

Camero, Tracie-Lee

PLANNING DEPARTMENT
COUNTY OF HAWAII

From: Maija Cottle [mcottle@co.hawaii.hi.us]
Sent: Monday, June 30, 2014 9:03 AM
To: Camero, Tracie-Lee
Subject: FW: Response letter attachment
Attachments: MCottle6-24-14 letter.pdf; SCS1594 10 5 Acre Quarry AMP-1 2014.pdf

30 AM
2014 JUN 27 PM 9:19

Tracie- Please log email and attachments into Eden for SPP 14-162. Thanks.

From: Mike Pearring [mailto:mikejp@gloverltd.com]
Sent: Monday, June 30, 2014 8:45 AM
To: 'mcottle@co.hawaii.hi.us'
Cc: Byron Fujimoto; Randy Vitousek; Barbara Huitt
Subject: Response letter attachment

Maija,

Attached is a copy of the Archaeological Monitoring Plan submitted to the State Historic Preservation Division that was inadvertently omitted with the mailing of the letter to you from Byron Fujimoto last week (copy also attached). I apologize for the inconvenience.

Thank you,

Mike Pearring

EXHIBIT
38

SCANNED
JUL - 1 2014
By: 092712



JAS. W. GLOVER, LTD.

GENERAL CONTRACTORS

License No. ABC-3

COPY

June 24, 2014

Maija Cottle
Planning Department
County of Hawaii
101 Pauahi St., Suite 3
Hilo, Hawaii 96720-4224

Subject: Special Use Permit Amendment Application No. SPP 14-000162
To Establish New Quarry
Jas. W. Glover, Ltd.
South Hilo, Hawaii
Tax Map Key: (3) 2-1-013:004 (por.)

Dear Ms. Cottle,

In reference to the questions and issues raised in both your e-mail to Randy Vitousek dated June 16, 2014, and the letter dated June 17, 2014, from Mr. Daniel Orodenker of the State Land Use Commission to Mr. Duane Kanuha of the County Planning Department regarding our Special Use Permit Application, we can offer the following:

- Our quarrying plan will involve a systematic approach to identifying quality rock sources and extracting the material in a given area leaving a safe, clean and open area upon quarrying completion. Our operations may involve mining at different sites on the property, but our plan is based both on selecting rock sources to meet the demands of our customers, but also to manage the site responsibly and safely.
- Our restoration plans will be per the requirements of our license agreements with the owner, and involve both incremental and final restoration efforts. In addition, these restoration efforts will be completed in such a way as to comply with the requirements of each of our existing special permits, including the specific requirements for an Erosion Control and Site Restoration Plan in SPP 12-000145.
- We have been and remain in compliance with the conditions for each existing Special Permit within the project site.
- The termination dates for each of the Special Permits are as follows:
 - SP-1107 – no termination date;
 - SP-1008 & SP – 1221 – co-terminus with the License Agreement for ~80-acre parcel;
 - SP-12-000145 – co-terminus with the License Agreement for 50-acre parcel;

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- License Agreement for ~80 acre parcel – May, 31 2027 with option for 10-year extension; and
- License Agreement for ~50 acre parcel – May 31, 2027.

- The Archaeological Monitoring Plan for SP-000145 has been submitted to the State Historic Preservation Division (SHPD), and a copy is attached.

- The estimated tonnage in our application should be revised to read “approximately 2,000,000 tons.”

- For decades there has been an ongoing practice in Hawaii County and in our industry for the Hawaii County Planning Commission to consider, review, and approve applications for special permits for quarrying purposes for areas of less than 15 acres. Our company now holds four (4) special permits within the larger 140-acre property which were legally issued by the Hawaii County Planning Commission. These special permits confer legal, vested rights. Our company does not believe it should be required to surrender vested legal rights in order to apply for a special permit to quarry an area of land larger than 15 acres.

We would consider applying for a special permit for a larger area including the areas covered by the existing special permits provided we would not be required to surrender any vested legal rights.

Thank you again for reviewing our application. Should you or any of our staff have any questions, please feel free to contact me at 808-935-0871.

Sincerely,



Byron Fujimoto
Vice President

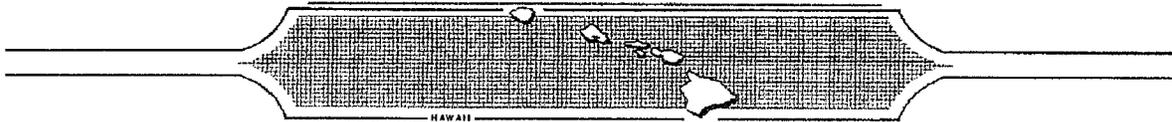
**AN ARCHAEOLOGICAL MONITORING PLAN FOR A 10.5-ACRE
QUARRY SITE IN WAIĀKEA AHUPUA‘A, SOUTH HILO DISTRICT,
HAWAI‘I ISLAND, HAWAI‘I [TMK: (3) 2-1-013:004 (POR.)]**

Prepared by:
Glenn G. Escott, M.A.

Draft
June 2014

Prepared for:
Jas. W. Glover, Ltd.
890 Leilani Street
Hilo, Hawai‘i 96720

SCIENTIFIC CONSULTANT SERVICES Inc.



1347 Kapi‘olani Boulevard, Suite 408 Honolulu, HI 96814

Hawai‘i Island Office: PO Box 155 Kea‘au, HI 9674

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INTRODUCTION

Scientific Consultant Services (SCS) has prepared this Archaeological Monitoring Plan (AMP) at the request of Jas. W. Glover, Ltd., the property lessee, for proposed quarry activities to be conducted on a 10.5-acre portion of TMK:(3) 2-1-013:004 located in the *ahupua'a* of Waiākea, Hilo, South Hilo District, Island of Hawai'i, Hawai'i (Figures 1, 2, 3, and 4). The project area is situated approximately one mile southeast of the main terminal at Hilo International Airport and is bounded by undeveloped land on all sides. The project area is the southern portion of a 140.368-acre parcel leased to Jas. W. Glover, Ltd. by Kamehameha Schools. The proposed ground altering activities include quarrying.

This AMP covers all ground disturbing activities on the project area. The principal objective of Archaeological Monitoring is to identify, document, and protect significant cultural resources, including burials, as they are discovered during archaeological monitoring.

This AMP and subsequent monitoring work will ensure that if cultural deposits are identified, the work will satisfy reporting requirements outlined in §13-279-5(5) through (6) are followed. It will also ensure that if human burials are identified during construction activities, appropriate and lawful protocol concerning the Inadvertent Discovery of Human Skeletal Remains (pursuant to §13-300-40a, b, c (HAR) is followed.

REASONS FOR MONITORING

The primary reason for Archaeological Monitoring on the project area parcel is that that the area is heavily vegetated. An Archaeological Assessment was conducted on a 50-acre area that includes the current 10.5-acre project area (Escott 2013). No archaeological sites were identified on the 50-acre project area. As part of the review of the archaeological assessment, the Hawai'i State Historic Preservation Division (SHPD) requested monitoring in the event that subsurface deposits or undocumented sites exist.

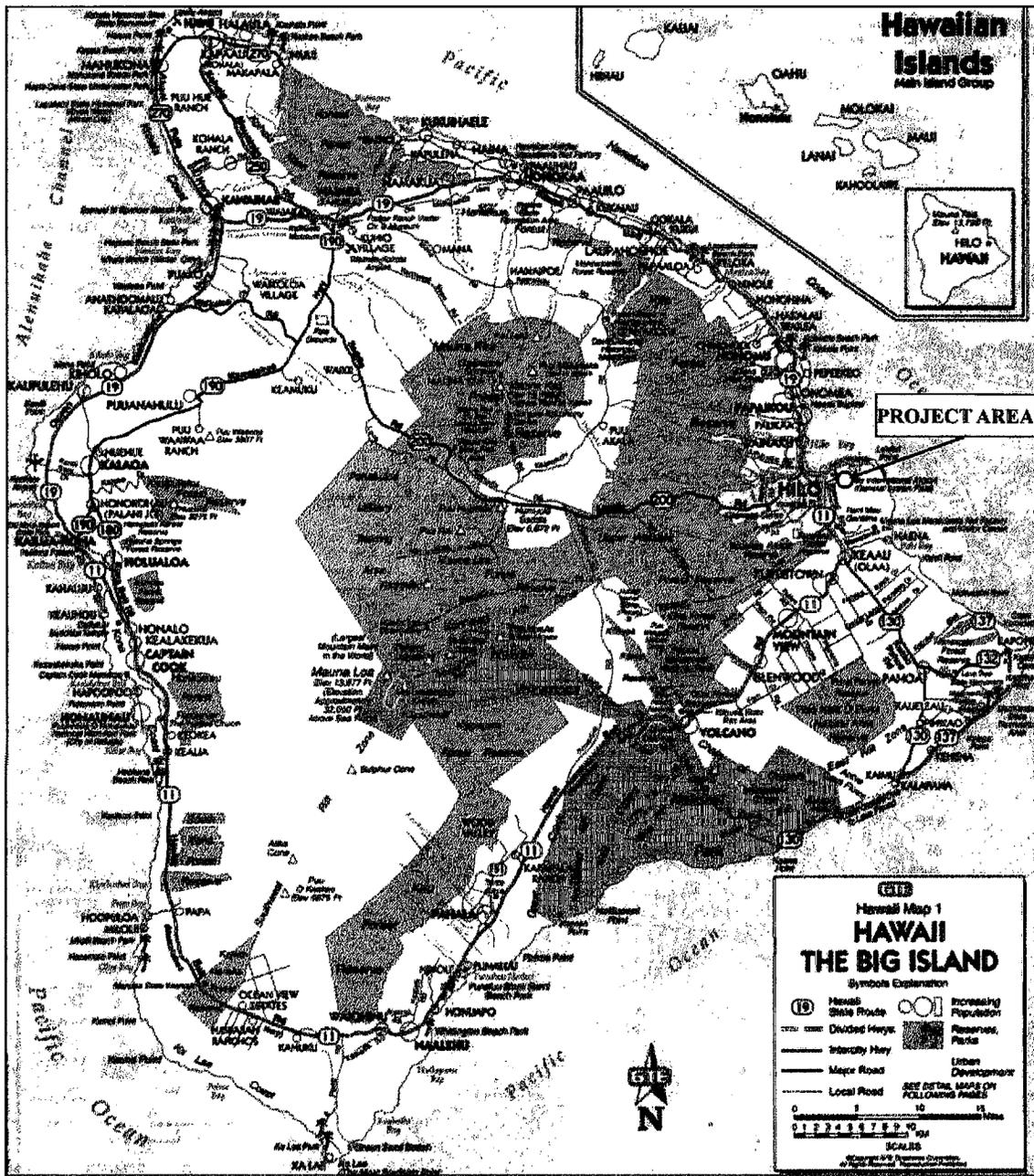


Figure 1: Location of Project Area on Hawai'i Island Map.

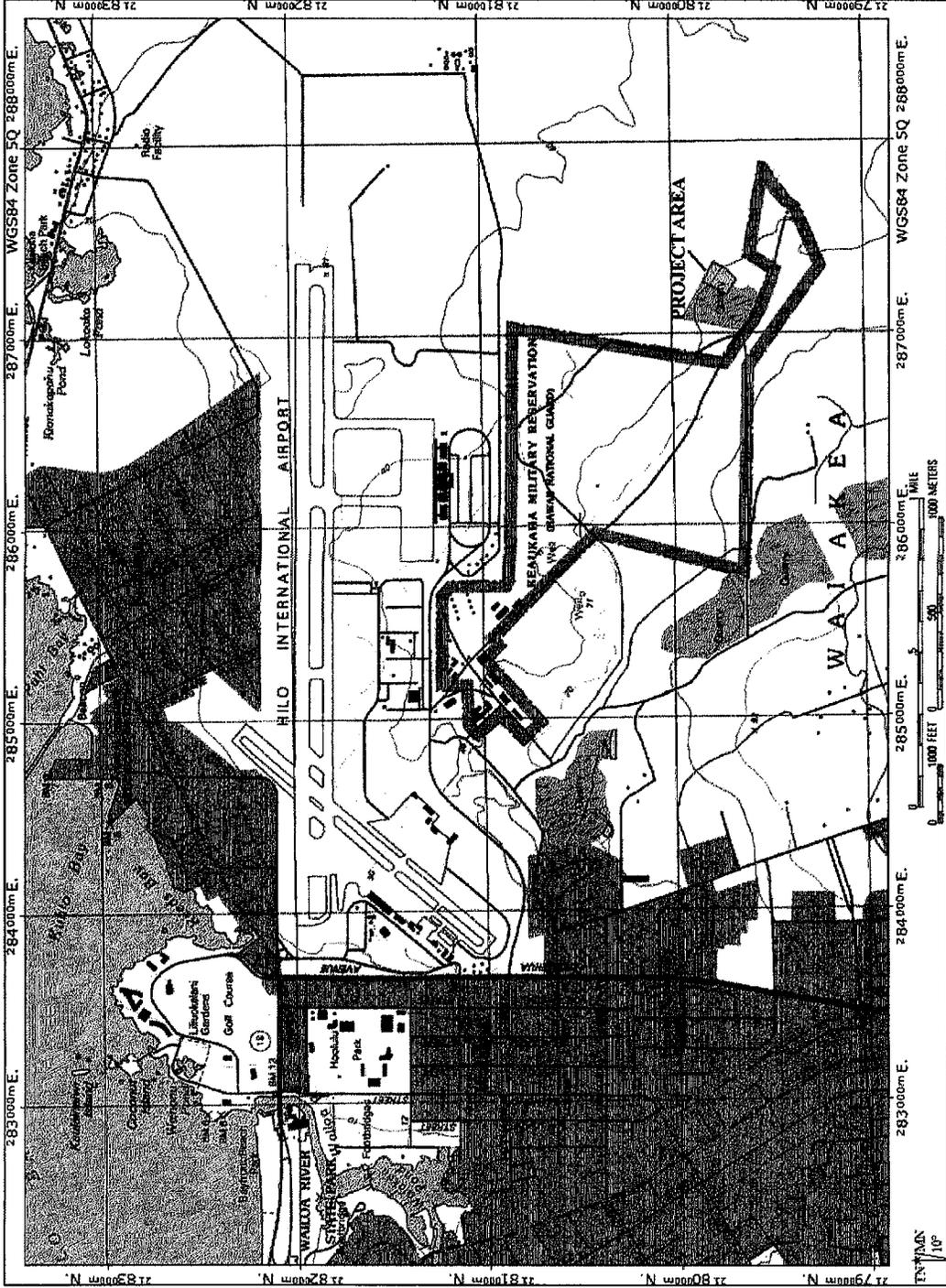


Figure 2: 7.5-Minute Series USGS Topographic Map Showing Location of Project Area (Hilo Quadrangle, Topol., 2002).

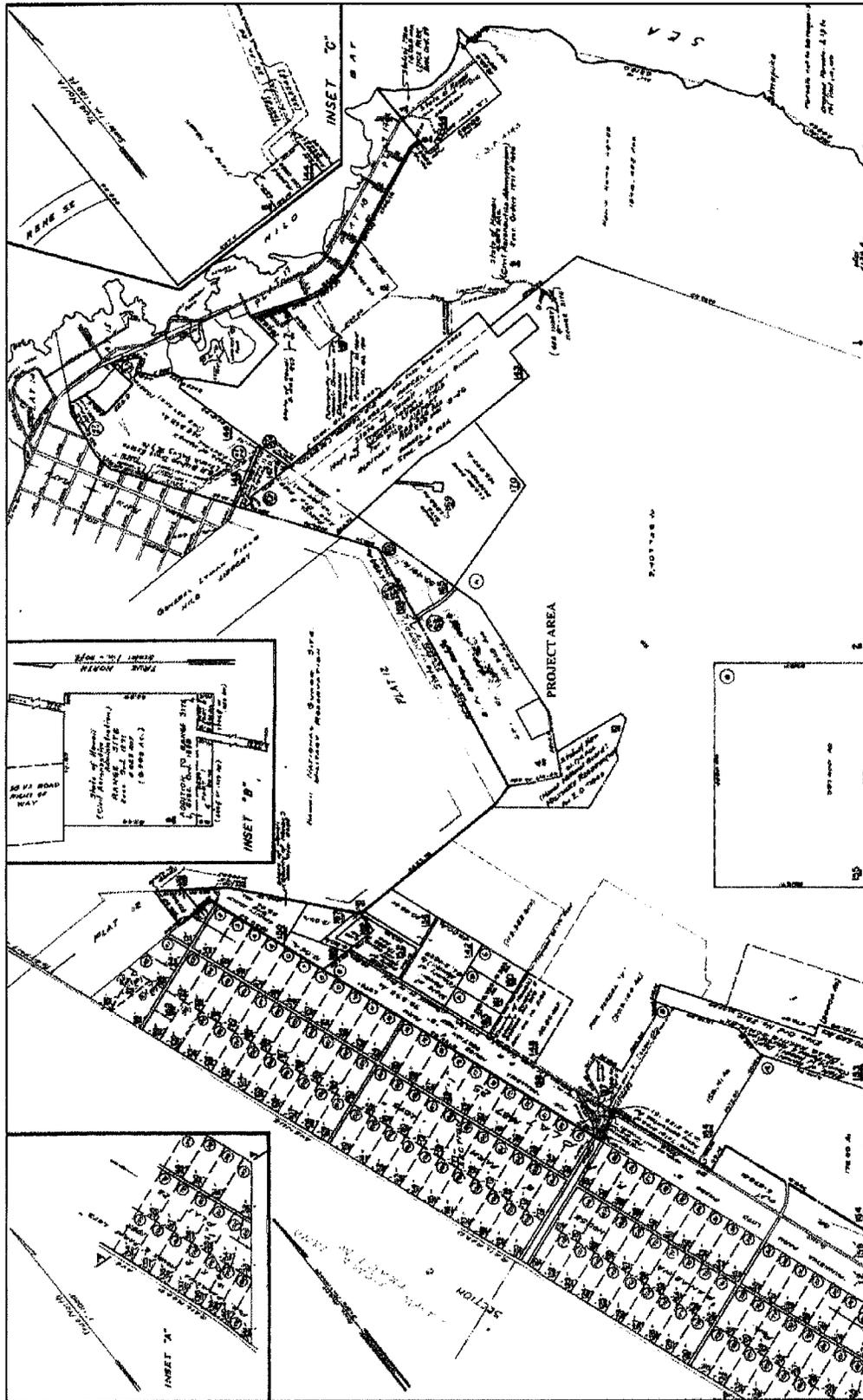


Figure 3: TMK (3) 2-1-013 Map Showing Location of Project Area (Hawai'i County Planning Department, 2012).

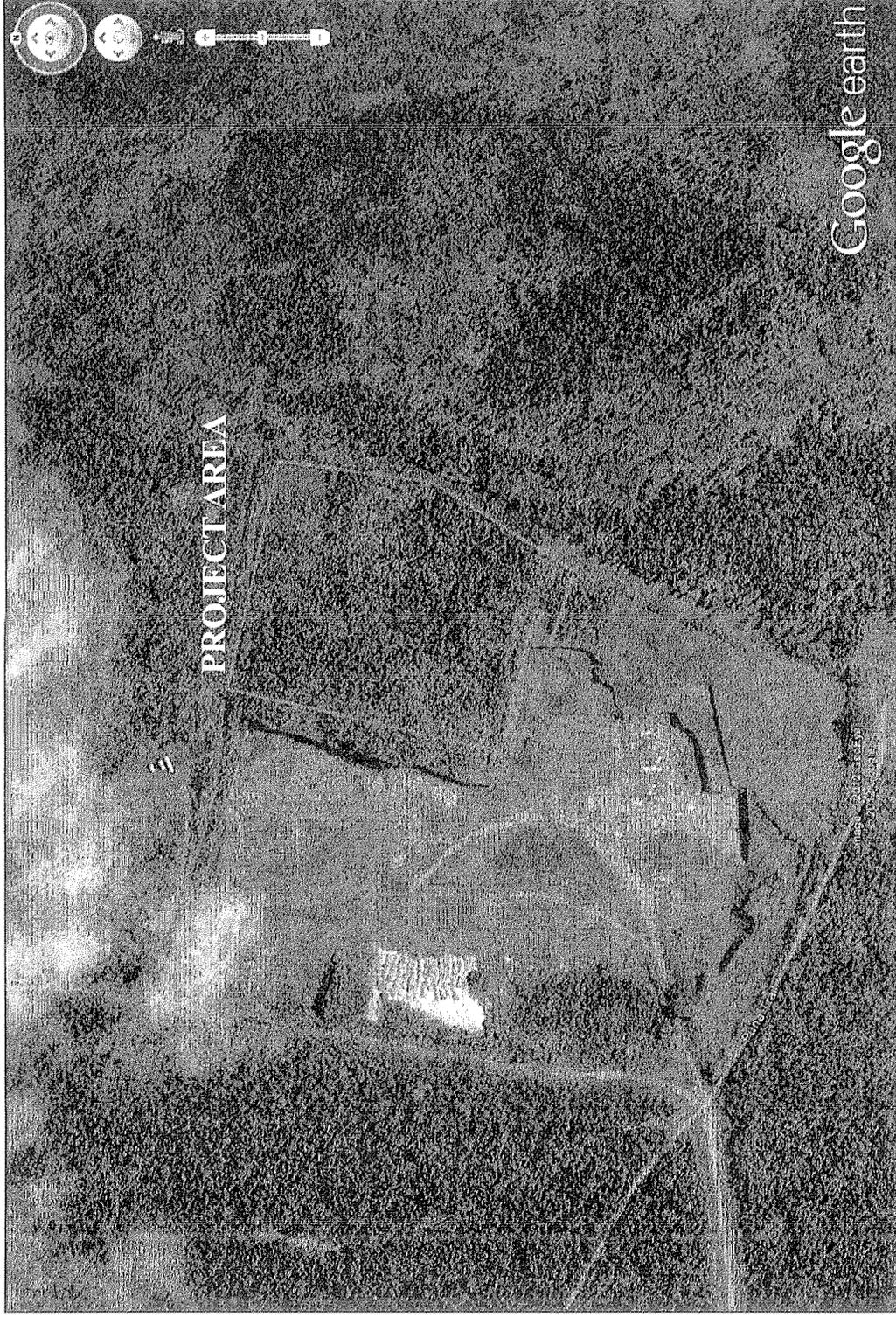


Figure 4: Aerial Photograph Showing Project Area (Boundaries in Red) (Google Earth, 2011).

ENVIRONMENTAL SETTING

The project area is situated on gently sloping to level land at 70 feet (21 m) above mean sea level (amsl). The project area substrate is a Mauna Loa flow dated between 750 and 1,500 years ago (Wolfe and Morris 1996). The project area ground surface is hummocky and uneven. There are areas of with large mounded piles of broken boulder bedrock outcrop. The piles are either conical, or linear ridges that reach four to five meters above the surrounding ground surface. The ground surface between the outcrops is wet, rocky muck.

Soil in the project area is Papai series (rPAE) thin, extremely stony muck (Sato 1973:46) and is characterized as poorly suited or unsuited to mechanized-farming (Soil Survey of the Territory of Hawaii 1955). Rainfall in the project area is high, ranging between 200 and 300 inches per year (Kelly *et al.* 1981). Natural drainage in the area runs from southwest to northeast.

Plant communities in the project are dominated by native plants such as 'ōhi 'a (*Metrosideros polymorpha*), uluhe (*Dicranopteris linearis*), and hala (*Pandanus odoratissimus*), as well as invasive species including waivi (*Psidium cattleianum*), common guava (*Psidium guajava*), Asian Melastoma (*Melastoma septemnerium*), octopus tree (*Schefflera actinophylla*), melochia (*Melochia umbellata*), and bingabing (*Macaranga mappia*). Vegetation within the project ranges from open forest to extremely dense thickets under forest canopy.

Three quarters of the project area is previously quarried ground surface. There is a portion of undisturbed forest in the northeast corner of the project and strips of previously grubbed land on the east and west sides of the project area (Figure 5). The undisturbed area is mixed native and invasive species, and the disturbed areas contain primarily invasive plants. The entire 50-acre project area was surveyed, including the previously quarried area, the previously disturbed land, and the undisturbed forest.

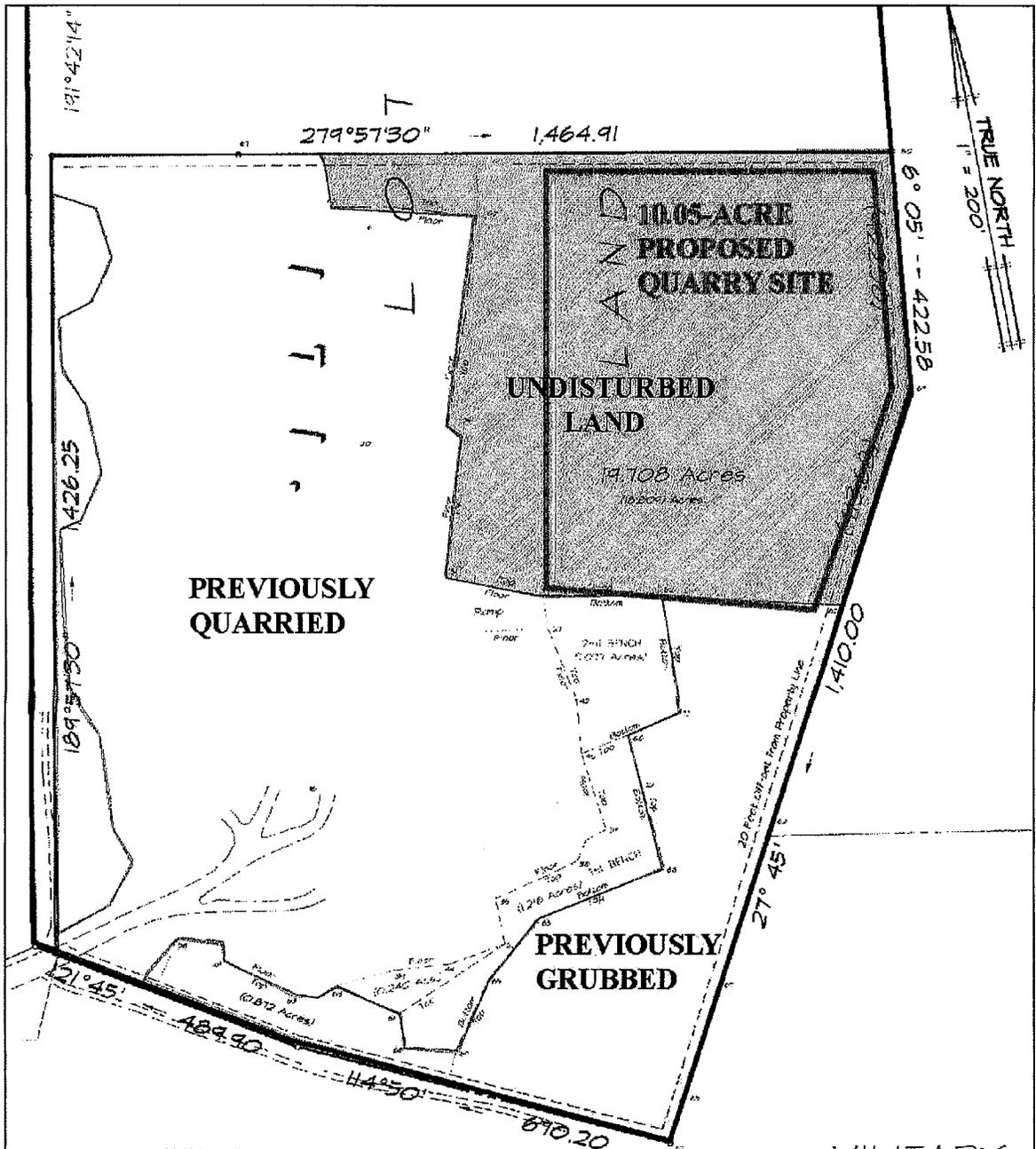


Figure 5: Project Area Survey Map Showing 10.05-Acre Proposed Quarry (Red Boundary Line) and Previously Disturbed Ground Surfaces.

HISTORICAL AND CULTURAL CONTEXTS

Hilo was, by most estimates, one of the first settlements on the Island of Hawai‘i and was settled between AD 300 and 600. The rich marine resources of Hilo Bay and the gently sloping forests of Mauna Loa and Mauna Kea provided abundant resources. Fresh water was available from the Wailoa and Wailuku rivers and smaller streams such as Waiākea, Waiolama, Pukihāe, and ‘Alenaio. The current project area is located in the area known as the Pana‘ewa Forest in the *ahupua‘a* of Waiākea, Hilo Hanakāhi *‘okana*, in the *moku-o-loko* (district) of Hilo (Maly 1996:4-5) (Figure 6). Waiākea Stream flows some distance west of the present study area. The *ahupua‘a* of Waiākea is large – approximately 95,000 acres from the coastline to the slopes of Mauna Kea – and was regarded as a region of abundant natural resources and numerous fishponds.

PRE-CONTACT ACCOUNTS OF HILO

The earliest account of Hilo appears in ‘Umi-a-Liloa’s (1600–1620) conquest of the Island of Hawai‘i, which establishes Hilo as a royal center by the sixteenth century. In the account, ‘Umi-a-Liloa began his conquest of the Island of Hawai‘i by defeating chief Kulukulu‘ā, who lived in Waiākea, and the other chiefs of Hilo (Kamakau 1992:16–17). ‘Umi-a-Liloa’s second son, Keawe-nui-a-‘Umi, ruled Hamākua, Hilo, and Puna from his residence at Hilo (*ibid*: 34). It was from Hilo that he waged war on the Kona chiefs and unified the island. Keawe-nui-a-‘Umi’s descendants single handedly continued rule for many generations from Hilo. After the death of Keawe-nui-a-‘Umi the kingdom was divided into three parts and was established under warring chiefs; Hilo was ruled by Kumalae-nui-pu‘awa-lau and his son Makua (*ibid*: 45). It was during the period of time that Kamehameha I was born. Kalani‘ōpu‘u’s grandson, Keoua Kuahu‘ula and nephew Kamehameha vied for control over the six chiefdoms constituting the island kingdom and Keoua conquered Hilo chief Keawe-mau-hili and harvested the benefits for a short time only to be killed by Kamehameha late in 1791. Kamehameha’s son Liholiho was born in Hilo in November 1797 (Kamakau 1992:22). Waiākea was inherited by Lihiliho after Kamehameha’s death. The *‘ili kūpono* of Pi‘opi‘o and its royal fishpond were given to his favorite wife, Ka‘ahumanu (Figure 7).

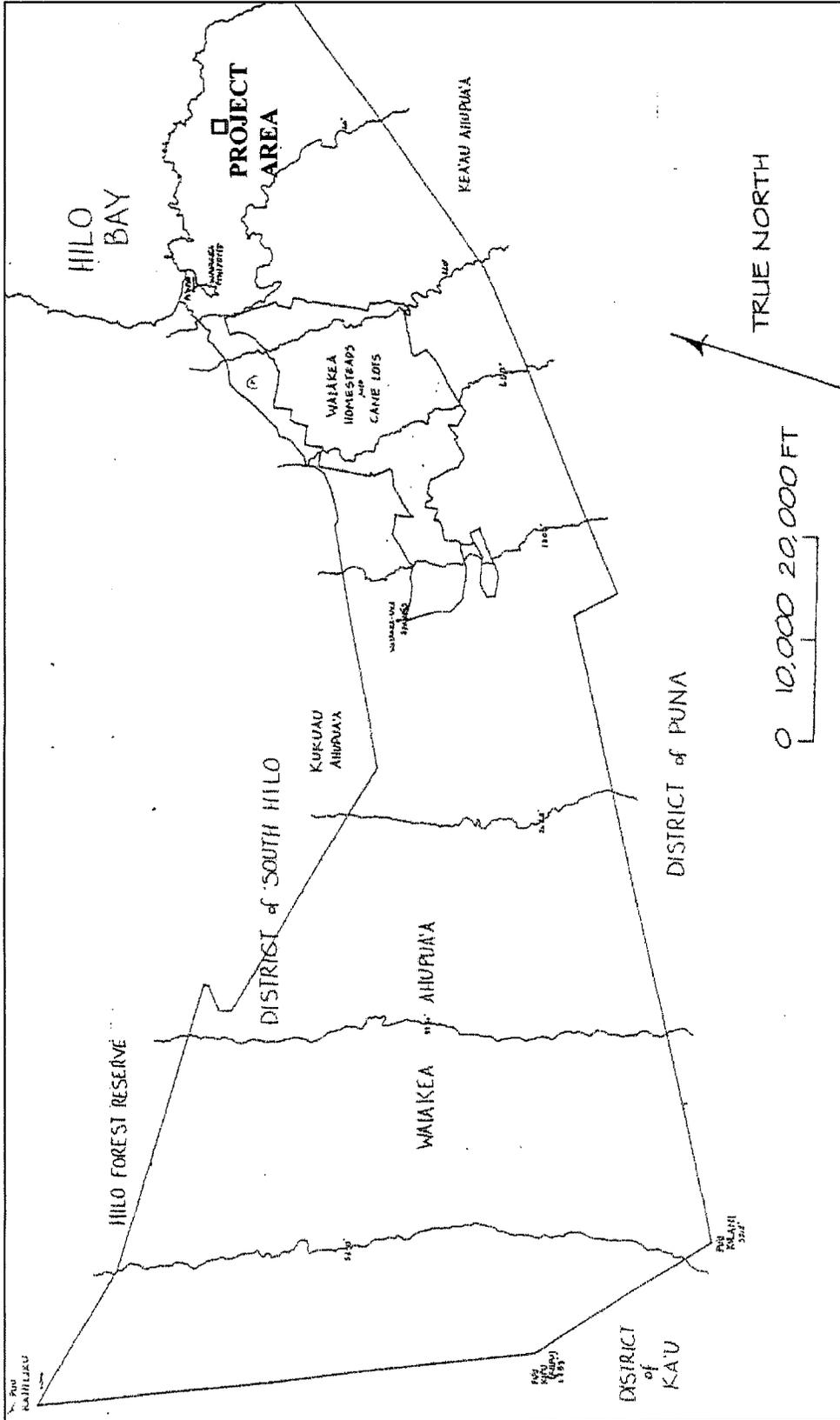


Figure 6: Waiākea Ahupuaʻa (Bush et al. 2000).

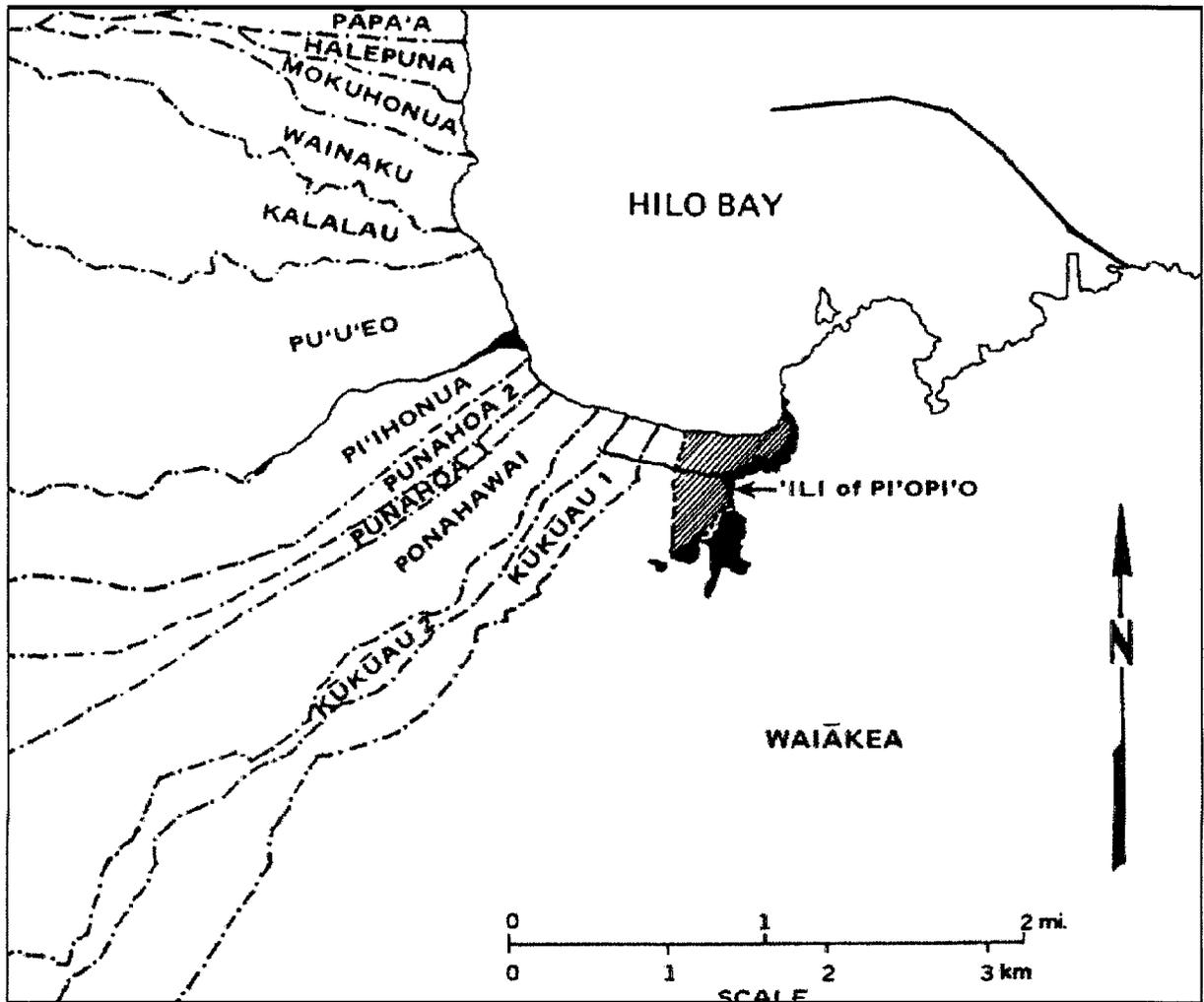


Figure 7: Kamehameha,s 'Ili Kūpono Lands of Pi'opi'o in the Ahupua'a of Waiākea (Kelly *et al.* 1981).

TRADITIONAL SETTLEMENT PATTERNS, SUBSISTENCE, AND LAND-USE

Historical accounts and archaeological/cultural studies pertaining to the *ahupua'a* of Waiākea (Bingham 1969; Bird 1974; Ellis 1963; Handy and Handy 1972; Kelly *et al.* 1981; Maly 1996; McEldowney 1979) provide a wealth of information on traditional residence patterns, land-use, and subsistence horticulture of the area. It is widely held that these historical accounts of residence patterns, land-use, and subsistence horticulture indicative of traditional practices developed long before contact with Europeans (McEldowney 1979). These are synthesized below in order to explain the types of cultural resources possibly located within the current project area.

Early accounts of Waiākea portray it as divided into several distinct environmental regions. From the coast to a distance of five or six miles scattered subsistence agriculture was evident, followed by a region of tall fern and bracken, flanked at higher elevations by a forest region between 10 and 20 miles wide, beyond which was an expanse of grass and lava (Ellis 1963:403). The American Missionary C.S. Stewart wrote, “the first four miles of the country is open and uneven, and beautifully sprinkled with clumps, groves, and single trees of the bread-fruit, pandanus, and candle tree (Stewart 1970:361-363). The majority of Waiākea’s estimated 2,000 inhabitants (in 1825) lived within this coastal region (Ellis1963: 253). Taro, plantains, bananas, coconuts, sweet potatoes, and breadfruit were grown individually or in small garden plots. Fish, pig, dog, and birds were also raised and captured for consumption.

The present study area is situated along the coastal region, in the Pana‘ewa Forest. The legendary origin of the Pana‘ewa Forest is associated with Pele’s search for a suitable home in the island chain of Hawai‘i.

When a suitable place was finally discovered on Hawaii, the Paoa staff was planted in Panaewa and became a living tree, multiplying itself until it was a forest. The writer’s informant says that it is a tree known to the present generation of men. “I have seen sticks cut from it,” said he, “but not the living tree itself” [Emerson 2005:xi].

When Pele sent her sister Hi‘iaka to travel to Kaua‘i to contact Lohi‘au, Hi‘iaka passed through the Pana‘ewa Forest. Hi‘iaka could have passed around the forest, taking the pathway along the shoreline from Hā‘ena (southeast of the project area) to Waiākea and Hilo, but she instead chose to cut through the forest taking a more direct, and shorter route.

Two routes offered themselves for Hiiaka’s choice, a makai road, circuitous but safe, the one ordinarily pursued by travelers; the other direct but bristling with danger, because it traversed the territory of the redoubtable witch-mo‘o, Pana-ewa. ... When Hiiaka announced her determination to take the short road, the one of danger that struck through the heart of Pana-ewa, Pa-pulehu drew back in dismay and expostulated: “That is not a fit road for us, or for any but a band of warriors. If we go that way we shall be killed” [Emerson 1:2005:30].

Pana‘ewa did not let her pass without a fight.

The battle that ensued when Panaewa sent to the attack his nondescript pack of mo‘o, dragonlike anthropoids, the spawn of witchcraft, inflamed with the spite of demons, was hideous and uncanny. Tooth and claw ran amuck. Flesh was torn, limbs rent apart, blood ran like water. If it had been only a battle with enemies in the open Hiiaka would have made short work of the job. Her forces lay ambushed in every wood and brake and assumed every imaginable disguise. A withered bush, a bunch of grass, a moss-grown stone, any, the most innocent object in nature, might prove to be an assailant ready to spit venom or tear with hook and talon [Emerson 2005:35].

The mo‘o Pana‘ewa and all of his minions were defeated by Hi‘iaka and her assistants. “Hawaii for once, and for all time, was rid of that pestilential, man-eating, mo‘o band headed by Pana-ewa who, from the time of Pele’s coming, had remained entrenched in the beautiful forest-land that still bears the name – Pana-ewa” (Emerson 2005:46).

The forest is heavily wooded and dense with thickets. Travel through it is made more difficult by the broken and undulating ground surface. There is an historic trail that leads from the modern day Lili‘uokalani Gardens area to the Puna coast. The trail is often called the Puna Trail and/or the Old Government Road (Escott and Tolleson 2003). Remains of the trail cross the Hawaii Army Reserve National Guard (HIARNG) Keaukaha Military Reserve (KMR) property, and it has the current appearance of a gravel-covered dirt road. While there may have been some scattered home sites and gardens in this area, most of the known habitation was along the coast. The probable use of the area prehistorically was for trapping birds and collecting plants, including the plentiful *pandanus* or *hala* (Kelly *et al.* 1981:20).

THE MĀHELE OF 1848 AND LAND COMMISSION AWARDS

Prior to the Māhele, Waiākea Ahupua‘a belonged to King Kamehameha, then Lihiliho, and was later held by the chiefess Ka-unu-o-hua, granddaughter of Keawe-mauhili (ibid:40). Waiākea became Crown Lands during the Māhele of 1848 and in the following years twenty-five Land Claims were awarded within the *ahupua‘a* of Waiākea (Table 1). The awards were small in area, 24 of which went to native claimants. No Land Commission awards were made within or near the current project area. The project area is located on the southern portion of lands awarded to the Bishop Estate by Land Court Appeal (#443).

Table 1. Land Commission Awards in Waiākea Ahupua‘a.

Grantee	LCA	Acreage
Barenaba	2327	12.25
Halai, L.K.	1279	0.60
Hale	40004	4.25
Kahue	2663	3.75
Kaiana, J.B.	2281	10.25
Kaihenui	11050-B	5.19
Kalolo	1333	2.25
Kalua	8854	3.40
Kaluhikaua	1738	2.98
Kamamalu, V.	7713	<i>'ili 'aina</i>
Kamanuhaka	8803	1.02
Kapu	1-F	1.60
Kealiko	11174	1.00
Keaniho	2402	5.00
Keawe	5018	0.24
-	10505	-
Kuaio	4344	1.22
Leoi	9982	0.80
Lolo	4738-B	1.27
Mahoe	1-E	4.46
Moealoha	4737	1.03
Nakai	4785	1.05
Napeahi	2603	1.30
Wahine	4737-B	1.01
Wahinealua	11173	2.50
Wahinenohoihilo	10004	1.69

CHANGING RESIDENTIAL AND LAND-USE PATTERNS (1845-1865)

Between 1845 and 1865 traditional land-use and residential patterns underwent a change. In particular, the regular use of Hilo Bay by foreign vessels, the whaling industry, the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugar cane cultivation all brought about changes in settlement patterns and long-established land-use patterns (Kelly *et al.* 1981).

Hilo became the center of population and settlements in outlying regions declined or disappeared. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugar cane plantations, and industrial, transportation, and military facilities were established in areas that were once upland agricultural areas and coastal

settlements, respectively. In particular, the land immediately north of the current project area was used as the location of a jail, an airfield, and the Keaukaha Military Reserve (KMR).

HISTORIC OVERVIEW OF KMR

KMR comprises 503.6 acres located between General Lyman Field (Hilo International Airport) to the north, and the current project area to the south. The area lies in rugged, broken, undulating lava flows, and where unmodified by bulldozing, a dense forest of mixed and native flora abounds. Rainfall in this portion of Hilo keeps the jungle wet, and the ground surface slippery.

In 1914, the Territory of Hawaii, via Executive Order Number (EO) 26 set aside 213.43 acres of government lands in Waiakea, north of the current project area, for a National Guard rifle range. In 1925, the Territory withdrew 33 acres for the building of Lyman Airfield by the Army Corp of Engineers.

In August of 1938, a territorial prison camp was constructed on 13.55 acres in Waiakea, north of the current project area. The complex included a Jailer's and acting Jailer's cottage, and a large fenced area with two dormitories, a mess/laundry building, and a recreation/workshop. The prison camp was moved in 1946 and all buildings were removed.

The Army Corp of Engineers constructed a coral runway at KMR beginning in 1925. Hawaiian Airlines used the airport at the outbreak of World War II. The Navy expanded the airfield to three runways, built storage for 450,000 gallons of gasoline, and 24 airplane revetments. KMR became a Naval Station in August 1943 under the 14th Naval District Command Servicing Carrier Aircraft Service Unit (CASU) No. 31 and Air Group One. Extensive building took place including officer and enlisted men's quarters, a swimming pool, two clubs, a three-tank tank farm, water systems, cesspools, tennis courts, and other infrastructure. Personnel at KMR hit a wartime peak of 4,500 upon completion of construction in 1945.

Naval Air Station Hilo officially closed on August 31, 1947. On May 10, 1943, Hilo Airport was officially renamed General Lyman Field. In May 1946, while the Naval Station at KMR was being reduced to caretaker status, the Army Air Force announced that the 7th Army Air Corps (AAC) would begin 24-hour operations at Lyman Field.

In 1947, reactivation of the Hawai'i Army Reserve and National Guard (HIARNG) resulted in the HIARNG using several Navy buildings. During this time, many buildings were demolished, or sold to the public as war surplus. KMR is the headquarters for the island of Hawaii National Guard units of the 2nd Battalion, 299th Infantry Company D and 2nd Battalion 299th Infantry, as well as Army Air Guard units 451Bt Aviation Detachment, and the 452nd Aviation Attachment. KMR has firing ranges, training areas, barracks, support facilities, an armory and offices. During annual or special training operations, several hundred to thousands of Guardsmen are housed in cabins and tents pitched in the encampment area.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Several archaeological investigations in Waiākea have been conducted in the lowlands around Hilo town and Pana'ewa (Figure 8). In addition, there are numerous small projects that have been conducted at various elevations of the large *ahupua'a* of Waiākea (Table 2). Despite these projects, not much is known about the distribution of archaeological resources in Waiākea. The best model for settlement distribution is that created by McEldowney (1979) based on historical documentation and discussed above.

The project is situated within the Coastal Settlement Zone of the east Hawai'i settlement model. As reflected in the name of that zone, prehistoric habitation is focused along the coastline. Fishponds for *ali'i* and *maka'āinana* were created, maintained, and used all along the coast. The basic cultivated crops such as irrigated and dry taro, bananas, breadfruit, *kukui* nuts, pandanus and *ti* were grown in these lower elevations. They did not grow uniformly over the coastal zone, however. The heavily weathered soils on the Mauna Kea flows along the western portion of Hilo Bay were particularly well suited for agriculture. This bias towards the western area is evident in the distribution of fields portrayed in an early depiction of the Hilo Bay. The eastern half Hilo Bay and further south and east are covered by younger Mauna Loa flows that lack soil the level of soil development present in the Mauna Kea flows.

Few archaeological sites have been recorded as a result of the projects conducted in the lower elevations of Waiākea. It is likely that the extent of disturbance by the 200 years of development in Hilo town is partially to blame for the lack of recorded lowland sites. In the case of archaeological projects conducted very close to the current project area, it is more likely that the lack of habitation in this inland, rugged, forest area,

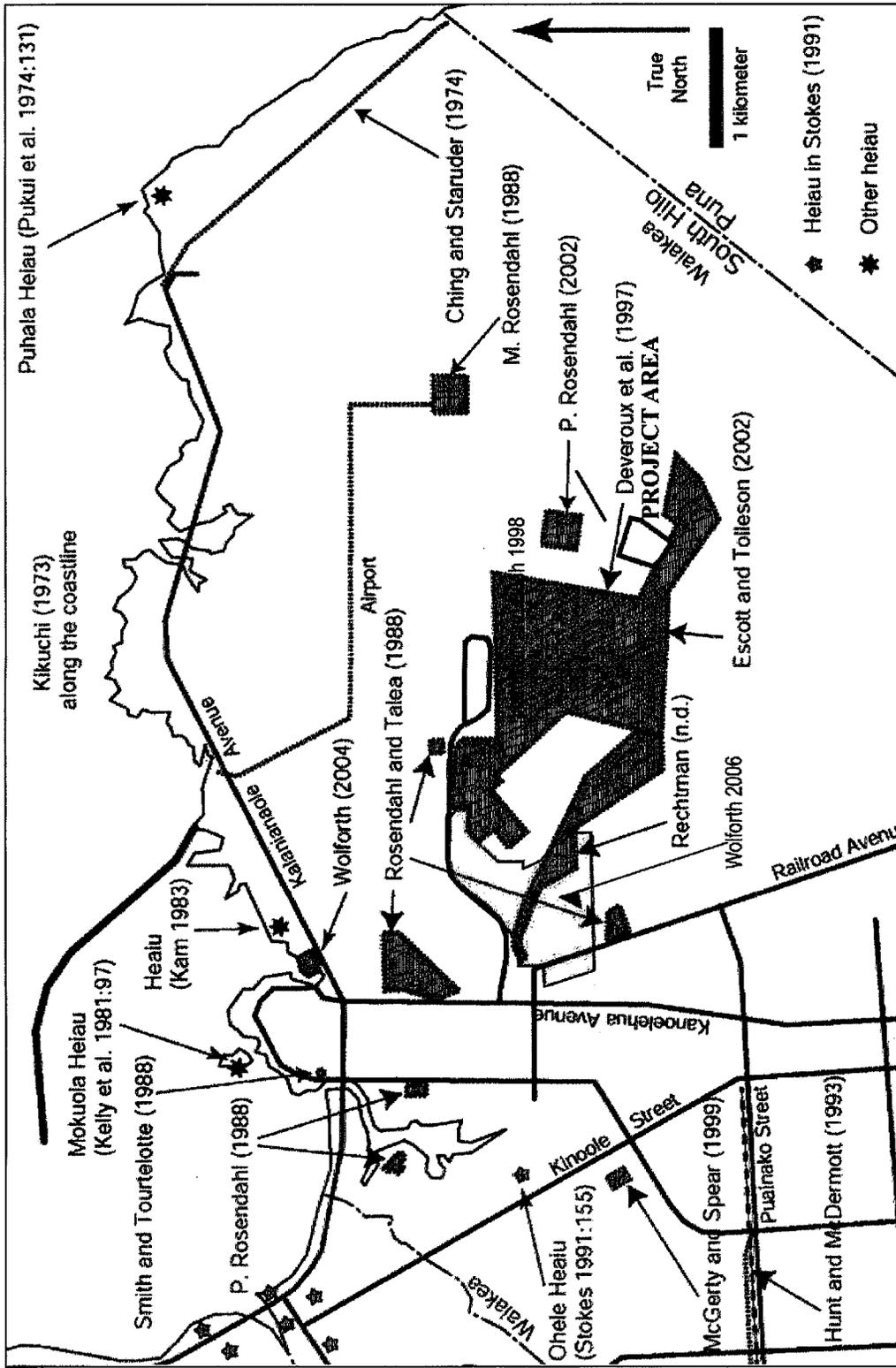


Figure 8: Previous Archaeological Studies Near the Project Area.

combined with disturbance from historic and modern uses, are responsible for the lack of recorded sites.

Paul H. Rosendahl Inc. (PHRI) (Rosendahl and Talea 1988) conducted research on five 5-acre lots dispersed through the South Hilo area, recording no cultural deposits due to extensive landform changes caused by the development of Hilo Town. A reconnaissance survey by PHRI (M. Rosendahl 1988) conducted at the eastern end of General Lyman Field again resulted in no extant archaeological remains due to previous land disturbance.

Table 2: Inventory of Previous Archaeological Investigations in Waiākea.

Reference	Activity	Results
Ching and Staruder (1974)	Reconnaissance	4 sites
Bonk (1979)	Survey	No sites (no map)
McEldowney (1979)	Historical research	Settlement pattern
Kelly, Nakamura and Barrère (1981)	Historical research	Chronology
Kam (1983)	Site inspection	1 site
Smith and Tourtellotte (1988)	Burial removal	One individual encountered
Rosendahl, M. (1988)	Reconnaissance	No sites
Rosendahl, M. and L. Talea (1988)	Reconnaissance	No sites
Rosendahl, P. (1988)	Reconnaissance	No sites
Pietrusewsky (1989)	Skeletal analysis	1 Individual
Stokes (1991)	Intermittent survey	Heiau locations
Hunt and McDermott (1993)	Inventory Survey	11 sites
Borthwick <i>et al.</i> (1993)	Inventory Survey	Sugar cane remains in uplands
Maly (1996)	Cultural History	Sugar cane history
Robbins and Spear (1996)	Inventory Survey	Sugar cane sites in the uplands
Eblé <i>et al.</i> (1997)	Supplemental Testing	Sugar cane sites in the uplands
Deveroux, <i>et al.</i> (1997)	Reconnaissance	2 sites
Spear (1988)	Reconnaissance	Sites present
Carson (1999)	Inventory Survey	No sites
McGerty and Spear (1999)	Inventory Survey	1 site
Dega and Benson (1999)	Reconnaissance	Possible prehistoric auwai
Dega (2000)	Inventory Survey	Auwai equals historical

Reference	Activity	Results
		ditch
Bush <i>et al.</i> (2000)	Inventory Survey	Burial in cave in uplands
Rechtman Consulting (n.d.)	Survey and CIA	No sites
Rechtman (2001)	Inventory Survey	No sites
McDermott and Hammatt (2001)	Inventory Survey	2 historical sites in uplands
Rosendahl, P. (2002)	Assessment Survey	No sites
Escott and Tolleson (2002)	Inventory Survey	Trail
Escott (2004)	Inventory Survey	WWII sites in the uplands
Wolforth (2004)	Inventory Survey	Fishponds, railroad

Another PHRI project (P. Rosendahl 2002) consisted of a reconnaissance level survey of 23-acres southeast of General Lyman Field for the building of the Hilo Wastewater Treatment Facility. Again, no archaeological remains were present.

Devereux *et al* (1997) conducted a reconnaissance level survey for HIARNG on selected portions of KMR along a corridor parallel to the Puna Trail. Two sites (assigned temporary site numbers CSH 1 and CSH 2) were recorded: as a prehistoric C-shaped enclosure and a coral mound, the team also addressed 10 historic structures over 50 years of age. CSH2 was later interpreted as a modern bulldozer push.

Hammatt and Bush (1998) conducted an inventory level survey of KMR adjacent to the portion of the Puna Trail that extends through the facility. In this report, they discussed the history of the Puna Trail that continues down to south Puna where it meets with the Old Gov't Road (also called the Puna trail). They noted extensive mechanical grading of the ground surface at KMR during military occupation that has effectively removed all surface traces of historic/prehistoric occupation. However, the entire facility was not completely surveyed. Hammatt and Bush recorded three archaeological sites, a C-shaped enclosure, thought to be military in origin, a group of five *ahu*, possibly markers to denote the trail set parallel to the Puna Trail and a modified natural lava blister interpreted as a traditional Hawaiian agricultural planting feature.

Tolleson (n.d.) conducted archaeological data recovery at Site 21771 located adjacent to the paved portion of the Puna Trail the traverses KMR. This site consists of a complex comprised of a low platform, an enclosure, a possible *imu*, fruit trees, and a meadow. Artifacts, such as horse/mule shoes, sharpening implements, a sharpening

wheel, and hoof files suggest the site is related to historical road construction along the Puna Trail.

Escott and Tolleson (2003) conducted an archaeological inventory survey just east of the current project area. A single site (Site 23273) consisting of a remnant trail segment and two planting features were recorded along the south west boundary of the project area.

Wolforth (2006) conducted an archaeological inventory survey of 147 acres south of the Hilo International Airport. Four sites (SIHP 50-10-35-25538, 25539, 25540, and 25541) associated with a Naval Air Station facilities and quarry were recorded. No pre-Contact or early post-Contact era sites were documented on the project area.

All previous archaeological and archival investigations indicate a low site density within the project area environs. The studies suggest that the lack of sites in this region is the result of the rugged and inhospitable landscape, having little fertile soil or arable land, being thickly forested, and subject to high rates of rainfall. A single site, the Historic Puna Trail (Site 50-10-99-18869, also referred to by the Old Government Road's State Number 50-10-36-21273) is located just outside the southern boundary of the current project area (see Figure 4). The trail surface has been bulldozed and currently has the appearance of a gravel-covered dirt road.

RESULTS OF ARCHAEOLOGICAL ASSESSMENT

SCS conducted an archaeological assessment of 50 acres that included the current 10-acre project area (Escott 2013). No archaeological sites or features were identified on the 50-acre project area. The entire 50.0-acre project area was devoid of archaeological sites and features, or any historic properties.

It was determined, through an examination of aerial photographs, that a modern dirt road existed in the northeast corner of the project area (Figure 9). The dirt road crossed the project area in an area of open shallow soil and bare pahoehoe with only *uluhe* fern and small shrub ground cover. The dirt road was not marked by dirt berms or rock piles along the edges where it crossed the project area.



Figure 9: Aerial Photograph of Project Area Showing Dirt Road Alignment as a linear band of Light Green Vegetation (Google, 2012 Image).

MONITORING CONVENTIONS AND METHODOLOGY

Though no cultural resources were identified within the project area, it is possible that some archaeological features might be hidden under the undisturbed, thick vegetation. Because of this fact, and at the request of the SHPD, on-call Archaeological Monitoring will be conducted during initial ground clearing and grubbing and in the event that subsurface archaeological deposits are encountered. This Archaeological Monitoring Plan has been prepared in accordance with the State Historic Preservation Division (SHPD), Department of Land and Natural Resources (DLNR) rules governing standards for Archaeological Monitoring (HAR §13-279).

Archaeological Monitors will adhere to the following guidelines during monitoring:

1. A qualified archaeologist familiar with the project area and the results of all the previous archaeological work conducted on the project area parcel will be on-call to monitor ground disturbance activities in the project area.
2. If features or cultural deposits are identified during Archaeological Monitoring, the on-site archaeologist will have the authority to temporarily suspend construction activities at the significant location so that the cultural feature(s) or deposit(s) may be fully evaluated and appropriate treatment of the cultural deposit(s) is conducted. These actions are needed to fulfill the reporting requirements specified in HAR §13-279-5(5) through (6) and HAR §13-280. The SHPD archaeologist will be consulted to establish feature significance and potential mitigation procedures. Treatment activities primarily include documenting the feature/deposit through plotting its location on an overall site map, illustrating a plan view map of the feature/deposit, profiling the deposit in three dimensions, photographing the finds (with the exception of human burials), artifact and soil sample collection, and triangulation of the finds. Construction work will only continue in the significant location when all documentation has been completed, and after the SHPD archaeologist agrees that it may proceed.
3. Stratigraphy in association with subsurface cultural deposits will be noted and photographed, particularly from deposits containing significant cultural materials. If deemed significant by SHPD and the archaeologist, these deposits will be sampled.
4. In the event that human remains are encountered, all work in the immediate area of the find will cease; the area will be secured from further activity until compliance with §6E-43.6, HRS, and §13-300-40, HAR, has occurred. The SHPD archaeologist and SHPD-Burial Sites Program will both be notified about the inadvertent discovery of human remains on the property. Procedures to determine the minimum number of individuals, age of the site, and ethnicity of the individual(s) will conform to the relevant procedures established in §13-300, HAR, as directed by the SHPD. Profiles, plan view maps, and illustrative documentation of skeletal parts will be recorded to document the burial(s). The burial location will be identified and marked. If a burial is disturbed, materials

excavated from the vicinity of the burial(s) will be manually screened through 1/8-inch wire mesh screens in order to recover any displaced skeletal material.

5. To ensure that the landowner's contractor is aware of this AMP and possible site types to be encountered in the project area, a brief coordination meeting will be held between the equipment operator and monitoring archaeologist prior to initiation of the project. The equipment operator will also be informed as to the possibility that human burials could be encountered and how he should proceed if they observe such remains.
6. The Monitoring Archaeologist will provide all coordination with the contractor, SHPD, and any other group involved in the project.
7. As necessary, verbal reports will be made to SHPD, and any other agencies as requested.

LABORATORY ANALYSIS

All samples collected during the project, except human remains, will undergo analysis in accordance with SHPD rules (§13-279, HAR). All photographs, illustrations, and field notes accumulated during the project will be curated by the monitoring archaeological firm. All retrieved artifacts and midden samples will be cleaned, sorted, and analyzed. Significant artifacts will be photographed, sketched, and classified (qualitative analysis). All measurements and weights will be recorded (quantitative analysis). These data will be presented in tabular form within the final monitoring report. Midden samples will be minimally identified to major 'class' (e.g., bivalve, gastropod mollusk, echinoderm, fish, bird, and mammal). All data will be clearly recorded on standard laboratory forms which also include number and weight (as appropriate) of each constituent category. These counts will also be included in the final report.

Lithic analysis will be conducted for basalt and volcanic-glass artifacts recovered during monitoring. Lithic analysis will include descriptions of cores and flakes, including descriptions of primary, secondary, and microflakes. Polished items and use-wear will be described as well. Counts will be presented in tabular form.

Should any samples amenable to dating be collected from a significant cultural deposit, they will be submitted for taxa identification. If short-lived native and/or Polynesian-introduced taxa are identified, they shall be selected for radiocarbon dating.

All stratigraphic profiles will be drafted for presentation in the final report. Representative plan view sketches showing the location and morphology of identified sites/features/deposits will be compiled and illustrated.

CURATION

The monitoring archaeological firm will curate all recovered materials (except human remains) until the work is completed, reviewed, and accepted by the state. All materials gathered during this project (including documentation) are ultimately the property of the client, who may request their transfer subsequent to the acceptance of the final Archaeological Monitoring Report (see below).

REPORTING

An Archaeological Monitoring Report documenting all aspects of the work will be submitted within 120 days of the completion of fieldwork, in accordance with SHPD administrative rules (§13-279-5). This time line is requested to account for any radiocarbon age determinations (typically 45 days), if necessary.

If cultural features or deposits are identified during fieldwork, the sites will be evaluated for historic significance according to criteria established in HAR §13-284. The Archaeological Monitoring Report will be drafted until accepted by SHPD and final revised reports will be submitted to SHPD and to the client.

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