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PRELIMINARY DRAFT REPORT
Archaeological Literature Review and
Field Inspection in Support of Lipoa
Solar LLC-HI-Registration, Waiohuli
Ahupua‘a, Kula District, Island of Maui

TMKs: (2) 2-2-002:084 por.

Prepared for:
Nexamp Solar, LLC
1050 Queen St, Suite 100
Honolulu, Hawaii 96814

On Behalf of:
Hawaiian Electric Company, Inc.
1001 Bishop Street, Suite 2900
Honolulu, Hawaii 96813

April 2023



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1 PRELIMINARY DRAFT REPORT
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3 Registration, Waiohuli Ahupua‘a, Kula District, Island of Maui
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37 April 2023
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MANAGEMENT SUMMARY

Document Title:	Archaeological Literature Review and Field Inspection in Support of Lipoa Solar LLC-HI-Registration, Waiohuli Ahupua‘a, Kula District, Island of Maui
Date/Revised Date:	April 2023
Archaeological Permit #:	SHPD Permit No. 23-08
Project Location:	2111 Pi‘ilani Highway, Kīhei, Maui
Project TMK:	(2) 2-2-002:084 por.
Land Owner:	Haleakala Ranch Company
Project Proponents:	Hawai‘i Electric Company (HECO)
Project Tasks:	Archaeological Literature Review and Field Inspection
Project Acreage:	22.10 acres
Principal Investigator:	Dennis Gosser, M.A.
Regulatory Oversight:	Chapter 6E-8, Hawaii Revised Statutes (HRS) and Hawaii Administrative Rules (HAR) Chapter 275
Project Background:	The proposed project involves construction of a solar facility in Kīhei. Work will include installation of equipment, fencing, site roads, and connectivity to the power source.
SIHP #:	None
Findings:	<p>No previous archaeological investigations have been conducted in the project area. During field inspection, no historic properties were observed. The ground surface was moderately vegetated with grasses and weeds. <i>Kiawe</i> (<i>Prosopis pallida</i>) is also present.</p> <p>Previously identified traditional Hawaiian sites in the vicinity are associated with dryland agriculture and temporary habitation. During the historic period the project area was used for ranching, therefore, archaeological sites associated with ranching activities may be present. Additionally, WWII training activities were conducted in the area. Previously identified WWII-era sites near the project area include transportation features and C-shape enclosures.</p>
Human Skeletal Remains:	None identified within the project area, and no human skeletal remains have been documented within a 500-meter radius of the project area.
Project Effect:	Due to the lack of previous archaeological investigations in the proposed project area and previously identified traditional Hawaiian sites in the vicinity, there is insufficient information to determine the proposed project’s effect on potential historic properties.
Recommendations:	An archaeological inventory survey (AIS) under the direction of an SHPD-approved work plan is recommended to adequately identify and document any archaeological historic properties that may be present, to assess their significance, to determine the potential impacts of this project on any identified archaeological historic properties, and to identify and ensure appropriate mitigation is implemented, if needed.

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INTRODUCTION

2 Under contract to the Nexamp Solar, LLC, Pacific Consulting Services, Inc. (PCSI) has prepared
3 this Archaeological Literature Review and Field Inspection (ALRFI) report in support of the Lipoa Solar
4 LLC-HI-Registration, Waiohuli Ahupua‘a, Kula District, Island of Maui¹. The project proponent is the
5 Hawai‘i Electric Company (HECO), and land owner is Haleakalā Ranch Company. The extent of the
6 proposed project is shown in Figure 1. The project scope of work includes installation of solar arrays,
7 fencing, and equipment.

8 A historical, cultural, and archaeological background study and field inspection was conducted in
9 order to evaluate any potential effect on historic properties and to recommend mitigation of any adverse
10 effect, if warranted. This work was carried out in accordance with Hawaii Revised Statutes (HRS) Chapter
11 6E, and Title 13 of the Hawaii Administrative Rules (HAR), Subtitle 13 (State Historic Preservation
12 Division Rules), Chapter 275 (Rules Governing Procedures for Historic Preservation Review for
13 Governmental Projects Covered Under Section 6E-8, HRS).

14

PROJECT LOCATION AND DESCRIPTION

15 The current project is east of Pi‘ilani Highway and north of an unpaved extension of Lipoa Parkway
16 in Kīhei. The total project area measures 20 acres (ac), or 8.09 hectares (ha). The Tax Map Key (TMK)
17 parcel is (2) 2-2-002:084, which totals 2175.375 acres (Figure 2). The project scope of work includes
18 installation of solar arrays, fencing, and equipment. An overall site plan is shown in Figure 3.

19

ENVIRONMENTAL SETTING

20 Waiohuli Ahupua‘a is located on the western slope of Haleakalā volcano on Maui Island. The land
21 section is long and narrow, measuring approximately 19 kilometers (km) east-west and roughly two to three
22 kilometers north-south, and stretches from the shoreline to over 2,500 meters (m) above mean sea level
23 (amsl). The total *ahupua‘a* land area measures approximately 10,954 ac.

24

TOPOGRAPHY AND SOILS

25 The project area is gently sloping at 86 m to 90 m amsl and 3 km inland, or west, of the coastline.
26 Soils in the project area consist of Waiakoa extremely stony silty clay loam, 3 to 25 percent slopes, eroded,
27 MLRA 157 (WID2) as shown in Figure 4. The Waiakoa series are well-drained soils on uplands, which
28 developed in material weathered from basic igneous rock (Foote et al. 1972:126). WID2 is eroded and
29 stones cover 3 to 15 percent of the surface. Runoff is medium, and the erosion hazard is severe (Foote et al.
30 1972:127).

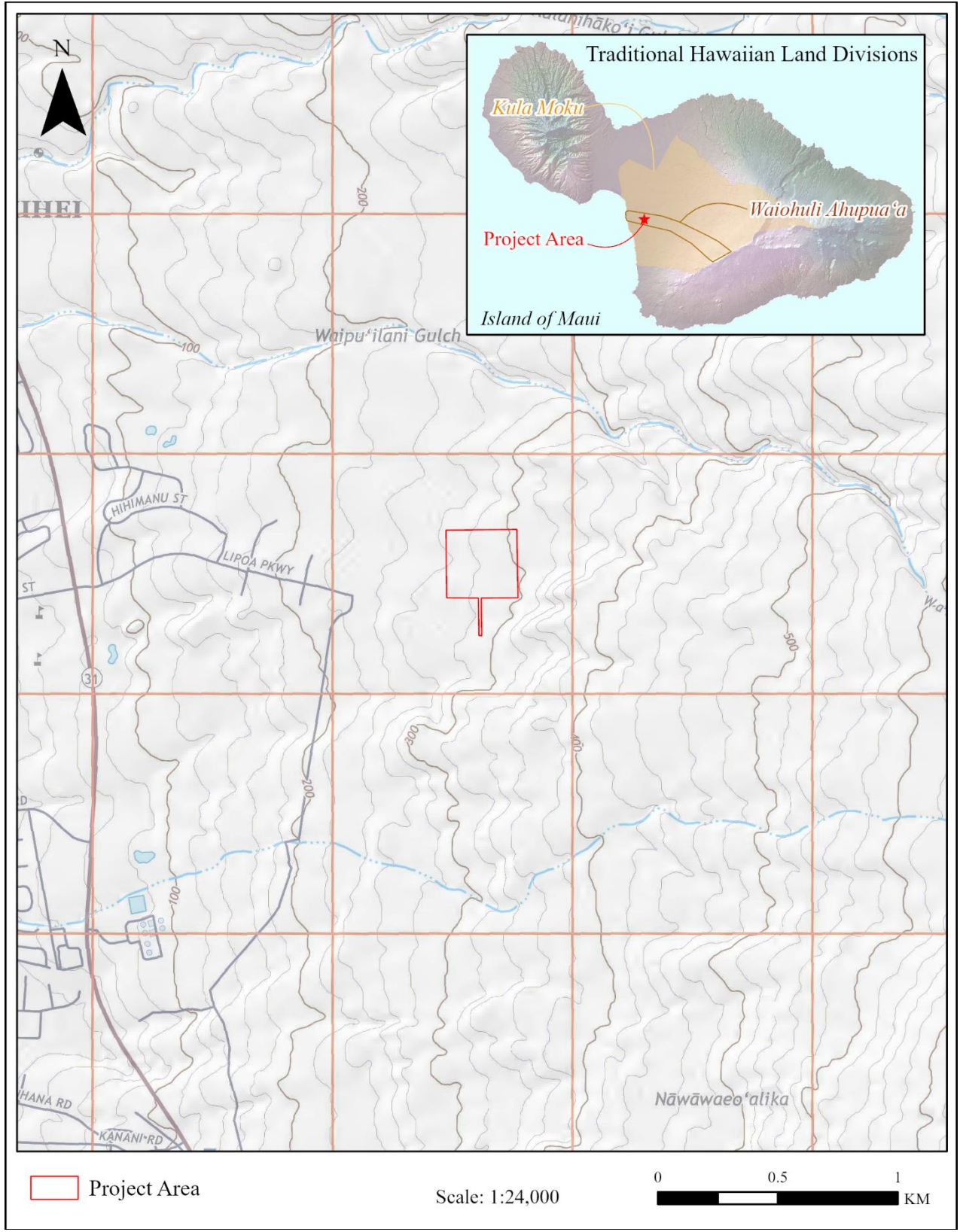
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HYDROLOGY AND VEGETATION

32 The project area’s climate is dry. Annual rainfall averages 301 millimeters (mm), or 11.86 inches
33 (in) (Giambelluca et al. 2013). A majority of the rain occurs between November and March. There are no
34 perennial streams in the vicinity. Roughly 0.6 km to the north is Waipuilani Gulch, and roughly 1.0 km to
35 the south is Waimahaihai Stream.

36 The project area is undeveloped and was historically used for ranching. Vegetation includes *kiawe*
37 (*Prosopis pallida*), *koa haole* (*Leucaena leucocephala*), and buffel grass.

¹ PCSI follows the latest edition of the Society for American Archaeology (SAA) Style Guide (2021) regarding textual elements (e.g., numbers, dates, statistical copy, italicization, capitalization, hyphenation, and accents and diacritical marks). The authority for English spelling is the most recent edition of Merriam-Webster’s Collegiate Dictionary. Unless noted, the authorities for Hawaiian spelling and geographic place names are the Hawaiian Dictionary (Pukui and Elbert 1986), the most recent listing of the Hawai‘i Board on Geographic Names (HBGN), and Place Names of Hawaii (Pukui et al. 1976). PCSI uses the official spelling of Hawaii (without an okina) to refer to the State and State agencies (unless an alternative spelling has been officially adopted); spellings presented in quotations and references retain their original punctuation.



1
 2 Figure 1. Project Area Location on 7.5-Minute Series USGS Puu O Kali Topographical Quadrangle
 3 (2017).

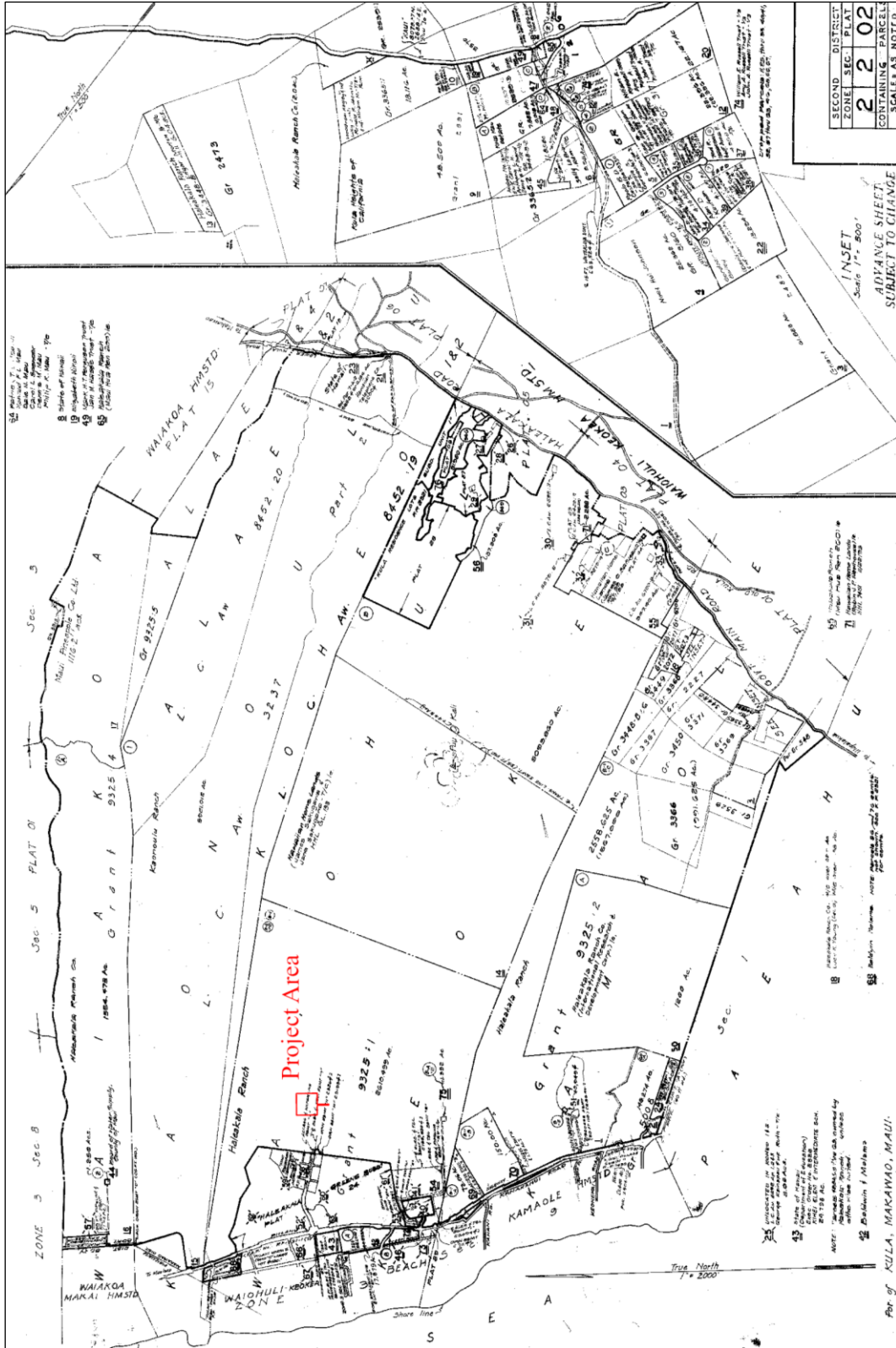


Figure 2. Tax Map Key for Plat (2) 2-2-002 (Tax Maps Bureau 1960).

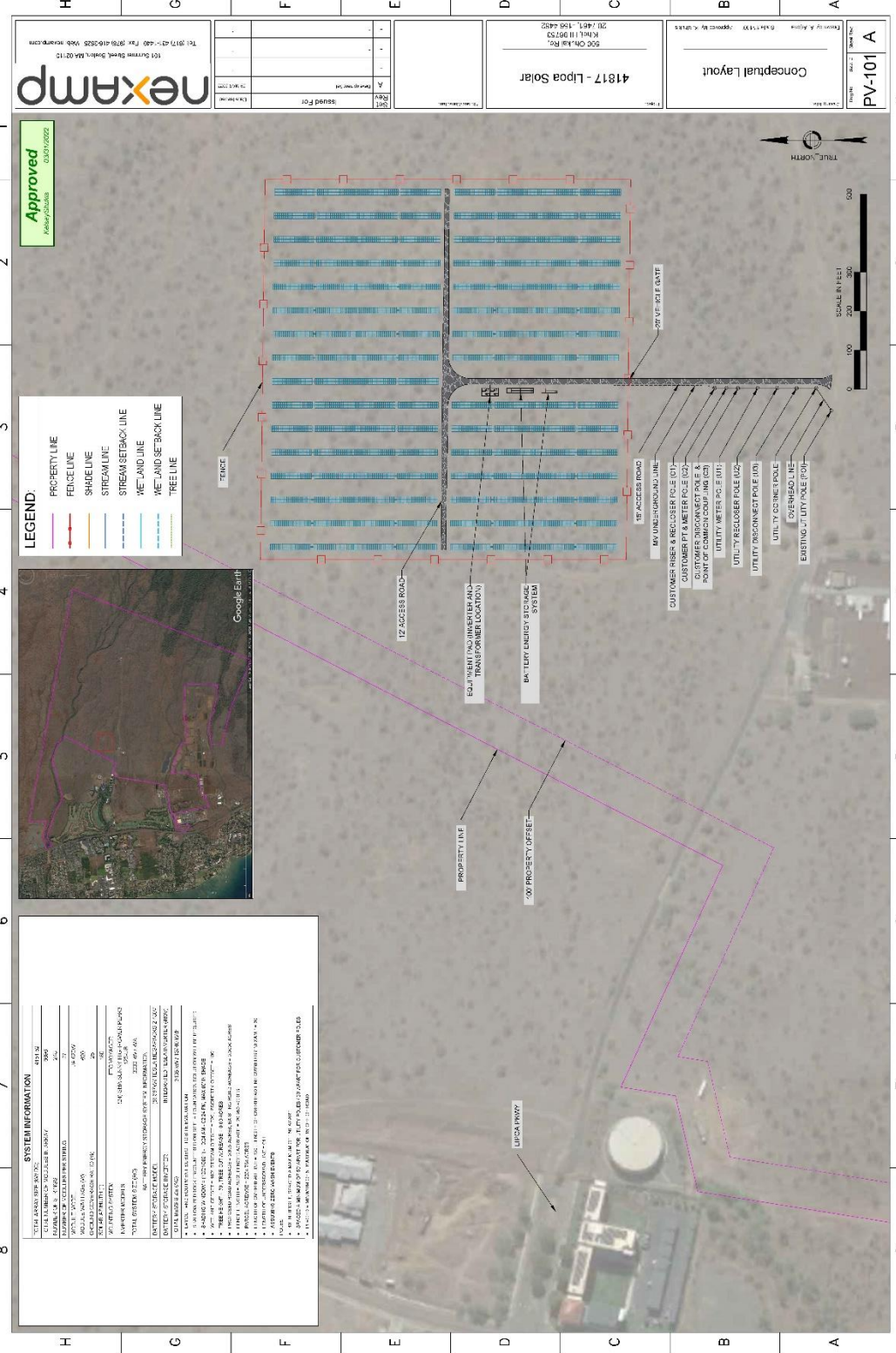
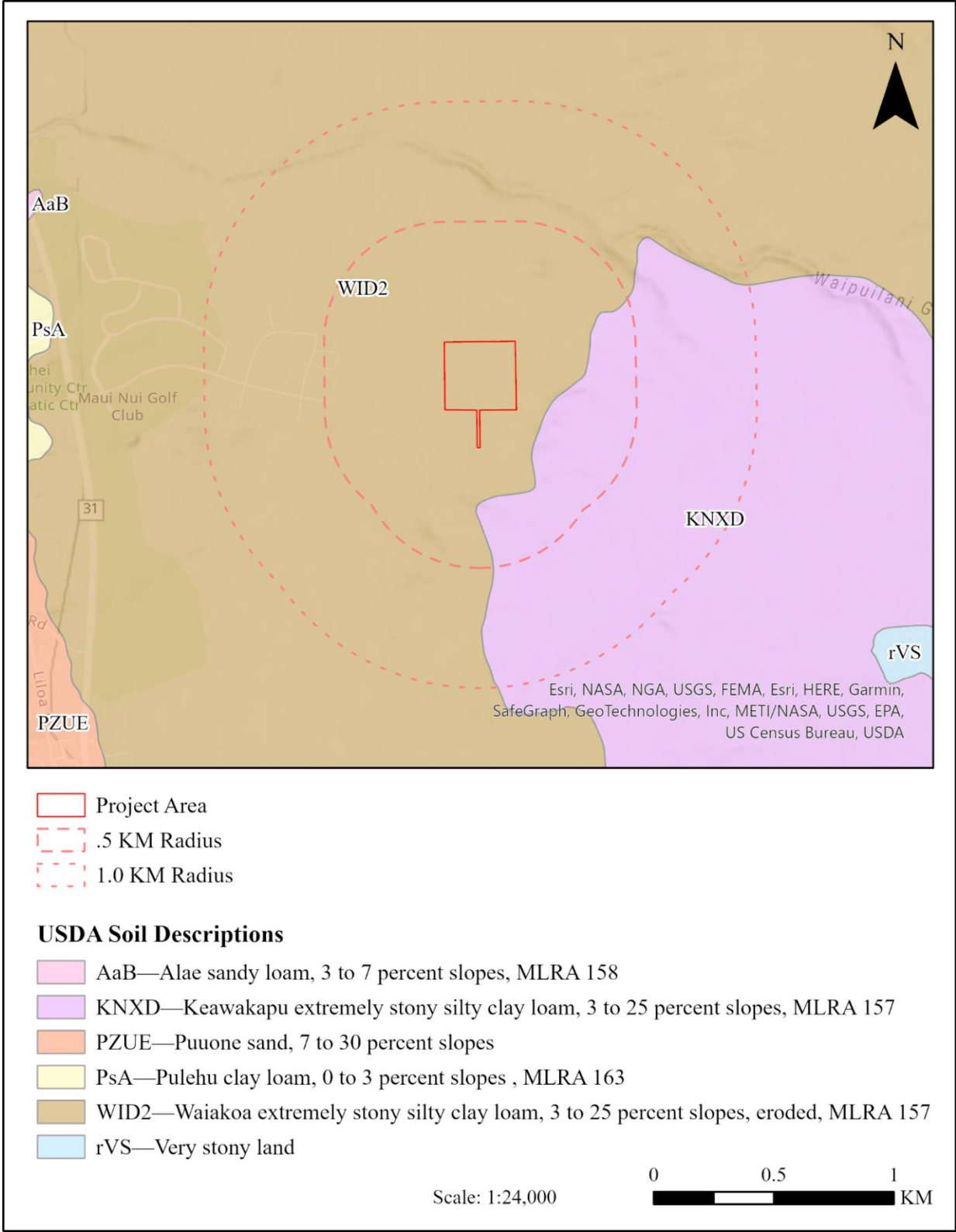


Figure 3. Site Plan for the Lipoa Solar Project Area.



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Figure 4. Soil Units Near the Project Area (Data Layer: USDA/NRCS 2015).

HISTORICAL BACKGROUND

This section presents the ethno-historical and archaeological background information of the project area. Data from the background research were compiled to create an overview of traditional Hawaiian and historic-era land use and subsistence practices. Previous archaeological research in the study area is reviewed, along with results of the field inspection, and anticipated archaeological findings are discussed.

TRADITIONAL LAND USE

The project area is in the *ahupua'a* of Waiohuli. Waiohuli can be translated as “water of change” (Pukui et al. 1974:226). Sources indicate that Waiohuli traditionally belonged to Kula Moku, which was one of the 12 ancient districts of Maui (Barrère 1975; see various historical records in Maly and Maly 2005:64, 69, 203; Pukui et al. 1974; Sterling 1998). This is also the case in Māhele records, birth and death announcements in Hawaiian language newspapers in the 1860s, and some historical maps (see Dodge 1885). Today, the *ahupua'a* is within the Makawao District, which was designated in 1909 (Barrère 1975:30).

There is little information available concerning the pre-Contact history of the *ahupua'a* of Waiohuli, particularly the lower elevations above the coastal plain and below the *kula* (dryland field) uplands. Generally, oral histories relate many battles between the Maui and Hawai'i islands (Westervelt 1923:137–140). According to Hawaiian historian Samuel Kamakau, the army of Kēkaulike, Mōi of Maui, “slew the Alapa [a regiment of the army of Mōi Kalani'ōpu'u of Hawai'i] on the sandhills at the southeast of Kalua [misspelling of Kailua]. There the dead lay in heaps strewn like kukui branches; the corpses lay heaped in death; they were slain like fish enclosed in a net” (Kamakau 1991:85–89). The Hawaiian historian John Papa 'Ī'ī wrote that on the day Kalani'ōpu'u departed Maui, his war canoes stretched the northern Maui beaches from Kahului to Pā'ia ('Ī'ī 1959:11).

According to Kamakau (1992:428–429), paved roads on the islands of Moloka'i and Maui were constructed 15 generations prior to his writing (mid-1800s) by Kihapi'ilani, the son of Pi'ilani. Handy and Handy (1972:489–490) state that at one point in time the road traversed both the east and west ends of Maui, connecting the entire island. At gulches, the trail passed along the beach and sometimes travelers were ferried across streams or along the coast. The road would have passed near the current project area. Portions of this road are still present at other locations on Maui. It is known as Ke Alaloa O Maui (“The Long Road of Maui”) but has also been called the “King's Trail” or “Kipapa (pavement) of Kahipi'ilani” (Handy and Handy 1972:489).

Archaeological evidence indicates that initial settlement of the Hawaiian Islands occurred between AD 1000 and 1200 (Kirch 2011). Kirch (1985:138–139) describes “scattered concentrations of small settlements and several heiau sites” from Kīhei to Mākena. The main crop grown in the region was *'uala* (sweet potato) (Kirch 1985:138), followed later by Irish potatoes (Barrère 1975:45, 60–61). The area was described by Handy and Handy (1972:131) as follows:

Where potatoes are planted in crumbling lava with humus, as on eastern Maui and in Kona, Hawaii, the soil is softened and heaped carelessly in little pockets and patches using favorable spots on slopes the crumbling porous lava gives ample aeration without much mounding [Handy and Handy 1991:131].

Handy also described the importance of *'uala* due to the dry environment:

Kula was always an arid region, throughout its long, low seashore, vast stony *kula* lands, and broad uplands. On the coast, where fishing was good, and on the lower westward slopes of Haleakala a considerable population existed, fishing and raising occasional crops of potatoes along the coast, cultivating large crops of potatoes inland, especially in the central and northeastern section including Keokea, Waiohuli, Koheo, Kaunoulu, and Waiakoa,

1 where rainfall drawn round the northwest slopes of Haleakala increases toward Makawao
2 [Handy 1940:161]

3 HISTORIC LAND USE

4 Traditional land divisions of the fifteenth and sixteenth centuries persisted until the 1848 Mahele,
5 which introduced private property into Hawaiian society (Kamakau 1991:54). During the Mahele, the Land
6 Commission required the Hawaiian chiefs and *konohiki* (land agents for the *ali'i*) to present their claims to
7 the Land Commission. In return they were granted awards for the land quit-claimed to them by
8 Kamehameha III. The remaining unclaimed land was then sold publicly, “subject to the rights of the native
9 tenants” (Chinen 1958:29). The new western system of ownership resulted in many losing their land. Often
10 claims would be made for discontinuous cultivated plots with varying crops, but only one parcel would be
11 awarded.

12 In the case of land claims made for *konohiki* lands, approval by the Land Commissioners was
13 required before the award was made. If approved, then the awardee obtained a Royal Patent (RP) from the
14 Minister of the Interior, which indicated that the government’s interest in the land had been settled with a
15 commutation fee. This fee was typically no more than one-third of the value of the unimproved land. This
16 fee was paid either with cash, or, more commonly, the return of one-third of the awardee’s lands, or total
17 value of the lands awarded (Barrère 1975:28).

18 Following the Māhele of 1848, two acts were passed in 1850 that changed land ownership in
19 Hawai‘i. On 10 July 1850, the Alien Land Ownership Act was adopted, which allowed foreigners to own
20 land. On 6 August 1850, the Kuleana Act of 1850 was adopted, which allowed *hoa‘āina* (common people
21 of the land, native tenants) to make claims to the Land Commission. The new western system of ownership
22 resulted in many losing their land. Often *kuleana* (property) claims would be made for discontinuous
23 cultivated plots with varying crops, but only one parcel would be awarded.

24 The Crown Lands became Government Lands when the Hawaiian Government was overthrown in
25 1895, making them public domain for sale by fee simple (Hammatt 2013:A-5). Patents were the certificates
26 issued for the sale of such lands. Beginning in 1900, when Hawai‘i became a U.S. territory, the certificates
27 were called Land Patents, or Land Patent Grants (Hammatt 2013:A-5). The Crown Lands became
28 Government Lands when the Hawaiian Government was overthrown in 1895, making them public domain
29 for sale by fee simple (Hammatt 2013:A-5). Patents were the certificates issued for the sale of such lands.
30 Beginning in 1900, when Hawai‘i became a U.S. territory, the certificates were called Land Patents, or
31 Land Patent Grants (Hammatt 2013:A-5).

32 After his conquest and the unification of the Hawaiian Kingdom (less Kaua‘i), Kamehameha I
33 divided Maui among his warrior chiefs, as on other islands. These lands were considered *aina ho‘oilina*, or
34 “inherited lands” and were not to be taken by the king of the government (Barrère 1975:30). No Land
35 Commission Awards (LCA) were made in or near the project area, suggesting that it was not a place or
36 habitation or agriculture in the mid-1800s. The project area does fall within the ‘Āpana² 1 of Royal Grant
37 9325 belonging to Haleakala Ranch Company. The company was established in 1888 by businessmen
38 Edwin H. Baily, Lorrin A. Thurston, W.H. Baily, and Henry P. Baldwin, who first purchased ranchland
39 owned by Charles Alexander for \$50,000. After additional acquisitions on Maui, the ranch grew to
40 encompass 33,817 acres.

² Land division of a Land Commission Award

1 **PREVIOUS ARCHAEOLOGY**

2 Numerous archaeological investigations have been conducted in the Kīhei area, most of which are
3 related to construction on small parcels near the coast or residential development in the uplands. The current
4 project area is in the area archaeological known as the transitional zone (or “barren zone”), which is the
5 drier land situated between the coastal plain and the uplands (Cordy 1977:3). Previously this zone was
6 believed to have been traditionally less intensely used than the coast, where permanent settlements were
7 concentrated, and the upland area, which was used for intensive agriculture. The transitional zone has been
8 considered a transportation route between the coast and uplands and identified traditional Hawaiian sites in
9 this zone are primarily temporary habitations (Cordy 1977:24). However, beginning in the late the 1980s,
10 agricultural features were documented in the transitional zone (Chaffee et al. 1997; Donham 1990; Dunn
11 and Spear 1995 in Chaffe et al. 1997; Haun 1988; Johnson and Spear 2006), suggesting that the area was
12 utilized for food production, most likely ‘uala. It has been speculated that these sites are remnants of the
13 planting patches in “crumbling lava with humus” described by Handy and Handy (1972:131).

14 The current project area has not been subject to archaeological survey. Several intensive
15 archaeological surveys have been conducted to the east, north, and south within two kilometers, three of
16 which are three are within a .5 km radius. These studies have covered large sections of the transitional zone
17 and are primarily related to the development of the Maui Research and Technology Park and the Elleair
18 Maui Golf Club. Table 1 summarizes all previous archaeological investigations conducted in the
19 transitional zone within a two-kilometer radius, which are indicative of sites that may be present in the
20 current project area. The project locations are shown in Figure 5 and previously identified sites are shown
21 in Figure 6. A detailed discussion of previous archaeological investigations and identified sites within a .5
22 km radius of the project area is presented below. All site numbers follow SIHP 50-50-10-0.

23 In the 1980s, archaeologist Joseph Kennedy conducted an archaeological reconnaissance survey of
24 the original 150.032 acres proposed for the Maui Research and Technology Park (Kennedy 1986). This
25 survey did not include subsurface testing and concluded that the area was devoid of archaeological sites or
26 features:

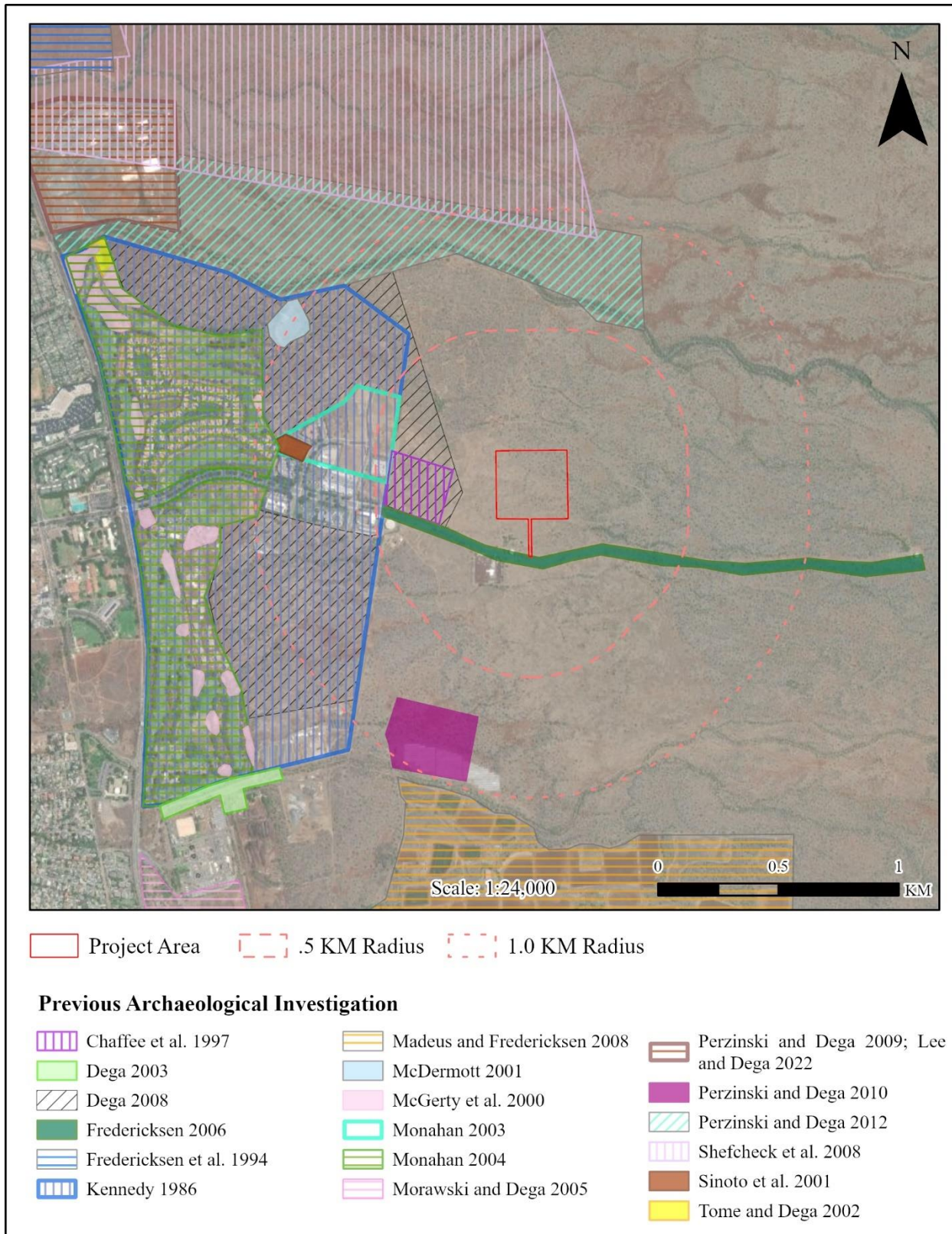
27 It should also be mentioned that the area has been subject to grazing and that the survey
28 was conducted during an exceptionally dry period - even for this usually dry portion of the
29 island. All these factors contribute to my belief that no sites were overlooked in this
30 preliminary reconnaissance - a common feature in archaeological walk-through
31 examinations [Kennedy 1986:1].

32 After Kennedy’s reconnaissance survey, multiple archaeological inventory surveys identified
33 archaeological sites in the original Maui Research Park footprint, including McGerty et al. (2000),
34 McDermott (2001), Tome and Dega (2002), Monahan (2004), and Dega (2008). Identified sites date from
35 the pre-Contact period to the WWII-era (see Table 1 and Figure 6); however, none of these sites are within
36 .5 km of the current project area.

37 Also related to the Maui Research Technology Park, but outside the previous survey footprint, was
38 an archaeological inventory survey of 15 acres conducted by Scientific Consulting Services, Inc., in the
39 1990s (Chaffee et al. 1997). Three historic properties (SIHP 4441, 4442, and 4443) comprising ten features
40 were recorded.

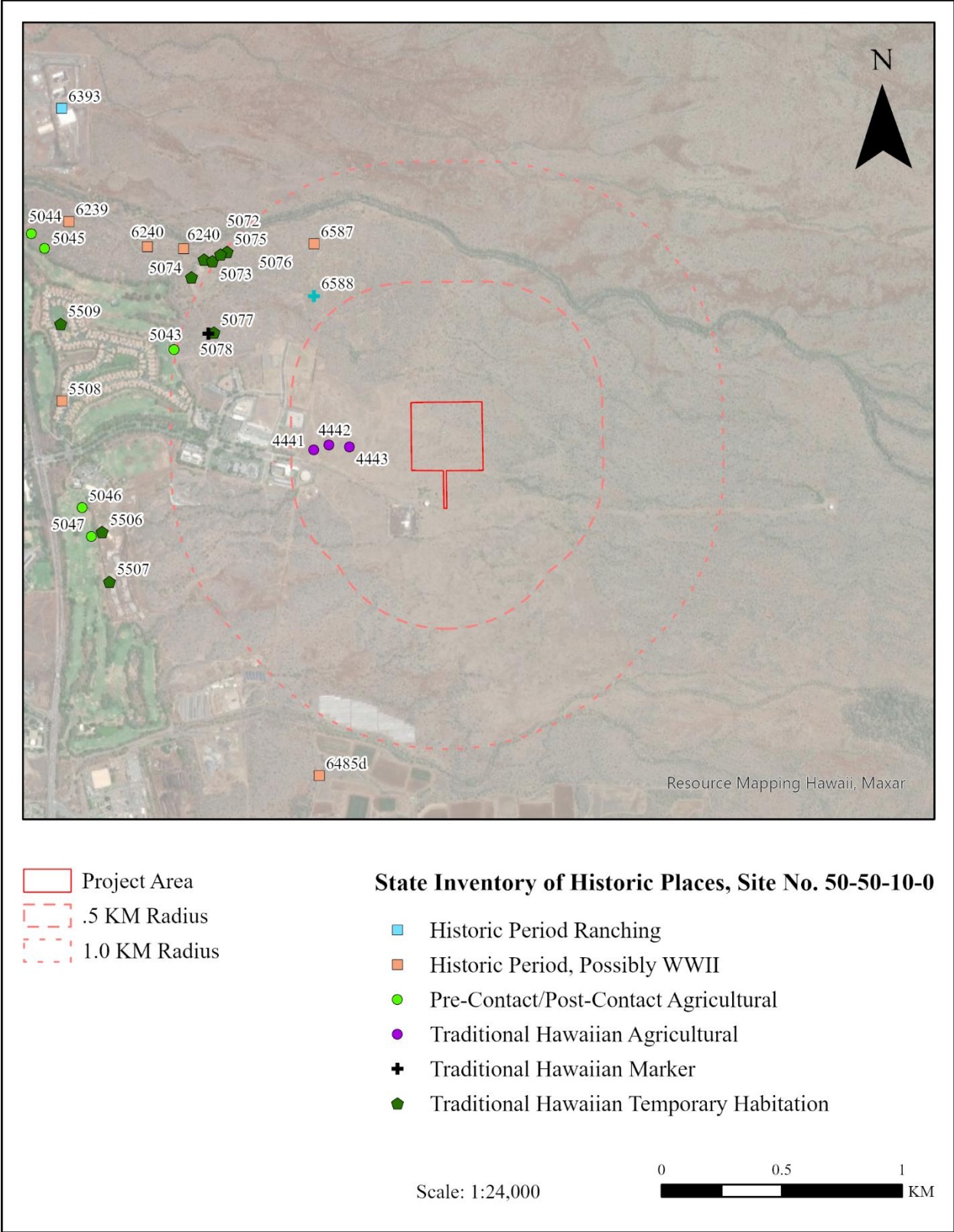
41 Site 4441, Feature 1, is a terrace measuring 11.0 m by 4.1 m constructed of weathered subangular
42 basalt boulders and cobbles. It is interpreted as a remnant agricultural terrace. Subsurface testing did not
43 encounter any cultural material; bedrock was present at 14 cm below the surface. Evidence of bulldozing
44 in the area was noted (Chafee et al. 1997:12).

45 Site 4442, Features 1 and 1a, is terracing consisting of two parallel alignments constructed of
46 subangular basalt cobbles and boulders stacked one to three courses high. It was interpreted as a remnant
47 agricultural feature. The upper terrace measured 7.5 m by 1.0 m and ranges in height from .30 to .35 m.



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2 Figure 5. Previously Archaeological Investigations Near the Lipoa Solar Project Area.



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Figure 6. Previously Identified Sites Near the Lipoa Solar Project Area.

1 Table 1. List of Previous Archaeological Studies Near the Project Area.

Reference	TMK(s) (2)/ Location	Nature of Study	SIHP Site 50-50-10-0	Description
Walker 1931	Island-wide	Archaeological Reconnaissance Survey	-	No sites near the current project area
Kennedy 1986	2-2-002/ Maui Research and Technology Park	Archaeological Reconnaissance Survey	-	No archaeological sites or cultural features were identified
Fredericksen et al. 1994	3-9-01:16 and 2-2-002:015 por. / Kaonoulu Light Industrial Project	Archaeological Inventory Survey	3727	Stone piles, age unknown, possible agricultural feature
			3728	Stone piles, age unknown, possible clear pile
			3729	Stone cairn, age unknown, possible marker
			3730	Stone cairn, age unknown, marker
			3731	Stone cairn, post-Contact marker
			3732	Stone cairn, age unknown, marker
			3733	Stone cairn, post-Contact marker
			3734	Stone piles, age unknown, possible clear pile
			3735	Enclosure, WWII
			3736	Enclosure, pre-Contact shelter
			3737	Parallel alignment, WWII
			3738	Parallel alignment, WWII
			3739	Parallel alignment, WWII
			3740	Rock wall, ranching
			3741	Midden and Lithic Surface Scatter, pre-Contact temporary habitation
			3742	Midden and Lithic Surface Scatter, age unknown, possible temporary habitation
3743	Midden and Lithic Surface Scatter, pre-Contact, possible temporary habitation			
3744	Midden and Lithic Surface Scatter, pre-Contact temporary habitation			
3745	Midden and Lithic Surface Scatter, pre-Contact, possible temporary habitation			
3746	Pre-Contact petroglyphs			

Reference	TMK(s) (2)/ Location	Nature of Study	SIHP Site 50-50- 10-0	Description
Chaffee et al. 1997	2-2-002:054/ Maui Research and Technology Park	Archaeological Inventory Survey	4441	Terrace, remnant agricultural feature
			4442	Two parallel terraces, remnant agricultural features
			4443	Mound, may have served as an <i>ahu</i> , clearing mound, or planting mound, likely dates to pre-Contact or early post- Contact period
McGerty et al. 2000	2-2-024:012 and 013/ Elleair Maui Golf Club	Archaeological Inventory Survey	5043	C-shaped feature
			5044	C-shape structure
			5045	Rock alignment and low, stacked wall
			5046	Rock alignment and rock cairn
			5047	U-shaped structure constructed of large cobbles and boulders
McDermott 2001	2-2-024: 014 por./ Pi'ilani Mauka Detention Basin No.1	Archaeological Inventory Survey	5072	Stacked stone cairn and a modified outcrop enclosure
			5073	Rectangular enclosure
			5074	Two stacked stone cairns and an enclosure
			5075	Stacked stone. cairn and an enclosure
			5076	Modified knoll-top with terraces and enclosures
			5077	Two low stacked stone mounds, a circular stone alignment of single boulders, and an enclosure
			5078	Stacked stone cairn
Sinoto et al. 2001	2-2-024:008 por./ Maui Research and Technology Park	Archaeological Inventory Survey	-	No sites recorded
Tome and Dega 2002	TMK:2-2-024:012 por./ Elleair Maui Golf Club	Archaeological Inventory Survey	5233	Historic ranching corral (Feature 1) and a probable remnant agricultural wall (Feature 2)
Dega 2003	2-2-002:054/ Elleair Maui Golf Club	Archaeological Assessment	-	No sites recorded
Monahan 2003	2-2-024:008 and 009/ Maui Research and Technology Park	Archaeological Inventory Survey	-	No sites recorded
Monahan 2004	2-2-024:012, 2-2- 024:013/	Archaeological Inventory Survey	5506	Traditional Hawaiian temporary habitation (modified outcrop)

Reference	TMK(s) (2)/ Location	Nature of Study	SIHP Site 50-50- 10-0	Description
	Two Undeveloped Lots Near the Elleair Golf Course		5507	Traditional Hawaiian temporary habitation (platform with small terrace)
			5508	C-shaped cobble and boulder alignment, WWII military training
			5509	Traditional Hawaiian temporary habitation (L- shaped alignment)
Morawski and Dega 2005	2-2-002:054 and 069/ 36.8 Acres in Kēōkea Ahupua‘a	Archaeological Inventory Survey	5647	Historic period rectangular concrete lined reservoir
Fredericksen 2006	2-2-002: por. 054/ 6.11 Acres in Waiohuli Ahupua‘a	Archaeological Assessment Survey	-	No sites recorded
Dega 2008	2-2-024:012, 014, 016, 017, and 054 pors./ Maui Research and Technology Park	Archaeological Inventory Survey	6239	Historic period modified outcrop
			6240	Historic period modified outcrop
			6241	Traditional/historic boundary wall
Madeus and Fredericksen 2008	2-2-002:054 and 069 pors./ 310 acres in Kēōkea and Kama‘ole Ahupua‘a	Archaeological Inventory Survey	6484	Traditional Hawaiian temporary habitation with possible ceremonial function
			6485	Transportation features and a rock cairn used as a marker or reference point; associated with the post-contact era, possibly the WWII era
Shefcheck et al. 2008	2-2-002: 015 por./ 516.32-Acre Parcel Located in Ka‘ono‘ulu Ahupua‘a	Archaeological Inventory Survey	[Only temp. site nos. in report]	40 previously undocumented archaeological sites dating to pre-Contact, historic, military, and modern periods
Perzinski and Dega 2009	2-2-002:015 and 054 pors./ Kīhei High School	Archaeological Inventory Survey	6393	Historic period mound complex, associated with agriculture/ranching (8 features)
Perzinski and Dega 2010	(2) 2-2-002:054 por./ 3.5 Megawatt Solar Photovoltaic Facility in Kīhei	Archaeological Assessment	-	No sites recorded

Reference	TMK(s) (2)/ Location	Nature of Study	SIHP Site 50-50- 10-0	Description
Perzinski and Dega 2012	2-2-002:016 and 054 pors./ 427-Acres in Kihei	Archaeological Inventory Survey	5233	Historic period ranching walls and wall segments
			6780	C-shape enclosures believed to be temporary habitation, likely for WWII training purposes
			6781	Filled depression interpreted as possibly military use associated with WWII training purposes
			6782	C-shape enclosures believed to be temporary habitation, likely for WWII training purposes
			6783	Historic period agricultural mound
			6784	Traditional Hawaiian temporary habitation, pre- Contact period
			6785	Traditional Hawaiian temporary habitation, pre- Contact period
			6786	Traditional Hawaiian notched enclosure interpreted as ceremonial, pre-Contact period
			6787	Historic period agricultural alignment
			6788	Natural fall/collapsed lava blister with no associated cultural artifacts that may be a natural feature
			6789	Retention/blockade alignment that may be historic or modern
			6790	Historic period ranching walls and wall segments
			6791	Historic period ranching walls and wall segments
			6792	Pre-Contact workshop enclosure later used as a military modified outcrop
7051	Traditional Hawaiian petroglyph rock art, pre- Contact period			
Lee and Dega 2022	2-2-002:081/ Kihei High School	Archaeological Monitoring	-	No sites recorded

Reference	TMK(s) (2)/ Location	Nature of Study	SIHP Site 50-50- 10-0	Description
[HICRIS ^a 2022]	2-2-002:085/ Maui Research and Technology Park	[Unknown]	6587	WWII L-shape: “Site consisted of one feature, an L-shaped structure. The site measures 2.9 m long, 1.6 m wide, and rises to a variable 0.18-0.58 m above the slightly undulating outcrop surface.”
			6588	Mounds: “Three semi-rounded rock mounds. The overall site measures 11.0 m long by 1.8 m wide, with each feature rising to a variable 0.12-0.60 m above the slightly undulating surface terrain.”

1 ^aHawaii Cultural Resource Information System

2

1 Feature 2 of Site 4443 is a 15.0 m by 1.0 m terrace constructed of weathered subangular cobbles
2 and boulders piled one to two courses high. Feature 2 is interpreted as an agricultural feature. Evidence of
3 bulldozing in the area was noted (Chafee et al. 1997:16).

4 Feature 3 of Site 4443 is a 3.5 m by 2.1 m terrace similar to Feature 2 and also is interpreted as an
5 agricultural feature.

6 Features 4 and 4a of Site 4443 are similar to Features 1 and 1a of Site 4442. Both consist of “a
7 parallel set of terraces constructed of weathered subangular basalt cobbles and boulders built up on a
8 bedrock outcrop” (Chafee et al. 1997:18). The upper terrace is 8.2 m by .9 m. with an average wall thickness
9 measured 40 cm. The lower terrace is 4.8 m by 1.0 m with an average wall thickness of 35 cm.

10 Feature 5 of Site 4443 is a modified outcrop measuring approximately 8.0 m long. The feature
11 consists of weathered basalt cobbles and boulders stacked two courses high on bedrock outcrop. Feature 5
12 is interpreted as agricultural. The condition of the feature is poor due to erosion and alteration by animals
13 (Chafee et al. 1997:20).

14 Feature 6 of Site 4443 is a terrace measuring 9.8 m by 1.8 m and is similar to Feature 2 and 3. The
15 terrace is constructed of weathered subangular basalt boulders and cobbles stacked one to two courses high
16 with a maximum height of 35 cm. The condition of the feature is poor due to erosion and alteration by
17 animals (Chafee et al. 1997:20).

18 In 2005, Xamanek Researches, Inc. conducted inventory survey of a 6.11 acres parcel for the
19 installation of a 600,000-gallon water tank and a 500,000 gallon water tank, along with a 12-inch water
20 line, and a paved access road (Fredericksen 2006). Work comprised a 100 percent pedestrian surface survey
21 and eight backhoe trenches. The backhoe trenches were terminated in weathered bed rock and did not reach
22 more than 1.0 m in depth. No surface or subsurface evidence of historic properties was encountered.

23 **ANTICIPATED FINDS**

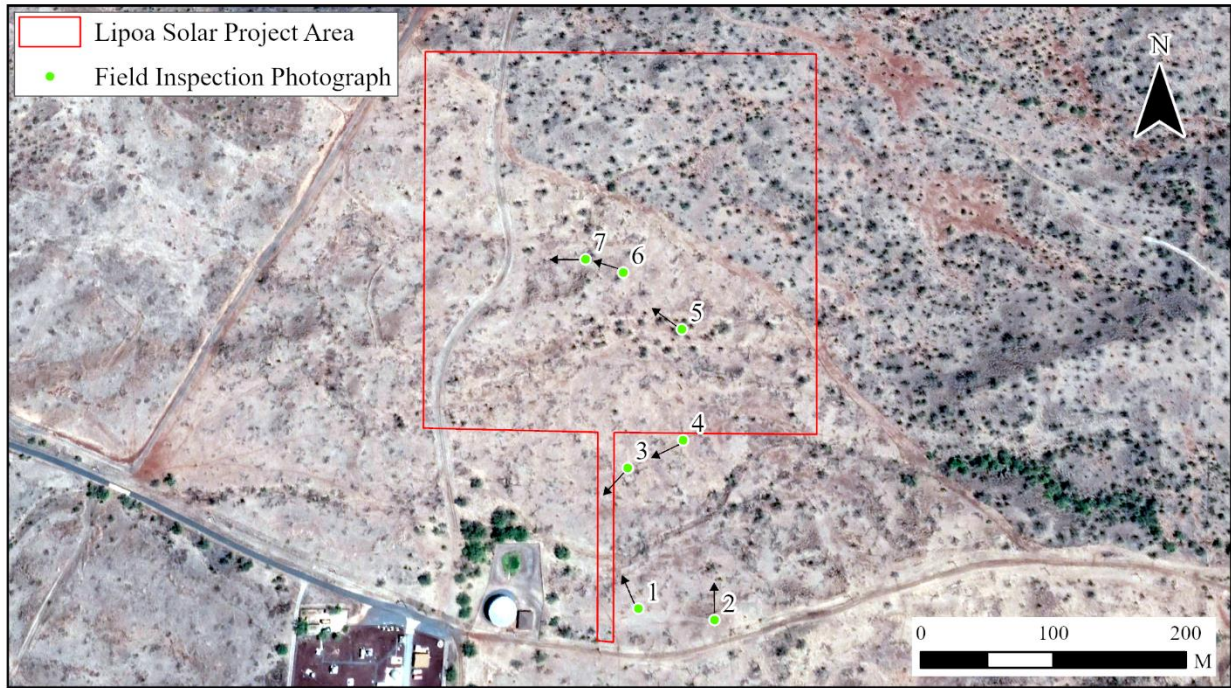
24 In view of the prior archaeological findings and past land use, there is potential for traditional
25 Hawaiian archaeological sites associated with dryland agriculture and temporary habitation. During the
26 historic period the project area was used for ranching, therefore, archaeological sites associated with
27 ranching activities may be present. Additionally, WWII training activities were conducted in the area.
28 Previously identified WWII-era sites include transportation features and C-shape enclosures.

29 **FIELD INSPECTION**

30 An archaeological field inspection was conducted by a PCSI archaeologist, Richard Nees, B.A., on
31 22 March 2023. Dennis Gosser, M.A., served as Principal Investigator for the project. Field inspection
32 consisted of visually inspecting the ground surface of a portion of the 20-acre parcel and photographing
33 swaths of the landscape.

34 **FIELD INSPECTION RESULTS AND DISCUSSION**

35 Locations of Photographs 1–7 are shown on an aerial image dated July 2022 in Figure 7; the
36 photograph numbers correspond to those in Figures 8 through 14. The aerial imagery in Figure 7 was taken
37 during a much drier period compared to the date of fieldwork. During field inspection, the ground surface
38 was rocky and heavily vegetated with two- to three-foot-high grasses and weeds. *Kiawe* (*Prosopis pallida*)
39 are also present. Exposed bedrock was observed in some areas.



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Figure 7. Locations of Photographs 1–7 (see Figures 8–14) Shown on Aerial Image Dated July 2022 (Google Earth 2023); Arrows Indicate Facing Direction.



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Figure 8. Photograph 1, Facing North.



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Figure 9. Photograph 2, Facing North-Northwest.



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Figure 10. Photograph 3, Facing West-Southwest.



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Figure 11. Photograph 4, Facing Southwest.



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Figure 12. Photograph 5, Facing Northwest.



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Figure 13. Photograph 6, Facing North-Northwest.



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Figure 14. Photograph 7, Facing West.

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SUMMARY AND ASSESSMENT

The proposed Lipoa Solar LLC-HI-Registration project area is situated west of Pi'ilani Highway in Kīhei, Waiohuli Ahupua'a. The project proponent is HECO, and land owner is Haleakala Ranch Company. The project area includes 20 acres of TMK (2) 2-2-002:084 (see Figures 1 and 2). An archaeological literature review that addresses historical, cultural, and archaeological background, and a field inspection were conducted in order to evaluate any potential effect on historic properties in the project area, and to recommend mitigation of any adverse effect, if warranted. This work was carried out in accordance with Hawaii Revised Statutes (HRS) Chapter 6E, and Title 13 of the Hawaii Administrative Rules (HAR), Subtitle 13 (State Historic Preservation Division Rules), Chapter 275 (*Rules Governing Procedures for Historic Preservation Review for Governmental Projects Covered Under Sections 6E-7 and 6E-8, HRS*).

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No previous archaeological investigations have been conducted in the project area. Field inspection did not identify any archaeological sites; however, the 20-acre parcel potentially contains historic properties similar to those identified in the area. Previously identified traditional Hawaiian sites in the vicinity are associated with dryland agriculture and temporary habitation. During the historic period the project area was used for ranching, therefore, archaeological sites associated with ranching activities may be present. Additionally, WWII training activities were conducted in the area. Previously identified WWII-era sites near the project area include transportation features and C-shape enclosures.

19

RECOMMENDATIONS

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Due to the lack of previous archaeological investigations in the proposed project area and previously identified traditional Hawaiian sites in the vicinity, there is insufficient information to determine the proposed project's effect on potential historic properties. An archaeological inventory survey (AIS) under the direction of an SHPD-approved work plan is recommended to adequately identify and document any archaeological historic properties that may be present, to assess their significance, to determine the potential impacts of this project on any identified archaeological historic properties, and to identify and ensure appropriate mitigation is implemented, if needed.

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GLOSSARY OF HAWAIIAN TERMS

- 1
2 *ahupua'a*—land division and community
3 Land division usually extending from the uplands to the sea, so called because the boundary was
4 marked by a heap (*ahu*) of stones surmounted by an image of pig (*pua'a*) or because a pig or other
5 tribute was laid on the altar as tax to the chief. The landlord or owner of an *ahupua'a* might be a
6 *konohiki* (Pukui and Elbert 1986:9)
- 7 *ali'i*—chief or chiefess
8 Chief, chiefess, officer, ruler, monarch, peer, headman, noble, aristocrat, king, queen, commander
9 (Pukui and Elbert 1986:20); implies hereditary rank
- 10 *'āpana*—land division of a Land Commission Award
11 Piece, slice, portion, fragment, section, segment, installment, part, land parcel, lot, district, sector,
12 ward, precinct; chop, as of lamb. A *kuleana*, land division, may consist of several *'āpana*, (Pukui
13 and Elbert 1986:64)
- 14 *hoa'āina*—common people of the land, native tenants
15 Tenant, caretaker, as on a *kuleana* (Pukui and Elbert 1986:73)
- 16 *'ili*—division of land smaller than an *ahupua'a*
17 Land section, next in importance to *ahupua'a* an usually a subdivision of an *ahupua'a* (Pukui and
18 Elbert 1986:97)
- 19 *konohiki*—land managers
20 Headman of an *ahupua'a* land division under the chief; land or fishing rights under the control of
21 the *konohiki* (Pukui and Elbert 1986:166)
- 22 *kula*—dryland field
23 Plain, field, open country, pasture. An act of 1884 distinguished dry or *kula* land from wet or taro
24 land (Pukui and Elbert 1986:179)
- 25 *kuleana*—small piece of land under the responsibility of a tenant
26 Right, privilege, concern, responsibility, title, business, property, estate, portion, jurisdiction,
27 authority, liability, interest, claim, ownership, tenure, affair, province (Pukui and Elbert 1986:179)
- 28 *'uala*—Hawaiian sweet potato
29 The sweet potato (*Ipomoea batatas*), a perennial, wide-spreading vine, with heart-shaped, angled,
30 or lobed leaves and pinkish-lavender flowers. The tuberous roots are a valuable food, and they vary
31 greatly in many ways, as in color and shape. Though of South American origin, the plant has been
32 a staple food since ancient times in many parts of Polynesia, as well as in some other regions (Pukui
33 and Elbert 1986:362)
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