along the coast and around the Villages of Waimea and Waikōloa, north of current study area. In 1949-50 the coastal lands of Puakō were divided into the Puakō Beach Lots and a road was built to Kawaihae, which brought many new residents to the area (Maly 1999). During the 1970s the current alignment of Queen Ka'ahumanu Highway (Highway 19), extending from Kailua to Kawaihae, was constructed across the coastal sections of Waikōloa *ahupua'a*; Waikōloa Road was built to connect the new lower highway with the upper highway (Highway 190); and Waikōloa Village was established about 3.5 miles northeast of the current study area. With the construction of the new highways and the shifting residential patterns, the older coastal roads and *mauka/makai* travel routes largely fell into disuse.

PRIOR ARCHAEOLOGICAL STUDY

The current study area was included in a 1991 archaeological inventory survey of a roughly 300-acre property conducted by PHRI (Jensen and Burgett 1991) for a then proposed quarry location. PHRI identified nineteen sites and established an archaeological preserve with a fifty foot buffer zone, which led to the definition of the current quarry parcel. The archaeological preserve is located on TMK: (3) 6-8-001:067 immediately to the north of the current study area (Figure 17).

The 1991 PHRI archaeological investigation consisted of 100 percent aerial survey at 30-50 feet altitude via helicopter augmented by pedestrian survey of 15-20 percent of the property in areas identified as high probability with respect to the presence of historic properties. Nineteen sites were recorded (Table 1) along the top and around the margins of two 'a'ā ridges located within the northern third of their study area (to the north of the current study area). These sites appeared to be interconnected by a poorly defined trail system, which was likely only minimally used at the time the features were constructed and for limited access thereafter. No midden, artifacts, or other portable cultural material were detected on the surface of any of the features or in the subsurface testing of a rock shelter feature (SIHP Site 15051B).

Table 1. Sites in archaeological preserve north of the study area.*

<i>SIHP Site No.</i>	<i># of Features</i>	<i>Feature Type</i>	<i>Function</i>
15030	2	(A) Mound (B) Paving	Possible burial
15031	1	Rock shelter	Temporary habitation
15032	1	Platform	Possible burial/ceremonial
15050	1	Platform	Possible burial/ceremonial
15051	4	(A) Platform (B) Rock shelter (C) Modified sink (D) Terrace	Temporary habitation with possible burial(s)
15052	4	(A-D) Platforms	Possible burial/ceremonial
15053	1	Platform	Possible burial
15054	1	Platform	Possible burial
15055	1	Platform	Possible burial
15056	1	Platform	Possible burial/ceremonial
15057	2	(A and B) Platforms	Possible burial/ceremonial
15058	1	Modified outcrop	Indeterminate
15059	1	Trail	Transportation
15060	1	Platform	Possible burial
15061	1	Platform	Possible burial
15062	1	Rock shelter	Temporary habitation
15063	1	Filled blister	Possible burial
15064	1	Terrace	Possible burial
15065	1	Rock shelter	Temporary habitation

*Data source is Jensen and Burgett (1991).

As a result of the PHRI investigation, all nineteen sites were preserved "as is". The Waikoloa Development Company chose not to proceed with any additional data recovery or further evaluation at that time. As previously discussed, a buffer zone of fifty feet was created around the area where the archaeological features were found, and an archaeological preserves was created on the parcel (TMK: (3) 6-8-001:067) to the north of the current study area.

In May of 1999, PHRI conducted archaeological monitoring for the development of the quarry site and associated access road. In a letter report, PHRI (Rechtman 1999) confirmed that the established buffer zone was maintained: the access road was well *makai* of the buffer boundary and the northern boundary of the quarry (the current study area) was placed an additional 50 meters south of the buffer zone.

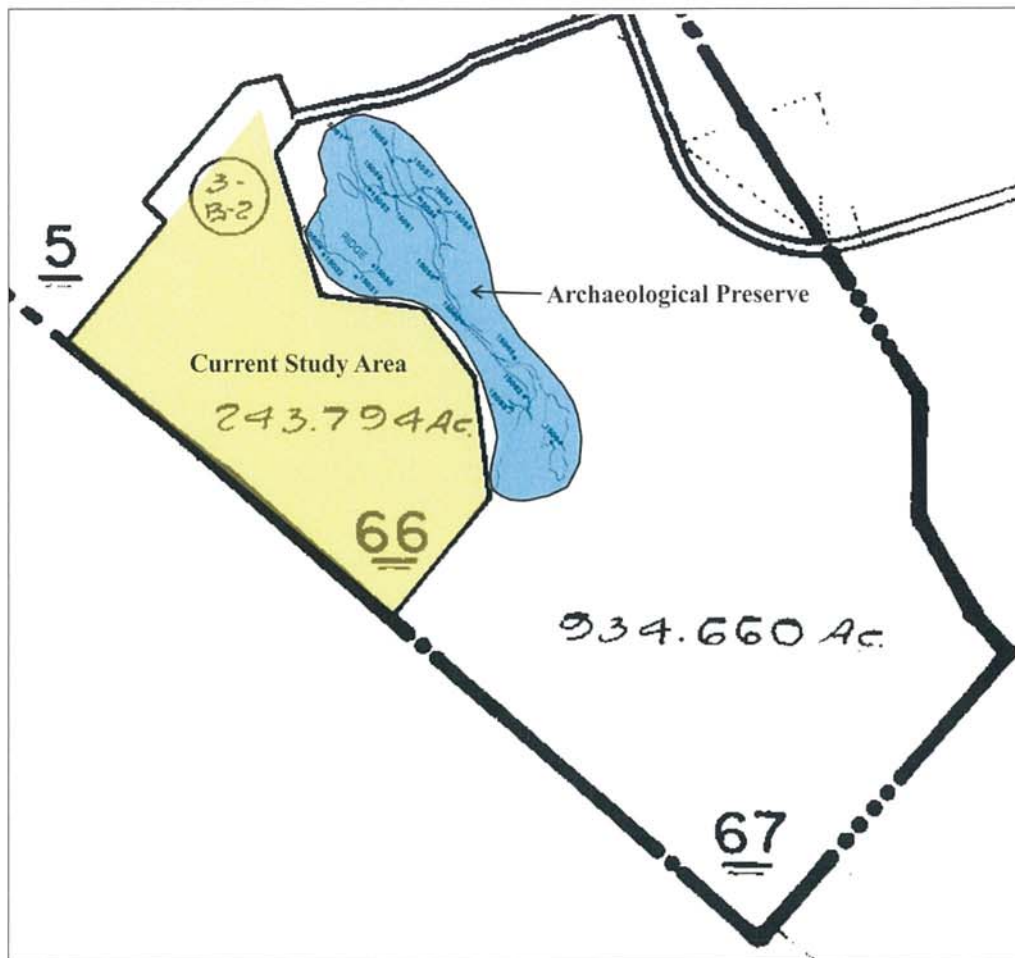


Figure 17. Portion of Tax Map (3) 6-8-001 showing archaeological preserve and current study area.

3. STUDY AREA EXPECTATIONS

Given the recent specific land use history (quarrying activity throughout roughly 95% of the study area), intact archaeological resources if extant could only be identified around the periphery of the land disturbance. Also given that the current study area was investigated for archaeological sites prior to the establishment of the quarry, with negative results, the expectation for finding archaeological sites is extremely low. Based on ethnohistoric and prior archaeological information, the types archaeological features that could exist in this area might be related to the procurement of specific resources, such as *pili* grass and birds (such features would include trails and temporary shelters), or related to burial activities (such features would include platforms, pavements, and trails). There is also the possibility of identifying Historic Period ranching features (trails and enclosures), and evidence of middle twentieth century military activity (enclosures and debris scatters).

4. FIELDWORK

On May 20, 2015, Robert B. Rechtman, Ph.D., Teresa Gotay, M.A. and Layne Krause, B.A. performed a field survey of the study area, which included a visual inspection of the existing quarried areas (roughly 95% of the study area) and a pedestrian survey of the limited undeveloped and minimally disturbed portions of the study area along the periphery of the quarry operation (Figures 18 and 19). In the undeveloped periphery of the study area, field investigators walked north-south transects approximately 25 meters apart; weather conditions and ground visibility were conducive for thorough observation of the terrain.

No archaeological features or portable cultural material was encountered during the pedestrian survey of the study area. A small amount of metal shrapnel was observed during the current fieldwork. This debris is likely related to the former use of the Waikōloa Maneuver Area (ca. 1943-1946) by the U.S. Military.



Figure 18. Minimally disturbed section in the northeastern portion of the current study area.



Figure 19. Small section of unquarried area in the southeastern portion of the study area.

5. CONCLUSION AND RECOMMENDATIONS

Given the negative findings of the current study, supported by similar findings of the prior archaeological study (Jensen and Burgett 1991) that included the current study area, it is concluded that the proposed extension and amendment to the existing Special Permit will not significantly impact any known historic properties. No further historic preservation work is recommended at this time.

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SPECIAL PERMIT APPLICATION

EXHIBIT 12A-
SHPD LETTER DATED AUGUST 12, 2015

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555

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

KEKOA KALUHIWA
FIRST DEPUTY

W. ROY HARDY
ACTING DEPUTY DIRECTOR - WATER

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

August 12, 2015

Bob Rechtman, Ph. D., Principal Investigator
ASM Affiliates
507 A E. Lanikaula Street
Hilo, Hawai'i 96720

LOG NO: 2015.02445
DOC NO: 1508MV21
Archaeology

Dear Dr. Rechtman,

**SUBJECT: Chapter 6E-42 Historic Preservation Review –
Archaeological Assessment of 220 Acres for West Hawaii Concrete
Waikoloa Ahupua'a, South Kona District, Island of Hawai'i
TMK: (3) 6-8-001:066 (por.)**

Thank you for the opportunity to review the draft report titled *An Archaeological Assessment Survey of West Hawaii Concrete's Waikoloa Quarry TMK (3) 6-8-001:066 Waikoloa Ahupua'a South Kohala District Island of Hawaii*, T. Gotay, and R. Rechtman, (June 2015). This document was received by our office on June 22, 2015. We apologize for the delayed review and thank you for your patience. The field work for this study consisted of a 100% pedestrian survey of the surface environment. No historic properties were identified. Therefore, no further laboratory analysis is required. The report documented the previous disturbance on this property from previous quarrying activities.

We concur with your recommendation that no further archaeological work is necessary within this project area. This report meets the requirements of HAR13-284-5 (5) (A) and is accepted by SHPD. Please send one hardcopy of the document, clearly marked **FINAL**, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office, attention SHPD Library.

Please contact Mike Vitousek at (808) 652-1510 or Michael.Vitousek@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,

A handwritten signature in cursive script that reads "Mike Vitousek".

Michael Vitousek,
Lead Archaeologist Hawaii Island Section
Historic Preservation Division

SPECIAL PERMIT APPLICATION

EXHIBIT 13

WAIKOLOA QUARRY KA PA‘AKAI DISCUSSION

WEST HAWAII CONCRETE WAIKŌLOA QUARRY
Ka Pa'akai Discussion

July 2015

Robert B. Rechtman, Ph.D.
ASM Affiliates

West Hawaii Concrete intends to continue and expand the currently permitted use of an approximately 220 acre portion of the existing West Hawaii Concrete Waikōloa Quarry Property (TMK: (3) 6-8-001:066) in Waikōloa Ahupua'a, South Kohala District, Island of Hawai'i (Figure 1). West Hawaii Concrete has been carrying out quarrying operations since at least 1995 and plans to extend their existing Special Permit beyond quarrying to include the following activities: green waste processing and composting, cement concrete recycling and asphalt concrete recycling. For this expansion of activities, West Hawaii Concrete must obtain approval from the County of Hawai'i Leeward Planning Commission and Hawai'i State Land Use Commission (LUC) in order to extend and modify their current Special Permit to include the proposed uses.

Article XII, section 7 of the Hawai'i Constitution obligates the State and its agencies, such as the LUC, "to protect the reasonable exercise of customarily and traditionally exercised rights of native Hawaiians to the extent feasible when granting a petition for reclassification of district boundaries." (*Ka Pa'akai O Ka'āina v Land Use Commission*, 94 Hawai'i 31, 7 P.3d 1068 [2000]). Under Article XII, section 7, the State shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupua'a* tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights. In the context of land use permitting, these issues are commonly addressed when the LUC is asked to approve a petition for the reclassification of district boundaries, as such an action most often initiates activities that precede initial intensive development. While the approval of a Special Use Permit for a green waste processing and concrete recycling project does not involve the reclassification of any lands, West Hawaii Concrete thought it prudent to provide a discussion of such rights to facilitate the Special Use Permit decision making processes for both the Leeward Planning Commission and the LUC.

In the September 11, 2000 Hawai'i Supreme Court landmark decision (*Ka Pa'akai O Ka'āina v Land Use Commission*), an analytical framework for addressing the preservation and protection of customary and traditional native practices specific to Hawaiian communities was created. The court decision established a three-part process relative to evaluating such potential impacts: first, to identify whether any valued cultural, historical, or natural resources are present; and identify the extent to which any traditional and customary native Hawaiian rights are exercised; second, to identify the extent to which those resources and rights will be affected or impaired by the proposed action; and third, to specify the feasible action, if any, to be taken by the regulatory body to reasonably protect native Hawaiian rights if they are found to exist.

In an effort to identify whether any valued cultural, historical, or natural resources are present within the proposed project area, and identify the extent to which any traditional and customary native Hawaiian rights are, or have been, exercised (the first part of the analytical process); historical archival information was investigated, and prior cultural studies that included consultation and oral-historical interviews were reviewed. A summary of this analysis is presented below.

One of the earliest specific references to Waikōloa appears in the work of Samuel Mānaiakalani Kamakau who recounted the chants and legendary traditions of Hawaiian prehistory in his writings. According to Kamakau (1976) the priest Pā'ao arrived in the Hawaiian Islands during the 13th century from Kahiki, which has since been interpreted as Tahiti. Pā'ao, who was the keeper of the god Kū'kā'ilimoku, had fought bitterly with his older brother, the high priest Lonopele, who expelled him from his homeland (Kamakau 1991). Lonopele did not let Pā'ao leave peacefully, but instead called forth a series of wind storms to sink his canoe; one of the winds, a cold north wind, was named "Waikōloa" (Kamakau 1991:5). Despite Lonopele's best efforts, Pā'ao's canoe was not destroyed and he and his companions (thirty eight men, two stewards, his sister, chief Pili and his wife and the prophet Makuaka'ūmana) arrived safely in Hawai'i after their perilous journey. Kamakau recounts the following details of Pā'ao and Pili's arrival in Hawai'i:

It is thought that Pā'ao came to Hawai'i in the time of the *ali'i* La'au because Pili ruled as *mo'i* after La'au. You will see Pili there in the line of succession, the *mo'o kū'auhau*, of Hanala'anui. It is said that Hawai'i Island was without a chief, and so a chief was brought from Kahiki; this is according to chiefly genealogies. Hawai'i Island had been without a chief for a long time, and the chiefs of Hawai'i were *ali'i maka'āinana* or just commoners, *maka'āinana*, during this time.

. . . There were seventeen generations during which Hawai'i Island was without chiefs—some eight hundred years. . . The lack of a high chief was the reason for seeking a chief in Kahiki, and that is perhaps how Pili became the chief of Hawai'i. He was a chief from Kahiki and became the ancestor of chiefs and people of Hawai'i Island. (Kamakau 1991:100–102)

The *moku* of Kohala appears in several versions of the Pili ruling line's origin story; such as a version discussed by Beckwith (1976) in which Mo'okini and Kaluawilinau, two *kāhuna* of Moikeha, decide to stay on at Kohala. In addition, Kamakau (1964) recounts that

In the burial cave of Pu'uwepa in Kohala, Hawaii are deposited the bones of Pa'ao, the famous kahuna who built the heiau of Mo'okini at Kohala, and who lived a span of 15 generations before he died. Its entrance is said to be beneath the sea (1964:41)

The Pili chiefs initial ruling center was likely in Kohala, but Cartwright (1933) suggests that Pili later resided in and ruled from Waipi'o Valley in the Hāmākua District.

In addition to the tales of legendary chiefs, the Legend of Kanikū and Kanimoe, two *mo'o* or water-spirits with lizard bodies, is relevant to the current analysis because the project area is located within the lava flow (Figure 2) that bears one of the water spirit's name (Kanikū). According to an interview documented by Wolforth et al. (2005:6), these two *mo'o* took the form of beautiful women and lived in the "large coastal fishpond of Wainānāli'i in Pu'uanahulu." According to the legend, Kanikū and Kanimoe were turned to stone when a lava flow covered the fishpond and as a result, their bodies still lie side by side in the middle of the 'a 'ā flow, which is how the Kanikū Lava Flow got its name (Wolforth et al. 2005).

According to Maly (1999:25) the name Waikōloa literally translates to "water carried far" and he cites the origin of this translation to be a historical account entitled *Ka'ao Ho'oniuu Pu'uwai No Ka Miki* (The Heart Stirring Story of Ka Miki) that was published as a serial in the Hawaiian Language newspaper *Ka Hōku o Hawai'i* between 1914-1917, and authored by John Wise and J.W.H.I. Kihe. As Maly translated, there was an event where Ka Miki (the hero of the story) was carrying sacred water in an 'awa bowl when the wind Waikōloa lifted water out of the bowl and transported it a long distance (from Holoholokū to Waiki'i) to form a new spring.

Bernice Judd, a former librarian at the Hawaiian Mission Children's society, offered a different origin of the name Waikōloa and explained that:

In the early days Waimea meant all the plateau between the Kohala Mountains and Mauna Kea, inland from Kawaihae. This area is from eight to ten miles long and from three to five miles wide. There was no running water on Mauna Kea, so the inhabitants lived at the base of the Kohala Mountains, where three streams touched the plain on their way towards the sea. . . The middle stream, which was famous for wild ducks, was named Waikoloa, or Duckwater. This and the most westerly stream, called Kahakohau, went towards Kawaihae, but neither reached the sea, except in times of flood. (Judd 1932:14)

Traditionally, Waikōloa was an 'ili of the *kalana* (or 'okana) of Waimea (Figure 3), a land division that in ancient times was treated as a sub-district, smaller than a district (*moku o loko*), but comprised of several other land divisions that contributed to its wealth (Maly and Maly 2002). The lands within the *kalana* of Waimea were those that form the southern limits of present day South Kohala District including 'Ōuli, Wai'aka, Lālāmilo, Puakō, Kalāhuipua'a,

'Anaeho'omalū, Kanakanaka, Ala'ōhi'a, Paulama, Pu'ukalani, Pu'ukapu, and Waikōloa, where the project area is located. In some early accounts, Waikōloa Ahupua'a was referred to as Waikōloa Nui, and the neighboring *ahupua'a* of Lālāmilo as Waikōloa Iki (Maly 1999).

By the seventeenth century, large areas of Hawai'i Island (*moku āina* – districts) were controlled by a few powerful *ali'i 'ai moku*. There is island-wide evidence to suggest that growing conflicts between independent chiefdoms were resolved through warfare, culminating in a unified political structure at the district level. It has been suggested that the unification of the island resulted in a partial abandonment of portions of leeward Hawai'i, with people moving to more favorable agricultural areas (Barrera 1971; Schilt and Sinoto 1980). 'Umi a Līloa, a renowned *ali'i* of the Pili line who ruled from Waipi'o Valley, is often credited with uniting the island of Hawai'i under one rule (Cordy 1994). According to Kamakau (1992) 'Umi was a skilled fisherman, and fishing for *aku*, his favorite fish, often brought him to the beaches of South Kohala from Kalahuipua'a to Makaula, where he also fished for *'ahi* and *kala* with many other famed fishermen and all the chiefs of the kingdom. 'Umi's reign lasted until around ca. A.D. 1620, and was followed by the rule of his son, Keawenui a 'Umi, and then his grandson, Lonoikamakahiki (Cordy 1994).

Lonoikamakahiki's reign was marked by political intensification and regularly occurring wars between intra-island and inter-island polities, which included battles that transpired in the general vicinity of the current project area. One such battle was fought between Lonoikamakahiki (Lono) and his older brother, Kanaloakua'ana, who rebelled against him. According to Fornander, Kanaloakua'ana and his rebel forces were situated at:

. . . the land called Anaehoomalu, near the boundaries of Kohala and Kona. The rebel chiefs were encamped seaward of this along the shore. The next day Lono marched down and met the rebels at the place called Wailea, not far from Wainanali'i, where in those days a watercourse appears to have been flowing. Lono won the battle, and the rebel chiefs fled northward with their forces. At Kaunooa [Kauna'oa], between Puako and Kawaihae, they made another stand, but were again routed by Lono, and retreated to Nakikiaianihau, where they fell in with reinforcements from Kohala and Hamakua. Two other engagements were fought at Puupa [on the plain north of Waikōloa] and Puukohala, near the Heiau of that name, in both of which Lono was victorious. . . (Fornander 1996:120-121)

Later, Lonoikamakahiki battled the forces of Maui led by Kamālālāwalu (Kama) on the plain of Waikōloa below Pu'u 'Ōā'oaka (Maly and Maly 2002). According to Kamakau:

After Kama-lala-walu's warriors reached the grassy plain, they looked seaward on the left and beheld the men of Kona advancing toward them. The lava bed of Kaniku and all the land up to Hu'ehu'e was covered with the men of Kona. Those of Ka'u and Puna were coming down from Mauna Kea, and those of Waimea and Kohala were on the level plain of Waimea [Waikōloa]. The men covered the whole of the grassy plain of Waimea like locusts. Kamalalawalu with his warriors dared to fight. The battlefield of Pu'oa'oaka was outside of the grassy plain of Waimea, but the men of Hawaii were afraid of being taken captive by Kama, so they led [Kamalalawalu's forces] to the waterless plain lest Maui's warriors find water and hard, waterworn pebbles. The men of Hawaii feared that the Maui warriors would find water to drink and become stronger for the slinging of stones that would fall like raindrops from the sky. The stones would fall about with a force like lightning, breaking the bones into pieces and causing sudden death as if by bullets . . .

. . . The Maui men who were used to slinging shiny, water-worn stones grabbed up the stones of Pu'oa'oaka. A cloud of dust rose to the sky and twisted about like smoke, but the lava rocks were light, and few of the Hawaii men were killed by them. This was one of the things that helped to destroy the warriors of Kama-lala-walu: They went away out on the plain where the strong fighters were unable to find water . . . The warriors of Maui were put to flight, and the retreat to Kawaihae was long. [Yet] there were many who did reach Kawaihae, but because of the lack of canoes, only a few escaped with their lives . . . Kamalalawalu, ruler of Maui, was killed on the grassy plain of Puako, and some of his chiefs were also destroyed. (Kamakau 1991:58-60)

While the project area is located proximate to the lands in these stories, it receives no specific mention suggesting that it was peripheral to the areas and events described.

Marking the end of the Precontact Period, Hawaiians' first significant encounter with Europeans occurred in 1778 when Captain James Cook and his crew on board the ships *H.M.S. Resolution* and *Discovery* arrived in Kaua'i. With the arrival of foreigners, Hawai'i's culture and economy were drastically altered. Demographic trends during this period indicate population reduction in some areas, due to war and disease, yet increases in others, with relatively little modification of material culture. There was a continued trend toward craft and status specialization, intensification of

agriculture, *ali'i* controlled aquaculture, upland residential sites, and the enhancement of traditional oral history. The Kū cult, *luakini heiau*, and the *kapu* system were at their peaks, although Western influence was already altering the cultural fabric of the Islands (Kirch 1985; Kent 1983). Foreigners very quickly introduced the concept of trade for profit, and by the time Kamehameha I had conquered O'ahu, Maui and Moloka'i, in 1795, Hawai'i saw the beginnings of a market system economy (Kent 1983). This marked the end of an era of uniquely Hawaiian culture. Some of the work of the commoners shifted from subsistence agriculture to the production of foods and goods that they could trade with early visitors. Introduced foods often grown for trade with Westerners included yams, coffee, melons, potatoes, corn, beans, figs, oranges, guava, and grapes (Wilkes 1845).

In 1792, Captain George Vancouver, who had sailed with Cook during his 1778-1779 voyages, arrived in Kealahou Bay with a small fleet of British ships, where he met with Kamehameha. Vancouver stayed only a few days during this first visit, but returned again in 1793 and 1794 to resupply his fleet. Vancouver introduced cattle and sheep to the Island of Hawai'i during his 1793 and 1794 visits, giving them as gifts to Kamehameha I, who immediately made them *kapu*, thus preventing them from being killed (Kamakau 1992). Five cows, two ewes, and a ram brought by Vancouver in 1793 were set free to roam in the saddle area of Waimea between Mauna Kea, Mauna Loa, and Hualālai (Escott 2008).

During one of his visits Vancouver anchored at Kawaihae and a member of his crew, Archibald Menzies, a surgeon and naturalist, trekked inland towards Waimea. Menzies' journal records the journey and describes the land in the vicinity of the project area as follows:

I travelled a few miles back...through the most barren, scorching country I have ever walked over, composed of scoriaceous dregs and black porous rock, interspersed with dreary caverns and deep ravines...The herbs and grasses which the soil produced in the rainy seasons were now mostly in the shriveled state, thinly scattered and by no means sufficient to cover the surface from the sun's powerful heat, so that I met with few plants in flower in this excursion. (Menzies 1920:55)

In the early 1800s, Kamehameha gave control of present day Waikōloa then Waikōloa Nui Ahupua'a (excluding the coastal *'ili* of 'Anaeho'omalua and Kalāhuipua'a) to Isaac Davis (Rosendahl 2000). Although the land of Waikōloa Nui gifted to Davis encompassed a large area, it lacked extensive resources, and was primarily a place for catching birds and gathering *pili* grass. When Davis died in 1810 without naming an heir, John Young took control of the land and protected it for Davis' children, who were at that time too young to take on the responsibility (Rosendahl 2000).

Waikōloa Nui would eventually become a favored pasture for the cattle given by Vancouver to Kamehameha. By the early nineteenth century the *kapu* cattle quickly multiplied in the region to the extent that they became a scourge for the native planters of the Waimea area. In order to protect the upland agricultural fields from the overwhelming number of grazing cattle, sometime between 1813 and 1819, Kamehameha ordered the construction of a wall extending from the northern boundary of Waikōloa Nui to near Pu'u Huluhulu (Barrère 1983). The wall was designed to keep wild cattle in Waikōloa Nui and out of the more agriculturally productive areas on the Waimea side. The wall was called *Pā* of Kauliokamoa after the *kono'hiki* who oversaw its construction (Wolforth 2000).

The year 1819 was a pivotal one in Hawaiian history. In May of that year Kamehameha died in Kona and his young son Liholiho assumed rule over the kingdom. In concert with Kamehameha's widows Ka'ahumanu and Keōpūolani, Liholiho abolished the ancient religion and quelled a rebellion to reinstate the traditional *kapu* system in December of 1819. In October of 1819, seventeen Protestant missionaries set sail from Boston to Hawai'i and arrived in Kailua-Kona on March 30, 1820, to a county in religious turmoil and ripe for conversion. Many of the *ali'i*, who were already exposed to western material culture had adopted their dress and welcomed the opportunity to become educated in a western style. Soon they were rewarding their teachers with land and positions in the Hawaiian government. During this period, the sandalwood trade wreaked further havoc on the lives of the commoners, as they weakened from the heavy production, exposure, and famine just to fill the coffers of the *ali'i*, who were no longer under any traditional constraints (Oliver 1961; Kuykendall and Day 1976). The lack of control of the sandalwood trade was to soon lead to the first Hawaiian national debt as promissory notes and levies were initiated by American traders and enforced by American warships (Oliver 1961). The Hawaiian culture was well on its way towards Western assimilation as industry in Hawai'i went from the sandalwood trade, to a short-lived whaling industry, and gave way to the more lucrative, but environmentally destructive sugar industry.

The population of South Kohala continued to reside either near the shore or in the uplands of Waimea throughout the first half of the nineteenth century, but as previously discussed, the arrival of foreigners, their introduction of a western economy, and the rise of the sugar and cattle industries had a profound impact on daily life in Kohala. Even the landscape of Waimea was substantially altered; initially through deforestation associated with the sandalwood trade, followed by the effects of countless grazing cattle (Rechtman and Prasad 2006). A network of stone walls began

to appear as a way for people to keep feral cattle out of their gardens and house lots. Commercial ventures soon replaced traditional agricultural practices and introduced crops (Irish potatoes, watermelons, cabbage, onions, tomatoes, mulberries, figs, and beans) were grown to replenish the cargo ships at Kawaihae Harbor; and in the late 1840s many of the potatoes grown in the Waimea area were shipped to California to help feed the gold rush (Haun et al. 2003). In addition, a sugar mill operated in the Waimea area from the 1820s until the 1840s.

As reported in the *Sandwich Island Gazette* in September 10, 1836, the lower elevation of Waikōloa (inclusive of the current project area) was considered to be inhospitable:

The western part of the district remains to be noticed. This consists of a gradual descent of about 10 miles to the seaside. It is entirely composed of an uneven rock waste, covered with long grass. This barren tract is untenanted and uncultivated, Rain seldom falls here and, besides the grass, nothing is seen to vary the monotony until you approach the coast, when the eye is only relieved by the tallow blossoms of the Nohu [Tribulus].

By the mid-nineteenth century, the agriculturally marginal areas of leeward Kohala were abandoned in favor of more productive and wetter lands in windward Kohala. According to Tomonari-Tuggle (1988), the remnant leeward population was concentrated into a few small coastal communities (such as Puakō, located roughly 5 miles northwest of the project area) and dispersed upland settlements. These settlements were no longer based on traditional subsistence patterns, largely because of the loss of access to the full range of necessary resources. As a result, the windward slopes of North Kohala and the Waimea plain eventually became the population centers for the district. Tomonari-Tuggle clarifies some of the reasons for this migration:

Outmigration and a demographic shift from rural areas to growing urban centers reflected the lure of a larger world and world view on a previously isolated community. Foreigners, especially whalers and merchants, settled around good harbors and roadsteads. Ali'i and their followers gravitated towards these areas, which were the sources of Western material goods, novel status items which would otherwise be unavailable. Associated with the emergence of the market, cash-based economy, commoners followed in search of paying employment. (1988:33)

The population of the district of Kohala declined rapidly as native populations were decimated by disease and a depressed birth rate. Epidemics in 1848 and 1849 killed more than 10,000 people in twelve months throughout the Hawaiian Islands (Tomonari-Tuggle 1988). In 1848 in North Kohala, Rev. Bond reported that 100 people had died within a three week period, and in October of that year he reported that a measles epidemic had nearly every resident of the district in the hospital (Damon 1927). Following these epidemics, the population of the district had been reduced to nearly half of the more than 6,000 people reported in the 1835 census (Schmitt 1977). The number of coastal residents soon dwindled and most of the coastal villages were inhabited by only a few solitary residents. An 1848 description of the town of Waimea cited by McEldowney stated that "it can scarcely be said that there is any native population at all." (1983:432). This statement seems to sum up the devastating demographic changes that were taking place as the native population had been reduced by disease, displacement, and ongoing revisions in land tenure.

At the time of the Great *Māhele* in 1848, the disposition and distribution of the lands of Waimea was rather complicated and was under dispute between the Boundary Commissioners, *kama'āina* informants, and land petitioners. Waimea was a discrete land unit (Figure 4) considered to be a *kalana* (county) or *'okana* (subdistrict) as opposed to an *ahupua'a* (Pukui and Elbert 1986). To further confound the issue, some of the land units within Waimea were considered *ahupua'a* while others were considered *'ili kūpono*, defined by Puhui and Elbert as "A nearly independent *'ili* land division within an *ahupua'a* paying tribute to the ruling chief and not the chief of the *ahupua'a*. Transfer of the *ahupua'a* from one chief to another did not include the *'ili kūpono* located within its boundaries" (1986:98). As a result of the *Māhele* and Boundary Commission testimonies, many smaller *ahupua'a* names were dropped and the *'ili kūpono* were given *ahupua'a* status; the majority of the Waimea area was retained as Crown Lands, with the exception of a portion of Waikōloa Ahupua'a that was awarded as *Konohiki* Lands. Over 140 claims for Land Commission Awards (LCAw.) were made by native tenants within the Waimea area. Nearly all of these claims were for house lots or cultivated sections (Haun et al. 2003). Of the land commission awards reviewed by Kelly and Nakamura (1981:30), over twenty percent were issued to persons with non-Hawaiian surnames.

During the *Māhele*, Waikōloa (Nui) Ahupua'a, including the project area, was awarded to George Davis Hū'eu (LCA 8521-B; Figure 5), son of Isaac Davis, one of Kamehameha I's trusted advisors. According to Wolforth et al. (2005), Kamehameha I had given Davis the land as a reward for his service, but after Davis died prematurely under suspicious circumstances in 1810, his friend John Young (another advisor to Kamehameha I) took it upon himself to make sure that Isaac Davis' children would receive their father's lands when they came of age. A portion of Young's Last Will and Testament read as follows (Cahill 1999:167):

... I give and bequeath to be equally divided between my surviving children and the surviving children of my departed friend, the late Isaac Davis, of Milford in England, in such manner as it may please His Majesty the King and his Chiefs; Provided always that each and all of the said children receive a just and equal portion. (reproduced in Wolforth et al. 2005:12)

As a result, John Young's lands were designated '*ina ho'oilina* or inherited lands, during the *Māhele*, a designation applied only to these lands that does not appear elsewhere in the *Māhele* records (Wolforth et al 2005).

Royal Patent number 5671 was issued to Isaac Davis that consisted of a large area of dry, non-arable terrain on grassy slopes known as *pili* lands (after the *pili* grass that grew in abundance there), which extended to the '*a'ā* on the Kona District boundary; and did not include any portion of the fertile uplands or shoreline access (Wolforth et al. 2005). In 1865, George Hū'eu, Davis's only surviving heir, received Waikōloa as an unsurveyed Land Commission Award.

We consider it clear that in making the grant the King intended to give, and did give to Isaac Davis, a tract of land of very great extent, although not of proportionate value, There were no cattle or sheep in this country when the grant was made, and the land given to Isaac Davis only yielded what revenue could be derived from wild birds and *pili* grass (Boundary Commission 1867 in Wolforth et al 2005:13)

In 1868, George Hū'eu leased his remaining lands in Waikōloa to the Waimea Grazing and Agricultural Company, which made them the largest ranching operation on the island (Escott 2008). Under the terms of the lease, the Hū'eu family was allowed to continue grazing their 1,000 head of cattle, 1,000 head of sheep, and 100 horses there (Escott 2008). By the late-1870s, largely due to persistent drought conditions within its grazing lands, the Waimea Grazing and Agricultural Company went out of business; Parker Ranch purchased their herd and acquired their lease for roughly 95,000 acres of Waikōloa. A sketch map prepared by J. S. Emerson in 1882 during the Hawaiian Government Survey of South Kohala (Figure 6), shows the Parker Ranch grazing lands and the network of trails that ran through them; none of these trail are located in the vicinity of the current project area, which is simply labeled as '*a'ā* on the map.

The coastal areas of Waikōloa, '*Anaeho'omalu* and *Kalāhuipua'a* had been passed from Kamehameha I to Kamehameha II and then to Kamehameha III who retained them as Crown Lands until he passed them on to his wife Queen Kalama (LCA 4452; Wolforth et al. 2005). Only nine small residential *kuleana* were awarded in the uplands of Waikōloa near the town of Waimea and none were awarded within or in close proximity to the current project area (Maly 1999). Coastal residents in South Kohala, relied primarily on the ocean for sustenance, and they augmented their diet with produce procured through trade with the upland areas. In addition, according to testimony from 1865 Boundary Commission hearings, Waikōloa *Ahupua'a* was known as a place for bird catching; Ehu testified, "Waikōloa was the land that had the birds" (Maly 1999:88).

In the decades following the *Māhele* of 1848, the population along the Kohala coast continued to decline and the remnant inland agricultural fields were abandoned as they succumbed to the ravages of free-range cattle or were bought up by ranching and sugar interests. The remaining tenants built *kuleana* walls to enclose their homes, gardens, and domesticated animals in an effort to keep free-ranging animals out of their property and also to mark property boundaries as part of the new land tenure system (Tomonari-Tuggle 1988). The economy also transitioned, becoming cash based and taxes were collected. Foreigners controlled much of the land and most of the businesses, and the native population was largely dependent on these foreigners for food and money (Haun et al. 2003).

Between the years of 1895 and 1913, the Puakō Sugar Plantation and Mill operated on 1800 acres along the bay in Puakō (Puakō Historical Society). This short-lived operation was run by the Hinds who also founded the Hāwī Mill and Plantation in North Kohala and included leased portions of the Parker Ranch. The Puakō Sugar Plantation was forced to close as a result of damaging floods, the lack of freshwater and the high winds that plagued the area (John Hind n.d.). While operational, the Puakō Sugar Plantation led to an influx of population in the area and helped spur the development of roadways connecting Puakō with Kawaihae and Waimea. Upon cessation of plantation activities, the leased lands reverted back to Parker Ranch. The landholdings of Parker Ranch continued to grow as then manager Alfred W. Carter acquired thousands of acres in Waikōloa and neighboring *ahupua'a* that included the Pu'uloa Sheep and Stock Company, which encompassed over 3,700 acres and the Ke'amuku Sheep Station in Waikōloa. Over the next decade these lands were converted to cattle ranching. By 1932, Parker Ranch had grown to include over 325,000 acres of fee lands (Bergin 2004). With the expansion of ranching operations, population also expanded in Waimea.

In December of 1943, nearly 123,000 acres of land in the Waimea-Waikōloa area were leased by the U. S. War Department for use as a troop training area (Escott 2008). The U.S. Military's 91,000-acre Waikōloa Maneuver Area was the site of an artillery firing range on which live ammunition and other explosives were employed, with the

remaining acreage utilized for troop maneuvers. The Waikōloa Maneuver Area extended from the coast to present-day Pohakuloa Training Area, and from the Waimea-Kawaihae Road to south of Waikoloa Road, where the current project area is located. According to Escott:

The military utilized portions of this property for troop maneuvers and weapons practice, while other areas served as artillery, aerial bombing and naval gun fire ranges. Troop exercises were conducted using 30 caliber rifles, 50 caliber machine guns, hand grenades, bazookas, flame throwers, and mortars. Larger ordnance and explosive (OE) or unexploded ordnance (UXO) items used included 37 millimeter (mm), 75 mm, 105 mm, and 155 mm high explosive (HE) shells, 4.2 inch mortar rounds, and barrage rockets. From 1943 through 1945 nearly the entire Waikoloa Maneuver Area was in constant use, as the Marine infantry reviewed every phase of training from individual fighting to combat team exercises. (Escott 2008)

In September of 1946, the Waikōloa Maneuver Area, with the exception of the 9,141 acre Lālāmilo Firing Range, was returned to Parker Ranch (Haun et al. 2010). When the use permit was cancelled in December of that year, the lands once again reverted to leased cattle pasture administered by the Territory of Hawai'i. Following World War II, the lands in the vicinity of the project area were once again used for cattle ranching and bird hunting; however, clean-up of unexploded ordnance within the Waikōloa Maneuver Area is still ongoing.

Since the 1950s modern development, concentrated along the coast and around the Villages of Waimea and Waikōloa, north of the project area, has intensified. In 1949-50 the coastal lands of Puakō were divided into the Puakō Beach Lots and a road was built to Kawaihae, which brought many new residents to the area (Maly 1999). During the 1970s the current alignment of Queen Ka'ahumanu Highway (Highway 19), extending from Kailua to Kawaihae, was constructed across the coastal sections of Waikōloa *ahupua'a*; Waikōloa Road was built to connect the new lower highway with the upper highway (Highway 190); and Waikōloa Village was established about 3.5 miles northeast of the project area. With the construction of the new highways and the shifting residential patterns, the older coastal roads and *mauka/makai* travel routes largely fell into disuse.

In 1991, the current project area was included in an archaeological inventory survey (Jensen and Burgett 1991) of a roughly 300-acre property conducted by Paul H. Rosendahl, Ph.D., Inc. (PHRI) for the then proposed quarry location. PHRI identified nineteen sites and established an archaeological preserve with a fifty foot buffer zone, which led to the boundary definition of the current quarry parcel. The archaeological preserve is located on TMK: (3) 6-8-001:067 immediately to the north of the current study area (Figure 7). The nineteen sites were recorded along the top and around the margins of two 'a' ridges located within the northern third of their study area. These sites appeared to be interconnected by a poorly defined trail system, which was likely only minimally used at the time the features were constructed and for limited access thereafter. No midden, artifacts, or other portable cultural material were detected on the surface of any of the features or in the subsurface testing of a rock shelter feature (SIHP Site 15051B). Although never excavated, the features at this site were mostly interpreted to be burials and as a result of the PHRI investigation, all nineteen sites were preserved "as is". The Waikoloa Development Company chose not to proceed with any additional data recovery or further evaluation at that time. As previously discussed, a buffer zone of fifty feet was created around the area where the archaeological features were found, and an archaeological preserve was created on the parcel (TMK: (3) 6-8-001:067) to the north of the current study area.

In May of 1999, PHRI conducted archaeological monitoring for further development of the quarry site and associated access road. In a letter report, PHRI (Rechtman 1999) confirmed that the established buffer zone was maintained: the access road was well *makai* of the buffer boundary and the northern boundary of the quarry (the current project area) was placed an additional 50 meters south of the buffer zone

During the archaeological study (Gotay and Rechtman 2015) conducted in support of the present permit application no archaeological sites were observed with the current project area and almost no natural landscape was present as prior and ongoing mechanical quarrying activity and the associated network of ungraded and graded access roads cover roughly ninety-five percent of the approximately 220 acre project area; this is clearly seen in a recent aerial photograph (Figure 8).

There have been several studies conducted over the past fifteen or so years (Haun et al. 2010; Maly 1999; Maly and Maly 2002; Wolforth et al. 2005; Wong-Smith 2007, 2009) that contain cultural and oral-historical information relevant to Waikōloa *Ahupua'a* and the general area covered under the current permit application. A review of the information contained in these studies is relevant for the present analysis.

Maly (1999), in his study of the coastal trails of South Kohala, reported the results of oral-historical interview with ten individuals knowledgeable of the South Kohala inclusive of the current permit area. His interviewees included: Robert Keākealani, Sr. (from earlier 1980-86 taped interviews); Robert Keākealani, Jr.; Leina'ala

Keākealani-Lightner; Jiro Yamaguchi; William Akau; A. Kahikilani Akau; F. Coco Vredenburg-hind; Kenneth Francis Brown; E. Tita Ruddle-Spielman; and J.K. Spielman. In addition to discussions of the locations and use of trails, one of Maly’s interviewees described a traditional dryland planting area known as Makahonu located within a kīpuka in the Kanikū flow in Waikōloa Ahupua‘a in the vicinity of the current intersection of Waikōloa Road and Queen Ka‘ahumanu Highway, *makai* of the current project area. Agricultural activities (the cultivation of sweet potato, pumpkin, and sugarcane) continued at this location into the early twentieth century.

The Maly and Maly (2002) study focused on an area of Waikōloa that is *mauka* of the current permit area, in the vicinity of Waiki‘i and Ke‘āmoku. They conducted comprehensive archival-historical research as well as a series of oral-historical interviews with elder native Hawaiians and *kama‘āina* residents of the greater region. Among other conclusions, they related that the pu‘u (hills) on the landscape are significant and the names of many are still in common use, “pu‘u such as Ahumoa, Po‘opo‘o, ‘Iwa‘iwa, Holoholokū, Pā, and Hīnai, are integral to the storied landscape of Waikōloa . . .” (Maly and Maly 2002:212).

An area to the north and slightly *makai* of the current project area has been the subject of three previously completed cultural impact assessments related to the Villages of ‘Āina Le‘a project. Helen Wong-Smith’s (2007) conclusion in that study relates similarly to the current permit area:

The cultural impacts to any locale in Hawai‘i are not always readily evident. What is assessed by Western eyes as “barren land” may be a rich resource to Hawaiians for harvesting material i.e. *pili* grass; spiritual aspects, i.e. the wind; or for the trails on which to travel. References to these cultural features have been found for the general Waikōloa, but not specific to the project area. Most cultural sites in this section of South Kohala occur between 40 and 280 ft. elevation, with the highest density near gullies and gulches, dropping off at 160 ft. (Wong-Smith 2007:21)

In a follow-up study, Wong-Smith (2009) conducted focused research on a potential *mauka/makai* trail with the assistance of Sonny Keākealani (the son of Robert Keākealani Sr.). Together they identified a trail used by cattle ranchers that extended from Pu‘uwa‘awa‘a Ranch to Puako across the Villages of ‘Āina Le‘a project area in Waikōloa Ahupua‘a. This historic trail is well to the north of the current West Hawaii Concrete permit area. A third Cultural Impact Assessment for the ‘Āina Le‘a development area was conducted by Haun et al. (2010) for a utility corridor at a similar elevation but quite different environment than the current permit area. Their study area was conducted of an area on an older lava flow with well-developed soil and dry stream beds. Based on archival research and a field inspection, their “study did not identify any culturally significant resources or any evidence that the project areas are currently being used for any traditional cultural practices.” (Haun et al. 2010:19).

One final study is worth mentioning here, a Section 106 study (Wolforth et al. 2005) conducted for the Saddle Road Extension Project, the corridor of which extends down from Highway 190 through Waikōloa Ahupua‘a except in the vicinity of the West Hawai‘i Concrete Quarry where it bends to the south into Pu‘uanahulu Ahupua‘a to avoid the quarry and then back into Waikōloa then down to Queen Ka‘ahumanu Highway. As part of the consultation for that project eighteen individuals were contacted. While substantial cultural information was shared about the general area, no cultural places or practices were identified to exist or have taken place in the portion of their study corridor that is in the vicinity of the quarry parcel (current permit area).

Upon collective review of these prior cultural studies, a pattern that emerges is that two types of significant cultural resources are regularly referenced in the historical and oral-historical literature. One of these types of resources are landscape features referred to as *pu‘u* (prominent hills) and the other are trails; both are highly traditionally valued and culturally significant. Pu‘u not only mark the traditional landscape, but these natural features are almost always named and storied places with ancestral associations; while the network of trails on the traditional landscape provides a connection of both place and people. Numerous *pu‘u* and trails are identified within Waikōloa, but none are within or in the proximity of the subject permit area.

Given the culture-historical background presented above, along with the summarized results of prior archaeological and oral-historical studies in the general Waikōloa area, and combined with the twenty year history of intensive land use within the permit area, it is the finding of the current analysis that there are no specific valued natural and cultural resources within the current project area; and there has been no evidence identified of traditional and customary cultural practices having been exercised, nor have any such practices been documented as taking place in the past within this project area.

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Figure 1. Google Earth™ satellite image showing location of the project area outlined in red.

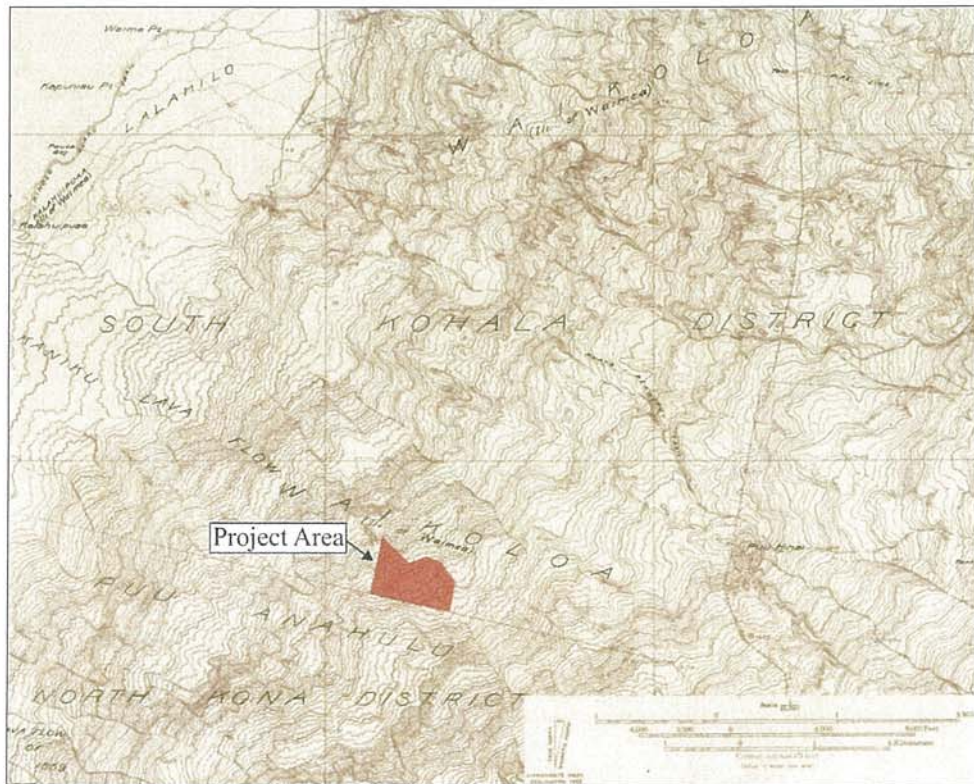


Figure 2. Portion of 1923 USGS. Pu'u Hinai quadrangle showing the project area within Kanikū Lava Flow.

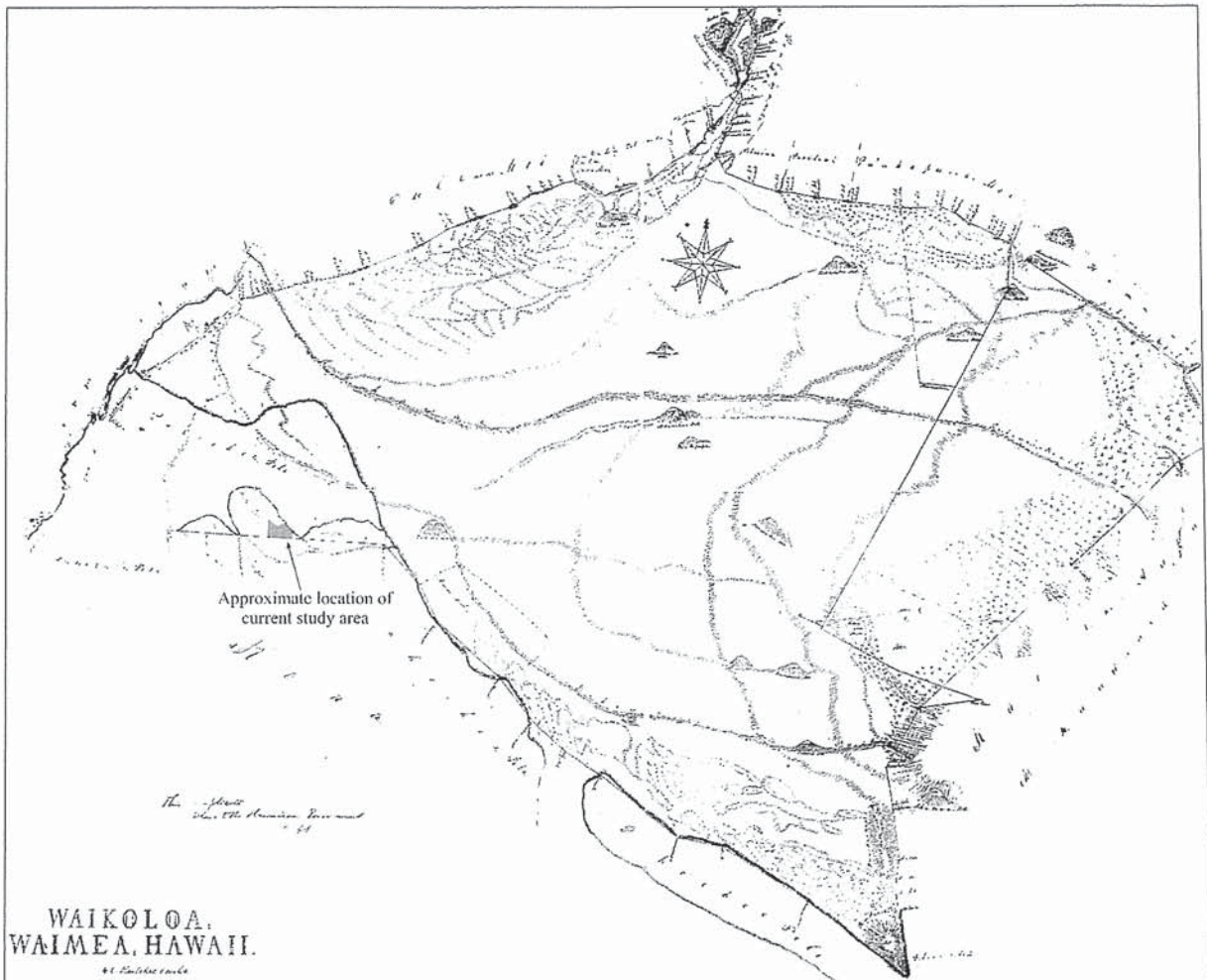


Figure 3. Registered Map No. 574 showing Waikōloa, the *kalana* of Waimea and the approximate location of the current study area (prepared by Kaelemakule, n.d.).

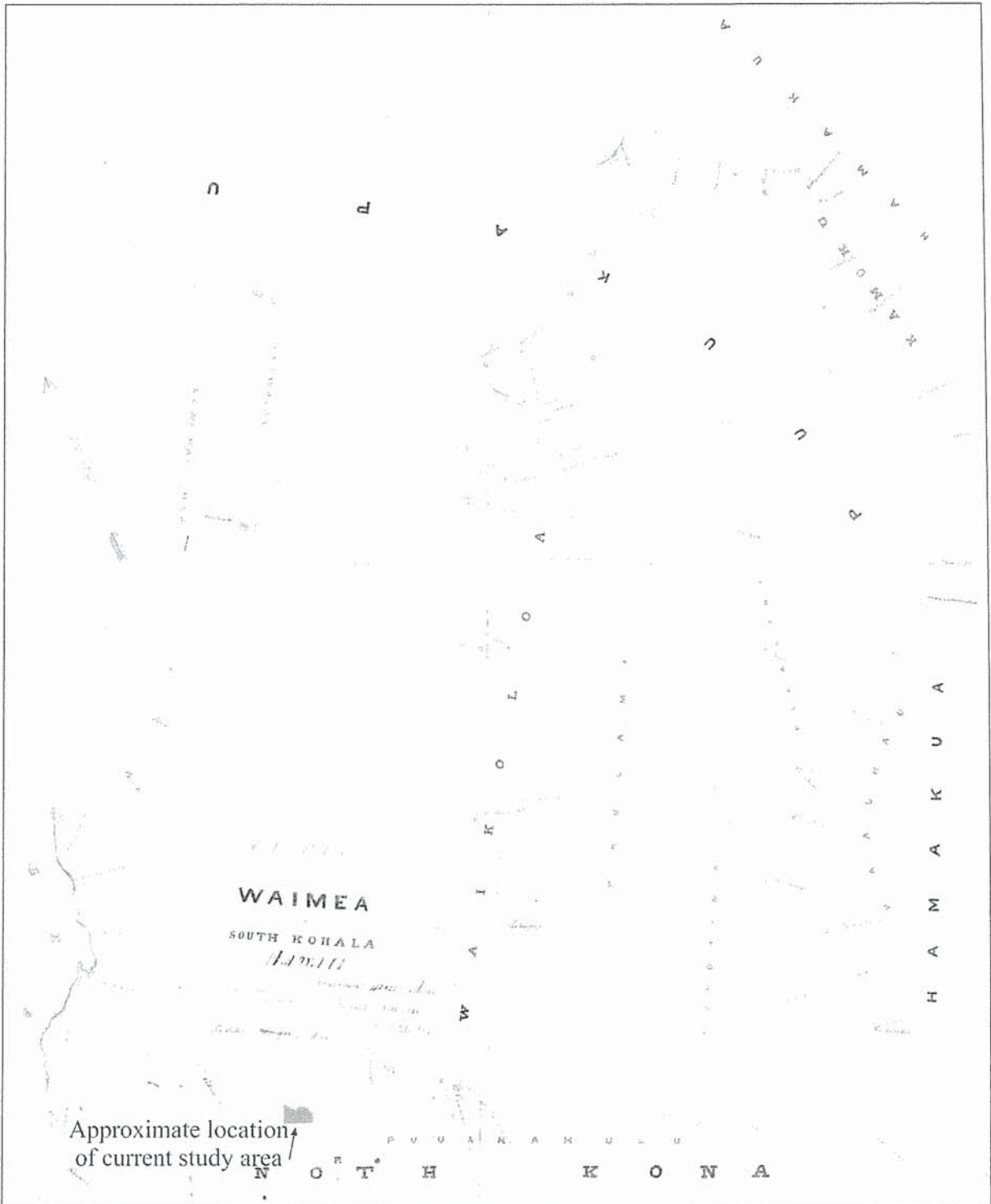


Figure 4. Hawai'i Registered Map No. 712 showing the *kalana* of Waimea and associated *ahupua'a* ca. 1866 with approximate location of the current study area.

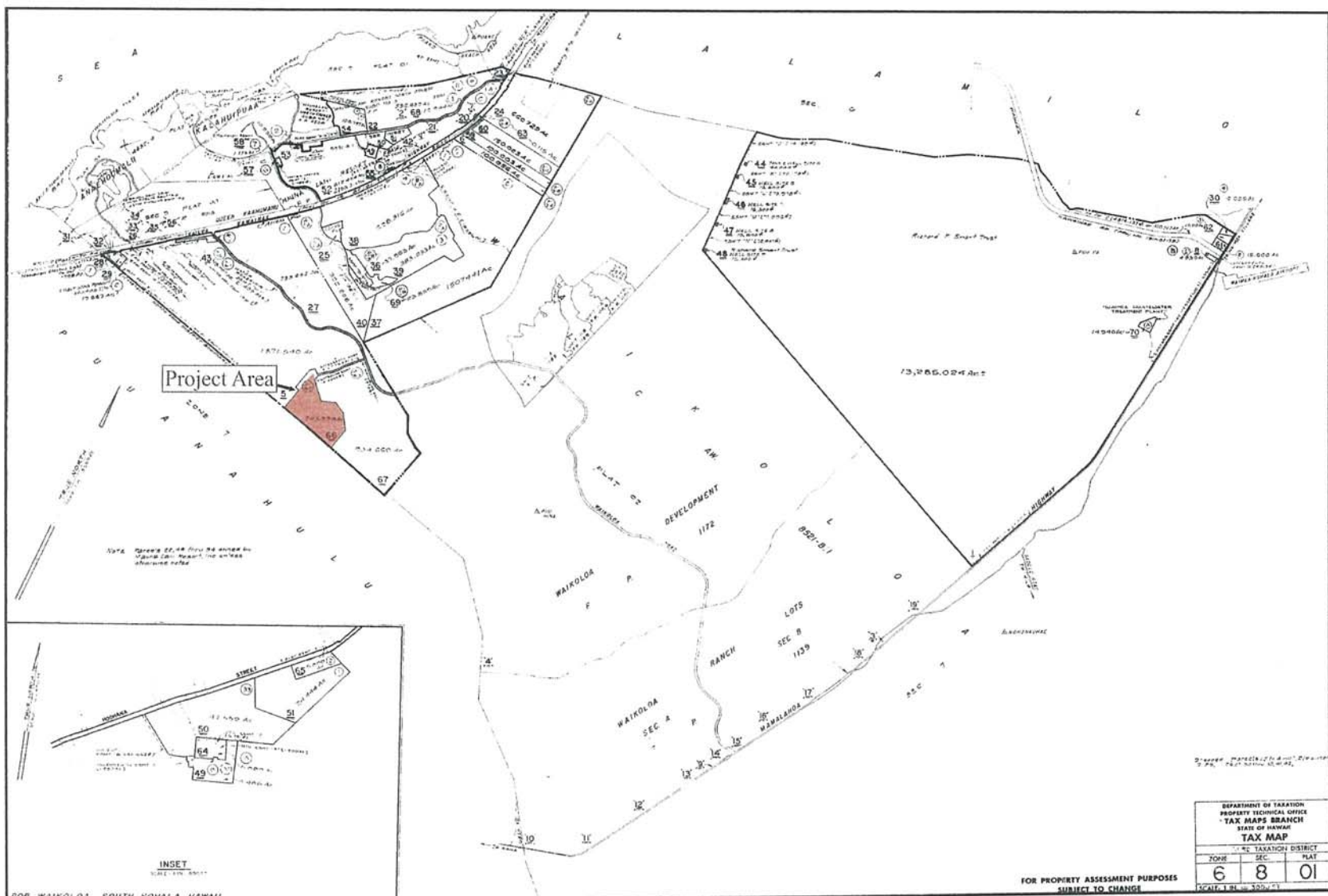


Figure 5. Tax Map Key (TMK) showing LCAw 8521-B and the location of the current project area (Parcel 066 por.) shaded red.

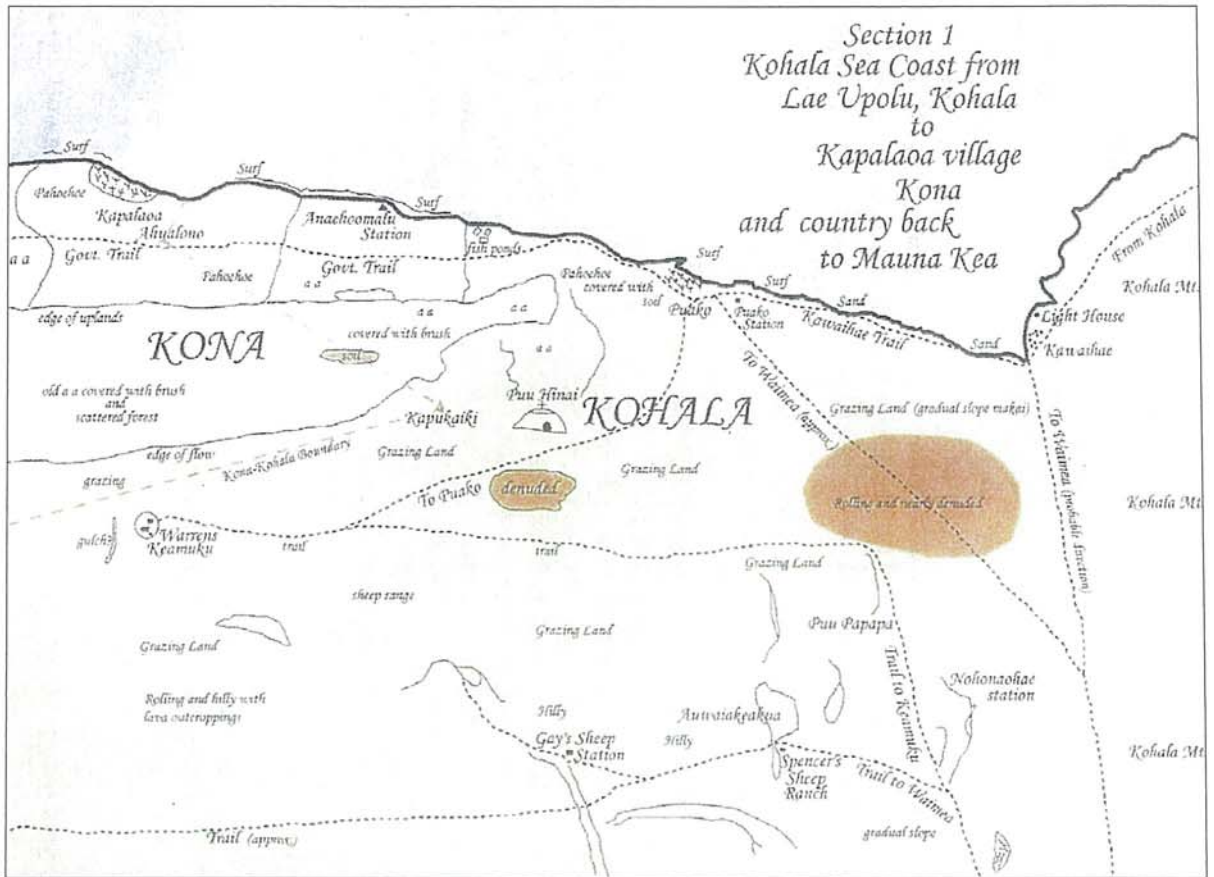


Figure 6. Emerson sketch map of South Kohala coast ca/ 1882 (from Escott 2008:43).

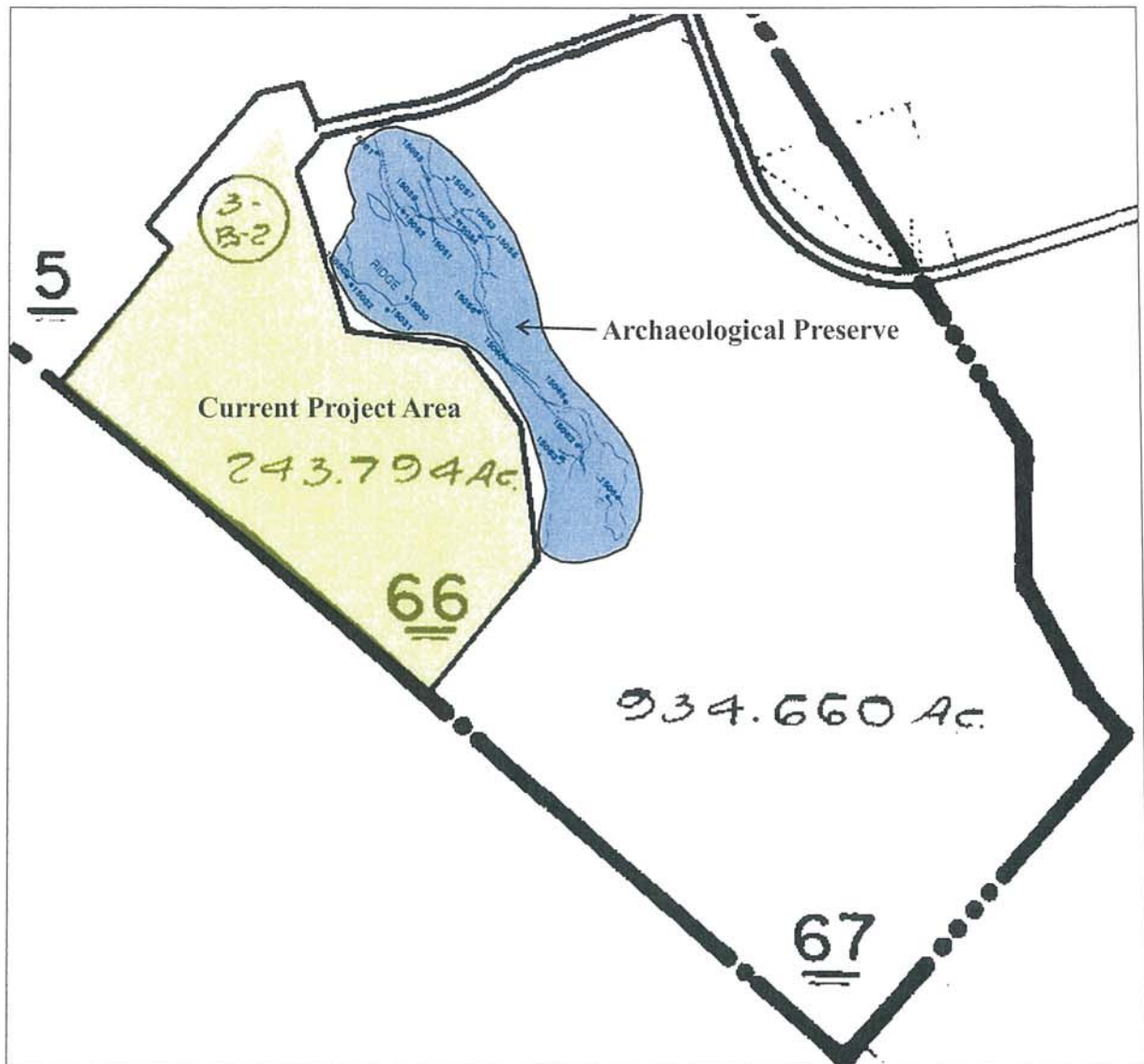


Figure 7. Portion of Tax Map (3) 6-8-001 showing archaeological preserve adjacent to current project area.



Figure 8. Google Earth image of study area showing network of access roads and quarried areas.

SPECIAL PERMIT APPLICATION

EXHIBIT 14 - LSB MAP

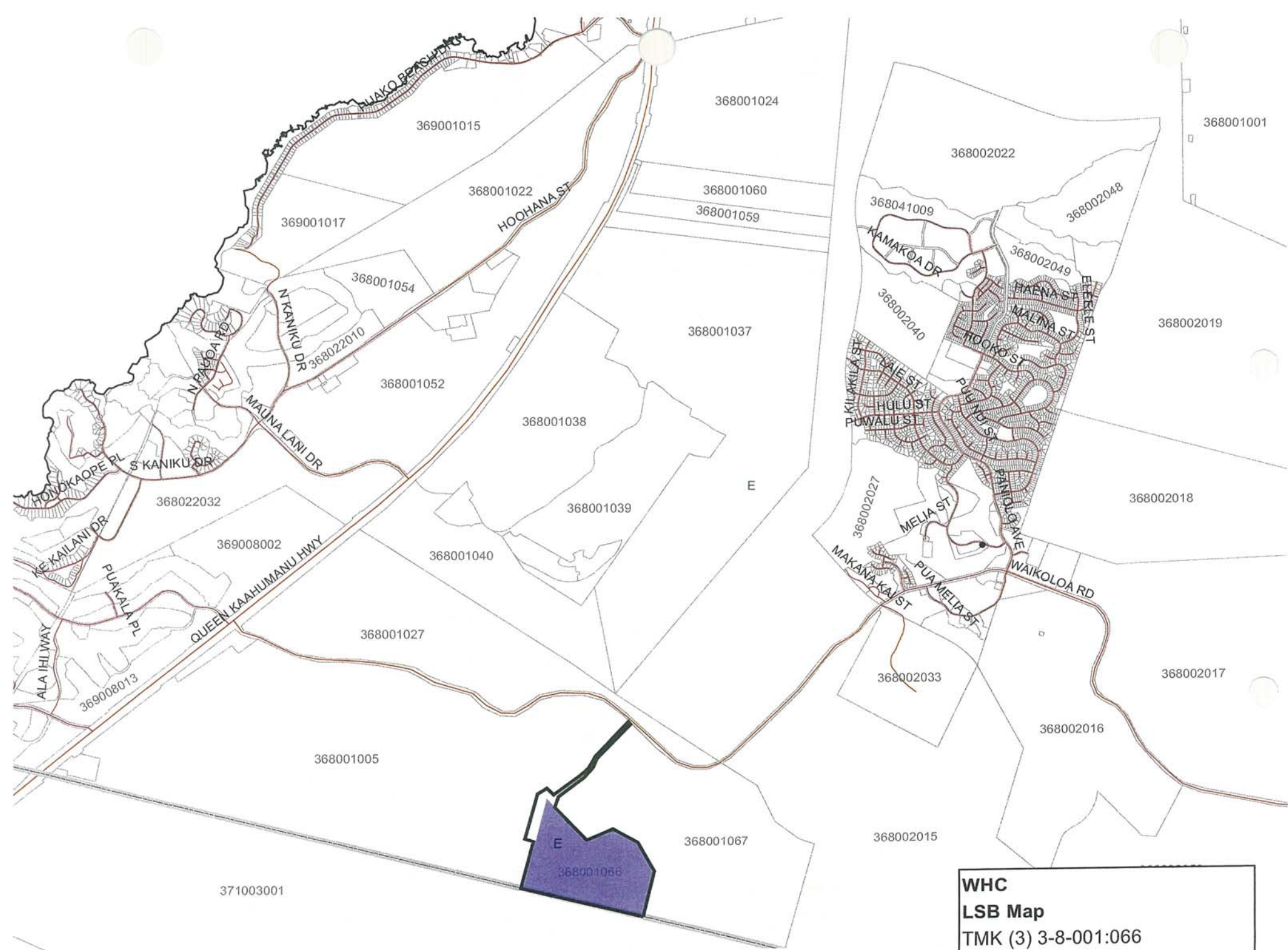
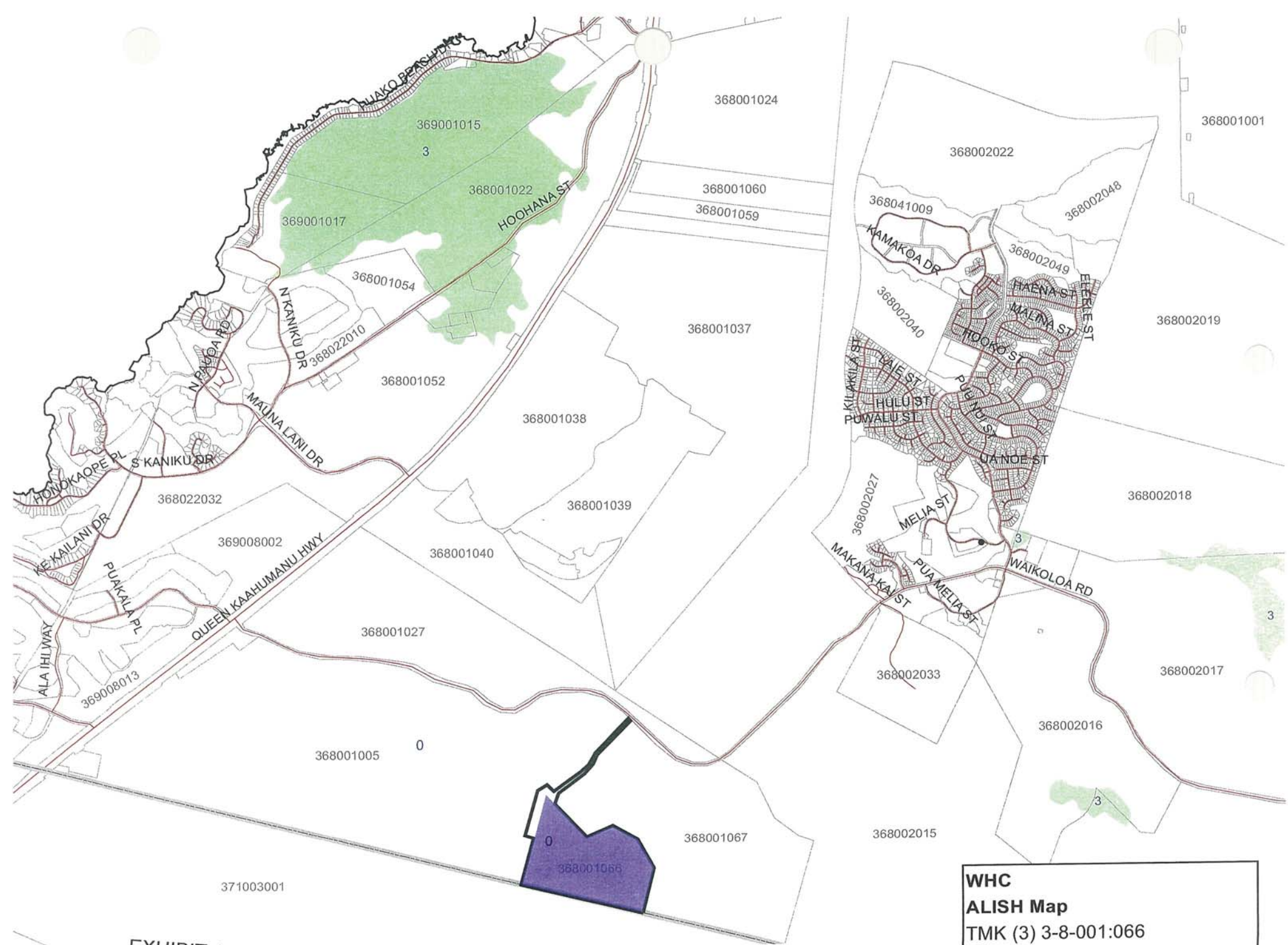


EXHIBIT 14

WHC
LSB Map
 TMK (3) 3-8-001:066
 E - Very Poor Productivity Rating

SPECIAL PERMIT APPLICATION

EXHIBIT 15 - ALISH MAP



WHC
ALISH Map
 TMK (3) 3-8-001:066
 0 - Unclassified Lands

EXHIBIT 15

SPECIAL PERMIT APPLICATION

EXHIBIT 16-
GENERAL BOTANICAL SURVEY

***General Botanical Survey and Vertebrate Fauna Assessment,
Waikoloa Quarry
Waikoloa, South Kohala District, Island of Hawai‘i***

By Ron Terry, Ph.D. and Patrick J. Hart, Ph.D.
Geometrician Associates, LLC
July 2015

Introduction

This biological survey was prepared for West Hawaii Concrete, which leases land and operates a rock quarry on 219.990 acres of land at Waikoloa within TMK (3) 6-8-001:066 (Figure 1) (“the property”).¹ A Special Permit to allow for the operation of the quarry operation at the property was approved by the County of Hawaii Planning Commission in September 1992, and the Special Permit was issued by the State Land Use Commission in January 1993. West Hawaii Concrete has operated a rock quarry at the property since 1995. This survey was prepared as part of information for an amendment to the Special Permit to extend the life of the permit to run the quarrying operation to 2043 or longer, to add approval of West Hawaii Concrete’s composting operation to the Special Permit, and to enable processing and recycling of Portland cement concrete (PCC) and asphalt concrete pavement (ACP) on the site. According to the quarry operators, the top five feet of rock has been removed from 95% of the approximately 220-acre quarry property as part of quarrying activities, and very little natural surface exists. This is evident in aerial and ground photos of the property (Figures 2 and 3).

The objectives of the botanical component of this survey were to 1) describe the vegetation; 2) list all species encountered; 3) determine the likelihood of the presence of rare, threatened or endangered (T&E) plant species; and 4) identify the locations of any T&E individuals found. The area was surveyed by Ron Terry and Patrick Hart (résumés for whom are attached to the end of this report) in June 2015. Plant species were identified in the field and, as necessary, collected and keyed out in the laboratory. Special attention was given to the possible presence of any federally listed T&E plant species (USFWS 2015), although the habitat did not indicate a strong potential for their presence.

The survey also included a limited faunal survey restricted to providing a list of birds and introduced mammals, reptiles, or amphibians observed during the botanical survey. Also considered in this report is the general value of the habitat for native birds and the Hawaiian hoary bat. Not included in the survey were invertebrates or aquatic species or habitat.

¹ Since December 2008 the property has been owned by WQJ2008 Investment LLC and Ukumehame Quarry Company LP.

Vegetation Type and Influences

The geology of the property consists of Mauna Loa 'a'a lava flows of various ages between 1,500 and 3,000 years old (Wolfe and Morris 1996). These black, rugged, nearly unvegetated lava flows in Waikoloa and adjacent Pu'uana'hulu are known as the Kanikū lava flows. Elevations range from about 680 to 920 feet above sea level. The natural slope perpendicular to the sea (prior to grading) is on the order of 5 percent. Like most 'a'a flows, the surface is highly irregular, with local relief of more than 20 feet and steep slopes around boulders and rock outcrops. The area receives an average annual rainfall of about 10 inches (Giambelluca et al 2013).

The natural, pre-human vegetation of this part of the Kanikū Lava Flow was likely very sparse native herbs and grasses, perhaps including *pili* grass (*Heteropogon contortus*) and *ilima* (*Sida fallax*). The types of dry grasslands and shrublands described by Gagne and Cuddihy (1990) for other parts of low-elevation Waikoloa do not occur because soil has simply not had time to develop in this young substrate. Typical vegetation in older areas surrounding the Kanikū lava flow in which at least some soil has formed likely consisted of *'ilima* and *pili* grass along with *kawelu* grass (*Eragrostis variabilis*) and vines such as *pā'ū-o-Hi'iaka* (*Jacquemontia ovalifolia*), with a perhaps diverse but fairly sparse cover of native dry-forest trees and shrubs including *'a'ali'i* (*Dodonaea viscosa*), sandalwood or *iliahi* (*Santalum ellipticum*), *lama* (*Diospyros sandwicensis*), *wiliwili* (*Erythrina sandwicensis*) and *uhiuhi* (*Mezoneuron kawaiensis*).

Small remnants of now-endangered species such as *uhiuhi* and rare species such as *wiliwili* that were formerly fairly widely distributed still persist in some areas. Other endangered species such as red *'ilima* (*Abutilon menziesii*) have been completely extirpated by cattle grazing and feral goat browsing.

Previous Surveys of the Property

Botanist Winona Char conducted several botanical surveys of the quarry site in 1992 as part of the original permitting documentation for the quarry (Char 1992 and 1992b). In a May 1992 survey, she found that fountain grass covered 30 to 50% of older lava flows, but less than 3% on younger lava flows, although it was still the dominant species. A few *kiawe* trees and indigo plants were present. The only natives were *'uhaloa* (*Waltheria indica*) and the fern *iwa'iwa* (*Doryopteris decipiens*).

Although she made an intensive search for pololei fern (*Ophioglossum concinnum*), which at the time was considered endemic and a category 1 candidate endangered species, none were located. She noted that the plant might emerge after the first heavy downpour, after which it would likely quickly die off, with only its invisible underground rhizomes remaining until the next large rain. She then resurveyed the area after heavy rains in October 1992 associated with Hurricane Iniki. This time, she did find some ferns within a small gully in the pahoehoe, along with seedlings of a number of weeds not previously observed. Since that time, the *O. concinnum* has been included in species *O. polyphyllum*, an indigenous fern that is widespread around the world. Although cryptic, it

is locally abundant on a seasonal basis, and is no longer considered endangered or even rare (Palmer 2003).

Results: Vegetation

Our survey in 2015 was of a landscape that had been heavily scraped and quarried, but with a vegetation that did not differ markedly from that of 25 years ago. Vegetation over the property is still fairly sparse, as shown in Figures 2 and 3. It consists of two types:

1. Graded and actively used areas, with sparse vegetation of fountain grass (*Cenchrus setaceus*), a non-native, fire-promoting grass, and tree tobacco (*Nicotiana glauca*), a weed that springs up heavily in this part of the island when lava is disturbed. Very few other species are present. This occupies nearly all of the property.
2. Undisturbed areas, which vary from unvegetated to very sparse fountain grass.

Flora

The flora of the quarry as of June 2015 is extremely non-diverse. All plant species found on the property during the survey are listed in Table 1. Of the eight species detected, only two were native. There were a few individuals of the indigenous (native to the Hawaiian Islands and elsewhere) 'uhaloa and puakala (*Argemone glauca*). There were no endemic (found only in the Hawaiian Islands) plants. All other plants were weeds, and no rare or unusual plant species were present. The only tree present was the non-native kiawe (*Prosopis pallida*), of which we only observed four individuals. Given enough time without further disturbance, a larger variety of non-native weeds common in the Waikoloa area would undoubtedly begin to invade.

Threatened and Endangered Plant Species and Critical Habitat

No threatened or endangered plant species as listed by the U.S. Fish and Wildlife Service appear to be present on the property, nor are there uniquely valuable habitats. No existing or proposed federally designated critical habitat is present on the property.

Botanical Impacts and Recommended Mitigation Measures

The history of heavy, continuous disturbance coupled with the lowland context has resulted in a flora and vegetation on the property that has little value in terms of conserving native vegetation or threatened or endangered plant species. As such, no adverse botanical impacts on the property are expected as a result of the continuing and proposed uses.

Fauna

During the survey we observed five bird species, all of them common non-natives (see Table 2). Birds were generally sparse due to the sparse vegetation.

We would expect the migratory resident Golden Plover (*Pluvialis fulva*) to be present at least occasionally, as it is frequently seen in the area and throughout the State of Hawai'i during its residence here from August to April each year. The Golden Plover is not a threatened, endangered or candidate species. Similarly, the Short-eared Owl or *pueo* (*Asio flammeus sandwichensis*), which is an endemic (i.e., native and unique to Hawai'i), sub-species of this near cosmopolitan species, likely hunts in the area. It is unlikely that any native forest birds would make much use of the property because of the lack of forest within five miles.

Although they would likely never be seen, it is possible that small numbers of the endangered endemic Hawaiian Petrel (*Pterodroma sandwichensis*) and the threatened Newell's Shearwater (*Puffinus auricularis newelli*) over-fly the property between the months of May and November. The Hawaiian Petrel was formerly common on the Island of Hawai'i. This pelagic seabird reportedly nested in large numbers on the slopes of Mauna Loa and in the saddle area between Mauna Loa and Mauna Kea, as well as at the mid-to-high elevations of Hualālai. It has within recent historic times been reduced to relict breeding colonies located at high elevations on Mauna Loa and, possibly, Hualālai. Hawaiian Petrels were first listed as an endangered species by the USFWS in 1967 and by the State of Hawai'i in 1973.

Newell's Shearwaters were also once common on the Island of Hawai'i. This species breeds on Kaua'i, Hawai'i, and Moloka'i. Newell's Shearwater populations have dropped precipitously since the 1980s (Banko 1980, Day et al., 2003). This pelagic species nests high in the mountains in burrows excavated under thick vegetation, especially *uluhe* (*Dicranopteris linearis*) fern. Newell's Shearwater was listed as a threatened species by the USFWS in 1975 and by the State of Hawai'i in 1973.

The primary cause of mortality in both Hawaiian Petrels and Newell's Shearwaters in Hawai'i is thought to be predation by alien mammalian species at the nesting colonies. Collision with man-made structures is considered another significant cause. Nocturnally flying seabirds, especially fledglings on their way to sea in the summer and fall, can become disoriented by exterior lighting. When disoriented, seabirds often collide with manmade structures, and if they are not killed outright, the dazed or injured birds are easy targets of opportunity for feral mammals. There is no suitable nesting habitat within or close to the property for either species.

Various mammals would be expected on the property, including feral goats (*Capra hircus*), small Indian mongoose (*Herpestes a. auropunctatus*), mice (*Mus* spp.), rats (*Rattus* spp.), and perhaps feral cats (*Felis catus*). None of these alien mammals have conservation value and all are deleterious to native flora and fauna. During the survey, only goats were observed. Goat browsing on young, green fountain grass was evident, and it also appeared that goats may have been browsing on young tree tobacco leaves. Although tree tobacco is somewhat poisonous to goats, they are known to browse on it when little else is available (Green and Newell 1982).

Although not detected in the survey, which took place in daylight, the only native Hawaiian land mammal, the Hawaiian Hoary Bat (*Lasiurus cinereus semotus*), may also

be present in the general area, as it is present in many areas on the island of Hawai'i. They may forage for flying insects on the property on a seasonal basis. Bats roost in trees and very tall shrubs, only one of which was present on the property.

There are no native terrestrial reptiles or amphibians in Hawai'i. No reptiles and amphibians were detected during the survey, but it is likely that various geckoes (Family Gekkonidae) are present.

As discussed above, this report does not cover invertebrates, which a separate faunal specialist is studying because of the potential presence of the endangered Blackburn's sphinx moth, the larval stage of which is known to feed on tree tobacco.

Impacts and Mitigation Measures for Fauna

We offer the following recommendations in order to avoid impacts to endangered but widespread native birds and the Hawaiian hoary bat:

- To minimize impacts to the endangered Hawaiian hoary bat, we recommend that trees taller than 15 feet should not be removed or trimmed during the bat birthing and pup rearing season (June 1 through September 15). At the present time, only one such tree, a *kiawe*, appears to be present.
- If any activities incorporate outdoor lighting, they may attract endangered Hawaiian Petrels and Newell's Shearwaters, which may become disoriented by the lighting, resulting in birds being downed. To avoid the potential downing of Hawaiian Petrels and Newell's Shearwaters by their interaction with outdoor lighting, we recommend no construction or unshielded equipment maintenance lighting after dark between the months of April and October. All permanent lighting should be shielded in strict conformance with the Hawai'i County Outdoor Lighting Ordinance (Hawai'i County Code Chapter 9, Article 14), which requires shielding of exterior lights so as to lower the ambient glare caused by unshielded lighting.

Report Limitations

No biological survey of a large area can claim to have detected every species present. Some plant species are cryptic in juvenile or even mature stages of their life cycle. Dry conditions can render almost undetectable plants that extended rainfall may later invigorate and make obvious. Thick brush can obscure even large, healthy specimens. Birds utilize different patches of habitat during different times of the day and seasons, and only long-term study can determine the exact species composition. Although this survey was conducted in accordance with accepted practice, the findings of this survey should be interpreted with proper caution; in particular, there is no warranty as to the absence of any particular species. However, the property is not a likely habitat for rare, threatened or endangered plant or animal species.

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Figure 1. Property Map

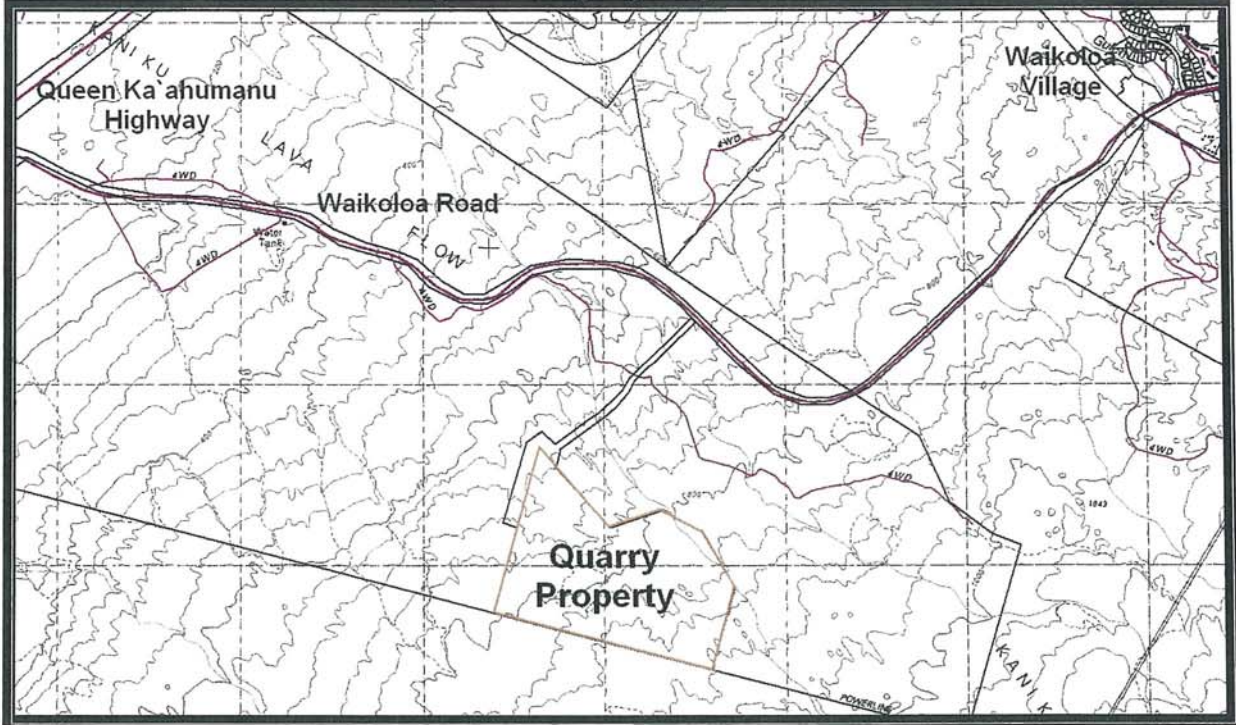


Figure 2. Aerial Image



Base Map © Google Earth

Figure 3. Property Photos



3a. Active Rock Crushing Area ▲ ▼ 3b. Typical Scraped Area

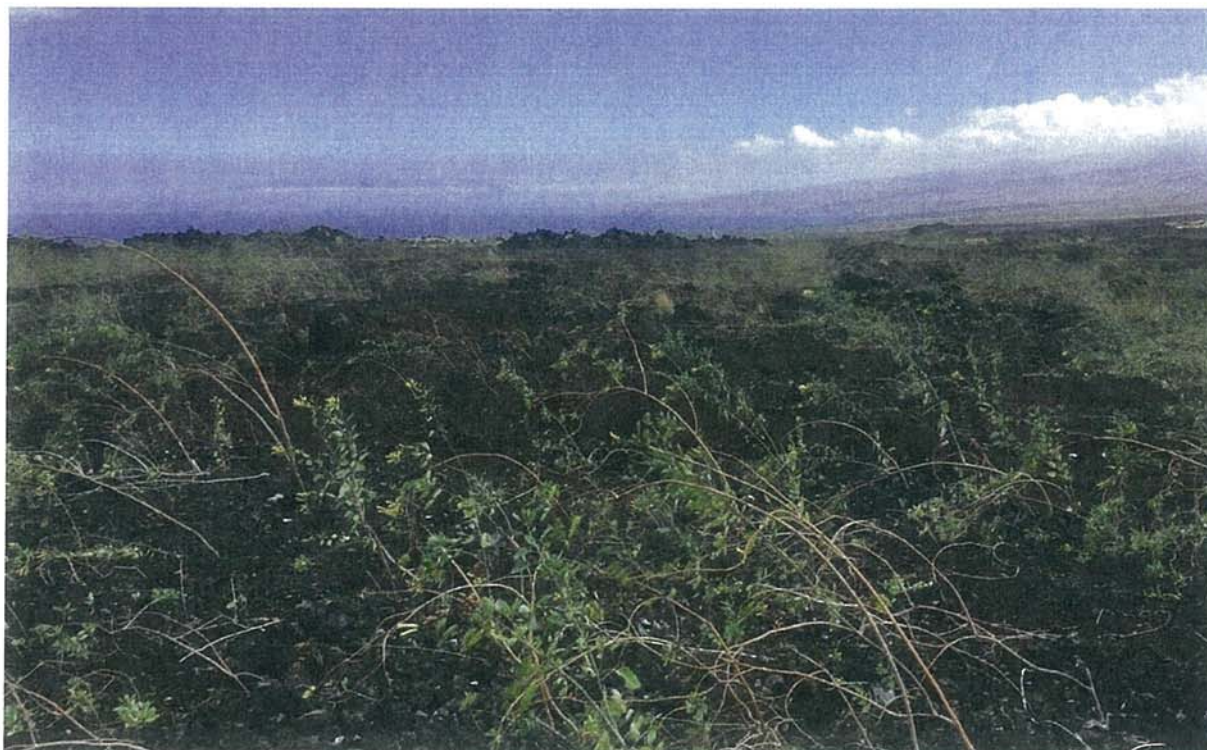
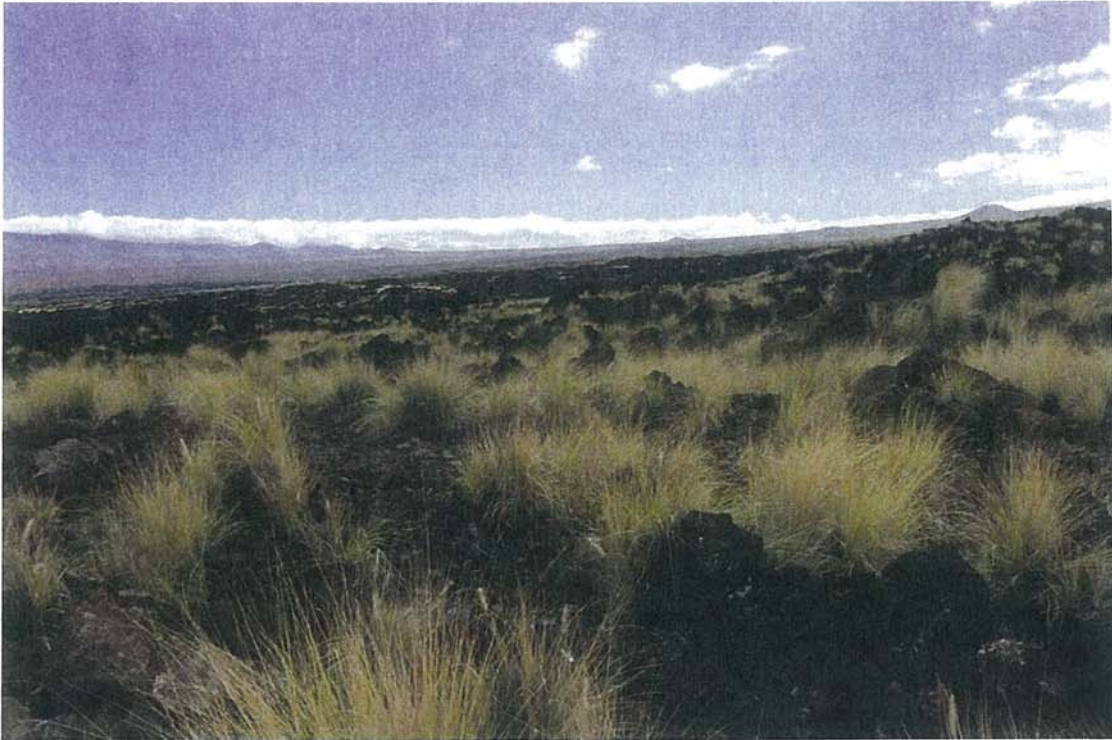


Figure 3. Property Vegetation Photos



3c. Landscape on Older Lava Flow Pre Quarry ▲
▼ 3d. Scraped Area Left, Natural Surface Right, Younger Lava Flow



Table 1. List of Plant Species Detected at Waikoloa Quarry

Scientific Name	Family	Common Name	Life Form	Status*
<i>Argemone glauca</i>	Papaveraceae	Pua kala	Herb	I
<i>Calotropis gigantea</i>	Asclepiadaceae	Crown flower	Shrub	A
<i>Cenchrus setaceus</i>	Poaceae	Fountain grass	Herb	A
<i>Nicotiana glauca</i>	Solanaceae	Tree tobacco	Shrub	A
<i>Prosopis pallida</i>	Fabaceae	Kiawe	Tree	A
<i>Senna occidentalis</i>	Fabaceae	Coffee senna	Herb	A
<i>Waltheria indica</i>	Malvaceae	'Uhaloa	Herb	I
<i>Verbascum thapsus</i>	Scrophulariaceae	Mullein	Herb	A

A = alien, E = endemic, I = indigenous, End = Federal and State listed Endangered Species
 Several plants were either sterile or unidentifiable, including a non-native composite.

Table 2. Bird Species Observed at Waikoloa Quarry

Scientific name	Common name	Status
<i>Acridotheres tristis</i>	Common Myna	Alien Resident
<i>Alauda arvensis</i>	Eurasian Skylark	Alien Resident
<i>Carpodacus mexicanus</i>	House Finch	Alien Resident
<i>Serinus mozambicus</i>	Yellow-Fronted Canary	Alien Resident
<i>Zenaida macroura</i>	Mourning Dove	Alien Resident

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2002-2005	Post-Doctoral Researcher, USGS-BRD, Kilauea Field Station
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RECENT PUBLICATIONS (last five years)

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B. Z. Nizam, G. Peron, V. V. Robin, A. D. Rodewald, P. G. Rodewald, R. L. Thomson, P. Trivedi, S. L. Van Wilgenburg, and K. Shanker. 2012. Positive relationships between association strength and phenotypic similarity characterize the assembly of mixed-species bird flocks worldwide. *American Naturalist* 180:777-790.

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14 TCBS GRADUATE STUDENTS MENTORED AS PRIMARY ADVISOR (INCLUDING 5 HAWAIIAN/ PACIFIC ISLANDERS) DURING LAST 5 YEARS AT UH HILO:

- Jackie Gaudioso, Bobby Hsu, Samuel Brooks, Chris Todd, Seth Judge, Stephan Kropidowski, Thomas Jones, Kainana Francisco, Christina Cornett, Tony Kovach, Ann Tanimoto, Joshua Pang-Ching, Tishanna Ben, James Akau

GRANTS RECEIVED (LAST FIVE YEARS)

Price, D.P., P.J. Hart, E. Stacy, and M. Takabayashi.. Understanding Biotic Response to Environmental Change in Tropical Ecosystems Through a Place-Based Context (\$4,999,999)

Hart, P. J., P. Banko, and A. Timmermann. 2013. UH Climate Science Center grant Reconstructing pre-historic climate variability in Hawaii and the tropical Pacific (\$81,000)

Hart, P. J. 2012. National Park Service. Vegetation inventory and mapping support. (\$270,000)

Hart, P. J. 2010. National Park Service. Landbird inventory and monitoring (\$300,426)

Price, D.P., P.J. Hart, E. Stacy, and M. Takabayashi. 2008. CREST center in tropical ecology and evolution in marine and terrestrial environments (\$4,999,995)

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American Ornithologists Union

Cooper Ornithological Society

Wilson Ornithological Society

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RECENT BIOLOGICAL ASSESSMENT PROJECTS:

- Biological surveys/training sessions (8 to date) for Environet, Waikoloa Maneuver Area (2013-15)
- Biological surveys of County Open Space Properties (6 to date) (HI County P&R 2014-15)
- Botanical survey Kilauea-Kauai Proposed Bicycle Path (Private 2013)
- Ka'ū Forest Reserve Management Plan Environmental Assessment (DLNR 2012)
- Hilo Hillside Subdivision Section 7 ESA Consultation, FEMA (Private 2011)
- Monk Seal Recovery Facility Environmental Assessment (Marine Mammal Center 2011)
- Biocontrol of Strawberry Guava Environmental Assessment (U.S. Forest Service 2010)
- Kea'au Pahoa Highway Improvements Botany Report (SSF/Dept. of Trans. 2010)
- Ha'ena State Park Biological Report (PBR Hawaii/DLNR 2009)
- La'i'ōpua Endangered Species Preserve Management Plan (DHHL 2008)
- Environmental Assessment for Hakalau Forest NWR, Kona Forest Unit (USFWS 2008)
- Waikoloa Makai Botany Report (SSF 2008)
- Aina Haina Conservation District Parcel Botany Report (Private 2007)
- Mohouli Drainage Botany Report (SSF 2006)
- La'aloa D-Bar Ranch Botany Report (Private 2005)
- Environmental Assessment for State Kahikinui Forest Restoration, Maui (DLNR 2004)
- Botanical Report for Koa Timber (2002)
- Flora and Fauna Reports, Cellular Towers (5 reports, 1998-2004)
- Flora and Fauna Reports, Parker Ranch Quarry Sites (6 reports, 1999-2004)

QUALIFICATIONS OF RON TERRY, PH.D.:

Ron Terry, Ph.D., earned a B.A. in Geography in 1980 from the University of Hawai'i at Hilo. Supported by a National Science Foundation grant, he earned a Ph.D. from Louisiana State University, also in Geography, in 1988. He was Assistant Professor of Geography at the University of Hawai'i at Hilo from 1987-1992. During his professorship he began his consulting business, and began full-time consulting in 1992. He remains an Affiliate Professor at UH-Hilo. He has been a board member of several State boards and commissions related to environmental management.

SPECIAL PERMIT APPLICATION

EXHIBIT 17 -
BLACKBURN'S SPHINX MOTH SURVEYS

**Blackburn's Sphinx Moth Surveys Conducted for West
Hawaii Concrete's Waikoloa Quarry, South Kohala
District, Island of Hawai'i**

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July 17, 2015

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Tree Tobacco and Blackburn’s Sphinx Moth Survey	5
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Introduction

West Hawaii Concrete is seeking to extend their special use quarry permit at their active Waikoloa Quarry site, identified as TMK No. (3) 6-8-001:066. The quarry occupies approximately 219.990-acre portion of the 243.794-acre, the remaining roughly 24-acres which is not part of the quarry site consists of the entrance road and the immediate entrance to the quarry site proper. The property is owned by WQJ2008 Investment LLC and the Ukumehame Quarry Company LP. West Hawaii Concrete has been operating the quarry since 1995.

As part of the due diligence efforts undertaken prior to West Hawaii Concretes' application to extend their special use permit lease we were asked to conduct a survey of tree tobacco (*Nicotiana glauca*) and the endemic endangered Blackburn's sphinx moth (*Manduca blackburnii*) activity on an approximately 60-acre portion of their 220-acre quarry site as tree tobacco has now become common over fairly large parts of the quarry site. An initial site visit was conducted on May 5, and extensive fieldwork was done on June 11, 2015.

General Site and Project Description

Habitat within the quarry site is highly degraded, as one would expect of an active quarry site where approximately the top five feet of material has been removed from approximately 90-95 percent of the 220-acre quarry site to provide general fill for the Kohala Coast development projects. Prior to that activity the site likely looked like that depicted in Figure 1, which was taken along the quarry access road, but outside of the quarry site.

The habitat remaining within areas that is not bare rock is dominated by fountain grass (*Cenchrus setaceus*). Large portions of the site are bare rock or piles of crushed rock (Figure 2). Currently there is also a small green-waste facility operated by Puna Certified Nursery, Inc. located on the northern central boundary of the property.

As mentioned in the introduction West Hawaii Concrete will be seeking approval from the Leeward Planning Commission and later from the State Land Use Commission to extend the life of the Special Permit, and expand the permitted uses from the currently permitted concrete quarrying to include green waste processing/composting, cement concrete recycling and asphalt concrete recycling.

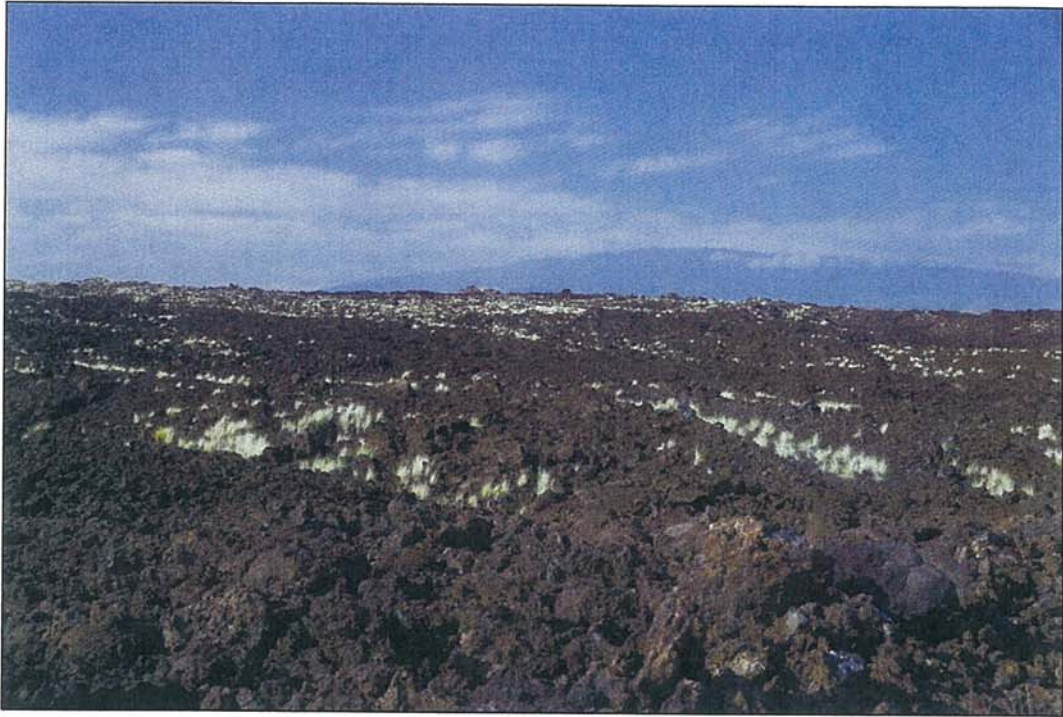


Figure 1 – Typical 'a'a habitat with emergent and sparse fountain grass



Figure 2 – Main quarry floor with stockpiled material, showing lack of vegetation

Methods

Initial Site Visit

On May 5, 2015 the principal author visited the site with Mr. Mel Macy, West Hawaii Concrete Vice-president to see what areas of the site needed to be surveyed for sign of Blackburn's sphinx moth activity. During that visit Mr. Macy indicated the areas of the property that he anticipated would be quarried or otherwise put into use over the next 3 to 5 years. This area contained approximately 60 acres.

At the time of the visit tree tobacco was observed in many areas, generally outside of the main pit area and sand storage site. A cursory search of a number of plants revealed no signs of any insect browsing of any kind.

Tree Tobacco and Blackburn's Sphinx Moth Survey

Methods used during the course of this survey are the currently accepted standard methodologies for searching tree tobacco for Blackburn's sphinx moths – these protocols were developed by the lead author in concert with the USFWS in 2014 and has been used on several moth surveys in the past two years on Hawaii by both the authors of this report and by biologists with SWCA for a State of Hawaii, Department of Transportation, Highways Division project and a Hawaiian Electric Light Company line replacement project (David and Guinther 2014; SWCA 2014).

The biologists first loaded a shape file of the quarry TMK into a Trimble 6000 Series GNSS unit (GeoXH) and then divided up the survey site between them and proceeded to inspect all of the tree tobacco plants within the survey area (Figure 3). The guidelines for the survey were as follows:

1. Visual search of each tree tobacco plant will be conducted to identify those that show browse marks of a size and scale that are indicative of BSM larvae activity;
2. If significant browsing is identified, the plant will be searched for BSM or other Sphingidae larvae, and an appropriate buffer zone around it demarcated.

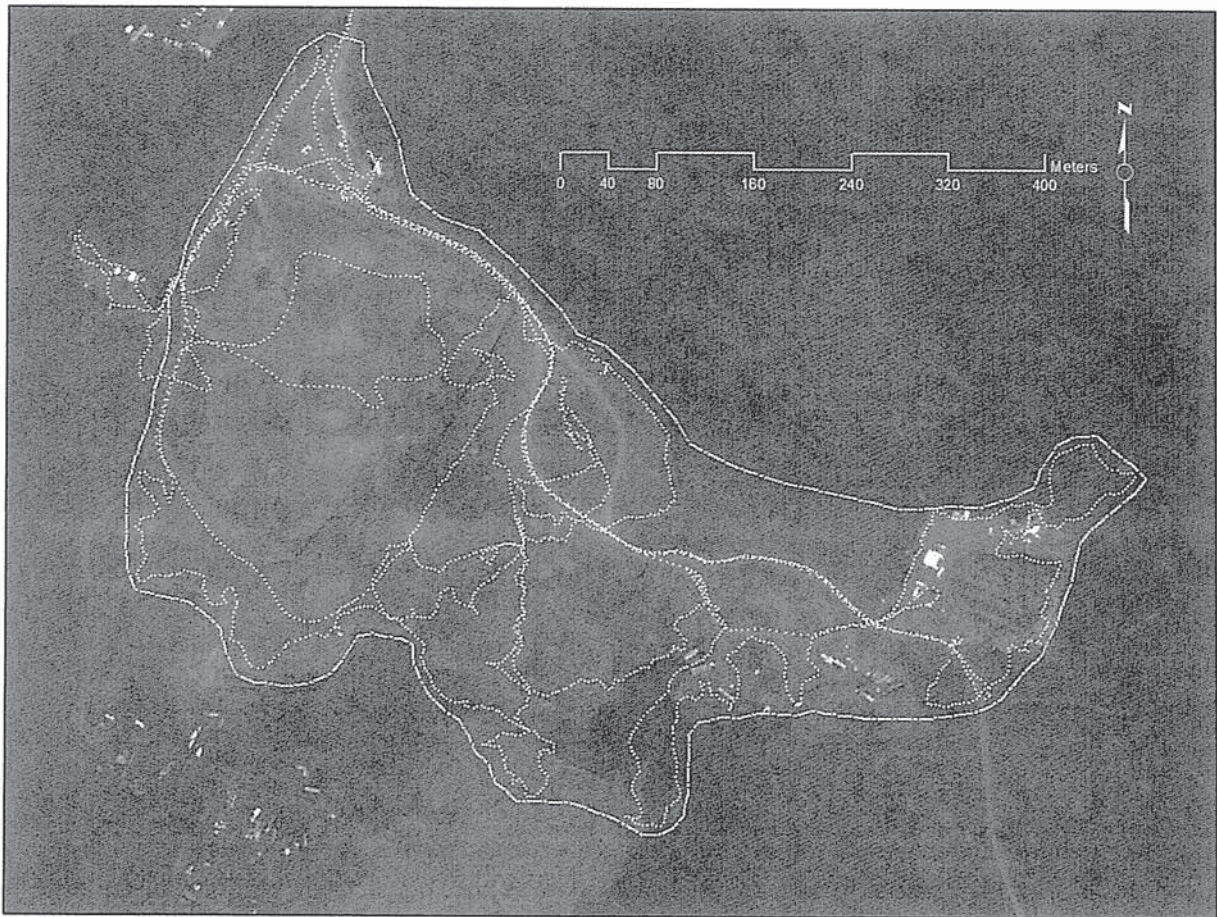


Figure 3 – Yellow outline represents the area that we searched tree tobacco plants and found no evidence of BSM activity. The white dotted lines are the path that one of the biologists took while searching the site.

Results

Tree tobacco is an alien invasive weed that is used in some areas by Blackburn's sphinx moth as an alternate host plant for the egg and larval stages because its natural host plants such as 'aiea (*Nothocestrum breviflorum*) are critically endangered and are exceedingly rare. The quarry site and surrounding area are extremely dry. The diversity of plant species present in the approximately 60-acre portion of the 220-acre site area that we surveys for Blackburn's Sphinx moth was extremely low (Figure 4). Surveys conducted by another team conducting a botanical survey of the entire site, also reported very low diversity and no rare native species (Terry and Hart, 2015).



Figure 4 – Red outline represents the area that we searched tree tobacco plants and found no evidence of BSM activity. Dark dotted lines are the paths that one of the two biologists followed. The pale yellow dashed line indicates the boundary of the TMK.

We found no evidence of any insect activity on any of the tree tobacco plants inspected. We surveyed the outlined area depicted in Figures 3 and 4, within the greater quarry site. Tree tobacco condition during this survey was good, with thick green leaves, conducive to usage by Blackburn's sphinx moth (Figure 5). It has been a relatively wet season in the project area; not heavy storms, but rather steady light rain each night that resulted in what can be described as verdant conditions within the greater Waikoloa area.

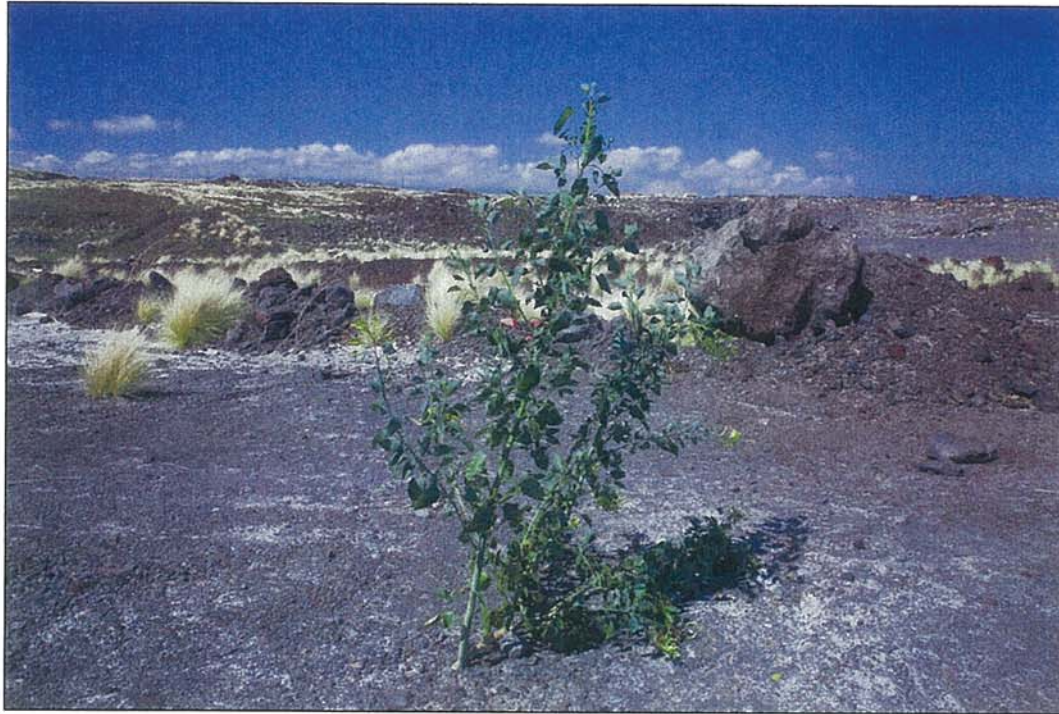


Figure 5 – A typical healthy tree tobacco plant within the quarry site showing sparse fountain grass habitat

Literature cited

David, R.E., and E. B., Guinther. 2014, Blackburn's Sphinx Moth Surveys Conducted for Phase I of the Hawaiian Electric Light 6800 kV Line Replacement Project, South Kohala District, Island of Hawai'i. Prepared for: Power Engineers and Hawaii Electric Light.

SWCA Environmental Consultants, 2014. Blackburn's Sphinx Moth Biological Surveys for Removal of Tree Tobacco on the Island of Hawai'i. Prepared for: Hawaii Department of Transportation, Highways Division.

Terry, R. and P. J. Hart 2015. General Botanical Survey and Vertebrate Fauna Assessment, Waikoloa Quarry Waikoloa, South Kohala District, Island of Hawai'i. June 2015. Prepared for: Jennifer A. Lim, Esq. Carlsmith Ball LLP

SPECIAL PERMIT APPLICATION

EXHIBIT 18 - HYDROLOGIC ASSESSMENT

Hydrologic Assessment of
Present and Proposed Future Use of the
West Hawaii Concrete Quarry Site on
TMK 6-8-01:66 in Waikoloa, Hawaii

Prepared for:

Carlsmith Ball LLP
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Prepared by:

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June 2015

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Introduction

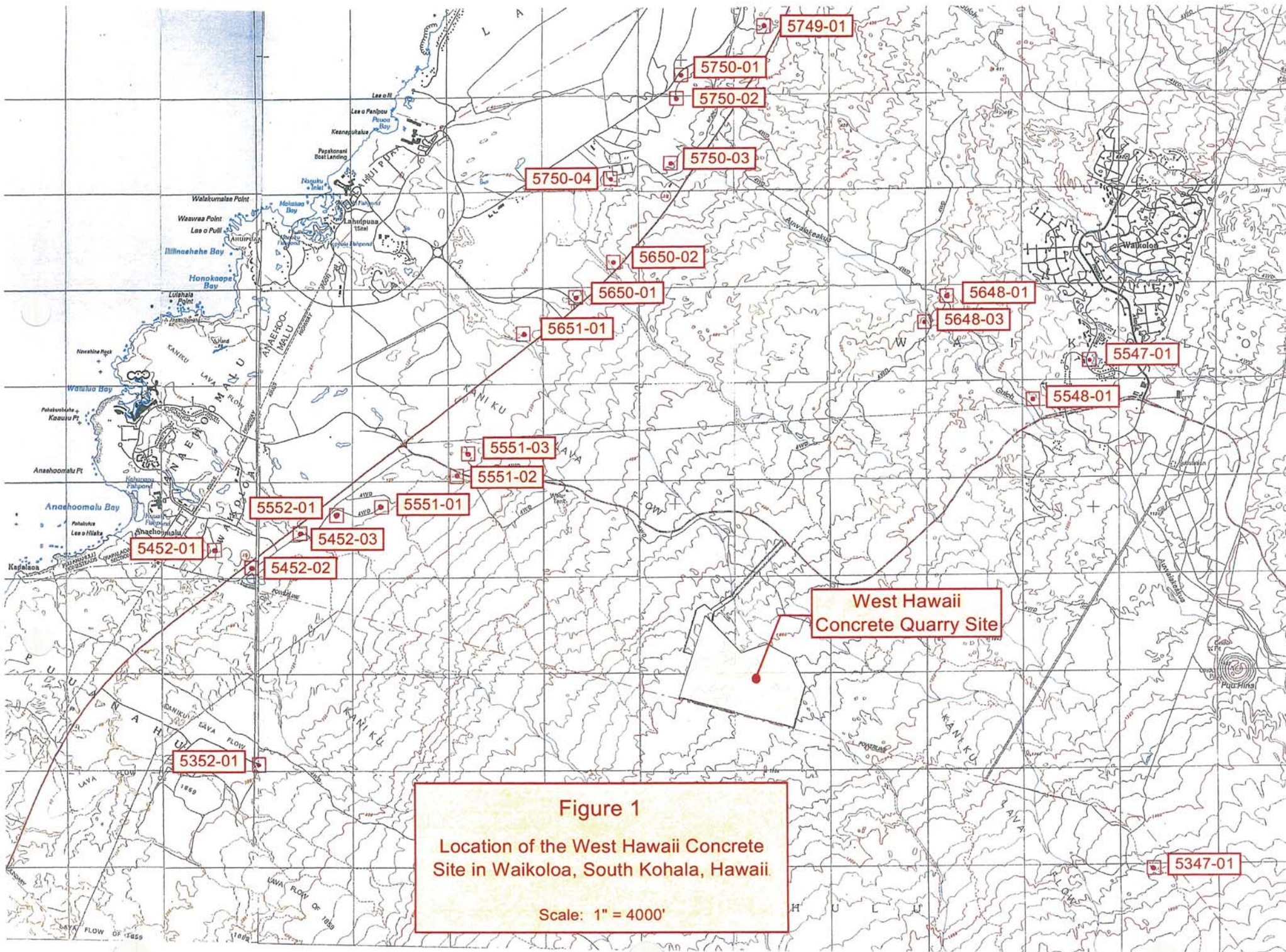
West Hawaii Concrete (WHC) seeks to amend its State Special Use Permit (SUP) to extend the life of the permit to run the quarrying operation to 2043 or longer, to add approval of its composting operation to the permit, and to enable processing and recycling of Portland cement concrete (PCC) and asphalt concrete pavement (ACP) on the site. Figure 1 shows the location of the 220-acre site off Waikoloa Road and abutting the boundary line between the South Kohala and North Kona districts.

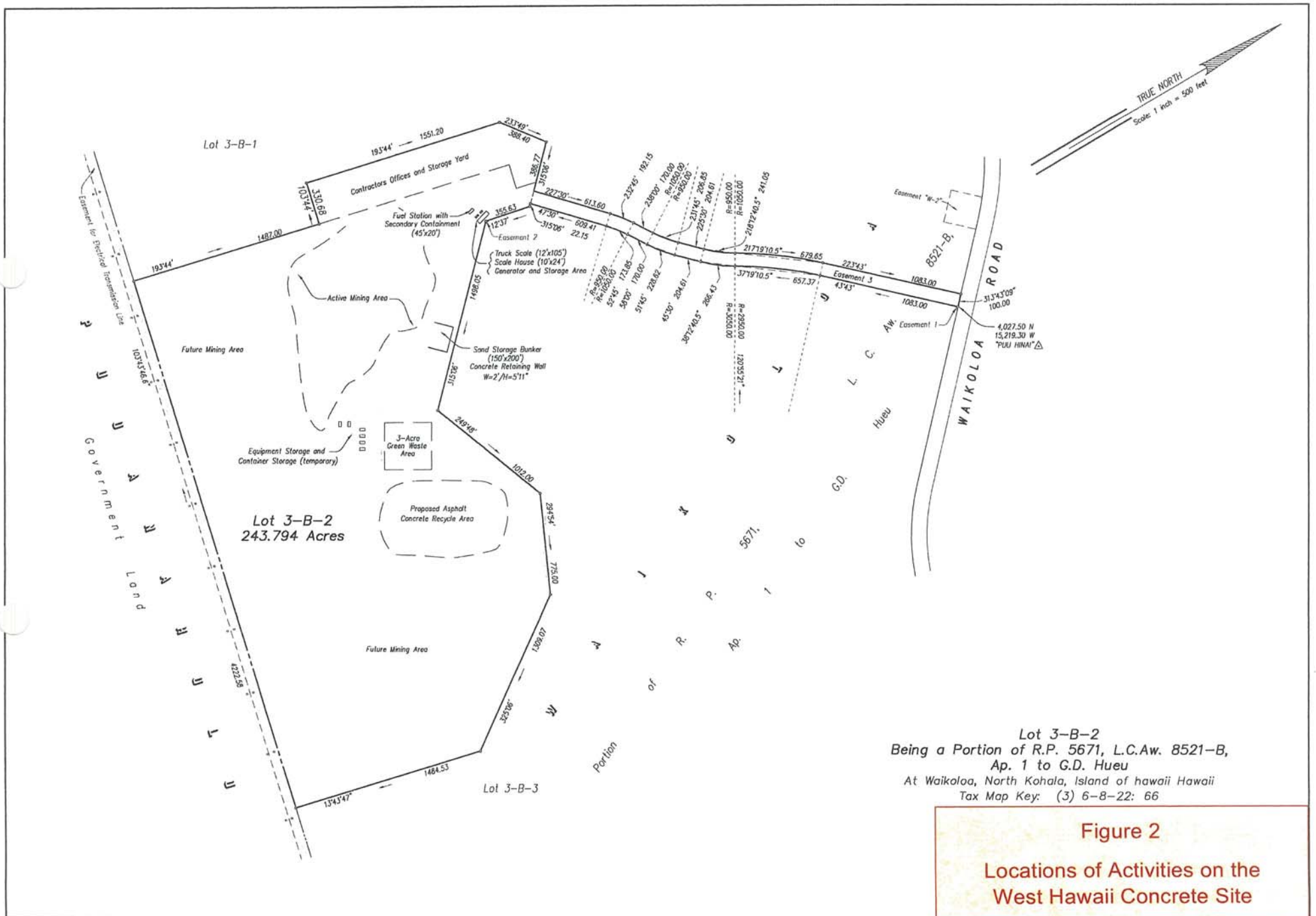
This report has been prepared to support the amendment to the SUP. It presents a hydrologic assessment of the impact of present and planned activities on water resources. The assessment focuses on potential impacts to the underlying groundwater. Due to the topography, the existence of man-made berms, and the very high permeability of the surface lavas, it is not physically possible for surface runoff to leave the site.

Description of Present and Proposed Future Activities on the Site

Figure 2 shows the locations of present and proposed future activities on the 220-acre site. These are described and quantified below.

- Operation of the quarry began in 1995, about 20 years ago. Initially, the readily accessible surface material to a depth of approximately five feet was removed from most of the site. It was used for fill for various development projects in West Hawaii.
- At present, mining and processing to produce aggregate material is being done on about 25 acres toward the northwest corner of the site. Excavation is to a depth of 40 to 45 feet, the deepest it will go. In the future, mining activities would expand laterally to the south and/or west, excavating to the floor depth of the present pit. The mining operation is done with drilling and blasting, work which is presently done by Isemoto Contracting Co., Ltd under contract to WHC. Production in 2014 was about 32,800 tons of aggregate. This is the expectable rate of production going forward.
- A 3-acre site on prepared ground has been set aside for composting. Actual composting uses about two acres and was begun about five years ago. This work is done by a private contractor who brings the green waste to the site, operates the composting according to Department of Health (DOH) requirements, and sells the composted product.
- A site of about 10 acres has been prepared for the PCC and ACP processing and recycling. The raw PCC and ACP material to be processed and recycled would be stored in separate piles. When a sufficient volume of PCC or ACP has accumulated, a portable processing machine (or possibly a semi-permanent machine that would be removed at the termination of the quarry)





Lot 3-B-2
 Being a Portion of R.P. 5671, L.C.Aw. 8521-B,
 Ap. 1 to G.D. Hueu
 At Waikoloa, North Kohala, Island of Hawaii Hawaii
 Tax Map Key: (3) 6-8-22: 66

Figure 2
 Locations of Activities on the
 West Hawaii Concrete Site

would be brought in. The finished product, typically ¾-inch minus for ACP or 2.5-inch minus for the PCC (after the rebar has been removed), would be stored onsite until sold or otherwise reused. Processing is not anticipated to be frequent. Depending on market conditions, it may be at three to eight year intervals.

- Water for use on the site is provided by the West Hawaii Water Company via a 4-inch pipeline alongside the access road to the quarry. Water use is limited to dust control during quarrying operations and to keep moisture in the compost pile as required by DOH. This use typically averages about 3300 gallons per day (GPD). It is expected to remain at about this level going forward except during the future infrequent processing of PCC and/or ACP, during which time the average annual use may be increased by about 10 percent.

Description of the Groundwater Beneath and in the General Vicinity of the West Hawaii Concrete Quarry Site

Groundwater Occurrence. Knowledge of groundwater conditions beneath and in the general vicinity of the project site comes primarily from wells that have been developed. Locations of some of these wells are shown on Figure 1 and information on them is compiled in Table 1. Groundwater beneath the site and encompassing the area from the shoreline for at least seven (7) miles inland occurs as a basal lens which floats on saline groundwater beneath it and shows level fluctuations in response to ocean tides and longer-term mean ocean level changes. For about five miles inland, including directly beneath the quarry site, the groundwater is brackish but generally suitable for landscape irrigation of salt tolerant grasses and plants. The groundwater beneath the site stands about four (4) feet above sea level. Ground elevation at the quarry varies from 680 to 920 feet above sea level. The intervening lava between ground level and the groundwater below consists of numerous flows comprising what is known as the vadose (unsaturated) zone.

Groundwater Flowrate. The WHC quarry site is located in the Anaehoomalu Aquifer System as delineated by the State Commission on Water Resource Management (CWRM). At the quarry site, the delineated aquifer is 5.7 miles wide and the quarry is situated midway across that width. The CWRM has set the sustainable yield of the aquifer based on a calculated recharge of 69 million gallons per day (MGD) over its 291 square mile area (CWRM's 1990 Water Resources Protection Plan). That is equivalent to about five (5) inches per year or 22 percent of the rainfall on the aquifer's total area. Since there are no operating wells upgradient of the WHC quarry site, it also translates to a flow on the order of 12 MGD per mile of width beneath the quarry site.

A newer, more sophisticated, and presumably more accurate calculation of the aquifer's recharge is contained in "A Water Budget Model and Assessment of Groundwater Recharge for the Island of Hawaii" by J.A. Engott in 2011 (USGS Scientific Investigations Report 2011-5078). It puts the total

Table 1

Information on Wells in the General Vicinity of the West Hawaii Concrete Site

Well		Owner / Operator	Year Drilled	Ground Elevation (Feet MSL)	Total Depth (Feet)	Elevation at Bottom (Feet MSL)	Casing Diameter (Inches)	Installed Pump Capacity (GPM)	Representative Chlorides (MG/L)	Water Temperature (Deg. F.)	Distance Inland (Miles)	Present Use
State No.	Name											
5352-01	Landfill	Puuanahulu Landfill	1993	191	220	-29	8	100	950	72.0	1.82	Wash and Dust Control
5452-01	Nursery	West Hawaii Utility Co.	1980	40	43	-3	Dug Pit	900	890	74.1	0.56	Golf Course Irrigation
5452-02	51-Foot	West Hawaii Utility Co.	1980	51	53	-2	72	700	720	76.4	0.84	Golf Course Irrigation
5452-03	Irrigation No. 1	West Hawaii Utility Co.	1988	51	62	-11	12	350	690	76.6	1.11	Golf Course Irrigation
5551-01	Irrigation No. 3	West Hawaii Utility Co.	1990	92	110	-18	12	500	570	77.3	1.59	Golf Course Irrigation
5552-01	Irrigation No. 2	West Hawaii Utility Co.	1988	81	91	-10	12	700	665	75.3	1.31	Golf Course Irrigation
5551-02	Irrigation No. 4	West Hawaii Utility Co.	1991	95	114	-19	12	None	470	78.6	1.82	Not in Use
5551-03	Irrigation No. 5	West Hawaii Utility Co.	1991	126	141	-15	12	None	470	77.5	1.82	Not in Use
5651-01	Highway	Mauna Lani Resort	1988	121	130	-9	12	425	700	--	1.61	Golf Course Irrigation
5650-01	Entrance	Mauna Lani Resort	1991	137	180	-43	8	250	950	82.6	1.65	Golf Course Irrigation
5650-02	Culvert	Mauna Lani Resort	1991	124	160	-36	12	350	950	--	1.78	Golf Course Irrigation
5749-01	North	Mauna Lani Resort	1991	93	100	-7	12	450	580	--	1.00	Golf Course Irrigation
5750-01	Puako Shaft	Mauna Lani Resort	1968 (e)	37	36	+1	Tunnel	880	700	--	1.10	Golf Course Irrigation
5750-02	Puako 6	Mauna Lani Resort	Not Known	51	55	-4	66	150	650	--	1.10	Golf Course Irrigation
5750-03	Fire Station	Mauna Lani Resort	1988	60	70	-10	12	425	825	--	1.70	Golf Course Irrigation
5750-04	STP	Mauna Lani Resort	1989	55	70	-15	12	425	860	--	1.48	Golf Course Irrigation
5648-01	Parker Test Hole	Waikoloa Water Co.	1968	620	651	-31	3	None	370	--	3.70	Unused
5648-03	Aina Lea 1	Bridge Aina Lea	1992	598	637	-39	15	250	750	--	3.69	Landscape Irrigation
5548-01	Parker 1	Waikoloa Village Owners Assoc.	1968	813	865	-52	12	350	600	82.6	4.47	Golf Course Irrigation
5547-01	WVA-1	Waikoloa Village Owners Assoc.	2007	935	975	-40	14	700	400	83.1	4.64	Golf Course Irrigation
5347-01	Puu Anahulu	State DLNR		1517	1548	-31	Uncased	None	60	86.0	6.94	Unused

- Notes: 1. Information from the files of the State Commission on Water Resource Management.
2. Blanks in the table indicate that the information is not available.

recharge at 182 MGD or 2.6 times greater than the amount in the CWRM's 1990 WRPP. If correct, it would suggest a flowrate equivalent to 32 MGD per mile beneath the WHC quarry site.

In reality, based on the performance of wells downgradient of the WHC site (Figure 1 and Table 1), the one (unused) well 2.9 miles upgradient (State No. 5347-01), and numerous samplings of groundwater discharging along the aquifer's shoreline, the actual flowrate is significantly less than the amount in the CWRM's 1990 WRPP and far less than in the USGS water budget. Based on judgement and experience, the flowrate is no more than eight (8) MGD per mile of aquifer width, about two thirds of the amount in the 1990 WRPP and just one quarter of the calculated amount by the USGS.

Groundwater Quality. Table 2 is a compilation of water quality analyses of some of the wells that are nominally downgradient of the WHC quarry site. All of the sampled wells are actively used for golf course irrigation, are slightly brackish, and have nutrient levels indicative of naturally occurring groundwater quality. The reported salinity of Well 5347-01, which is 2.9 miles upgradient of the quarry site and 6.9 miles inland from the shoreline, is in the range of drinking water (chlorides of 60 milligrams per liter). Chlorides in groundwater directly beneath the WHC site are likely to be in the range of 250 to 350 MG/L.

Assessment of the Project's Present and Future Impact on Water Resources

As indicated previously, this assessment focuses exclusively on groundwater as the present and proposed future activities on the WHC site have no impact on surface water. As a matter of completeness, however, it should be noted that the USGS Puu Hinai quadrangle map shows a blue line indicating a surface water course passing along the north side of the quarry site with continuous definition to and through a large culvert in Queen Kaahumanu Highway. However, there is no field evidence anywhere along this delineated "water course" that it has ever carried surface runoff. Further, nothing at present or proposed for the WHC quarry site will change that.

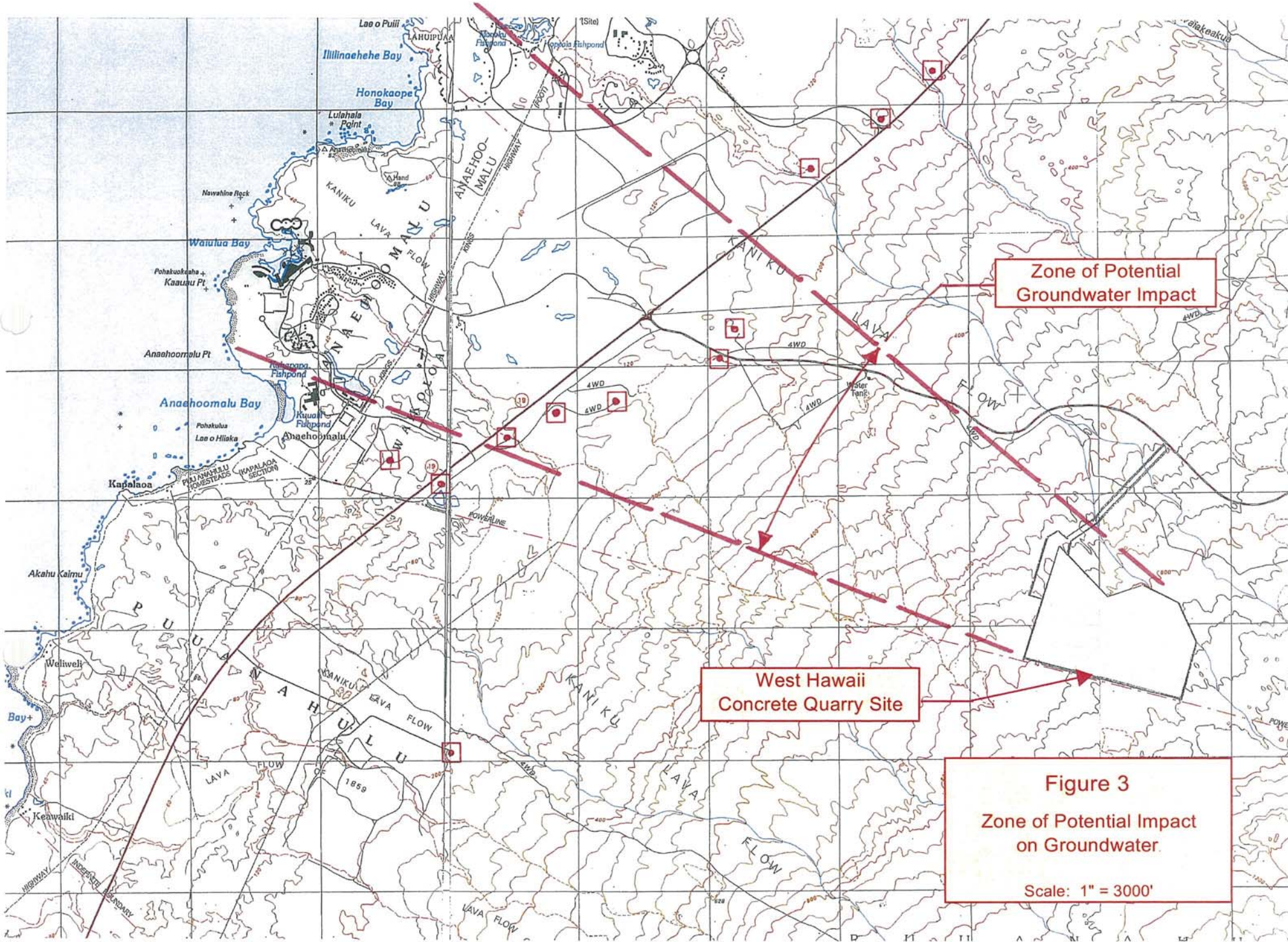
Area of Potential Impact on Groundwater. In the presumed mauka-to-makai direction of groundwater flow, the 220-acre WHC site has a width of 0.65 miles and a groundwater flow directly beneath it that is estimated to be on the order of five (5) MGD. If we allow a 10 degree span on either side of the presumed direction of groundwater flow, both to account for dispersion in groundwater and some uncertainty in the direction of groundwater flow, activities on the WHC site might conceivably impact the shoreline discharge of groundwater over a 1.9 mile wide section of the coastline from the north end of Anaehoomalu Bay to the south end of Makaiwa Bay (Figure 3). The present amount of shoreline groundwater discharge over this segment of the coast is estimated to be about 10 MGD (15 MGD of

Table 2

Quality of Groundwater in Wells Nominally Downgradient
of the West Hawaii Concrete Site

W e l l		Laboratory	Sample Date	NO ₃ (μ M)	NH ₄ (μ M)	DON (μ M)	TN (μ M)	PO ₄ (μ M)	DOP (μ M)	TP (μ M)	Si (μ M)	Salinity (PPT)
State No.	N a m e											
5452-01	Nursery	MAS	8-25-03	83.80	6.40	24.20	114.40	8.10	2.90	11.00	947	1.812
		U of W	10-21-05	52.32	2.64	35.34	90.30	1.76	2.58	4.34	857	1.704
		U of W	5-24-06	76.11	1.47	29.53	107.11	2.17	0.91	3.08	941	1.890
		U of W	8-30-06	47.81	1.82	67.41	117.04	1.81	2.52	4.33	883	1.680
		MAS	11-24-08	473.20	5.12	12.56	490.88	91.28	3.12	94.40	888	1.322
		MAS	12-12-08	315.00	6.20	5.80	327.00	81.70	0.50	82.20	826	1.405
		MAS	12-15-08	306.80	5.00	56.00	367.80	74.60	3.60	78.20	837	1.416
		MAS	2-28-15	55.60	1.05	2.00	58.65	3.25	0.00	3.25	772	1.960
		Averages		176.33	3.71	29.11	209.15	33.08	2.02	35.10	869	1.649
5452-02	51-Foot	MAS	8-25-03	254.10	11.20	22.40	287.70	51.10	3.20	54.30	959	1.841
		U of W	10-18-05	30.44	0.05	25.96	56.45	1.67	0.72	2.39	504	1.786
		U of W	5-24-06	54.12	0.12	56.47	110.71	1.89	1.80	3.69	874	1.742
		U of W	8-29-06	57.48	0.00	47.87	105.35	2.78	0.70	3.48	869	1.760
		MAS	11-24-08	700.16	20.64	4.10	724.90	151.20	0.40	151.60	769	0.764
		MAS	12-12-08	674.70	17.80	2.00	694.50	133.10	1.00	134.10	664	0.790
		MAS	12-15-08	337.00	1.00	53.40	391.40	59.20	1.80	61.00	765	1.607
		MAS	12-22-08	386.70	4.10	4.90	395.70	70.30	1.00	71.30	727	1.554
		MAS	2-28-15	63.15	0.80	2.10	66.05	3.85	0.25	4.10	765	1.832
Averages		284.21	6.19	24.36	314.75	52.79	1.21	54.00	766	1.520		
5452-03	WBR Irrigation 1	MAS	8-25-03	43.80	10.00	35.80	89.60	0.80	3.40	4.20	938	1.792
		U of W	10-18-05	41.85	1.09	44.96	87.90	3.22	3.97	7.19	851	1.393
		U of W	2-21-06	37.58	0.15	34.97	72.70	2.07	1.71	3.78	960	1.405
		U of W	5-24-06	46.04	0.09	39.59	85.72	1.62	1.34	2.96	875	1.377
		U of W	8-29-06	44.31	0.00	49.03	93.34	1.92	0.97	2.89	873	1.413
		MAS	11-24-08	52.96	5.60	22.00	80.56	1.52	1.44	2.96	847	1.765
		MAS	2-28-15	47.45	5.20	14.55	67.20	1.55	0.70	2.25	773	1.888
		Averages		44.86	3.16	34.41	82.43	1.81	1.93	3.75	874	1.58
		5552-01	WBR Irrigation 2	MAS	8-25-03	45.70	7.00	25.80	78.50	0.50	3.00	3.50	936	1.736
U of W	10-18-05			44.75	1.28	42.13	88.16	2.21	3.00	5.21	836	1.326
U of W	2-21-06			41.14	0.11	43.81	85.06	1.74	2.14	3.88	966	1.315
U of W	5-24-06			48.88	0.13	51.93	100.94	1.68	2.24	3.92	885	1.320
U of W	8-29-06			46.27	0.07	45.01	91.35	1.78	1.16	2.94	870	1.351
MAS	9-25-08			47.04	1.84	5.60	54.48	1.60	0.48	2.08	894	1.763
MAS	11-28-08			43.80	3.40	13.30	60.50	2.00	0.70	2.70	845	1.752
MAS	2-28-15			49.30	0.90	4.40	54.60	2.30	0.25	2.55	777	1.741
Averages				45.86	1.84	29.00	76.70	1.73	1.62	3.35	876	1.54
5551-01	WBR Irrigation 3	MAS	8-25-03	45.40	6.00	26.10	77.50	1.40	2.40	3.80	966	1.488
		U of W	10-18-05	41.19	0.33	42.83	84.35	2.19	2.79	4.98	831	1.077
		U of W	5-24-06	44.49	0.12	31.33	75.94	1.61	0.53	2.14	879	1.119
		U of W	8-29-06	41.82	0.03	72.74	114.59	1.69	2.05	3.74	879	1.146
		MAS	9-25-08	41.20	0.40	6.08	47.68	1.44	0.56	2.00	879	1.483
		MAS	11-24-08	57.52	3.20	44.40	105.12	1.76	1.52	3.28	864	1.424
		MAS	2-28-15	47.40	1.25	7.35	56.00	2.05	0.05	2.10	786	1.495
Averages		45.57	1.62	32.98	80.17	1.73	1.41	3.15	869	1.32		
5551-03	WBR Irrigation 5	MAS	8-25-03	48.60	14.10	54.30	117.00	1.70	1.50	3.20	950	1.236
		MAS	11-28-08	45.70	4.80	0.40	50.90	3.60	0.20	3.80	855	1.187
		Averages		47.15	9.45	27.35	83.95	2.65	0.85	3.50	902	1.212
5352-01	West Hawaii Landfill	MAS	11-28-08	60.80	4.50	0.10	65.40	2.50	0.60	3.10	791	1.950

- Notes: 1. All samples collected by Tom Nance of Tom Nance Water Resource Engineering.
2. MAS is Marine Analytical Specialists. U of W is the University of Washington.



Zone of Potential Groundwater Impact

West Hawaii Concrete Quarry Site

Figure 3
Zone of Potential Impact on Groundwater.
Scale: 1" = 3000'

natural groundwater flow less about five MGD of ongoing pumping for golf course irrigation at the Waikoloa and Mauna Lani Resorts).

Potential Impact on Groundwater Flowrate and Shoreline Discharge. The WHC quarry's potential impact on groundwater flowrates is two fold. First, the water used at the WHC site comes from wells of the private West Hawaii Water Company. That system's seven active wells are to the northeast of the WHC site, in the Waimea Aquifer System, and span a 2.5-mile wide corridor in that aquifer. On an average annual basis, the pumpage of the private water company's drinking water wells is about 6.0 MGD and the use at the quarry site is 0.0033 MGD or 0.055 percent of that pumpage. Present uses for dust control in the actively mined quarry and for moisture control of the composting operation are not expected to change. The additions of the PCC and APC recycling operation will increase this by no more than 10 percent, bringing the project's site to no more than 0.06 percent of the well pumpage. The change is inconsequential, meaning that it is far too small to be detectable to have any impact on downstream use of the groundwater naturally flowing to and discharging along the Waimea Aquifer's shoreline.

The second potential impact is on the quantity of groundwater flowing directly beneath the WHC site (about five MGD) and/or on the 10 MGD ultimately discharging along the shoreline between Anaehoomalu and Makaiwa Bays. Present and potential onsite water use is in the range of 0.0033 to 0.0036 MGD. Conservatively, less than 10 percent of this or no more than 0.00033 to 0.00036 MGD percolates to the groundwater below. This would amount to an increase on the order of 0.006 to 0.007 percent to groundwater flowing beneath the site and far less than that to the groundwater discharging along the Anaehoomalu to Makaiwa shoreline. These are also inconsequential changes.

Potential Changes to Groundwater Quality. Present and future activities on the WHC quarry site that have the potential to impact groundwater quality include blasting in the quarrying operation, leachate from the composting operation, and refueling of equipment onsite. Explosives for quarrying that may impact groundwater are most easily identified as increases in nitrate and nitrite, but may also include volatile and semi-volatile organic compounds. Leachate from composting is likely to contain organic and inorganic nutrients (nitrogen and phosphorus) that are products of vegetative decomposition. Onsite fueling does occur, but it is done in a secondary containment area (45' x 20' in size). Its location is shown near the quarry entrance on Figure 2. Primary and secondary fuel containment effectively removes the possibility of a fuel spill impacting groundwater.

Blasting for the quarry operation is intermittent and percolate from composting is in very small quantities, if at all. For these reasons it is not possible to accurately quantify the potential impact to groundwater quality. However, the following three aspects indicate that the possible adverse impacts are

minimal. First, the amount of water percolating to groundwater flowing beneath the site is very small. Impacts to quality would be diluted more than 15,000 fold in the receiving groundwater. Second, there is a substantial passage through the vadose zone (ie. the unsaturated lavas between the ground surface and the groundwater below) for percolate released from the site to reach the groundwater below (site elevating range from 680- to 920-foot elevations; the groundwater stands about four (4) feet above sea level). Vertical travel of the percolate through layers of unsaturated layers of lava removes and absorbs contaminants much like a trickling filter wastewater system. Third, decades of operation of the Grace Pacific quarry in Makakilo adjacent to the US Navy's drinking water skimming well (State No. 2103-03) with a potential for groundwater contamination orders of magnitude greater than at the WHC site, has not resulted in an adverse impact to the drinking water supply for the Navy's Barbers Point facilities.

Based on the foregoing analysis, it is reasonable to conclude that continuation of the quarrying operation, the composting, and the intermittent processing of PCC and ACP for recycling will have no detectable or actual significant impact on the underlying groundwater.

SPECIAL PERMIT APPLICATION

EXHIBIT 19 - VIEWS OF QUARRY



EXHIBIT 19

EXHIBIT 19, PHOTO 1



View from Waikoloa Post Office -- July 2015

EXHIBIT 19, PHOTO 2



View from residences closet to quarry site -- July 2015

EXHIBIT 19, PHOTO 3



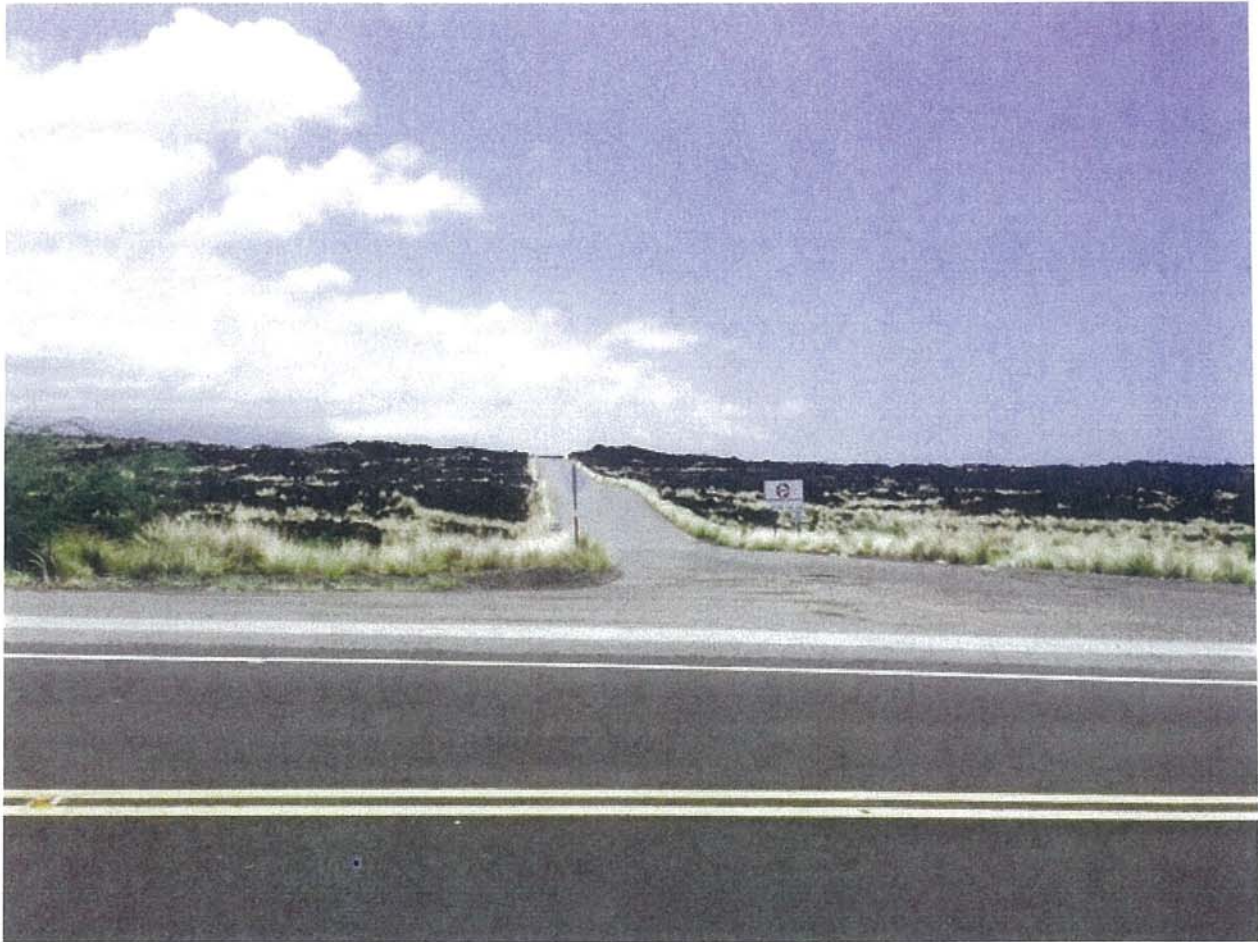
View from condo project facing south toward quarry site -- July 2015

EXHIBIT 19, PHOTO 4



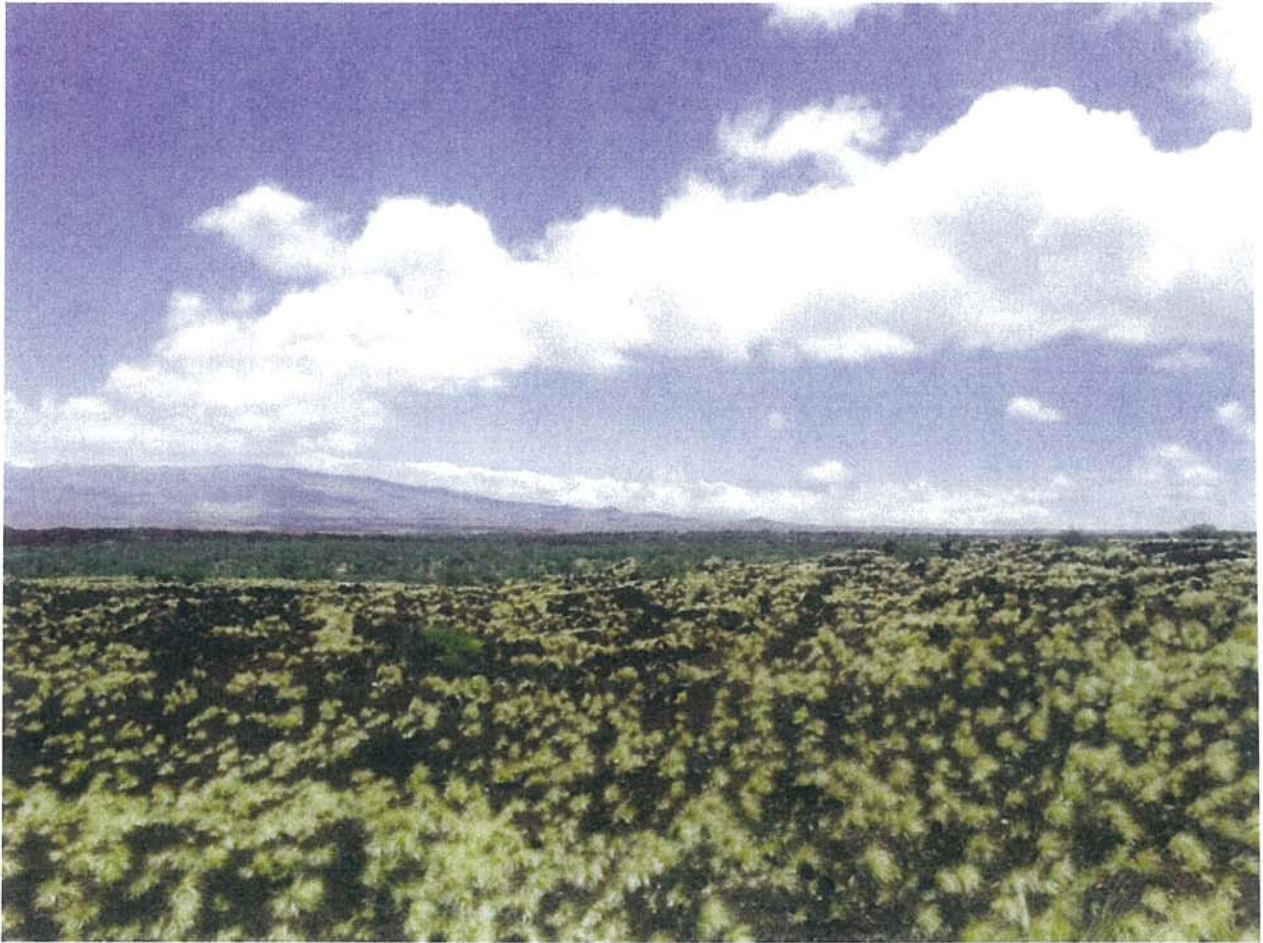
View from Waikoloa Road heading toward quarry site -- July 2015

EXHIBIT 19, PHOTO 5



Intersection of Waikoloa Road and quarry entrance road -- July 2015

EXHIBIT 19, PHOTO 6



View of Waikoloa Village from quarry entrance road -- July 2015

EXHIBIT 19, PHOTO 7



View looking mauka toward quarry site from intersection of Queen Kaahumanu Highway and Waikoloa Road -- July 2015

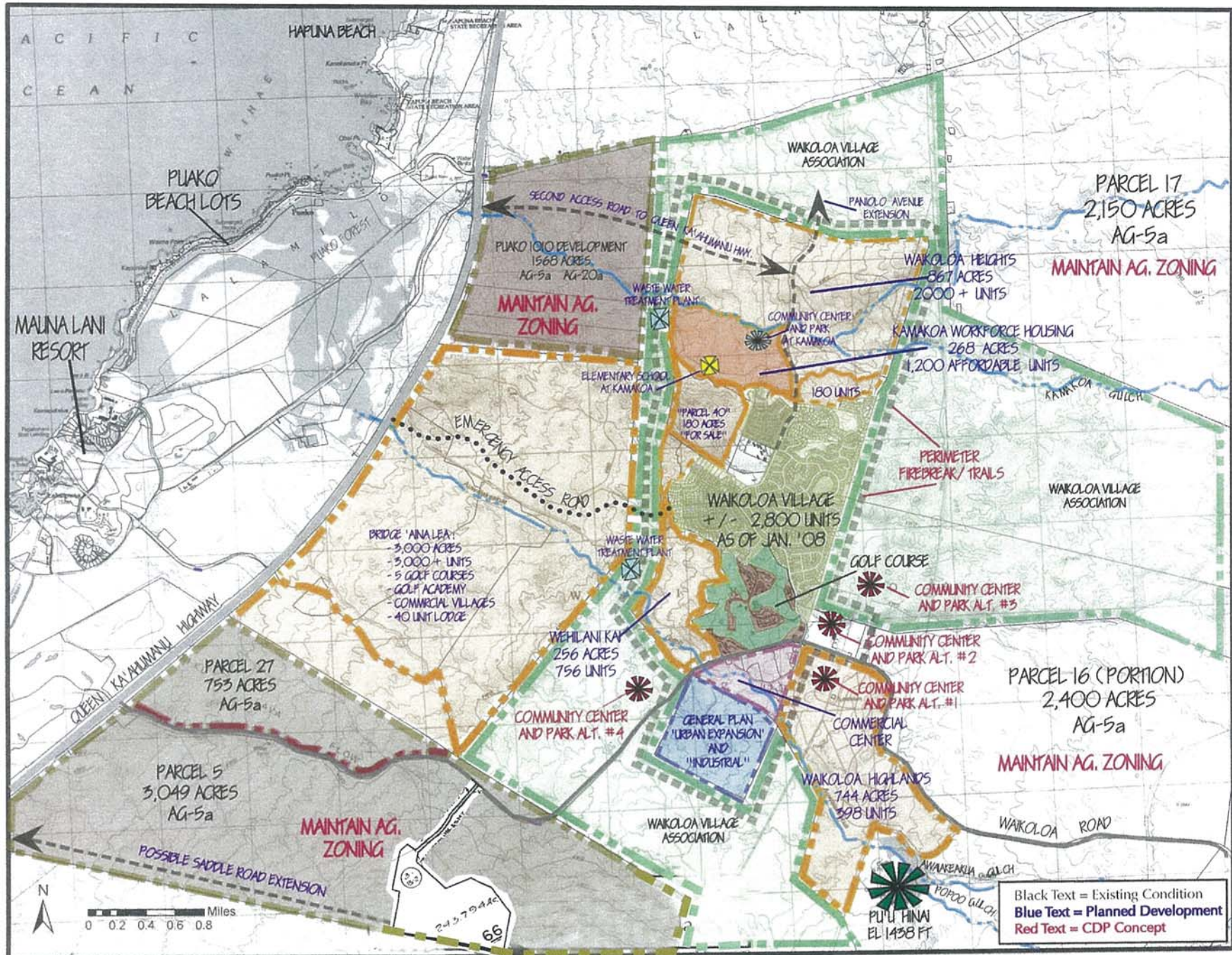
SPECIAL PERMIT APPLICATION

EXHIBIT 20 - LUPAG MAP

SPECIAL PERMIT APPLICATION

EXHIBIT 21 - SKCDP

FIGURE 5.3: WAIKOLOA VILLAGE CONCEPTUAL PLAN



SPECIAL PERMIT APPLICATION

EXHIBIT 22 - SMA

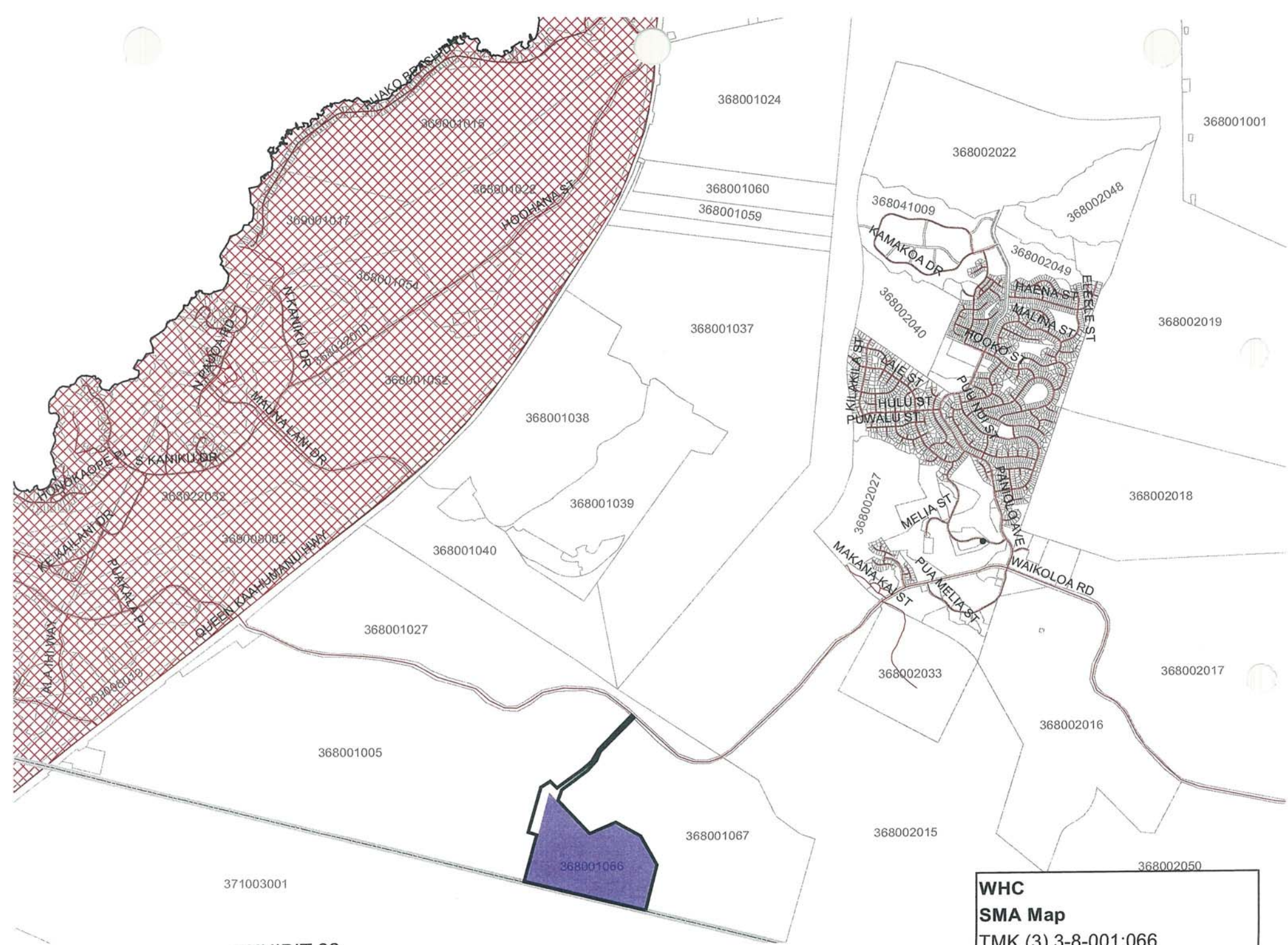


EXHIBIT 22

WHC
SMA Map
 TMK (3) 3-8-001:066
 Outside of SMA Area

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
WAIKOLOA DEVELOPMENT COMPANY)
For a Special Permit to Allow the)
Establishment of a Quarry)
Operation and Related Uses on)
Approximately 219.990 Acres on)
Land Situated Within the State)
Land Use Agricultural District at)
Waikoloa, South Kohala, Hawaii,)
Tax Map Key No.: 6-8-01: 5 (por.))

DOCKET NO. SP92-381
WAIKOLOA DEVELOPMENT
COMPANY

This is to certify that this is a true and correct
copy of the Decision and Order on file in the office
of the State Land Use Commission, Honolulu Hawaii.

JAN 19 1993
Date by [Signature]
Executive Officer

FINDINGS OF FACT, CONCLUSIONS OF LAW,
AND DECISION AND ORDER

JAN 19 12 01 PM 1993
LAND USE COMMISSION
STATE OF HAWAII

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of	)	DOCKET NO. SP92-381
WAIKOLOA DEVELOPMENT COMPANY	)	WAIKOLOA DEVELOPMENT
	)	COMPANY
For a Special Permit to Allow the)	
Establishment of a Quarry)	
Operation and Related Uses on)	
Approximately 219.990 Acres on)	
Land Situated Within the State)	
Land Use Agricultural District at)	
Waikoloa, South Kohala, Hawaii,)	
Tax Map Key No.: 6-8-01: 5 (por.))	

FINDINGS OF FACT, CONCLUSIONS OF LAW,
AND DECISION AND ORDER

Waikoloa Development Company (hereinafter "Applicant") initiated this proceeding pursuant to Section 205-6, Hawaii Revised Statutes, as amended (hereinafter "HRS"), and Subchapter 12 of the Hawaii Land Use Commission Rules. The Land Use Commission (hereinafter "LUC"), having considered the entire record on this matter, hereby makes the following findings of fact, conclusions of law, and decision and order:

FINDINGS OF FACT

PROCEDURAL MATTERS

1. The Special Permit application (hereinafter "Permit") to allow the establishment of a quarry operation and related uses was filed by the Applicant with the County of Hawaii Planning Department (hereinafter "Planning Department") on January 14, 1992.

2. The Hawaii County Planning Commission (hereinafter "Planning Commission") conducted a public hearing on the Permit on September 22, 1992, pursuant to notice published in the Hawaii Tribune-Herald and West Hawaii Today, on September 10, 1992. At the Planning Commission hearing, testimony was presented by Mr. Tim Newstrom who raised concerns over the potential impacts of the proposed quarry on archaeological sites in the area as well as the potential impact upon groundwater resources from oil and other pollutants used in the operation of the quarry during periods of flashfloods.

3. On September 22, 1992, the Planning Commission recommended approval of the Permit to the LUC subject to 16 conditions. The LUC received the record of the County's proceedings on the Permit on October 6, 1992.

4. At its meeting on the Permit on November 12, 1992, the LUC accepted into evidence a request to be a public witness from Elsbeth B. McKeen, Esq., on behalf of Ernestine and Glen Felton of Kawaihae Concrete. At the meeting, Mr. Felton testified as a public witness in opposition to the Permit.

DESCRIPTION OF THE PROPERTY AND SURROUNDING AREAS

5. The Permit area is located approximately two miles southeast (mauka) of the Queen Kaahumanu Highway - Waikoloa Road intersection and 4,000± feet to the southwest of the Waikoloa Road between the 700 and 1,000 feet elevations. The Permit area, approximately 219.990 acres, is part of a 3,049.994 acre parcel

of land and is identified as TMK No. 6-8-01: 5 (Por.)
(hereinafter "Property").

6. The area to the south of the Property is owned by the State of Hawaii and is designated as the Puu'anahulu Natural Resource Management Area, approximately 20,444.831 acres in size. The Property is approximately two miles southwest of the Waikoloa Village Subdivision development. Waikoloa Beach Resort is located approximately five-and-a-half miles to the west (makai).

7. Slopes in the area vary from 0 to greater than 20 percent.

8. Rainfall in the area averages 10 inches annually.

9. The Soil Conservation Service Soil Survey Report classifies the Property as Lava Flows Aa (RLV).

10. The Land Study Bureau's Overall Master Productivity Rating system classifies the soils of the Property as "E" or Very Poor.

11. The Property is unclassified by the State Department of Agriculture's (hereinafter "DOA") Agricultural Lands of Importance to the State of Hawaii map.

12. According to the Flood Insurance Rate Map, the Property is within Zone X, an area outside of the 500-year floodplain.

13. To the east of the Property is the existing mauka quarry consisting of the Pu'u Hinai Quarry (site 1) and the Village Quarry (site 2). By Decision and Order issued on

March 6, 1991, the LUC approved an amendment to Special Permit No. SP70-85, which 1) extended the life of the Special Permit for both sites from December 11, 1990 to December 11, 1995; 2) reduced the size of site 1 from 69 acres to 63.6 acres; and 3) reduced the scope of quarrying activities at site 2 by deleting rock crushing and asphalt and concrete batch operations as permitted activities and allowing only the removal of existing stockpiled materials and equipment storage and repair, subject to ten conditions. Site 1 would be quarried for cinder and topsoil primarily for the construction and landscaping of the Waikoloa Highlands Golf Course.

14. To the west of the Property is the makai quarry (SP No. 71-117), which by Decision and Order issued December 20, 1991 received a three-year time extension to the life of the Special Permit to December 17, 1994.

DESCRIPTION OF THE PROPOSED USE

15. The establishment of a new rock quarry will permit the Applicant to replace the existing active quarry uses at both the mauka site 1 and makai quarries. These two quarries are gradually being phased out due to the expiration of earlier special permits, expanded resort and residential construction needs and adverse visual concerns. The proposed quarry will also enable the owner, Waikoloa Land and Cattle Company, to consolidate equipment and resources from the two existing quarries to a single site.

16. Operations of the quarry will involve blasting, drilling, rock crushing and screening, concrete ready-mix batching, pre-casting, asphaltic concrete products manufacturing, equipment and materials storage and repair, and other necessary uses and activities related to providing a source of rock aggregate and concrete and asphaltic products.

17. Applicant anticipates that average production of aggregates produced will be approximately 10,000 to 15,000 tons per month; concrete products approximately 10,000 to 12,000 cubic yards per month; and asphalt products approximately 3,000 and 5,000 tons per month.

18. Access to the quarry is proposed to be off Waikoloa Road at Station 486 + 00, where sight distance requirements can be met. Improvements within the Waikoloa Road right-of-way would include a paved two lane access road, with wide radii to accommodate turning motions. The access road from the intersection at Waikoloa Road to the quarry manufacturing area would have a gravel surface.

19. Inasmuch as the proposed quarry is centrally located within the Waikoloa and Kohala Coast region, it is anticipated that materials transporting costs for projects in South Kohala will decrease.

20. The Permit is to allow the quarry operation to the year 2010. Applicant estimates that the quarry operation will cost approximately \$1 million to put into operation, taking

approximately 6 to 12 months. Annual operating costs are estimated to be approximately \$1.5 million.

21. Operating hours of the proposed quarry will be generally from 6:30 a.m. to 5:30 p.m.

STATE AND COUNTY PLANS AND PROGRAMS

22. The State Land Use District Map designates the Property in the Agricultural District.

23. The General Plan Land Use Pattern Allocation map designates the Property as Urban Expansion.

24. The Property is situated within the County of Hawaii's Unplanned Zoned District.

25. The Property is not located within the Special Management Area of the County of Hawaii.

SUMMARY OF STATE AND COUNTY AGENCY COMMENTS

26. The County of Hawaii Tax Office had the following comments on the Applicant's request (Exhibit 5):

- "1. There are no delinquent taxes due on the above mentioned parcel.
- "2. The above mentioned parcel is not in the agriculture use or agriculture dedication program."

27. The Department of Transportation, Highways Division commented that the Applicant "shall participate in their pro rata share of future highway impacts and improvements" (Exhibit 6).

28. The Mauna Kea Soil and Water Conservation District offered the following comments on the Applicant's request (Exhibit 7):

- "1. A site reclamation plan is needed for this site.

- "2. Operation of this site should be contingent upon adequate restoration of the two previously worked sites.
- "3. An adequate plan to control dust should be prepared. Continuous operation of the quarry should be contingent upon the operators (sic) ability to control adverse environmental effects."

29. The County of Hawaii Department of Water Supply commented that "...the water system in the area is privately owned and operated. The private water purveyor should be contacted for any water concerns" (Exhibit 9).

30. The State Department of Health (hereinafter "DOH") offered the following comments on the Applicant's request (Exhibit 10):

"The applicant would need to meet the permit requirements of our Department of Health Air Pollution Rules, Chapter 60, Title 11, State of Hawaii for the proposed quarry operations."

31. The Office of State Planning offered the following comments on the Applicant's request (Exhibit 11):

"We have reviewed the request to close two existing quarries and establish a new quarry operation on a site of about 220 acres approximately two miles to the south of Waikoloa Village. Mauna Lani Resort and Waikoloa Beach Resort are located approximately four miles to the west. It is our understanding that the new quarry operations will include blasting, drilling, rock crushing and screening, concrete ready-mix batching, pre-casting, asphaltic concrete products manufacturing, and related and accessory uses and activities. We have the following comments to offer regarding the special permit request within the State Agricultural District.

"We are concerned about possible adverse impacts on air quality and noise from quarry operations relative to surrounding residential and resort developments. The mitigation measures described in the document appear to be incomplete and should be expanded to include specific measures to control dust and other emissions. Noise impacts

resulting from blasting in the quarry and visual impacts should also be addressed in more detail."

32. Hawaiian Electric Light Company (hereinafter "HELCO") offered the following comments on the Applicant's request (Exhibit 12):

- "1. The area is served from our 5.0 MVA Waikoloa distribution substation which is not adequate to serve the subject project. A new distribution substation is required close to the 'E-2' easement between HELCO's Waikoloa and Anaehoomalu substations.
- "2. A substation site must be deeded to HELCO. This site should be located close to the existing 69,000 volt line along easement 'E-2.'
- "3. The developer's electrical consultant must submit plans and calculations to limit the voltage flicker on the HELCO electrical facilities below 2%. HELCO will provide the driving point impedance at the substation 69,000 volt interconnection.
- "4. Due to the long lead time required to purchase and install the distribution substations, the developer's electrical consultant is urged to contact HELCO as soon as practicable to discuss the project schedule.
- "5. We strongly recommend that energy efficient and conservation features suitable to reduce the peak electrical demand be a part of the development's plans and requirements. We recommend that this development take full advantage of waste heat recovery equipment to recycle and reuse the waste heat rejected by air conditioning and refrigeration equipment. Other energy saving devices such as fluorescent lighting and sodium lighting for parking lot and roadway lighting are also recommended.

"In addition, HELCO is a participant in the Public Utilities Commission, Docket 6617, on Integrated Resource Planning (IRP). The IRP process is to develop, implement, monitor and evaluate utility resource plans that identify the optimum mix of energy resources for meeting forecasted levels of energy needs. Demand-side options include activities designed to influence customers' use of electricity in ways that will produce desired changes in load shape which can delay the addition of supply-side options."

33. The County of Hawaii Department of Public Works offered the following comments on the Applicant's request (Exhibit 13):

- "1. Any buildings shall conform to all requirements of codes and statutes pertaining to building construction.
- "2. All development generated runoff shall be disposed of on site and shall not be directed toward any adjacent properties.
- "3. The driveway access to Waikoloa Road must conform to Chapter 22 of the Hawaii County Code. The sight distance must meet the requirements of the Statewide Design Manual. A driveway permit will be required.
- "4. The area is in FIRM Zone 'X'."

34. The Division of Forestry and Wildlife (hereinafter "DFW") of the Department of Land and Natural Resources (hereinafter "DLNR") offered the following comments on the Applicant's request (Exhibit 14):

"The site of the proposed quarry is adjacent to the Puu Anahulu Game Management Area. Our primary concern is the potential fire hazard resulting from quarry and related uses. Appropriate prevention and presuppression measures, and suppression plan to suppress potential fires need to be adequately addressed. Although there may be very little vegetation found on the project site as stated on page 6, conditions can change with the invasion of fountain grass.

"With regards to 'Flora', no mention of surveys or studies are mentioned. Was a botanical survey conducted to ascertain that 'no rare, threatened or endangered flora species exists?' If not, a botanical survey even in areas of sparse vegetation is prudent, to prevent potential conflicts in the future.

"Sanitation measures to prevent a build-up of predators such as the mongoose, dogs, cats and rats need to be addressed, as they adversely impact game birds."

35. The Division of Water Resources Management of DLNR offered the following comments on the Applicant's request (Exhibit 14):

"Although this quarrying and concrete mixing plant operations will be in an isolated area, mitigative measures for dust control and groundwater contamination should be considered to protect the environment. The EA should address these measures."

36. In response to earlier concerns expressed by the Historic Preservation Division (hereinafter "HPD") of DLNR regarding the archaeological survey prepared for the proposed quarry (Exhibit 15) and the Applicant's archaeologist, Paul H. Rosendahl, Ph.D., subsequent letter to HPD to address those concerns (Exhibit 22), HPD provided the following (Exhibit 41):

"....The letter contained sufficient information, including a USGS map showing the location of the project area, to allay our concerns and hence, we can agree that the inventory survey recorded all the historic sites in the subject parcel.

"Nineteen (19) historic sites consisting of 27 archaeological features were recorded. We concur with the significance evaluation of the historic sites, 5 solely for their information content, and 14 sites (one trail and 13 possible burials) for their information content and traditional cultural significance.

"The report states that the Waikoloa Development Company prefers to preserve all 19 historic sites 'as is', and we agree this is an acceptable mitigation plan and will result in 'no adverse effect' to these sites. Our Hawai'i Island Burial Council will need to vote on the proposal to preserve these sites, in accordance with Chapter 6E (H.R.S.), but we anticipate approval.

"To ensure the mitigation commitment is carried out, the conditions outlined in the report (pages 20 and 22) need to be met. We reiterate these conditions:

- "1. A 50-foot buffer zone should be flagged in the field around the margins of the ridge line containing the 19 sites;
- "2. Construction workers and appropriate Waikoloa personnel should be informed of the significance of the flagged preservation boundary which should also be clearly identified on project area maps and aerial photographs;
- "3. Additional pedestrian survey is necessary in the event development is to occur within either (a) the area identified in Enclosure 1 as 'proposed site buffer' area - the area containing all 19 sites presently identified within the project area, or (b) the northeastern portion of the project area containing a developed ridge line identified in Enclosure 1 as 'additional pedestrian (sic) survey required if (sic) impacts are to occur.'

"In addition to these 3 conditions, our office would also (sic) recommend that an archaeological monitor be also (sic) present in the project area when initial land modifications, such as surface grading, are being conducted along the edges of the buffer zone enclosing the preserved district. This will ensure that the development activities will not infringe into the preserved area."

37. The County of Hawaii Police Department, Civil Defense Agency, Department of Parks and Recreation, Fire Department, DOA, and the Waikoloa Community Association had no objections or comments on the Permit.

SOCIO-ECONOMIC IMPACTS

38. The proposed quarry will have positive long-term socio-economic impacts such as continued employment opportunities. The federal, state, and county governments will indirectly receive income through taxes paid by those involved directly and indirectly with the quarry operation. The materials quarried from the project will be used in development that will

provide new housing as well as recreational and commercial facilities.

IMPACTS UPON THE RESOURCES OF THE AREA

Agricultural Resources

39. The Property is composed of vacant lava land. The Property has poor productivity potential for most agricultural uses.

Flora and Fauna

40. In response to concerns expressed by DFW, a "Botanical Assessment" of the Property dated May 1992 was prepared by botanist, Winona Char of Char & Associates. The botanist found no rare, threatened, or endangered species of flora on the Property. The botanist suggested that the pololei fern (Ophioglossum concinnum), a candidate endangered species, may occur on a portion of the weathered pahoehoe lava flow on the Property. Due to the ephemeral nature of the species, it was not detected during the assessment. The botanist recommended two options to address the potential existence of the species:

- 1) Reconfigure the quarry manufacturing area so that all of it is sited on a'a lava;
- 2) Delay construction on the pahoehoe area until another survey can be conducted during the rainy season.

41. The Short-eared Owl or Pueo, which is an endemic land bird, was observed in the area. No indigenous land or sea birds were recorded. Exotic birds such as the Ring-necked Pheasant, Erckel's Francolin, California Quail, Japanese Quail,

Barn Owl, Yellow-billed Cardinal, Northern Mockingbird, Saffron Finch, Lavender Waxbill, House Finch, and the House Sparrow are expected to be found on the Property. These birds are more transient in nature rather than residents of the Property.

Scenic Resources

42. The proposed quarry may minimally impact views from the Waikoloa Beach Resort and Queen Kaahumanu Highway toward Mauna Kea. The proposed quarry would not be visible from Waikoloa Road or Waikoloa Village because it is screened by a bluff and is distant from the road and village. Impacts from the proposed quarry operation will be reduced by means of buffer zones and earth berms.

43. Upon closure of the quarrying operations, the Property will be reshaped to blend in with the natural landforms surrounding the area.

Archaeological and Cultural Resources

44. An "Archaeological Inventory Survey" of a 300 acre area, inclusive of the Property, was prepared by Paul H. Rosendahl, Ph.D., Inc. The archaeologist found 19 prehistoric and early historic sites. These sites are located along the margins of two well-developed ridges immediately north of the Property. The sites are composed of the following feature types: platforms, terraces, modified outcrops, mounds, paved areas, modified sink, filled lava blister, rock shelters, and a trail. The feature types were assessed to have the following functions:

possible burial, temporary habitation, transportation, possible potable water enhancement, and indeterminate. No artifacts, midden, or other portable cultural materials were identified at or in the vicinity of any of the sites.

45. Five of the sites identified are assessed as significant solely for information content and further data collection is recommended if the sites are to be impacted by the quarry operations. Thirteen of the sites are assessed as significant for information value and potentially culturally significant because each may contain one or more burials. One site is assessed as significant for information and cultural values. This site is a trail that clearly provides access to possible burial features.

46. The proposed quarry will not affect any of the significant sites since the sites are to be preserved as an archaeological cluster and no construction or quarrying is to take place in the cluster. The archaeological cluster is located along a lava ridge, which will serve as a natural visual barrier and buffer between the proposed quarry operation and Waikoloa Road.

47. The Applicant will preserve all nineteen sites.

ADEQUACY OF PUBLIC FACILITIES AND UTILITIES

Highways and Roadway Facilities

48. Access to the development will be from Waikoloa Road, which has an 80-foot right-of-way with a pavement width of

22 feet, and then along a gravel-surfaced driveway to the site. Traffic created by the proposed quarry operation will be less than or equivalent to that from the consolidation of the two existing quarries. This traffic will primarily consist of trucks used to transport materials from the quarry. Employee traffic will be minimal.

49. Transporting materials within the region would have an impact on the roadway system inasmuch as trucks hauling heavy loads such as rock material will tend to slow down traffic flow, as well as add to the deterioration of the roadways. The proposed quarry will be centrally located within the region, which should minimize the distance and consequently the time the trucks will be on the road.

Drainage

50. The Property consists of basaltic lava flows that are highly permeable and allow for much of the rainfall to percolate into the ground. The Property is located on the arid side of the island and the average annual rainfall is less than 20 inches. The region is not subject to frequent heavy rainfalls. The likelihood of surface runoff is very slight. No well-defined drainageways exist on the Property.

Air Quality

51. Long-term adverse impacts on air quality are expected during the operation of the proposed quarry. The quarry operation will emit air pollution in the form of dust from blasting, drilling, rock crushing, and transport of materials.

Heavy machinery, which are gasoline- or diesel-powered, will be used in quarrying and transport and will create dust and exhaust emissions.

52. Due to the long distances of the nearest communities, dust or airborne pollutants from the quarry operation will dissipate and disperse before reaching these areas. As a result, the impact on air quality created by the quarry operation is not expected to affect existing developments.

53. Mitigation measures to minimize any impacts to air quality include temporarily halting operations at the quarry during severe wind conditions and properly maintaining the equipment to minimize excessive exhaust emissions.

Noise

54. Quarry operations will be a source of noise from such activities as blasting, crushing, other quarry activities and the use of heavy machinery. The impact from these activities will be less than that created by the two existing quarries which are closer to sensitive noise receptors such as Waikoloa Village residents and Waikoloa Beach Resort guests. Mitigation measures to minimize noise impacts include mufflers on the equipment and limiting all quarrying work to normal working hours. All quarrying operations will be conducted in conformance with DOH regulations regarding noise.

Water

55. Water is available to the Property from the privately owned and operated system in the area.

Solid Waste

56. The proposed West Hawaii landfill is located approximately 4.5 miles to the south of the Property.

Sewage

57. Sewage would be disposed of in accordance with the requirements of DOH.

Electricity and Telephone Service

58. The proposed quarry will not create any significant demand on the existing public utilities such as electricity and telephone service. The quarry development will be coordinated with HELCO.

CONFORMANCE WITH SPECIAL USE PERMIT TESTS

59. In support of the request, the Planning Department provided the following:

"The granting of this request will not be contrary to the objectives of Chapter 205, Hawaii Revised Statutes, as amended. The State Land Use Law and Regulations are intended to preserve, protect, and encourage the development of lands in the interest of the public health and welfare of the people of the State of Hawaii. The area under consideration is designated as Agricultural by the State Land Use Commission. The Agricultural District not only includes lands with a high capacity for agricultural uses, but also lands which are surrounded by or contiguous to agricultural and ancillary activities by reason of topography, soils, and other related characteristics. The property is not classified by the State of Hawaii's Agricultural Lands of Importance to the State of Hawaii (ALISH) Map. The Land Study Bureau's Overall Master Productivity Rating is 'E' or 'Very Poor' for the subject area. The subject area also is not being utilized for any agricultural purposes because of the poor soil conditions. Therefore, the proposed use would not displace agricultural activity on the property or diminish the agricultural potential of the region.

"The 220 acre area for the proposed quarry is part of a 3,049.994 acre parcel situated within the County's Unplanned zoned district. The applicant will be establishing a new quarry site to replace the two existing quarries approved by Special Permits that are being phased out due to expiration of the permits, expanded resort and residential construction needs and adverse visual concerns. The new quarry will also enable the owner to consolidate equipment and resources from the two existing quarry sites to a single site. With the closure of the two existing quarries, the new quarry would consolidate the two existing and separate operations in an area where the visual and physical impacts to the Waikoloa Village and surrounding properties would be greatly minimized.

"Activities in the new quarry site will include blasting, drilling, rock crushing and screening, concrete ready-mix batching, pre-casting, asphaltic concrete products manufacturing, equipment and materials storage and repair, and other related and necessary uses and activities. Operating hours will be generally from 6:30 a.m. to 5:30 p.m. given its considerable distance, noise and air quality will not significantly affect surrounding uses. Additionally, standard construction practices will be instituted.

"The special permit request is to allow the quarry operation to the year 2010. A condition of this permit includes an expiration date of December 31, 2010. Should additional time be necessary an amendment to this permit would have to be made prior to that date.

"The proposed use will not be contrary to the General Plan. The location of urban type uses should be evaluated from the standpoint of how each use services existing and future land uses of the surrounding area. The subject property is designated for Urban Expansion uses on the LUPAG Map. A quarry operation would be consistent with the Urban Expansion designation.

"This recommendation is also consistent with the goal of the Land Use Element of the General Plan to 'Designate and allocate land uses in appropriate proportions and mix and in keeping with the social, cultural, and physical environments of the County (sic) and 'The County of Hawaii should require users of natural resources to conduct their activities in a manner that avoids or minimizes adverse effects on the environment.'

"To this end, the applicant will be required to submit an Erosion Control and Site Restoration Plan to ensure that the project site and its contours blend in with the surrounding area upon completion. An archaeological area adjacent to the affected area would be preserved with all 19 identified sites left in tact (sic). The applicant will be required to stake the preservation area (including a 50-foot buffer) and inform the operators of the quarry of its preservation. Additionally, a survey of the area will be required of the pahoehoe area where there is a possibility of ophioglossum plants. The survey would be performed prior to land alterations.

"Unusual conditions, trends and needs have arisen since the district boundaries and regulations were established. The rapid growth experienced, especially in West Hawaii, has created a demand for natural resources by the construction industry. This request is meant to supply a portion of that demand. Additionally, the growth of the West Hawaii Region has created needs not available from nearby urban zoned lands. The community can function more effectively if located on-site than on distant urban lands.

"The desired use will not adversely affect the surrounding properties. Surrounding uses are vacant lands. The new quarry operations will provide necessary material services to potential purchasers and future residents of the development. Access to the proposed quarry site will be from Waikoloa Road. The proposed quarry and manufacturing area will be provided with adequate parking and landscaping to buffer visual impacts.

"Conditions of approval relative to archaeological sites, survey for ophioglossum, erosion control and site restoration, and dust control, have been included in this recommendation of approval to assure minimal impact on the environment and to surrounding areas.

"The desired quarry use will not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage, school improvements, police and fire protection. All necessary facilities are or can be made available to the property. Since Waikoloa Road is a County road, access to the property will be subject to the approval of the Department of Public Works."

Planning Commission Recommendation

60. At its meeting of September 22, 1992, the Planning Commission recommended approval of the Permit to the LUC subject to the following conditions:

- "1. The applicant, its successors or assigns shall be responsible for complying with all stated conditions of approval.
- "2. Final Plan Approval for the quarry operation shall be secured from the Planning Department within one year from the effective date of this permit. To assure adequate time for plan approval review and in accordance with Chapter 25-244 (Zoning Code), plans for the quarry operation shall be submitted a minimum of forty-five days prior to the date by which plan approval must be secured. Plans shall identify structures and parking associated with the proposed quarry operations.
- "3. The quarry operations and related activities shall commence within one year from the date of receipt of Final Plan Approval. A letter informing of commencement of operations shall be submitted to the Planning Department.
- "4. A metes and bounds description and map shall be submitted with plans for plan approval review. The area described shall contain less than 220 acres and the operation confined within the described area.
- "5. Access onto the Waikoloa Road from the project site, including the provision of adequate sight distance, shall meet with the approval of the Department of Public Works prior to final plan approval. Should additional intersection improvements such as channelization be required by the Department of Public Works during the life of the permit, such improvements shall be provided in a timely manner by the applicant at no cost to the County of Hawaii.
- "6. The following procedures shall be instituted for archaeological site mitigation:
 - A. Possible burial sites identified in the Archaeological Inventory Survey (PHRI ms

1041-122091) shall be approved by the Hawaii Island Burial Council prior to receipt of Final Plan Approval.

- B. The preservation area, including a 50-foot buffer zone, shall be staked/flagged prior to receipt of Final Plan Approval. A confirming letter from the archaeologist shall be submitted.
 - C. Construction workers and quarry operational personnel shall be informed of the significance of the staked preservation area. Construction plans shall also note the area.
 - D. An archaeologist shall be on site to monitor initial land preparation activities that occur in the vicinity of the preservation area.
- "7. Should any unidentified sites or remains, such as artifacts, shell, bone or charcoal deposits, human burials, rock or coral alignments, paving or walls be uncovered during land preparation activities, work in the area shall immediately cease and the Planning Department notified. No work within the affected area shall resume until clearance from the Planning Department is received. |
- "8. If required by the Department of Land and Natural Resources, a survey of the area identified as 'Suitable Habitat for the Ophioglossum Fern' in the "Botanical Assessment" conducted by Winona Char [see Exhibit 1] shall be performed prior to any land alterations of the affected area. The survey and any mitigation measures shall be reviewed and approved by the Planning Department, in consultation with the Department of Land and Natural Resources.
- "9. The quarrying activity shall be limited to the hours of 6:30 a.m. to 5:30 p.m. daily; provided active noise-generating activity (i.e. blasting, crushing) shall commence no earlier than 7:30 a.m.
- "10. The applicant shall submit an Erosion Control and Site Restoration Plan for review and approval by the Planning Director, in consultation with the Department of Public Works, one year prior to the expiration date of the permit or prior to termination of the operations, whichever occurs first.

- "11. Upon termination of the operations or abandonment of any portion of the affected site, the land shall be graded to blend with the surrounding area and rehabilitated as approved in the Erosion Control and Site Restoration Plan. The affected site shall be left in a non-hazardous condition. Appropriate documentation which demonstrates compliance with this condition shall be submitted to the Planning Department and the Department of Public Works for review and approval within ninety (90) days from the date of termination or abandonment.
- "12. The life of this permit shall be until December 31, 2010; the date of completion of the proposed quarrying; or its abandonment, whichever comes first.
- "13. An adequate supply of water shall be made available for dust control and for fire prevention and pre-suppression.
- "14. Comply with all other laws, rules, regulations and requirements, including those of the Department of Health, Hawaii Electric Light Company, and the Department of Public Works.
- "15. An annual monitoring report shall be submitted to the Planning Director prior to the anniversary date of the approval of the permit. The report shall include, but not be limited to, the amount of material quarried, a detailed listing of public complaints or problems and their disposition. Should a conflict arise, which cannot be mitigated or mediated, the quarry operations shall cease upon appropriate findings by the Planning Commission that the introduced use will have an adverse impact on surrounding properties.
- "16. An extension of time for the performance of conditions within the permit, with the exception of Condition No. 12, may be granted by the Planning Director upon the following circumstances: a) the non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence; b) granting of the time extension would not be contrary to the general plan or zoning code; c) granting of the time extension would not be contrary to the original reasons for the granting of the permit; and d) the time extension granted shall be for a period not to exceed the period originally granted for

performance (i.e., a condition to be performed within one year may be extended for up to one additional year). Further, should any of the conditions not be met or substantially complied with in a timely fashion, the Director shall initiate procedures to revoke the permit."

CONCLUSIONS OF LAW

The Special Permit request to allow the establishment of a quarry and related uses constitutes an "unusual and reasonable" use as defined in Chapter 205-6, HRS, as amended, and the proposed use, subject to the conditions in the Order, is not contrary to the objectives sought to be accomplished by the State Land Use Law to preserve, protect, and encourage development of lands in the State for those uses to which they are best suited in the interest of the public health and welfare.

ORDER

IT IS HEREBY ORDERED that Special Permit Docket No. SP92-381 to allow the establishment of a quarry and related uses on approximately 219.990 acres of land designated within the State Land Use Agricultural District, Tax Map Key No.: 6-8-01: 5 (por.) at Waikoloa, South Kohala, Hawaii, and approximately identified on Exhibit "A" attached hereto and incorporated by reference herein, is hereby approved, subject to the following conditions:

1. The applicant, its successors or assigns shall be responsible for complying with all stated conditions of approval.
2. Final Plan Approval for the quarry operation shall be secured from the Planning Department within one year from the

effective date of this permit. To assure adequate time for plan approval review and in accordance with Chapter 25-244 (Zoning Code), plans for the quarry operation shall be submitted a minimum of forty-five days prior to the date by which plan approval must be secured. Plans shall identify structures and parking associated with the proposed quarry operations.

3. The quarry operations and related activities shall commence within one year from the date of receipt of Final Plan Approval. A letter informing of commencement of operations shall be submitted to the Planning Department.

4. A metes and bounds description and map shall be submitted with plans for plan approval review. The area described shall contain less than 220 acres and the operation confined within the described area.

5. Access onto the Waikoloa Road from the project site, including the provision of adequate sight distance, shall meet with the approval of the Department of Public Works prior to final plan approval. Should additional intersection improvements such as channelization be required by the Department of Public Works during the life of the permit, such improvements shall be provided in a timely manner by the applicant at no cost to the County of Hawaii.

6. The following procedures shall be instituted for archaeological site mitigation:

- A. Possible burial sites identified in the Archaeological Inventory Survey (PHRI ms

1041-122091) shall be approved by the Hawaii Island Burial Council prior to receipt of Final Plan Approval.

- B. The preservation area, including a 50-foot buffer zone, shall be staked/flagged prior to receipt of Final Plan Approval. A confirming letter from the archaeologist shall be submitted.
 - C. Construction workers and quarry operational personnel shall be informed of the significance of the staked preservation area. Construction plans shall also note the area.
 - D. An archaeologist shall be on site to monitor initial land preparation activities that occur in the vicinity of the preservation area.
7. Should any unidentified sites or remains, such as artifacts, shell, bone or charcoal deposits, human burials, rock or coral alignments, paving or walls be uncovered during land preparation activities, work in the area shall immediately cease and the Planning Department notified. No work within the affected area shall resume until clearance from the Planning Department is received.
8. If required by the Department of Land and Natural Resources, a survey of the area identified as 'Suitable Habitat for the Ophioglossum Fern' in the "Botanical Assessment" conducted by Winona Char [see Exhibit 1] shall be performed prior to any land alterations of the affected area. The survey and any mitigation measures shall be reviewed and approved by the Planning Department, in consultation with the Department of Land and Natural Resources.
9. The quarrying activity shall be limited to the hours of 6:30 a.m. to 5:30 p.m. daily; provided active

noise-generating activity (i.e. blasting, crushing) shall commence no earlier than 7:30 a.m.

10. The applicant shall submit an Erosion Control and Site Restoration Plan for review and approval by the Planning Director, in consultation with the Department of Public Works, one year prior to the expiration date of the permit or prior to termination of the operations, whichever occurs first.

11. Upon termination of the operations or abandonment of any portion of the affected site, the land shall be graded to blend with the surrounding area and rehabilitated as approved in the Erosion Control and Site Restoration Plan. The affected site shall be left in a non-hazardous condition. Appropriate documentation which demonstrates compliance with this condition shall be submitted to the Planning Department and the Department of Public Works for review and approval within ninety (90) days from the date of termination or abandonment.

12. The life of this permit shall be until December 31, 2010; the date of completion of the proposed quarrying; or its abandonment, whichever comes first.

13. An adequate supply of water shall be made available for dust control and for fire prevention and pre-suppression.

14. Comply with all other laws, rules, regulations and requirements, including those of the Department of Health, Hawaii Electric Light Company, and the Department of Public Works.

15. An annual monitoring report shall be submitted to the Planning Director and Land Use Commission prior to the

anniversary date of the approval of the permit. The report shall include, but not be limited to, the amount of material quarried, a detailed listing of public complaints or problems and their disposition. Should a conflict arise, which cannot be mitigated or mediated, the quarry operations shall cease upon appropriate findings by the Planning Commission that the introduced use will have an adverse impact on surrounding properties. The report shall also include Applicant's progress in complying with the conditions imposed.

16. An extension of time for the performance of conditions within the permit, with the exception of Condition No. 12, may be granted by the Planning Director upon the following circumstances: a) the non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence; b) granting of the time extension would not be contrary to the general plan or zoning code; c) granting of the time extension would not be contrary to the original reasons for the granting of the permit; and d) the time extension granted shall be for a period not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended for up to one additional year). Further, should any of the conditions not be met or substantially complied with in a timely fashion, the Director shall initiate procedures to revoke the permit.

DOCKET NO. SP92-381 - WAIKOLOA DEVELOPMENT COMPANY

Done at Honolulu, Hawaii, this 19th day of January 1993,
per motions on November 12, 1992 and January 14, 1993.

LAND USE COMMISSION
STATE OF HAWAII

By *Renton L. K. Nip*
RENTON L. K. NIP
Chairman and Commissioner

By *Allen K. Hoe*
ALLEN K. HOE
Vice Chairman and Commissioner

By *Allen Y. Kajioka*
ALLEN Y. KAJIOKA
Vice Chairman and Commissioner

By *Karen S. Ahn*
KAREN S. AHN
Commissioner

By *Eusebio Lapenia, Jr.*
EUSEBIO LAPENIA, JR.
Commissioner

By *Joann N. Mattson*
JOANN N. MATTSON
Commissioner

By *Trudy K. Senda*
TRUDY K. SENDA
Commissioner

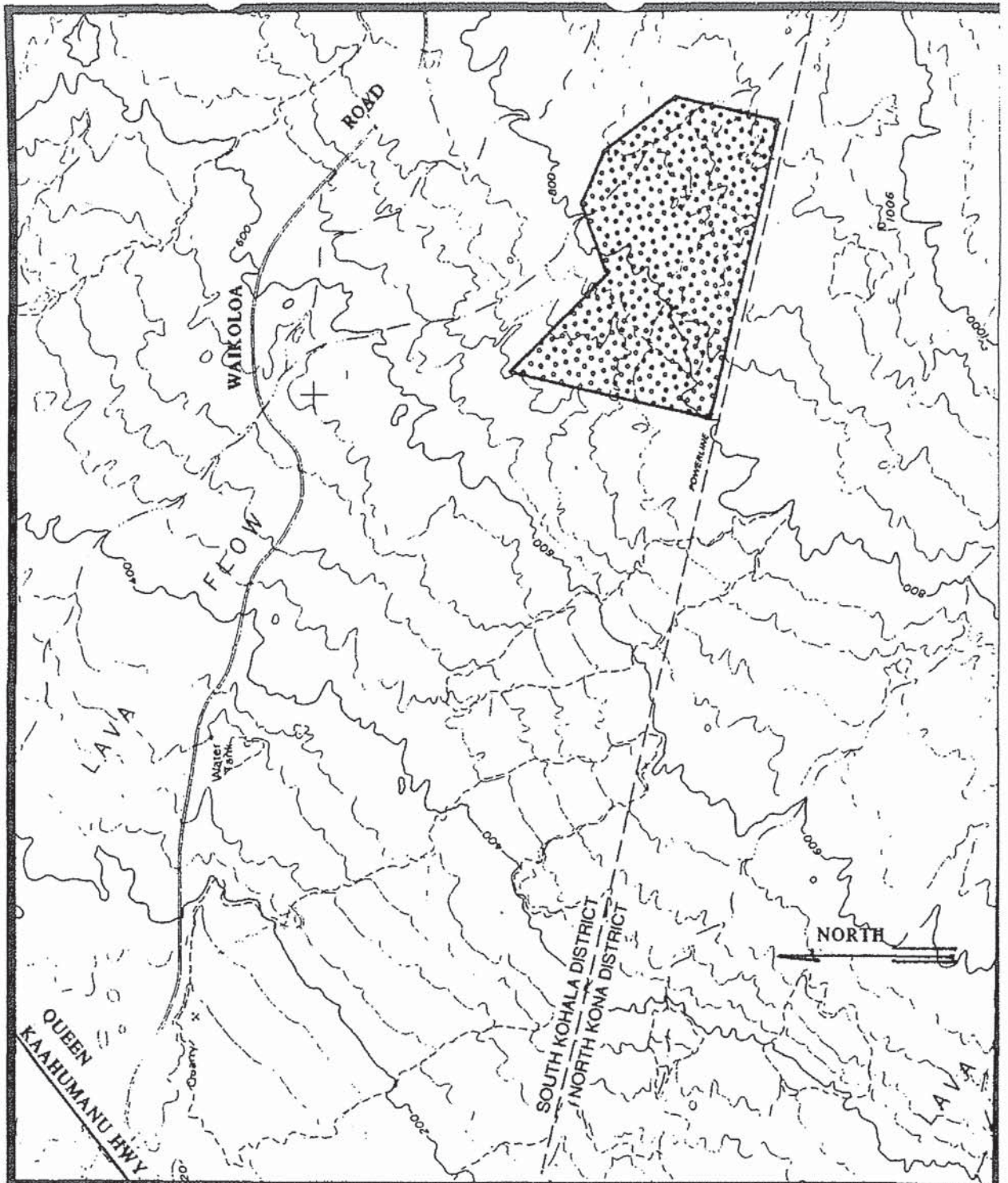
By *Elton Wada*
ELTON WADA
Commissioner

By (absent)
DELMOND J. H. WON
Commissioner

Filed and effective on
January 19, 1993

Certified by:

Esther Kido
Executive Officer



DOCKET NO. SP92-381 / WAIKOLOA
DEVELOPMENT COMPANY

LOCATION MAP

TAX MAP KEY: 6-8-01: por. 5
WAIKOLOA, SOUTH KOHALA, HAWAII

SCALE: 1" = 2,000 ft ±



PERMIT AREA



BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)	DOCKET NO. SP92-381
WAIKOLOA DEVELOPMENT COMPANY)	
For a Special Permit to Allow the)	WAIKOLOA DEVELOPMENT
Establishment of a Quarry)	COMPANY
Operation and Related Uses on)	
Approximately 219.990 Acres on)	
Land Situated Within the State)	
Land Use Agricultural District at)	
Waikoloa, South Kohala, Hawaii,)	
Tax Map Key No.: 6-8-01: 5 (por.))	

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Findings of Fact, Conclusions of Law, and Decision and Order was served upon the following by either hand delivery or depositing the same in the U. S. Postal Service by certified mail:

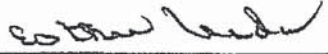
CERT. VIRGINIA GOLDSTEIN, Planning Director
Planning Department, County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

CERT. KEN MELROSE, Vice President/Planning
Waikoloa Development Company
HC02 Box 5100
Waikoloa, Hawaii 96738-3028

CERT. ELSBETH B. MCKEEN, ESQ.
P. O. Box 6359
Kamuela, Hawaii 96743

CERT. GLEN N. AND ERNESTINE FELTON
Kawaihae Concrete
P. O. Box 44339
Kawaihae, Hawaii 96743

DATED: Honolulu, Hawaii, this 19th day of January 1993.


ESTHER UEDA
Executive Officer

44.2 853

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAI'I

In the Matter of the Petition of)
)
WAIKOLOA DEVELOPMENT COMPANY)
)
For a Special Permit to Allow the)
Establishment of a Quarry Operation)
and Related Uses on Approximately)
219.990 Acres on Land Situated)
Within the State Land Use)
Agricultural District at Waikoloa,)
South Kohala, Hawai'i, Tax Map Key)
No.: 6-8-01: 5 (por.))

DOCKET NO. SP92-381
ORDER GRANTING
APPLICANT'S REQUEST TO
AMEND CONDITION NO. 3
AND CONDITION NO. 12

This is to certify that this is a true and correct
copy of the document on file in the office of the
State Land Use Commission, Honolulu, Hawaii.

FEB 26 1999 by [Signature]
Date Executive Officer

ORDER GRANTING APPLICANT'S REQUEST TO AMEND
CONDITION NO. 3 AND CONDITION NO. 12

FEB 26 2 34 PM '99
LAND USE COMMISSION
STATE OF HAWAII

001817
Planning Dept.
Exhibit 3

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAI'I

In the Matter of the Petition of	)	DOCKET NO. SP92-381
WAIKOLOA DEVELOPMENT COMPANY	)	ORDER GRANTING
For a Special Permit to Allow the	)	APPLICANT'S REQUEST TO
Establishment of a Quarry Operation	)	AMEND CONDITION NO. 3
and Related Uses on Approximately	)	AND CONDITION NO. 12
219.990 Acres on Land Situated)	
Within the State Land Use)	
Agricultural District at Waikoloa,)	
South Kohala, Hawai'i, Tax Map Key)	
No.: 6-8-01: 5 (por.))	

ORDER GRANTING APPLICANT'S REQUEST TO AMEND
CONDITION NO. 3 AND CONDITION NO. 12

On September 29, 1998, the County of Hawai'i Planning Department received a request from Waikoloa Development Company ("Applicant") to 1) amend Condition No. 3 to extend the date on which to commence quarry operations from December 10, 1998, to December 10, 2003; and 2) amend Condition No. 12 to extend the life of the special permit from December 31, 2010, to December 31, 2018.

On December 3, 1998, the County of Hawai'i Planning Commission ("Planning Commission") conducted a public hearing on this matter.

On December 3, 1998, after due deliberation, the Planning Commission recommended approval of amendments to Condition Nos. 3 and 12 of the Land Use Commission's ("Commission") Findings of Fact, Conclusions of Law, and Decision

and Order ("Decision and Order") dated January 19, 1993, as follows:

3. The quarry operations and related activities shall commence on or before December 10, 2003. A letter informing of commencement of operations shall be submitted to the Planning Department.
12. The life of this permit shall be until December 31, 2018; the date of completion of the proposed quarrying; or its abandonment, whichever comes first.

On December 22, 1998, the Commission received the Planning Commission's record in this proceeding.

On January 7, 1999, the Commission received the remaining portion of the record, consisting of the hearing maps.

This Commission, having duly considered the arguments provided by the respective parties at its hearing on January 21, 1999, in Waikapu, Maui, and good cause existing therefrom,

HEREBY ORDERS that Applicant's request be GRANTED.

IT IS FURTHER ORDERED that Condition Nos. 3 and 12 of the Decision and Order dated January 19, 1993, shall be amended to read as follows:

3. The quarry operations and related activities shall commence on or before December 10, 2003. A letter informing of commencement of operations shall be submitted to the Planning Department.
12. The life of this permit shall be until December 31, 2018; the date of completion of the proposed quarrying; or its abandonment, whichever comes first.

All other conditions, as may be amended, to the Decision and Order dated January 19, 1993, are hereby reaffirmed and shall continue in effect.

Done at Honolulu, Hawai'i, this 26th day of February 1999,
per motions on January 21, 1999 and February 25, 1999.

LAND USE COMMISSION
STATE OF HAWAI'I

By *m. kelai*
MERLE A. K. KELAI
Chairperson and Commissioner

By *Lawrence N.C. Vng*
LAWRENCE N.C. VNG
Vice Chairperson and Commissioner

By *P. Roy Catalani*
P. ROY CATALANI
Commissioner

By *Rupert K. Chun*
RUPERT K. CHUN
Commissioner

By *Pravin Desai*
PRAVIN DESAI
Commissioner

By *Isaac Fiesta, Jr.*
ISAAC FIESTA, JR.
Commissioner

By (absent)
M. CASEY JARMAN
Commissioner

By *Herbert S.K. Kaobua, Sr.*
HERBERT S.K. KAOBUA, SR.
Commissioner

By *Peter Yukimura*
PETER YUKIMURA
Commissioner

Filed and effective on
February 26, 1999

Certified by:

Retha Lee
Executive Officer

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAI'I

In the Matter of the Petition of	)	DOCKET NO. SP92-381
WAIKOLOA DEVELOPMENT COMPANY	)	CERTIFICATE OF SERVICE
For a Special Permit to Allow the)	
Establishment of a Quarry Operation)	
and Related Uses on Approximately)	
219.990 Acres on Land Situated)	
Within the State Land Use)	
Agricultural District at Waikoloa,)	
South Kohala, Hawai'i, Tax Map Key)	
No.: 6-8-01: 5 (pjr.))	

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Order Granting Applicant's Request to Amend Condition No. 3 and Condition No. 12 was served upon the following by either hand delivery or depositing the same in the U. S. Postal Service by certified mail:

DEL. DAVID W. BLANE, Director
Office of Planning
P. O. Box 2359
Honolulu, Hawaii 96804-2359

CERT. VIRGINIA GOLDSTEIN, Planning Director
Planning Department, County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

CERT. RICHARD D. WURDEMAN, ESQ.
Corporation Counsel
County of Hawaii
The Hilo Lagoon Center
101 Aupuni Street, Suite 325
Hilo, Hawaii 96720

CERT. ANN COBB, Planning Coordinator
Waikoloa Development Company
150 Waikoloa Beach Drive
Waikoloa, Hawaii 96783

DATED: Honolulu, Hawaii, this 26th day of February 1999.


ESTHER UEDA
Executive Officer


DEPARTMENT OF PUBLIC WORKS
COUNTY OF HAWAII
HILO, HAWAII

2015 OCT 26 AM 8:30

DATE: October 23, 2015

Memorandum

TO : Duane Kanuha, Planning Director
Planning Department

FROM : Ben Ishii, Division Chief
Engineering Division 

SUBJECT : Special Permit No. 833 (Docket No. 92-000001)
Applicant: WHC, Ltd.
Request: Amendment to Special Permit No. 833 to Allow Time
Extension to Condition 12, Allow Greenwaste Composting, and
Allow the Processing and Recycling of Portland Cement Concrete
and Asphalt Concrete Pavement
Location: Waikoloa, South Kohala, HI
TMK: 3/ 6-8-001:066

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

Adding new uses and extending the life of the permit may at some time warrant improvements for the access intersection with Waikoloa Road. Therefore we request a the permit be conditioned that should any improvements to the access road with Waikoloa Road, such as but not limited to channelization, be required by DPW during the life of the permit, the applicant shall provide such improvements in a timely manner at no cost to the County of Hawaii.

Should there be any questions concerning this matter, please feel free to contact Kiran Emler of our Kona Engineering Division office at 323-4851.

KE

copy: ENG-HILO/KONA

Planning Dept.
Exhibit 4





DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAII 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

October 15, 2015

2015 OCT 19 pm 2 18
PLANNING DEPARTMENT
COUNTY OF HAWAII

TO: Mr. Duane Kanuha, Director
Planning Department

FROM: Keith K. Okamoto, Manager-Chief Engineer

SUBJECT: **Special Permit No. 833 (Docket No. 92-000001)**
Applicant – WHC, Ltd.

Request: Allow a time extension and processing and recycling of Portland cement concrete and asphalt concrete pavement
Tax Map Key 6-8-001:066 (fka 6-8-001:005 portion)

Please be informed that the subject parcel is not within the Department's service limits. The nearest adequate point of connection is from an existing 16-inch waterline within North Kaniku Drive, approximately 3 miles from the parcel.

Further, as the water system in the area is privately owned and operated, we have no further comments to offer at this time.

Should there be any questions, please contact Mr. Ryan Quitariano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,

AK Keith K. Okamoto, P.E.
Manager-Chief Engineer

RQ:dfg

copy – WHC, Ltd.
Carlsmith Ball LLP

Planning Dept.
Exhibit 5



...Water, Our Most Precious Resource... *Ka Wai A Kane*

The Department of Water Supply is an Equal Opportunity provider and employer.

William P. Kenoi
Mayor

Walter K.M. Lau
Managing Director



2015 OCT 22 PM 2 58
BJ Leithead Todd
Director
PLANNING DEPARTMENT
COUNTY OF HAWAII
John A. Medeiros
Deputy Director

County of Hawai'i
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
345 Kekūanāo'a Street, Suite 41 • Hilo, Hawai'i 96720
(808) 961-8083 • Fax (808) 961-8086
<http://www.hawaiicounty.gov/environmental-management/>

MEMORANDUM

Date : September 28, 2015
To : DUANE KANUHA, Planning Director
From: BJ LEITHEAD TODD, Director *BJL*
Subject: Special Permit No. 833 (Docket No. 92-000001)
Applicant: WHC, Ltd.
Request: Amendment to SP No. 833 to allow a time extension to Cond. No.12, Allowing greenwaste composting, and allow the processing and recycling of Portland Cement Concrete & Asphalt Concrete Pavement
TMK: 6-8-001:066 (formerly portion of 6-8-001:005)

The Solid Waste Division has reviewed the subject application and offers the following recommendations (Please note Wastewater Division's comments will submitted separately):

DEPARTMENT COMMENTS:

- () Wastewater Division had no comment as this area is not a sewer and there are no immediate plans for sewerage of the area.
- () Other _____

SOLID WASTE COMMENTS: (Contact Solid Waste Division for details.)

- () No comments
- () Commercial operations, State and Federal agencies, religious entities and non-profit organizations may not use transfer stations for disposal.
- () Aggregates and any other construction/demolition waste should be responsibly reused to its fullest extent.
- () Ample and equal room should be provided for rubbish and recycling.
- () Green waste may be transported to the green waste sites located at the Kailua and Hilo transfer stations, or other suitable diversion programs.
- () Construction and demolition waste is prohibited at all County Transfer Stations.
- () Submit Solid Waste Management Plan in accordance with attached guidelines.
- () Existing Solid Waste Management Plan is to be followed. Provide update to the department on current status.
- () Other: _____

Planning Dept.
Exhibit **6**





William P. Kenoi
Mayor

Walter K.M. Lau
Managing Director

BJ Leithead Todd
Director

John A. Medeiros
Deputy Director

County of Hawai'i

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

345 Kekūanaō'a, Suite 41 • Hilo, Hawai'i 96720

(808) 961-8083 · Fax (808) 961-8086

<http://hawaiicounty.gov/environmental-management/>

MEMORANDUM

Date : October 15, 2015

To : DUANE KANUHA, Planning Director

From: BJ LEITHEAD TODD, Director *bjt*

Subject: Special Permit No. 833 (Docket No. 92-000001)
Applicant: WHC, Ltd.
Request: Amendment to SP No. 833 to allow a time extension to Cond. No.12, Allowing greenwaste composting, and allow the processing and recycling of Portland Cement Concrete & Asphalt Concrete Pavement
TMK: 6-8-001:066 (formerly portion of 6-8-001:005)

The Wastewater Division has reviewed the subject application and offers the following recommendations (please note Solid Waste Division comments will be submitted separately):

DEPARTMENT COMMENTS: _____

WASTEWATER COMMENTS: (Contact Wastewater Division for details.)

- Lyle Hirota _____
- (X) No comments
 - () Require connection of existing and/or proposed structures to the public sewer in accordance with Section 21-5 of the Hawai'i County Code.
 - () Require Council Resolution to approve sewer extension in accordance with Section 21-26.1 of the Hawai'i County Code. Complete Sewer Extension Application.
 - () Require extension of the sewer system to service the proposed subdivision in accordance with Section 23-85 of the Hawai'i County Code.
 - () Check or line out as applicable: [] If required by the Director of the Department of Environmental Management ("Director of DEM"), [] applicant shall conduct a sewer study in accordance with the then applicable wastewater system design standards prior to approval to connect to the County sewer system. Applicant shall provide such sewer line or other facility improvements as the Director of DEM may reasonably require, which the sewer study may indicate are advisable for mitigation of impacts of the proposed project. Contact Wastewater Division Chief for details.
 - () Other: _____

William P. Kenoi
Mayor

2015 OCT 15 PM 2 37

PLANNING DEPARTMENT
COUNTY OF HAWAII



Harry S. Kubojiri
Police Chief

Paul K. Ferreira
Deputy Police Chief

County of Hawai'i

POLICE DEPARTMENT

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

October 12, 2015

TO : DUANE KANUHA, PLANNING DIRECTOR
FROM : PAUL H. KEALOHA, JR., ASSISTANT CHIEF, AREA II OPERATIONS
SUBJECT : SPECIAL PERMIT NO. 833 (DOCKET NO. 92-000001)
APPLICANT: WHC, LTD.
REQUEST: AMENDMENT TO SPECIAL PERMIT NO. 833 TO ALLOW A
TIME EXTENSION TO CONDITION NO. 12, ALLOW
GREENWASTE COMPOSTING, AND ALLOW THE
PROCESSING AND RECYCLING OF PORTLAND CEMENT
CONCRETE AND ASPHALT CONCRETE PAVEMENT
TAX MAP KEY: 6-8-001:066 (FORMERLY PORTION OF 6-8-001:005)

This is in response to your memorandum dated September 24, 2015 regarding the above-referenced Special Permit No. 833 (Docket No. 92-000001).

Staff has reviewed the permit application for a time extension and concluded that there is no objection from a law enforcement perspective; therefore, we have no objections or comments to offer at this time.

Should you have any questions or concerns, please contact Captain Randall Medeiros, Commander of our South Kohala District, at 887-3080

Planning Dept.
Exhibit 7



William P. Kenoi
Mayor



2015 OCT 1 PM 3 30

PLANNING DEPARTMENT
COUNTY OF HAWAII

Darren J. Rosario
Fire Chief

Renwick J. Victorino
Deputy Fire Chief

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

October 1, 2015

TO : DUANE KANUHA, PLANNING DIRECTOR

FROM : DARREN J. ROSARIO, FIRE CHIEF

SUBJECT : Special Permit No. 833 (Docket No. 92-000001)
Applicant: WHC, Ltd.
Request: Amendment to Special Permit No. 833 to Allow a Time Extension to Condition No. 12, Allow Greenwaste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement
Tax Map Key: 6-8-001:066 (formerly portion of 6-8-001:005)

The Hawai'i Fire Department has no comments or issues with regards to the Special Permit as noted above.

Handwritten signature of Darren J. Rosario.

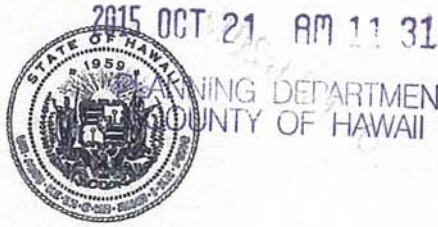
DARREN J. ROSARIO
Fire Chief

KT:ds

Planning Dept.
Exhibit 8



DAVID Y. IGE
GOVERNOR OF HAWAII



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

PLANNING DEPARTMENT
COUNTY OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 20, 2015

County of Hawaii
Planning Department
Attention: Mr. Jeff Darrow
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720

via email: jdarrow@co.hawaii.hi.us

Dear Mr. Darrow:

SUBJECT: Amendment to Special Permit No. 833 to Allow a Time Extension to Condition No. 12, Allow Greenwaste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement

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

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

Sincerely,

Russell Y. Tsuji
Land Administrator

Planning Dept.
Exhibit 9

Enclosure
cc: Central Files



DAVID Y. IGE
GOVERNOR OF HAWAII



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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 2, 2015

MEMORANDUM

2015 OCT -5 P 1:34

RECEIVED
LAND DIVISION
HILO, HAWAII

2015 OCT 13

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division - Hawaii District
- Historic Preservation

FROM:

f Russell Y. Tsuji, Land Administrator *RYT*

SUBJECT:

Amendment to Special Permit No. 833 to Allow a Time Extension to Condition No. 12, Allow Greenwaste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement

LOCATION:

Waikoloa, S Kohala, Island of Hawaii; TMK: (3) 6-8-001:005

APPLICANT:

WHC, Ltd.

Transmitted for your review and comment is information on the above-referenced application. We would appreciate your comments on this application. Please submit any comments by **October 19, 2015.**

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

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:

Gordon C. Heit

Print Name:

GORDON C. HEIT

Date:

10/2/15

cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII



OCT 26 PM 2 32

PLANNING DEPARTMENT
COUNTY OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 22, 2015

County of Hawaii
Planning Department
Attention: Mr. Jeff Darrow
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720

via email: jdarrow@co.hawaii.hi.us

Dear Mr. Darrow:

SUBJECT: Amendment to Special Permit No. 833 to Allow a Time Extension to Condition No. 12, Allow Greenwaste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on October 20, 2015, enclosed are comments from the Engineering Division on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files



DAVID Y. IGE
GOVERNOR OF HAWAII



15 OCT 02 AM 10:52 ENGINEERING

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 2, 2015

MEMORANDUM

TO: *FR*

- DLNR Agencies:**
- Div. of Aquatic Resources
 - Div. of Boating & Ocean Recreation
 - Engineering Division
 - Div. of Forestry & Wildlife
 - Div. of State Parks
 - Commission on Water Resource Management
 - Office of Conservation & Coastal Lands
 - Land Division – Hawaii District
 - Historic Preservation

FROM: *FR*

R Russell Y. Tsuji, Land Administrator *RT*
SUBJECT: Amendment to Special Permit No. 833 to Allow a Time Extension to Condition No. 12, Allow Greenwaste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement

LOCATION: Waikoloa, S Kohala, Island of Hawaii; TMK: (3) 6-8-001:005 066
APPLICANT: WHC, Ltd.

Transmitted for your review and comment is information on the above-referenced application. We would appreciate your comments on this application. Please submit any comments by **October 19, 2015**.

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

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: _____

Cary S. Cheng
Cary S. Cheng, Chief Engineer

Print Name: _____

Date: _____

10/19/15

cc: Central Files

2015 OCT 21 AM 10:51

RECEIVED
LAND DIVISION

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji

REF: Amendment to Special Permit No. 833 to Allow a Time Extension to Condition No. 12, Allow Greenwaste Composting and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement, South Kohala

Hawaii.060

COMMENTS

- (X) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone X. The National Flood Insurance Program does not have any regulations for developments within Zone X.
- () Please take note that the remainder of the project site according to the Flood Insurance Rate Map (FIRM), is located in Zones ____.
- () Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ____.
- () Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

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

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

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

- () Additional Comments: _____

- () Other: _____

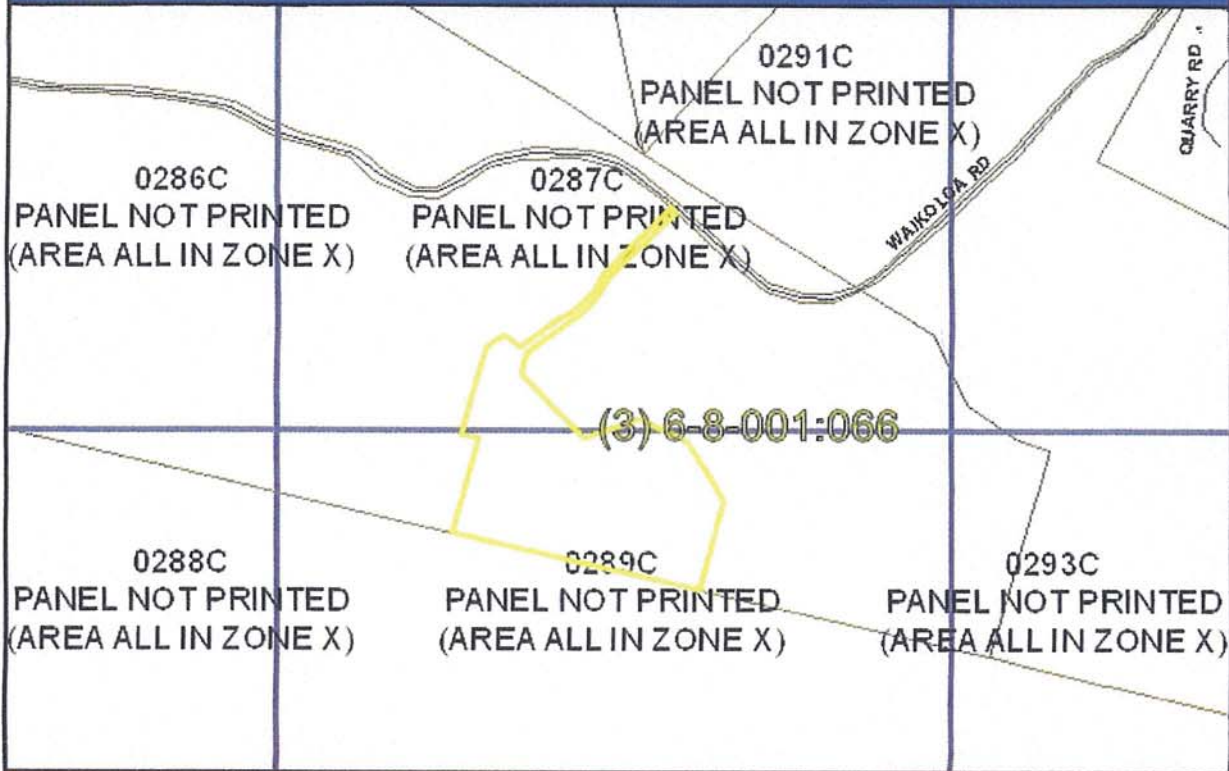
Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: 
CARTY S. CHANG, CHIEF ENGINEER

Date: 10/19/15



FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

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

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

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

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

OTHER FLOOD AREAS

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

PROPERTY INFORMATION

COUNTY: HAWAII
TMK NO: (3) 6-8-001-066
PARCEL ADDRESS:
FIRM INDEX DATE: APRIL 02, 2004
LETTER OF MAP CHANGE(S): NONE
FEMA FIRM PANEL(S):
 1551660287C - PANEL NOT PRINTED
 1551660289C - PANEL NOT PRINTED

PARCEL DATA FROM: JUNE 2013
IMAGERY DATA FROM: MAY 2005

IMPORTANT PHONE NUMBERS

County NFIP Coordinator
 County of Hawaii
 Carter Romero, P.E., CFM (808) 961-8943
State NFIP Coordinator
 Carol Tyau-Beam, P.E., CFM (808) 587-0267

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

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



OCT 19 AM 10 42

PLANNING DEPARTMENT
COUNTY OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 916
HILO, HAWAII 96721-0916

MEMORANDUM

DATE: October 16, 2015

TO: Mr. Duane Kanuha
Planning Director, County of Hawaii

FROM: Eric Honda *EH*
District Environmental Health Program Chief

SUBJECT: Special Permit No. 833 (Docket No. 92-000001)
Applicant: WHC, Ltd.
Request: Amendment to Special Permit No 833 to Allow a Time Extension
To condition No. 12, Allow Greenwaste Composting, and Allow
The Processing and Recycling of Portland Cement Concrete and
Asphalt Concrete Pavement
TMK: 6-8-001:066 (formerly portion of 6-8-001:005)

The applicant would need to meet the permit requirements of our Department of Health Air Pollution Rule, Chapter 60.1, Title 11, State of Hawaii for the proposed quarry operations. If there is need to discuss these requirements, please contact our Clean Air Branch staff in Honolulu, Ph. 586-4200.

Planning Dept.
Exhibit 10

WORD: SPP 833.eh



CARLSMITH BALL LLP

A LIMITED LIABILITY LAW PARTNERSHIP

ASB TOWER, SUITE 2100
1001 BISHOP STREET
HONOLULU, HAWAII 96813
TELEPHONE 808.523.2500 FAX 808.523.0842
WWW.CARLSMITH.COM

DIRECT DIAL NO
808.523.2557

JLIM@CARLSMITH.COM

OUR REFERENCE NO.:
035536-6

November 30, 2015

VIA U.S. MAIL

Russell Y. Tsuji
Land Administrator
Land Division, State of Hawai'i
Department of Land Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809

Re: WHC, Ltd. - Amendment to Special Permit No. 833 (Docket No. 92-000001) to Allow a Time Extension to Condition No. 12, Allow Green Waste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement, TMK No. 6-8-001: 066 (formerly portion of 6-8-001:005)

Dear Mr. Tsuji:

Thank you for your review of the above-referenced application, and for circulating the application to various Divisions (Engineering Division, Land Division and Historic Preservation), within the Department. We acknowledge the October 2, 2015 memorandum from Gordon C. Heit, Hawaii District Land Agent, indicating no comments on the application. We also acknowledge the October 19, 2015 memorandum from Carty S. Chang, Chief Engineer of the Engineering Division, confirming that the subject property is located within Flood Zone X, and that the National Flood Insurance Program does not have any regulations for developments within Zone Z. Both memoranda were sent to Jeff Darrow, County of Hawaii Planning Department (by letters dated October 20 and 22, 2015).

Planning Dept.
Exhibit 11

HONOLULU

HILO

KONA

MAUI

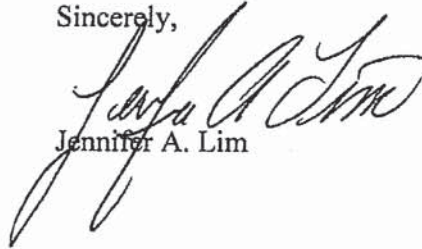
GUAM

LOS ANGELES

Russell Y. Tsuji
Land Administrator
November 30, 2015
Page 2

We appreciate your Department's participation in this application process. Should you or your staff have any questions about the subject application, please feel free to contact me at 808-523-2557 or jl原因@carlsmith.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer A. Lim", is written over the typed name.

Jennifer A. Lim

JAB1/PPT

cc: Jeff Darrow, County of Hawai'i Planning Department
Mel Macy, WHC, Ltd.
WQJ2008 Investment, LLC
Ukumehame Quarry Company Limited Partnership
Gordon C. Heit, DLNR, Hawaii District Land Agent
Carty S. Chang, DLNR, Chief Engineer

4816-7710-4683.1.035536-00006

CARLSMITH BALL LLP

A LIMITED LIABILITY LAW PARTNERSHIP

ASB TOWER, SUITE 2100
1001 BISHOP STREET
HONOLULU, HAWAII 96813
TELEPHONE 808.523.2500 FAX 808.523.0842
WWW.CARLSMITH.COM

DIRECT DIAL NO
808.523.2557

JLIM@CARLSMITH.COM

OUR REFERENCE NO.:
035536-6

November 30, 2015

VIA U.S. MAIL

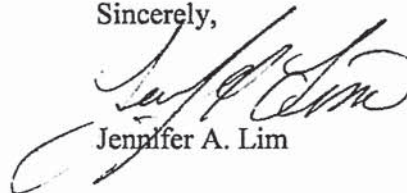
Paul H. Kealoha, Jr.
Assistant Chief, Area II Operations
County of Hawai'i, Police Department
349 Kapi'olani Street
Hilo, Hawai'i 96720

Re: WHC, Ltd. - Amendment to Special Permit No. 833 (Docket No. 92-000001) to Allow a Time Extension to Condition No. 12, Allow Green Waste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement, TMK No. 6-8-001: 066 (formerly portion of 6-8-001: 005)

Dear Assistant Chief Kealoha:

Thank you for your review of the above-referenced application, as noted in your letter dated October 12, 2015 to Mr. Duane Kanuha, Planning Director, County of Hawai'i Planning Department. We appreciate your department's participation in this application process. Should you or your staff have any questions about the subject application, please feel free to contact me at 808-523-2557 or jl原因@carlsmith.com.

Sincerely,



Jennifer A. Lim

JAB1/PPT

cc: Jeff Darrow, County of Hawaii Planning Department
Mel Macy
WQJ2008 Investment, LLC
Ukumehame Quarry Company Limited Partnership

4832-2014-9803.1.035536-00006

HONOLULU

HILO

KONA

MAUI

GUAM

LOS ANGELES

CARLSMITH BALL LLP

A LIMITED LIABILITY LAW PARTNERSHIP

ASB TOWER, SUITE 2100
1001 BISHOP STREET
HONOLULU, HAWAII 96813
TELEPHONE 808.523.2500 FAX 808.523.0842
WWW.CARLSMITH.COM

DIRECT DIAL NO.
808.523.2557

JLIM@CARLSMITH.COM

OUR REFERENCE NO.:
035536-6

November 30, 2015

VIA U.S. MAIL

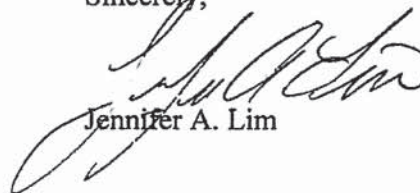
Darren J. Rosario, Fire Chief
County of Hawai'i, Fire Department
25 Aupuni Street, Suite 2501
Hilo, Hawai'i 96720

Re: WHC, Ltd. - Amendment to Special Permit No. 833 (Docket No. 92-000001) to Allow a Time Extension to Condition No. 12, Allow Green Waste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement, TMK No. 6-8-001: 066 (formerly portion of 6-8-001: 0005)

Dear Chief Rosario:

Thank you for your review of the above-referenced application, as noted in your letter dated October 1, 2015 to Mr. Duane Kanuha, Planning Director, County of Hawai'i Planning Department. We appreciate your department's participation in this application process. Should you or your staff have any questions about the subject application, please feel free to contact me at 808-523-2557 or jlim@carlsmith.com.

Sincerely,



Jennifer A. Lim

JAB1/PPT

cc: Jeff Darrow, County of Hawaii Planning Department
Mel Macy, WHC, Ltd.
WQJ2008 Investment, LLC
Ukumehame Quarry Company Limited Partnership

4839-4137-3483.1.035536-00006

HONOLULU

HILO

KONA

MAUI

GUAM

LOS ANGELES

CARLSMITH BALL LLP

A LIMITED LIABILITY LAW PARTNERSHIP

ASB TOWER, SUITE 2100
1001 BISHOP STREET
HONOLULU, HAWAII 96813
TELEPHONE 808.523.2500 FAX 808.523.0842
WWW.CARLSMITH.COM

DIRECT DIAL NO.
808.523.2557

JLIM@CARLSMITH.COM

OUR REFERENCE NO.:
035536-6

December 2, 2015

VIA U.S. MAIL

Eric Honda
District Environmental Health Program Chief
State of Hawai'i, Department of Health
P.O. Box 916
Hilo, Hawai'i 96721-0916

Re: WHC, Ltd. - Amendment to Special Permit No. 833 (Docket No. 92-000001) to Allow a Time Extension to Condition No. 12, Allow Green Waste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement
TMK No. 6-8-001: 066 (formerly portion of 6-8-001: 005)

Dear Mr. Honda:

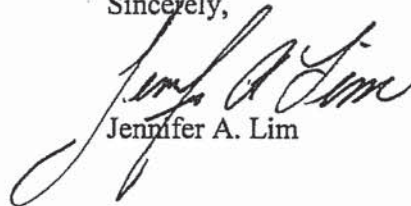
Thank you for your review of the above-referenced application, as noted in your letter dated October 16, 2015, to Mr. Duane Kanuha, Planning Director, County of Hawai'i Planning Department.

You indicated that the applicant, WHC, would need to meet the permit requirements of the Department of Health Air Pollution Rule, Chapter 60.1, Title 11, State of Hawaii for the proposed quarry operations. We appreciate your comment and note that WHC has been operating a quarry at the subject property for close to 20 years. As such, WHC has obtained several such permits from the Department of Health over the years. WHC's current permits are CSP No. 0436-01-CT (application renewal No. 0436-05), and CSP No. 0355-02-CT. WHC acknowledges that the quarry must be operated consistent with the permit requirements under Department of Health Air Pollution Rule, Chapter 60.1, Title 11.

Mr. Eric Honda
December 2, 2015
Page 2

We appreciate your department's participation in this application process. Should you or your staff have any questions about the subject application, please feel free to contact me at 808-523-2557 or jl原因@carlsmith.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer A. Lim". The signature is fluid and cursive, with a long, sweeping underline that extends to the left and loops back under the name.

Jennifer A. Lim

JAB1/PPT

cc: Jeff Darrow, County of Hawai'i Planning Department
Mel Macy, WHC, Ltd.
WQJ2008 Investment, LLC
Ukumehame Quarry Company Limited Partnership

4837-4142-3147.2.035536-00006

CARLSMITH BALL LLP

A LIMITED LIABILITY LAW PARTNERSHIP

ASB TOWER, SUITE 2100
1001 BISHOP STREET
HONOLULU, HAWAII 96813
TELEPHONE 808.523.2500 FAX 808.523.0842
WWW.CARLSMITH.COM

DIRECT DIAL NO.
808.523.2557

JLIM@CARLSMITH.COM

OUR REFERENCE NO.:
035536-6

November 30, 2015

VIA U.S. MAIL

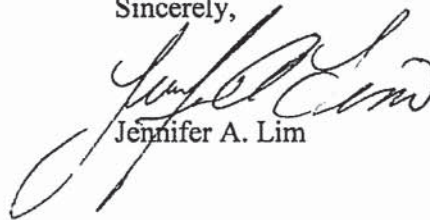
BJ Leithead Todd, Director
County of Hawai'i,
Department of Environmental Management
345 Kekūānāo'a Street, Suite 41
Honolulu, Hawai'i 96720

Re: WHC, Ltd. - Amendment to Special Permit No. 833 (Docket No. 92-000001) to Allow a Time Extension to Condition No. 12, Allow Green Waste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement, TMK No. 6-8-001: 066 (formerly portion of 6-8-001: 005)

Dear Ms. Todd:

Thank you for your review of the above-referenced application, as noted in your letters from the Solid Waste Division and Wastewater Division, dated September 28 and October 15, 2015 respectively, to Mr. Duane Kanuha, Planning Director, County of Hawai'i Planning Department. We appreciate your divisions' participation in this application process. Should you or your staff have any questions about the subject application, please feel free to contact me at 808-523-2557 or jlim@carlsmith.com.

Sincerely,



Jennifer A. Lim

JAB1/PPT

cc: Jeff Darrow, County of Hawai'i Planning Department
Mel Macy, WHC, Ltd.
WQJ2008 Investment, LLC
Ukumehame Quarry Company Limited Partnership

4831-5376-1835.1.035536-00006

HONOLULU

HILO

KONA

MAUI

GUAM

LOS ANGELES

CARLSMITH BALL LLP

A LIMITED LIABILITY LAW PARTNERSHIP

ASB TOWER, SUITE 2100
1001 BISHOP STREET
HONOLULU, HAWAII 96813
TELEPHONE 808.523.2500 FAX 808.523.0842
WWW.CARLSMITH.COM

DIRECT DIAL NO.
808.523.2557

JLIM@CARLSMITH.COM

OUR REFERENCE NO.:
035536-6

November 30, 2015

VIA U.S. MAIL

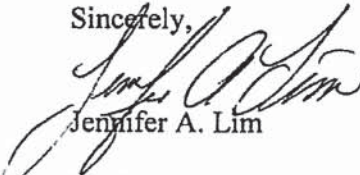
Keith K. Okamoto, P.E., Manager-Chief Engineer
County of Hawai'i, Department of Water Supply
345 Kekūānāo'a Street, Suite 20
Hilo, Hawai'i 96720

Re: WHC, Ltd. - Amendment to Special Permit No. 833 (Docket No. 92-000001) to Allow a Time Extension to Condition No. 12, Allow Green Waste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement, TMK No. 6-8-001: 066 (formerly portion of 6-8-001: 005)

Dear Mr. Okamoto:

Thank you for your review of the above-referenced application, as noted in your letter dated October 15, 2015 to Mr. Duane Kanuha, Planning Director, County of Hawai'i Planning Department. We appreciate your department's participation in this application process and comments that (1) the above-referenced property is not within the Department's service limits; (2) the nearest adequate point of connection to the Department system is from an existing 16-inch waterline within North Kaniku Drive; and (3) the water system in the area is privately owned. Should you or your staff have any questions about the subject application, please feel free to contact me at 808-523-2557 or jlim@carlsmith.com.

Sincerely,


Jennifer A. Lim

JAB1/PPT

cc: Jeff Darrow, County of Hawaii Planning Department
Mel Macy, WHC, Ltd.
WQJ2008 Investment, LLC
Ukumehame Quarry Company Limited Partnership

4842-1013-6619.1.035536-00006

HONOLULU

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OUR REFERENCE NO.:
035536-6

December 5, 2015

VIA U.S. MAIL

Ben Ishii
Division Chief, Engineering Division
County of Hawai'i, Department of Public Works
101 Pauahi Street, Suite #7
Hilo, Hawai'i 96720

Re: WHC, Ltd. - Amendment to Special Permit No. 833 (Docket No. 92-000001) to Allow a Time Extension to Condition No. 12, Allow Green Waste Composting, and Allow the Processing and Recycling of Portland Cement Concrete and Asphalt Concrete Pavement
TMK No. 6-8-001: 066 (formerly portion of 6-8-001: 005)

Dear Mr. Ishii:

Thank you for your review of the above-referenced application, as noted in your letter dated October 23, 2015, to Mr. Duane Kanuha, Planning Director, County of Hawai'i Planning Department. In your letter you noted that adding new uses and extending the life of the Special Permit could at some time warrant improvements for the access intersection with Waikoloa Road. You asked that the Special Permit amendment be granted with a condition requiring the Applicant to provide improvements to the access road with Waikoloa Road, if required by the Department of Public Works ("DPW").

We wish to assure you that the proposed new uses at the quarry site are not expected to generate any significant additional traffic impacts. Current uses at the quarry average eight truckloads a day of aggregate leaving the site. For most of the year the quarry does not require on-site employees. For a period of approximately three months during the year when active rock crushing and quarrying activities are taking place, there may be six or seven employees on site.

These employees arrive before 7:00 a.m. and leave the site between 3:30 p.m. and 4:00 p.m.

Greenwaste activities have been taking place at the quarry site for several years. This operation requires one employee who arrives by 7:00 a.m. and leaves the site around 3:30 p.m., and is therefore not on the road during the peak traffic hours. Even if the amount of greenwaste composting increases to the limit of the Department of Health permit, at most only two employees would be needed on site for the operation. The greenwaste composting operation is not a retail operation where members of the public regularly come to drop off greenwaste or purchase compost. Therefore, few employees are needed and little commercial traffic is generated.

The addition of recycling of Portland cement concrete and asphalt concrete pavement is estimated to result in the addition of 2,000 tons of material coming into the quarry each year. That amounts to less than one additional truckload per business day.

The current traffic in and out of the quarry averages eight to ten vehicles each business day. With the addition of the cement and concrete pavement recycling, and an increase in greenwaste composting activities, the average traffic amounts are expected to increase only very minimally. Furthermore, due to the nature of the operations, few vehicles arrive at, or exit, the quarry site during the a.m. or p.m. peak hours. Peak hour trips are understood to mean trips between 7:00 a.m. and 9:00 a.m., and between 4:00 p.m. and 6:00 p.m. Quarry employees typically arrive before 7 a.m. and leave after 5:30 p.m.

Although we do not anticipate any significant traffic impacts from the activities proposed under the Special Permit application, we acknowledge DPW's concerns, and suggest the following language to address DPW's comment, and which we will ask the Planning Commission to incorporate into the Special Permit as a replacement to existing condition #5:

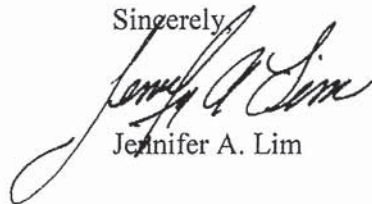
At the written request of the Department of Public Works (DPW), after the fifth anniversary of the issuance of the extended permit, Applicant shall prepare a traffic impact analysis report (TIAR), at no cost to the County of Hawaii, for submission to the DPW. Applicant shall coordinate with the DPW on implementing

Mr. Ben Ishii
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Applicant's pro-rata share of appropriate traffic mitigation measures, if any, should it be determined through the TIAR that improvements to the Waikoloa/Quarry road intersection are needed due to Applicant's activity at the quarry.

We appreciate DPW's participation in this application process. Should you or your staff have any questions about the subject application, please feel free to contact me at 808-523-2557 or jlim@carlsmith.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer A. Lim", written over a printed name.

Jennifer A. Lim

JAB1/PPT

cc: Jeff Darrow, County of Hawai'i Planning Department
Mel Macy, WHC, Ltd.
WQJ2008 Investment, LLC
Ukumehame Quarry Company Limited Partnership

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