

**VOLUME 2**  
**~~DRAFT~~ FINAL ENVIRONMENTAL**  
**IMPACT STATEMENT**  
**FOR**  
**PI'ILANI PROMENADE**

**APPENDICES E- I**

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June 2017  
~~August 2014~~





**APPENDIX E**  
**Acoustic Study dated February 2014**

**ACOUSTIC STUDY FOR THE  
PIILANI PROMENADE PROJECT  
KIHEI, MAUI**

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## CHAPTER I. SUMMARY

The existing and future traffic noise levels in the vicinity of the planned Piilani Promenade in Kihei, Maui were evaluated for their potential impacts and their relationship to current FHA/HUD noise standards for noise sensitive land uses. The traffic noise level increases along the roadways servicing the project site (see Figure 1) were calculated. Significant increases in traffic noise levels at noise sensitive properties are not expected to occur as a result of project traffic following project build-out by CY 2018.

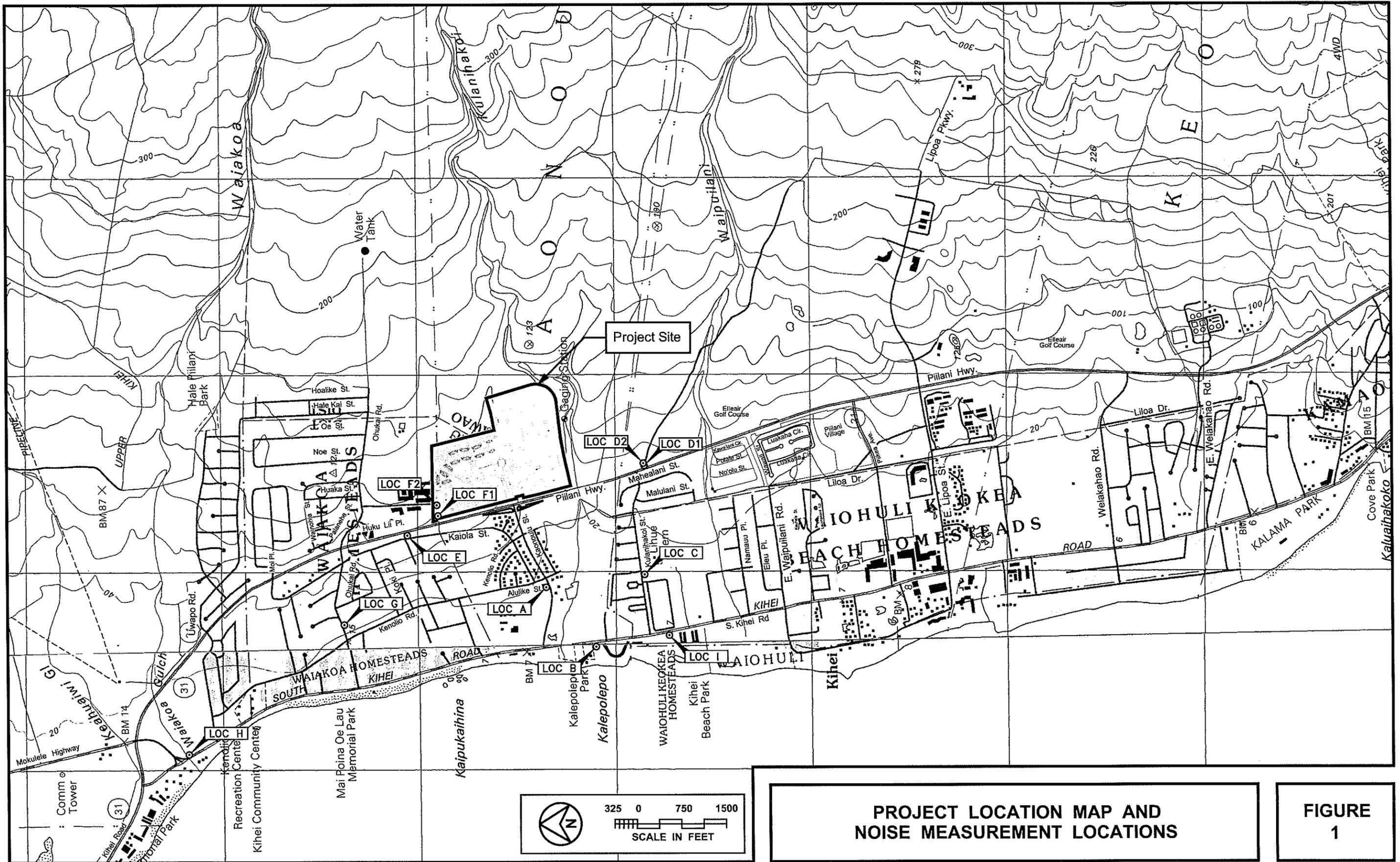
The dominant traffic noise sources in the project environs will continue to be traffic along Piilani Highway and South Kihei Road. Future traffic noise levels along Piilani Highway by CY 2018 are expected to remain in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL at the first row of existing homes on the makai side of the highway. The future traffic noise levels in the project environs along South Kihei Road are expected to be in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL within 60 to 63 feet of the roadway's centerline. Along the lower volume connector streets between Piilani Highway and South Kihei Road, future traffic noise levels are expected to remain in the "Moderate Exposure, Acceptable" category, and less than 65 DNL at 50 feet or greater distance from the roadways' centerlines.

Along Piilani Highway fronting the project site, traffic noise levels of approximately 68 to 69 DNL (Day-Night Average Sound Level) are expected to increase to approximately 69 to 70 DNL at 100 foot distance from the centerline of the highway by CY 2018 as a result of project and non-project traffic. Increases of 0.6 to 0.7 DNL are associated with non-project traffic, and increases of 0.8 DNL are associated with project traffic.

The largest increases (2.3 to 2.6 DNL) in project related traffic noise are predicted to occur along Kaonoulu Street between Piilani Highway and Alulike Street. Non-project traffic is expected to add 2.7 to 4.0 DNL of traffic noise to this section of Kaonoulu Street. Adverse traffic noise impacts along Kaonoulu Street are not expected to occur by CY 2018 since existing noise sensitive residences currently have adequate setbacks from the centerline of Kaonoulu Street and should remain in the "Moderate Exposure, Normally Acceptable" category. For these reasons, traffic noise mitigation measures should not be required.

The project site is planned such that future noise sensitive residential uses of the project are situated at very large setback distances from Piilani Highway, where existing and future traffic noise levels from Piilani Highway are predicted to be less than 60 DNL. The large buffer distances to the highway will allow for the use of naturally ventilated buildings on the project site.

However, the addition of the proposed extension of Kaonoulu Street mauka of



**PROJECT LOCATION MAP AND  
NOISE MEASUREMENT LOCATIONS**

**FIGURE  
1**

Piilani Highway will increase the existing background ambient noise levels along the center portion of the project site. Through project build-out in CY 2018, noise levels at the project's planned residential buildings fronting East Kaonoulu Street should not exceed the 65 DNL federal standard or the Hawaii State Department of Transportation (HDOT) 66 Leq noise abatement criteria as long as the residential buildings are located at least 51 feet from the centerline of East Kaonoulu Street. Following completion of the Upcountry Highway by CY 2025, a setback distance of 81 feet from the centerline of East Kaonoulu Street is required for 65 DNL and 66 Leq to not be exceeded at these residential buildings. Noise mitigation measures in the form of a sound attenuating wall or closure and air conditioning would be required if adequate setback distances are not available. The future traffic noise levels at all planned residential buildings will not exceed the HDOT's "15 dB increase" noise abatement criteria.

In order to minimize the potential for noise conflicts between the project's residential units and the project's light industrial, business, and commercial tenants, the inclusion of various provisions within the land conveyance documents are recommended. These include limits on noise emissions from the light industrial, business, and commercial tenants to levels allowed by the State Department of Health (DOH) for multifamily dwellings; and disclosure of potential noise from adjoining nonresidential uses to owners of the project's residential units. In addition, the use of project driveways at maximum setback from the project's residential units by nighttime and early morning delivery trucks, and the use of broadband backup alarms instead of beeper type backup alarms within the non-residential lots were recommended.

Unavoidable, but temporary, noise impacts may occur during construction of the proposed project, particularly during the excavation and earth moving activities on the project site. Because construction activities are predicted to be audible within the project site and at nearby properties, the quality of the acoustic environment may be degraded to unacceptable levels during periods of construction. Mitigation measures to reduce construction noise to inaudible levels will not be practical in all cases, but the use of quiet equipment and compliance with State Department of Health construction noise regulations are recommended as standard mitigation measures.

## CHAPTER II. PURPOSE

The primary objective of this study was to describe the existing and future traffic noise levels in the environs of the proposed Piilani Promenade in Kihei on the island of Maui (see Figure 1). Traffic forecasts for 2018 were used. Traffic noise level increases and impacts associated with the proposed development were to be determined within the project site as well as along the public roadways which are expected to service the project traffic. A specific objective was to determine future traffic noise level increases associated with both project and non-project traffic, and the potential noise impacts associated with these increases.

Impacts from on-site activities and short term construction noise at the project site were also included as noise study objectives. Recommendations for minimizing identified noise impacts were also to be provided as required.

### CHAPTER III. NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY

The noise descriptor currently used by federal agencies (such as FHA/HUD) to assess environmental noise is the Day-Night Average Sound Level (DNL). This descriptor incorporates a 24-hour average of instantaneous A-Weighted Sound Levels as read on a standard Sound Level Meter. By definition, the minimum averaging period for the DNL descriptor is 24 hours. Additionally, sound levels which occur during the nighttime hours of 10:00 PM to 7:00 AM are increased by 10 decibels (dB) prior to computing the 24-hour average by the DNL descriptor. A more complete list of noise descriptors is provided in APPENDIX B to this report.

Table 1, derived from Reference 1, presents current federal noise standards and acceptability criteria for residential land uses. Table 2, also extracted from Reference 1, presents the general effects of noise on people in residential use situations. Land use compatibility guidelines for various levels of environmental noise as measured by the DNL descriptor system are shown in Figure 2 (from Reference 2). As a general rule, noise levels of 55 DNL or less occur in rural areas, or in areas which are removed from high volume roadways. In urbanized areas which are shielded from high volume streets, DNL levels generally range from 55 to 65 DNL, and are usually controlled by motor vehicle traffic noise. Residences which front major roadways are generally exposed to levels of 65 DNL, and as high as 75 DNL when the roadway is a high speed freeway. In the project area, traffic noise levels associated with Piilani Highway and South Kihei Road are typically greater than 65 DNL along the Right-of-Way due to the relatively large volumes of traffic on these major thoroughfares.

For purposes of determining noise acceptability for funding assistance from federal agencies (FHA/HUD and VA), an exterior noise level of 65 DNL or less is considered acceptable for residences. This standard is applied nationally (Reference 3), including Hawaii. Because of our open-living conditions, the predominant use of naturally ventilated dwellings, and the relatively low exterior-to-interior sound attenuation afforded by these naturally ventilated structures, an exterior noise level of 65 DNL does not eliminate all risks of noise impacts. Because of these factors, and as recommended in Reference 4, a lower level of 55 DNL is considered as the "Unconditionally Acceptable" (or "Near-Zero Risk") level of exterior noise. However, after considering the cost and feasibility of applying the lower level of 55 DNL, government agencies such as FHA/HUD and VA have selected 65 DNL as a more appropriate regulatory standard.

For commercial, industrial, and other non-noise sensitive land uses, exterior noise levels as high as 75 DNL are generally considered acceptable. Exceptions to this occur when naturally ventilated office and other commercial establishments are exposed to exterior levels which exceed 65 DNL.

On the island of Maui, the State Department of Health (DOH) regulates noise from construction activities through the issuance of permits for allowing excessive

**TABLE 1**

**EXTERIOR NOISE EXPOSURE CLASSIFICATION  
(RESIDENTIAL LAND USE)**

NOISE EXPOSURE CLASS	DAY-NIGHT SOUND LEVEL	EQUIVALENT SOUND LEVEL	FEDERAL (1) STANDARD
Minimal Exposure	Not Exceeding 55 DNL	Not Exceeding 55 Leq	Unconditionally Acceptable
Moderate Exposure	Above 55 DNL But Not Above 65 DNL	Above 55 Leq But Not Above 65 Leq	Acceptable(2)
Significant Exposure	Above 65 DNL But Not Above 75 DNL	Above 65 Leq But Not Above 75 Leq	Normally Unacceptable
Severe Exposure	Above 75 DNL	Above 75 Leq	Unacceptable

Notes: (1) Federal Housing Administration, Veterans Administration, Department of Defense, and Department of Transportation.

(2) FHWA uses the Leq instead of the Ldn descriptor. For planning purposes, both are equivalent if: (a) heavy trucks do not exceed 10 percent of total traffic flow in vehicles per 24 hours, and (b) traffic between 10:00 PM and 7:00 AM does not exceed 15 percent of average daily traffic flow in vehicles per 24 hours. The noise mitigation threshold used by FHWA for residences is 67 Leq.

**TABLE 2**  
**EFFECTS OF NOISE ON PEOPLE**  
**(Residential Land Uses Only)**

EFFECTS <sup>1</sup>	Hearing Loss	Speech Interference		Annoyance <sup>2</sup>	Average Community <sup>4</sup> Reaction	General Community Attitude Towards Area
		Indoor	Outdoor			
DAY-NIGHT AVERAGE SOUND LEVEL IN DECIBELS	Qualitative Description	% Sentence Intelligibility	Distance in Meters for 95% Sentence Intelligibility	% of Population <sup>3</sup> Highly Annoyed		
75 and above	May Begin to Occur	98%	0.5	37%	Very Severe	Noise is likely to be the most important of all adverse aspects of the community environment.
70	Will Not Likely Occur	99%	0.9	25%	Severe	Noise is one of the most important adverse aspects of the community environment.
65	Will Not Occur	100%	1.5	15%	Significant	Noise is one of the important adverse aspects of the community environment.
60	Will Not Occur	100%	2.0	9%	Moderate to Slight	Noise may be considered an adverse aspect of the community environment.
55 and below	Will Not Occur	100%	3.5	4%		Noise considered no more important than various other environmental factors.

1. "Speech Interference" data are drawn from the following tables in EPA's "Levels Document": Table 3, Fig. D-1, Fig. D-2, Fig. D-3. All other data from National Academy of Science 1977 report "Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 on Evaluation of Environmental Impact of Noise."

2. Depends on attitudes and other factors.

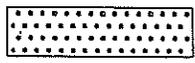
3. The percentages of people reporting annoyance to lesser extents are higher in each case. An unknown small percentage of people will report being "highly annoyed" even in the

quietest surroundings. One reason is the difficulty all people have in integrating annoyance over a very long time.

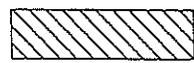
4. Attitudes or other non-acoustic factors can modify this. Noise at low levels can still be an important problem, particularly when it intrudes into a quiet environment.

NOTE: Research implicates noise as a factor producing stress-related health effects such as heart disease, high-blood pressure and stroke, ulcers and other digestive disorders. The relationships between noise and these effects, however, have not as yet been quantified.

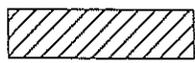
LAND USE	ADJUSTED YEARLY DAY-NIGHT AVERAGE SOUND LEVEL (DNL) IN DECIBELS				
	50	60	70	80	90
Residential – Single Family, Extensive Outdoor Use	Compatible	With Insulation per Section A.4			
Residential – Multiple Family, Moderate Outdoor Use	Compatible	With Insulation per Section A.4			
Residential – Multi-Story Limited Outdoor Use	Compatible	With Insulation per Section A.4	With Insulation per Section A.4		
Hotels, Motels Transient Lodging	Compatible	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	
School Classrooms, Libraries, Religious Facilities	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
Hospitals, Clinics, Nursing Homes, Health Related Facilities	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
Auditoriums, Concert Halls	Compatible	With Insulation per Section A.4			
Music Shells	With Insulation per Section A.4	With Insulation per Section A.4			
Sports Arenas, Outdoor Spectator Sports	Compatible	With Insulation per Section A.4			
Neighborhood Parks	Compatible	With Insulation per Section A.4	With Insulation per Section A.4		
Playgrounds, Golf courses, Riding Stables, Water Rec., Cemeteries	Compatible	With Insulation per Section A.4	With Insulation per Section A.4		
Office Buildings, Personal Services, Business and Professional	Compatible	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	
Commercial – Retail, Movie Theaters, Restaurants	Compatible	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	
Commercial – Wholesale, Some Retail, Ind., Mfg., Utilities	Compatible	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	
Livestock Farming, Animal Breeding	Compatible	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	
Agriculture (Except Livestock)	Compatible	Compatible	Compatible	Marginally Compatible	Marginally Compatible



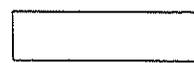
Compatible



Marginally Compatible



With Insulation per Section A.4



Incompatible

LAND USE COMPATIBILITY WITH YEARLY AVERAGE DAY-NIGHT AVERAGE SOUND LEVEL (DNL) AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED.  
 (Source: American National Standards Institute S12.9-1998/Part 5)

FIGURE 2

noise during limited time periods. State DOH noise regulations are expressed in maximum allowable property line noise limits rather than DNL (see Reference 5). Although they are not directly comparable to noise criteria expressed in DNL, State DOH noise limits for residential, commercial, and industrial lands equate to approximately 55, 60, and 76 DNL, respectively.

## CHAPTER IV. GENERAL STUDY METHODOLOGY

Existing traffic noise levels were measured at eight locations (A, B, C, D1, D2, E, G, and H) along public roadways in the project environs to provide a basis for developing the project's traffic noise contributions along the roadways which will service the proposed development. In addition, existing background noise levels were obtained at two locations (F1 and F2) within the proposed project site to validate the traffic noise model used for predicting future traffic noise levels from Piilani Highway within the project area. The locations of the measurement sites are shown in Figure 1. Noise measurements were performed during the month of November 2013. The results of the traffic noise measurements were compared with calculations of existing traffic noise levels to validate the computer model used. The traffic noise measurement results and their comparisons with computer model predictions of existing traffic noise levels are summarized in Table 3.

Traffic noise calculations for the existing conditions as well as noise predictions for the Year 2018 were performed using the Federal Highway Administration (FHWA) Traffic Noise Model (Reference 6). Traffic data entered into the noise prediction model were: roadway and receiver locations; hourly traffic volumes; average vehicle speeds; estimates of traffic mix; and "Loose Soil" propagation loss factor. The traffic data and forecasts for the project (Reference 7), plus the spot traffic counts obtained during the noise measurement periods were the primary sources of data inputs to the model. Appendices C1 and C2 summarize the weekday AM and PM peak hour traffic volumes and the Saturday peak hour traffic volumes for CY 2013 and 2018 which were used to model existing and future traffic noise along the streets in the vicinity of the project site. For existing and future traffic along the streets in the vicinity of the project site, it was assumed that the average noise levels, or  $Leq(h)$ , during the weekday AM or PM peak traffic hour were equal to the 24-hour DNL along those roadways. This assumption was based on computations of both the hourly  $Leq$  and the 24-hour DNL of traffic noise on Piilani Highway (see Figure 3) and South Kihei Road (see Figure 4) using Hawaii State Department of Transportation hourly traffic counts from References 8 and 9.

Traffic noise calculations for both the existing and future conditions in the project environs were developed for ground level receptors with and without the benefit of shielding from natural terrain features or man made obstructions. Traffic noise levels were also calculated for future conditions with and without the proposed project. The forecasted changes in traffic noise levels over existing levels were calculated with and without the project, and noise impact risks evaluated. The relative contributions of non-project and project traffic to the total noise levels were also calculated, and an evaluation of possible traffic noise impacts was made.

Calculations of average exterior and interior noise levels from construction activities were performed for typical naturally ventilated and air conditioned dwellings. Predicted noise levels were compared with existing background ambient noise levels, and the potential for noise impacts was assessed.

**TABLE 3**  
**TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS**

<u>LOCATION</u>	Time of Day <u>(HRS)</u>	Hourly Traffic Volume -----			Measured Leq (dB)	Predicted Leq (dB)	
		Ave. Speed <u>(MPH)</u>	<u>AUTO</u>	<u>M.TRUCK</u>			<u>H.TRUCK</u>
A. 50 FT from the center- line of Kaonoulu St. (Saturday, 11/9/13)	0728 TO 0824	34	152	0	0	55.4	55.3
B. 50 FT from the center- line of S. Kihei Rd. (Saturday, 11/9/13)	0841 TO 0941	37	821	6	5	63.4	63.3
C. 50 FT from the center- line of Kulanihako'i St. (Saturday, 11/9/13)	1010 TO 1055	35	165	1	1	58.9	57.9
D1. 50 FT from the center- line of Piilani Highway (Saturday, 11/9/13)	1118 TO 1216	55	2,487	31	10	74.5	74.2
D2. 93 FT from the center- line of Piilani Highway (Saturday, 11/9/13)	1118 TO 1216	55	2,487	31	10	68.6	68.3

**TABLE 3 (CONTINUED)**  
**TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS**

<u>LOCATION</u>	<u>Time of Day</u> <u>(HRS)</u>	<u>Ave. Speed</u> <u>(MPH)</u>	<u>Hourly Traffic Volume</u>			<u>Measured</u> <u>Leq (dB)</u>	<u>Predicted</u> <u>Leq (dB)</u>
			<u>AUTO</u>	<u>M.TRUCK</u>	<u>H.TRUCK</u>		
E. 63 FT from the center-line of Piiilani Highway (Saturday, 11/9/13)	1237	46	2,375	26	10	69.9	70.0
	TO 1337						
F1. 112 FT from the center-line of Piiilani Highway (Saturday, 11/9/13)	1403	N/A	N/A	N/A	N/A	64.3	N/A
	TO 1500						
F2. 289 FT from the center-line of Piiilani Highway (Saturday, 11/9/13)	1416	N/A	N/A	N/A	N/A	54.0	N/A
	TO 1431						
G. 50 FT from the center-line of Ohukai St. (Saturday, 11/9/13)	1528	30	219	0	0	56.1	56.1
	TO 1628						
H. 50 FT from the center-line of S. Kihei Rd. (Saturday, 11/9/13)	1643	39	791	3	4	63.9	63.7
	TO 1743						

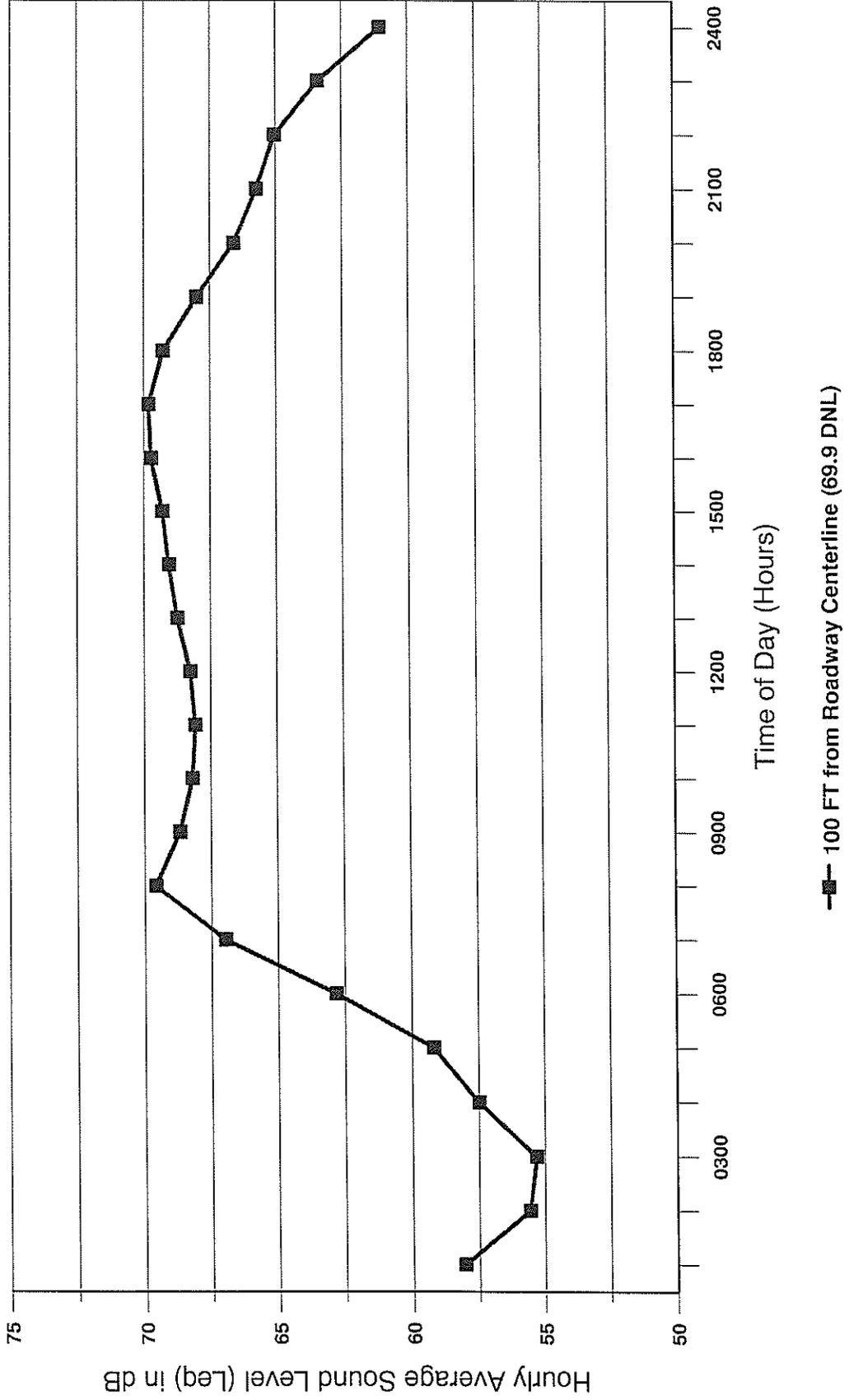
**TABLE 3 (CONTINUED)**  
**TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS**

<u>LOCATION</u>	<u>Time of Day</u> <u>(HRS)</u>	<u>Ave. Speed</u> <u>(MPH)</u>	<u>Hourly Traffic Volume -----</u>			<u>Measured</u> <u>Leq (dB)</u>	<u>Predicted</u> <u>Leq (dB)</u>
			<u>AUTO</u>	<u>M.TRUCK</u>	<u>H.TRUCK</u>		
H. 50 FT from the center-line of S. Kihei Rd. (Wednesday, 11/13/13)	0642 TO 0742	41	829	8	5	65.4	65.1
G. 50 FT from the center-line of Ohukai St. (Wednesday, 11/13/13)	0752 TO 0852	30	198	3	0	55.5	55.5
I. 50 FT from the center-line of S. Kihei Rd. (Wednesday, 11/13/13)	1002 TO 1102	39	930	16	8	64.9	65.0
C. 50 FT from the center-line of Kulanihakai St. (Wednesday, 11/13/13)	1122 TO 1222	35	124	1	0	58.9	58.9
E. 63 FT from the center-line of Piilani Highway (Wednesday, 11/13/13)	1317 TO 1417	46	2,600	36	34	70.5	70.8

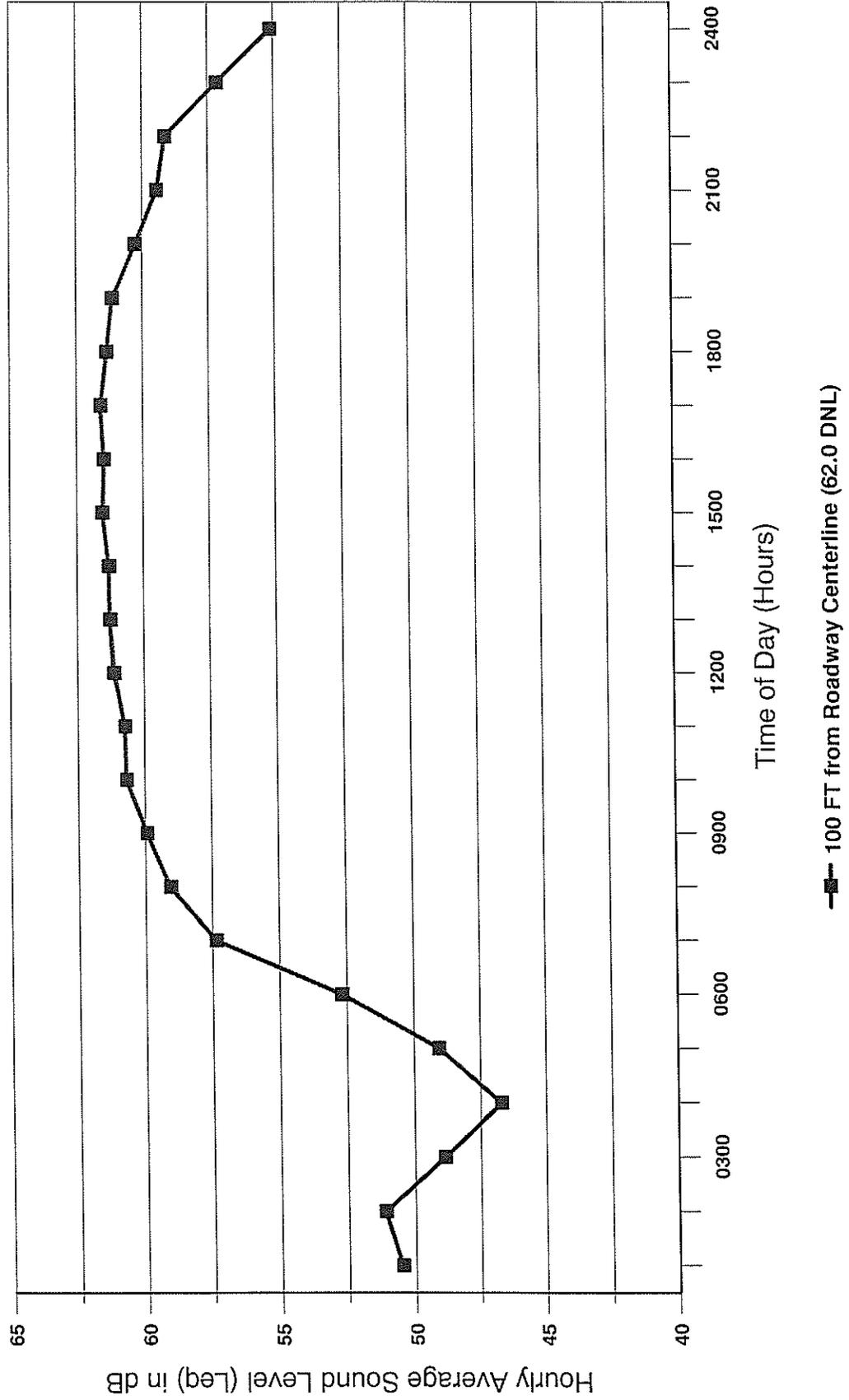
**TABLE 3 (CONTINUED)**  
**TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS**

<u>LOCATION</u>	<u>Time of Day</u> <u>(HRS)</u>	<u>Ave. Speed</u> <u>(MPH)</u>	<u>Hourly Traffic Volume -----</u>		<u>Measured</u> <u>Leq (dB)</u>	<u>Predicted</u> <u>Leq (dB)</u>
			<u>AUTO</u>	<u>M.TRUCK</u> <u>H.TRUCK</u>		
A. 50 FT from the center-line of Kaonoulu St. (Wednesday, 11/13/13)	1442 TO 1542	34	189	2      0	57.2	57.2
D1. 50 FT from the center-line of Piilani Highway (Wednesday, 11/13/13)	1607 TO 1707	55	3,311	16    10	75.2	75.1
D2. 93 FT from the center-line of Piilani Highway (Wednesday, 11/13/13)	1607 TO 1707	55	3,311	16    10	69.9	69.3
D1. 50 FT from the center-line of Piilani Highway (Wednesday, 11/13/13)	1710 TO 1810	55	2,838	18    7	74.5	74.2
D2. 93 FT from the center-line of Piilani Highway (Wednesday, 11/13/13)	1710 TO 1810	55	2,838	18    7	69.1	68.5

**FIGURE 3**  
**HOURLY TRAFFIC NOISE LEVELS VS. TIME OF DAY**  
**STA. B74003100000, PIILANI HIGHWAY BETWEEN KAONOULU ST. AND KULANIHAKOI RD., 9/28/11**



**FIGURE 4**  
**HOURLY TRAFFIC NOISE LEVELS VS. TIME OF DAY**  
**STA. B74310000013, SOUTH KIHEI ROAD BETWEEN NOHOKAI ST. AND PIIKEA AVE., 8/19/10**



## V. EXISTING ACOUSTICAL ENVIRONMENT

The existing background ambient noise levels within the project site are relatively low at the mauka (east) end and high on the makai (west) end of the site. Traffic along Piilani Highway controls the background noise levels at the makai end of the project site, and diminishes to inaudible levels at the mauka end of the project site. On the makai side of Piilani Highway, existing traffic noise levels also diminish with increasing distances from Piilani Highway, and are controlled by the traffic on connector roads and South Kihei Road in areas between Piilani Highway and the shoreline.

Traffic and background ambient noise measurements along the public roadways in the project environs were obtained on a Saturday (September 9, 2013) and on a Wednesday (September 13, 2013) at eleven locations (A, B, C, D1, D2, E, F1, F2, G, H, and I) in the project environs. These locations are shown in Figure 1. The results of these traffic and background ambient noise measurements are summarized in Table 3, with measurement locations identified in Figure 1. The measurement locations were typically located at street level. As shown in Table 3, correlation between measured and predicted traffic noise levels was good. The Traffic Noise Model's "Loose Soil" propagation loss factor was used to obtain the good correlation.

Calculations of existing traffic noise levels along the public roadways in the project environs during the weekday PM peak traffic hour are presented in Table 4A. The hourly Leq (or Equivalent Sound Level) contribution from each roadway section in the project environs was calculated for comparison with forecasted traffic noise levels with and without the project. In Table 4A, the Leq values shown also represent the DNL values for the roadways shown. The existing setback distances from the roadways' centerlines to their associated 65 and 75 DNL contours were also calculated as shown in Table 5A for the weekdays. The contour line setback distances do not take into account noise shielding effects or the additive contributions of traffic noise from intersecting street sections. Tables 4B and 5B present similar calculations of existing traffic noise levels and setback distances to the 65 and 75 DNL contours for the Saturday peak hours.

The existing traffic noise levels in the project environs along Piilani Highway are in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL at the first row of existing homes on the makai side of the highway. The existing traffic noise levels in the project environs along South Kihei Road are in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL within 53 to 55 feet of the roadway's centerline. Along the lower volume connector streets, existing traffic noise levels are in the "Moderate Exposure, Acceptable" category, and less than 65 DNL at 50 feet or greater distance from the roadways' centerlines.

The existing background noise levels at the project site were estimated by measuring existing background noise levels at Locations F1 and F2, and by using these

TABLE 4A

EXISTING (CY 2013) TRAFFIC VOLUMES AND NOISE LEVELS  
ALONG ROADWAYS IN PROJECT AREA  
(PM PEAK HOUR, WEEKDAYS)

LOCATION	SPEED (MPH)	TOTAL VPH	***** VOLUMES (VPH) *****			50' Leg	100' Leg	200' Leg
			AUTOS	M TRUCKS	H TRUCKS			
Mokulele Hwy., N. of N. Kihei Rd.	55	2,761	2,711	28	22	75.0	68.3	61.2
Piilani Hwy., Between Uwapo & N. Kihei *	50	2,916	2,864	29	23	74.1	70.6	61.1
Piilani Hwy., Between Uwapo & Ohukai	46	3,056	3,001	31	24	72.5	66.2	60.5
Piilani Hwy., Between Ohukai & Kaonoulu	46	3,083	3,027	31	25	72.7	67.7	62.3
Piilani Hwy., Between Kaonoulu & Kulanihakai	55	3,273	3,214	33	26	75.2	68.7	62.9
Piilani Hwy., Between Kulanihakai & Piikea	55	3,275	3,216	33	26	75.3	70.3	64.8
Piilani Hwy., South of Piikea	55	3,054	2,999	31	24	75.0	70.0	64.5
N. Kihei Rd., West of South Kihei	50	1,421	1,398	14	9	70.7	64.1	57.1
N. Kihei Rd., Between Piilani & S. Kihei	46	1,083	1,066	11	6	68.8	63.0	56.8
S. Kihei Rd., South of N. Kihei Rd.	41	1,004	988	10	6	65.6	59.4	53.2
Uwapo Rd., W. of Piilani	30	320	315	5	0	57.2	51.1	45.1
Ohukai Rd., W. of Piilani	30	471	464	7	0	58.9	52.8	46.8
Ohukai Rd., E. of Piilani	30	708	691	11	6	61.5	55.6	50.8
Kaonoulu St., Between Piilani & Kenolio	34	290	287	3	0	59.3	53.1	48.1
Kaonoulu St., Between Kenolio & Alulike	34	159	157	2	0	56.7	50.6	45.5
Kaonoulu St., Between Alulike & S. Kihei	34	250	247	3	0	58.7	52.5	47.5
S. Kihei Rd. N. of Kaonoulu	39	1,068	1,041	18	9	65.5	59.4	53.3
S. Kihei Rd. S. of Kaonoulu	39	1,172	1,143	20	9	65.9	59.8	53.7
E. Kaonoulu St. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kulanihakai Rd. W. of Piilani	35	292	290	2	0	62.5	56.3	50.0
Kulanihakai Rd. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Piikea Ave. W. of Piilani	35	1,120	1,111	9	0	63.7	57.5	51.3

\*Piilani Hwy., Between Uwapo & N. Kihei's Leq shown in "50' Leq" column was calculated at 75' instead of 50'.

TABLE 4B

EXISTING (CY 2013) TRAFFIC VOLUMES AND NOISE LEVELS  
ALONG ROADWAYS IN PROJECT AREA  
(PEAK HOUR, SATURDAY)

LOCATION	SPEED (MPH)	TOTAL VPH	***** VOLUMES (VPH) *****			50' Leg	100' Leg	200' Leg
			AUTOS	M TRUCKS	H TRUCKS			
Mokulele Hwy., N. of N. Kihei Rd.	55	2,160	2,125	26	9	73.8	67.1	59.9
Piilani Hwy., Between Uwapo & N. Kihei *	50	2,403	2,364	29	10	73.1	69.6	60.1
Piilani Hwy., Between Uwapo & Ohukai	46	2,267	2,231	27	9	71.1	64.7	59.0
Piilani Hwy., Between Ohukai & Kaonoulu	46	2,151	2,116	26	9	71.0	66.0	60.5
Piilani Hwy., Between Kaonoulu & Kulanihakai	55	2,212	2,176	27	9	73.4	66.9	61.0
Piilani Hwy., Between Kulanihakai & Piikea	55	2,213	2,177	27	9	73.5	68.5	63.0
Piilani Hwy., South of Piikea	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N. Kihei Rd., West of South Kihei	50	1,064	1,052	6	6	69.4	62.7	55.7
N. Kihei Rd., Between Piilani & S. Kihei	46	859	849	5	5	67.6	61.9	55.7
S. Kihei Rd., South of N. Kihei Rd.	39	787	777	5	5	63.9	57.7	51.6
Uwapo Rd., W. of Piilani	30	236	236	0	0	56.3	50.1	44.0
Ohukai Rd., W. of Piilani	30	485	485	0	0	59.4	53.2	47.2
Ohukai Rd., E. of Piilani	30	408	408	0	0	58.8	52.7	47.6
Kaonoulu St., Between Piilani & Kenolio	34	239	239	0	0	57.4	51.2	46.1
Kaonoulu St., Between Kenolio & Alulike	34	122	122	0	0	54.5	48.3	43.1
Kaonoulu St., Between Alulike & S. Kihei	34	202	202	0	0	56.7	50.4	45.3
S. Kihei Rd. N. of Kaonoulu	37	958	946	6	6	64.1	58.0	51.9
S. Kihei Rd. S. of Kaonoulu	37	1,093	1,079	7	7	64.7	58.6	52.5
E. Kaonoulu St. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kulanihakai Rd. W. of Piilani	35	226	224	1	1	59.0	52.9	46.9
Kulanihakai Rd. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Piikea Ave. W. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Piilani Hwy., Between Uwapo & N. Kihei's Leq shown in "50' Leq" column was calculated at 75' instead of 50'.

**TABLE 5A**

**EXISTING AND CY 2018 DISTANCES TO 65  
AND 75 DNL CONTOURS (WEEKDAYS)**

<u>STREET SECTION</u>	<u>65 DNL SETBACK (FT)</u>		<u>75 DNL SETBACK (FT)</u>	
	<u>EXISTING</u>	<u>CY 2018</u>	<u>EXISTING</u>	<u>CY 2018</u>
Mokulele Hwy., N. of N. Kihei Rd.	138	151	50	55
Piilani Hwy., Between Uwapo & N. Kihei	150	165	70	77
Piilani Hwy., Between Uwapo & Ohukai	116	136	38	44
Piilani Hwy., Between Ohukai & Kaonoulu	141	170	36	44
Piilani Hwy., Between Kaonoulu & Kulanihakoi	156	184	51	59
Piilani Hwy., Between Kulanihakoi & Piikea	195	233	52	63
Piilani Hwy., South of Piikea	188	218	50	59
N. Kihei Rd., West of South Kihei	91	107	32	37
N. Kihei Rd., Between Piilani & S. Kihei	79	91	24	28
S. Kihei Rd., South of N. Kihei Rd.	53	60	17	20
Uwapo Rd., W. of Piilani	21	26	< 12	< 12
Ohukai Rd., W. of Piilani	25	29	< 12	< 12
Ohukai Rd., E. of Piilani	33	35	< 12	< 12
Kaonoulu St., Between Piilani & Kenolio	26	46	< 12	15
Kaonoulu St., Between Kenolio & Alulike	19	41	< 12	13
Kaonoulu St., Between Alulike & S. Kihei	25	41	< 12	14
S. Kihei Rd. N. of Kaonoulu	53	60	17	19
S. Kihei Rd. S. of Kaonoulu	55	63	18	20
E. Kaonoulu St. E. of Piilani	N/A	88	N/A	30
Kulanihakoi Rd. W. of Piilani	38	42	12	14
Kulanihakoi Rd. E. of Piilani	N/A	24	N/A	< 12
Piikea Ave. W. of Piilani	43	48	14	16

**Notes:**

- (1) All setback distances are from the roadways' centerlines.
- (2) See Tables 4A and 6A for traffic volume, speed, and mix assumptions.
- (3) Setback distances are for ground level receptors.

**TABLE 5B**

**EXISTING AND CY 2018 DISTANCES TO 65  
AND 75 DNL CONTOURS (SATURDAY)**

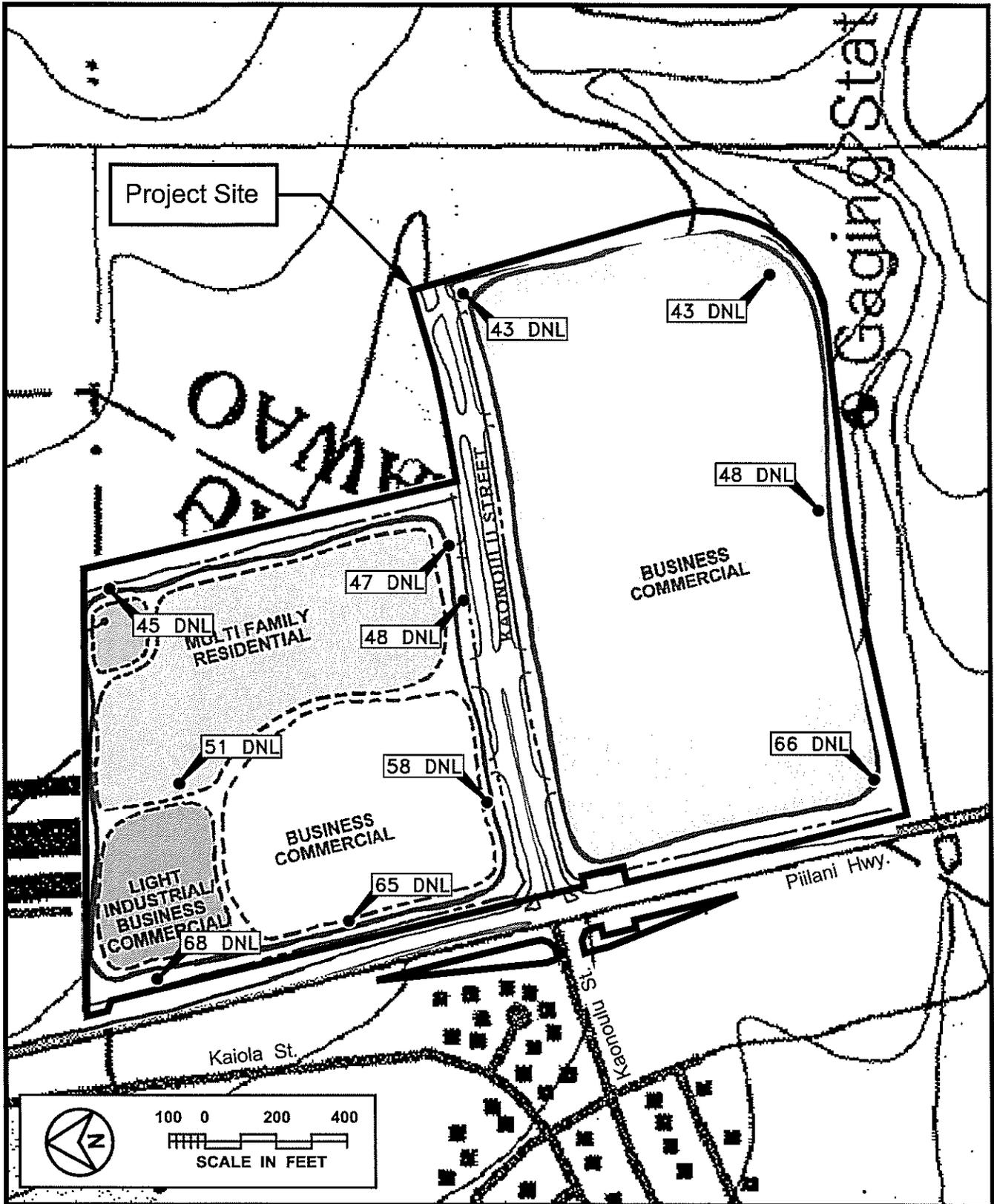
<u>STREET SECTION</u>	<u>65 DNL SETBACK (FT)</u>		<u>75 DNL SETBACK (FT)</u>	
	<u>EXISTING</u>	<u>CY 2018</u>	<u>EXISTING</u>	<u>CY 2018</u>
Mokulele Hwy., N. of N. Kihei Rd.	122	139	44	51
Piilani Hwy., Between Uwapo & N. Kihei	140	158	64	74
Piilani Hwy., Between Uwapo & Ohukai	96	124	33	41
Piilani Hwy., Between Ohukai & Kaonoulu	113	152	29	40
Piilani Hwy., Between Kaonoulu & Kulanihakoi	125	162	42	54
Piilani Hwy., Between Kulanihakoi & Piikea	155	203	41	54
Piilani Hwy., South of Piikea	N/A	N/A	N/A	N/A
N. Kihei Rd., West of South Kihei	79	100	28	35
N. Kihei Rd., Between Piilani & S. Kihei	69	84	20	25
S. Kihei Rd., South of N. Kihei Rd.	44	52	14	17
Uwapo Rd., W. of Piilani	19	25	< 12	< 12
Ohukai Rd., W. of Piilani	27	32	< 12	< 12
Ohukai Rd., E. of Piilani	25	28	< 12	< 12
Kaonoulu St., Between Piilani & Kenolio	21	43	< 12	14
Kaonoulu St., Between Kenolio & Alulike	15	39	< 12	13
Kaonoulu St., Between Alulike & S. Kihei	20	38	< 12	12
S. Kihei Rd. N. of Kaonoulu	45	53	14	17
S. Kihei Rd. S. of Kaonoulu	48	57	16	18
E. Kaonoulu St. E. of Piilani	N/A	83	N/A	29
Kulanihakoi Rd. W. of Piilani	25	30	< 12	< 12
Kulanihakoi Rd. E. of Piilani	N/A	N/A	N/A	N/A
Piikea Ave. W. of Piilani	N/A	N/A	N/A	N/A

**Notes:**

- (1) All setback distances are from the roadways' centerlines.
- (2) See Tables 4B and 6B for traffic volume, speed, and mix assumptions.
- (3) Setback distances are for ground level receptors.

measurements in conjunction with the FHWA Traffic Noise Model to calculate existing traffic noise level contributions from Piilani Highway at various locations within the Piilani Promenade Project site. The results of these existing traffic noise calculations are shown in Figure 5. From Figure 5, existing traffic noise levels on the project site are estimated to range from 65 to 68 DNL at the westernmost (makai) side of the project site to 43 to 47 DNL at the easternmost (mauka) corners of the project site. At the planned multifamily residential units, existing traffic noise levels are very low and less than 55 DNL at both ground floor and second floor dwelling units.

While existing traffic noise levels are very low (less than 55 DNL) at the planned residential portion of the project, noise emissions from the existing commercial buildings north of the planned multifamily residences were greater than 50 dBA (59 DNL) and could be a source of potential noise complaints from the project residents. Suggestions for reducing these noise emissions are provided in Chapter VII of this report.



**PROJECT LOCATION MAP AND  
EXISTING TRAFFIC NOISE LEVELS**

**FIGURE  
5**

## CHAPTER VI. FUTURE NOISE ENVIRONMENT

Predictions of future traffic noise levels were made using the traffic volume assignments of Reference 7 for CY 2018 with and without the proposed project. The future projections of project plus non-project traffic noise levels for CY 2018 also included traffic on the new section of Kaonoulu Street east (mauka) of Piilani Highway through the project site. Appendices C1 and C2 summarize the traffic volumes for weekday AM and PM peak hours and for the Saturday peak hour for 2018 which were used to model future traffic noise along the streets in the vicinity of the project site. In general, the Saturday peak hour traffic volumes are lower than the weekday PM peak hour volumes, so the corresponding traffic noise levels are also lower during Saturdays.

Future traffic noise levels at distances of 50, 100, and 200 feet from the centerlines of the roadways which would service the project are shown in Tables 6A and 6B for the weekday PM peak and Saturday peak hours of traffic, under the Build Alternative. Predicted increases in the setback distances to the 65 and 75 DNL contours are shown in Tables 5A and 5B. The separate non-project and project traffic noise contributions for the Build Alternative for 2018 are shown in Tables 7A and 7B.

From Table 7A, increases in future traffic noise levels of 0.2 to 0.8 DNL are expected along Piilani Highway in the project environs by 2018 as a result of project traffic. The growth in non-project traffic by CY 2018 is predicted to result in traffic noise level increases of 0.6 to 0.8 DNL along Piilani Highway. Similar increases in future traffic noise levels due to non-project traffic are predicted to occur along South Kihei Road by CY 2018, with project traffic adding 0.3 to 0.6 DNL to the non-project noise levels by CY 2018. The largest total increase (6.6 DNL) in traffic noise level is anticipated to occur along Kaonoulu Street between Kenolio and Alulike Streets, and is primarily associated with non-project traffic. The next largest total increase (5.0 DNL) in traffic noise is anticipated to occur along Kaonoulu Street between Piilani Highway and Kenolio Street. Predicted increases in traffic noise by CY 2018 due to project traffic along Kaonoulu Street are 2.6 DNL or less. Along the other remaining roadways in the project environs, predicted increases in traffic noise by CY 2018 due to project traffic are 1.0 DNL or less.

Future traffic noise levels along Piilani Highway by CY 2018 are expected to remain in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL at the first row of existing homes on the makai side of the highway. The future traffic noise levels in the project environs along South Kihei Road are expected to be in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL within 60 to 63 feet of the roadway's centerline. Along the lower volume connector streets between Piilani Highway and South Kihei Road, future traffic noise levels are expected to remain in the "Moderate Exposure, Acceptable" category, and less than 65 DNL at 50 feet or greater distance from the roadways' centerlines.

TABLE 6A

FUTURE (CY 2018) TRAFFIC VOLUMES AND NOISE LEVELS  
ALONG ROADWAYS IN PROJECT AREA  
(PM PEAK HOUR, WEEKDAYS, BUILD)

LOCATION	SPEED (MPH)	TOTAL VPH	***** VOLUMES (VPH) *****			50' Leq	100' Leq	200' Leq
			AUTOS	MTRUCKS	HTRUCKS			
Mokulele Hwy., N. of N. Kihei Rd.	55	3,399	3,338	34	27	75.9	69.2	62.1
Piilani Hwy., Between Uwapo & N. Kihei *	50	3,887	3,817	39	31	75.3	71.8	62.4
Piilani Hwy., Between Uwapo & Ohukai	46	4,189	4,113	42	34	73.9	67.5	61.9
Piilani Hwy., Between Ohukai & Kaonoulu	46	4,335	4,257	43	35	74.1	69.2	63.7
Piilani Hwy., Between Kaonoulu & Kulanihakai	55	4,491	4,410	45	36	76.6	70.1	64.3
Piilani Hwy., Between Kulanihakai & Piikea	55	4,473	4,392	45	36	76.7	71.7	66.2
Piilani Hwy., South of Piikea	55	3,973	3,901	40	32	76.2	71.2	65.7
N. Kihei Rd., West of South Kihei	50	1,989	1,957	20	12	72.2	65.6	58.6
N. Kihei Rd., Between Piilani & S. Kihei	46	1,427	1,404	14	9	70.0	64.2	58.0
S. Kihei Rd., South of N. Kihei Rd.	41	1,248	1,229	12	7	66.6	60.4	54.1
Uwapo Rd., W. of Piilani	30	496	489	7	0	59.1	53.0	47.0
Ohukai Rd., W. of Piilani	30	623	614	9	0	60.1	54.0	48.0
Ohukai Rd., E. of Piilani	30	799	781	12	6	61.9	56.1	51.2
Kaonoulu St., Between Piilani & Kenolio	34	922	913	9	0	64.3	58.1	53.1
Kaonoulu St., Between Kenolio & Alulike	34	739	732	7	0	63.3	57.2	52.1
Kaonoulu St., Between Alulike & S. Kihei	34	733	726	7	0	63.3	57.1	52.1
S. Kihei Rd. N. of Kaonoulu	39	1,376	1,342	23	11	66.6	60.5	54.4
S. Kihei Rd. S. of Kaonoulu	39	1,554	1,516	26	12	67.1	61.0	54.9
E. Kaonoulu St. E. of Piilani	34	2,459	2,414	25	20	70.3	63.8	57.3
Kulanihakai Rd. W. of Piilani	35	365	362	3	0	63.5	57.3	51.0
Kulanihakai Rd. E. of Piilani	35	104	103	1	0	58.4	52.1	45.7
Piikea Ave. W. of Piilani	35	1,398	1,387	11	0	64.7	58.5	52.2

\*Piilani Hwy., Between Uwapo & N. Kihei's Leq shown in "50' Leq" column was calculated at 75' instead of 50'.

TABLE 6B

FUTURE (CY 2018) TRAFFIC VOLUMES AND NOISE LEVELS  
ALONG ROADWAYS IN PROJECT AREA  
(PEAK HOUR, SATURDAY, BUILD)

LOCATION	SPEED (MPH)	TOTAL VPH	***** VOLUMES (VPH) *****			50' Leq	100' Leq	200' Leq
			AUTOS	M TRUCKS	H TRUCKS			
Mokulele Hwy., N. of N. Kihei Rd.	55	2,935	2,888	35	12	75.2	68.4	61.2
Piilani Hwy., Between Uwapo & N. Kihei *	50	3,556	3,499	43	14	74.8	71.3	61.8
Piilani Hwy., Between Uwapo & Ohukai	46	3,643	3,584	44	15	73.2	66.8	61.0
Piilani Hwy., Between Ohukai & Kaonoulu	46	3,666	3,607	44	15	73.3	68.3	62.8
Piilani Hwy., Between Kaonoulu & Kulanihako'i	55	3,685	3,626	44	15	75.7	69.1	63.2
Piilani Hwy., Between Kulanihako'i & Piikea	55	3,596	3,539	43	14	75.6	70.6	65.1
Piilani Hwy., South of Piikea	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N. Kihei Rd., West of South Kihei	50	1,773	1,751	11	11	71.6	65.0	58.0
N. Kihei Rd., Between Piilani & S. Kihei	46	1,243	1,229	7	7	69.3	63.6	57.3
S. Kihei Rd., South of N. Kihei Rd.	39	1,122	1,108	7	7	65.4	59.3	53.1
Uwapo Rd., W. of Piilani	30	430	430	0	0	58.9	52.7	46.6
Ohukai Rd., W. of Piilani	30	686	686	0	0	60.9	54.7	48.7
Ohukai Rd., E. of Piilani	30	521	521	0	0	59.9	53.7	48.7
Kaonoulu St., Between Piilani & Kenolio	34	1,016	1,016	0	0	63.7	57.5	52.3
Kaonoulu St., Between Kenolio & Alulike	34	813	813	0	0	62.7	56.5	51.4
Kaonoulu St., Between Alulike & S. Kihei	34	783	783	0	0	62.5	56.3	51.2
S. Kihei Rd. N. of Kaonoulu	37	1,320	1,304	8	8	65.5	59.3	53.3
S. Kihei Rd. S. of Kaonoulu	37	1,526	1,508	9	9	66.1	60.0	53.9
E. Kaonoulu St. E. of Piilani	34	3,177	3,177	0	0	69.8	63.2	56.2
Kulanihako'i Rd. W. of Piilani	35	318	314	2	2	60.7	54.7	48.7
Kulanihako'i Rd. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Piikea Ave. W. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Piilani Hwy., Between Uwapo & N. Kihei's Leq shown in "50' Leq" column was calculated at 75' instead of 50'.

TABLE 7A

**CALCULATIONS OF PROJECT AND NON-PROJECT  
TRAFFIC NOISE CONTRIBUTIONS (WEEKDAYS, CY 2018)**

<u>STREET SECTION</u>	NOISE LEVEL INCREASE DUE TO	
	<u>NON-PROJECT TRAFFIC</u>	<u>PROJECT TRAFFIC</u>
Mokulele Hwy., N. of N. Kihei Rd.	0.7	0.2
Piilani Hwy., Between Uwapo & N. Kihei	0.8	0.4
Piilani Hwy., Between Uwapo & Ohukai	0.7	0.6
Piilani Hwy., Between Ohukai & Kaonoulu	0.7	0.8
Piilani Hwy., Between Kaonoulu & Kulanihakoi	0.6	0.8
Piilani Hwy., Between Kulanihakoi & Piikea	0.7	0.7
Piilani Hwy., South of Piikea	0.6	0.6
N. Kihei Rd., West of South Kihei	0.8	0.7
N. Kihei Rd., Between Piilani & S. Kihei	0.6	0.6
S. Kihei Rd., South of N. Kihei Rd.	0.7	0.3
Uwapo Rd., W. of Piilani	1.0	0.9
Ohukai Rd., W. of Piilani	0.5	0.7
Ohukai Rd., E. of Piilani	0.0	0.5
Kaonoulu St., Between Piilani & Kenolio	2.7	2.3
Kaonoulu St., Between Kenolio & Alulike	4.0	2.6
Kaonoulu St., Between Alulike & S. Kihei	2.9	1.7
S. Kihei Rd. N. of Kaonoulu	0.6	0.5
S. Kihei Rd. S. of Kaonoulu	0.6	0.6
E. Kaonoulu St. E. of Piilani	N/A	63.8 *
Kulanihakoi Rd. W. of Piilani	0.0	1.0
Kulanihakoi Rd. E. of Piilani	52.1	0.0 *
Piikea Ave. W. of Piilani	0.4	0.6

Notes:

1. "\*" Large DNL values result from comparisons of future roadway DNL values with currently non-existing roadways.
2. "N/A" results from lack of applicable traffic data for that roadway.

TABLE 7B

**CALCULATIONS OF PROJECT AND NON-PROJECT  
TRAFFIC NOISE CONTRIBUTIONS (SATURDAY, CY 2018 )**

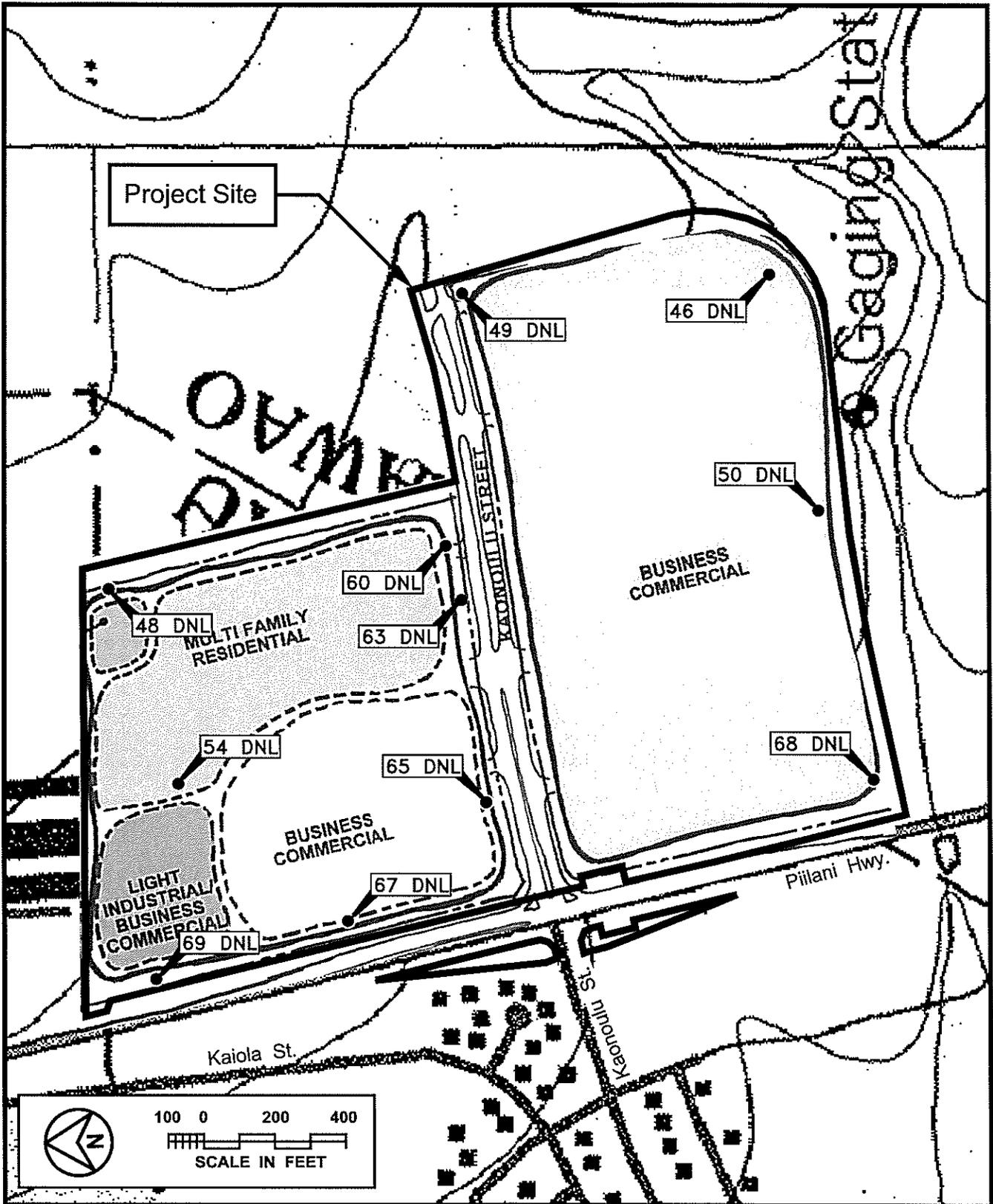
<u>STREET SECTION</u>	NOISE LEVEL INCREASE DUE TO	
	<u>NON-PROJECT TRAFFIC</u>	<u>PROJECT TRAFFIC</u>
Mokulele Hwy., N. of N. Kihei Rd.	1.0	0.3
Piilani Hwy., Between Uwapo & N. Kihei	1.1	0.6
Piilani Hwy., Between Uwapo & Ohukai	1.2	0.9
Piilani Hwy., Between Ohukai & Kaonoulu	1.1	1.2
Piilani Hwy., Between Kaonoulu & Kulanihakoi	1.0	1.2
Piilani Hwy., Between Kulanihakoi & Piikea	1.0	1.1
Piilani Hwy., South of Piikea	N/A	N/A
N. Kihei Rd., West of South Kihei	1.4	0.9
N. Kihei Rd., Between Piilani & S. Kihei	0.8	0.9
S. Kihei Rd., South of N. Kihei Rd.	1.1	0.5
Uwapo Rd., W. of Piilani	1.3	1.3
Ohukai Rd., W. of Piilani	0.8	0.7
Ohukai Rd., E. of Piilani	0.0	1.0
Kaonoulu St., Between Piilani & Kenolio	3.5	2.8
Kaonoulu St., Between Kenolio & Alulike	5.2	3.0
Kaonoulu St., Between Alulike & S. Kihei	3.7	2.2
S. Kihei Rd. N. of Kaonoulu	0.6	0.7
S. Kihei Rd. S. of Kaonoulu	0.8	0.6
E. Kaonoulu St. E. of Piilani	N/A	63.2 *
Kulanihakoi Rd. W. of Piilani	0.0	1.8
Kulanihakoi Rd. E. of Piilani	N/A	N/A
Piikea Ave. W. of Piilani	N/A	N/A

Notes:

1. "\*" Large DNL value results from comparisons of future roadway DNL values with currently non-existing roadways.
2. "N/A" results from lack of applicable traffic data for that roadway.

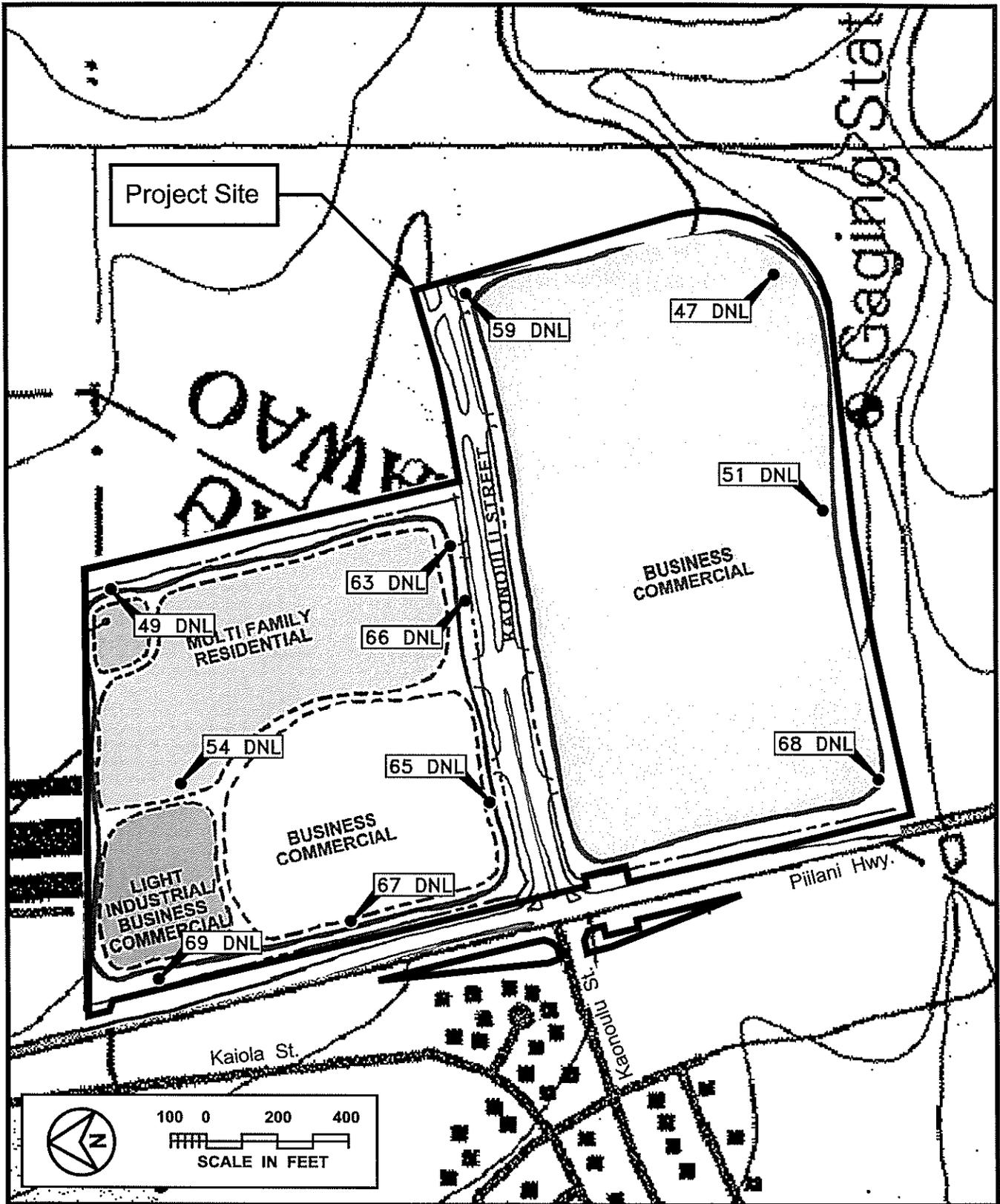
The dominant traffic noise sources in the project environs will continue to be traffic along Piilani Highway and South Kihei Road. The new section of Kaonoulu Street east of Piilani Highway will also be a dominant traffic noise source on the mauka side of Piilani Highway. Figure 6 depicts the predicted traffic noise levels over the project site under the Build Alternative by CY 2018. The planned multifamily residences of the project fronting East Kaonoulu Street should not experience future traffic noise levels greater than the 65 DNL FHA/HUD standard or the 66 Leq noise abatement criteria of the HDOT by 2018 as long as their setback distances from the centerline of Kaonoulu Street are at least 51 feet. While the predicted future traffic noise levels exceed 65 DNL at the project's lots which front Piilani Highway, these predicted levels are compatible with the planned business, commercial, or light industrial uses. The traffic noise levels shown in Figure 6 will probably increase from the values shown after CY 2018 following completion of the Upcountry Highway, particularly at the locations near the new section of Kaonoulu Street.

Figure 7 depicts the potential traffic noise levels over the project site following completion of the Upcountry Highway and with Kaonoulu Street accommodating the additional traffic from the Upcountry Highway. In Figure 7, the potential traffic noise contributions from Kaonoulu Street were increased in accordance with the traffic forecasts for Kaonoulu Street from Figure 22 of the traffic study (Reference 7). While the traffic noise contributions from Piilani Highway may decline following the completion of the Upcountry Highway, the higher CY 2018 values shown in Table 6A were used to develop the potential traffic noise levels shown in Figure 7 for the post-2018 period. As shown in Figure 7, the potential traffic noise levels along Kaonoulu Street will be approximately 3 DNL higher than those shown in Figure 6. The traffic noise levels at all units of the proposed multifamily residential parcel will not exceed the HDOT's "15 dB increase" noise abatement criteria by CY 2025. For the southernmost buildings of the residential parcel, a minimum setback distance of 81 feet from the centerline of Kaonoulu is required so that traffic noise levels do not exceed 65 DNL or the 66 Leq HDOT noise abatement criteria by CY 2025.



**PROJECT LOCATION MAP AND  
FUTURE (CY 2018) TRAFFIC NOISE LEVELS**

**FIGURE  
6**



**PROJECT LOCATION MAP AND FUTURE TRAFFIC NOISE LEVELS WITH UPCOUNTRY HIGHWAY**

**FIGURE 7**

## CHAPTER VII. DISCUSSION OF PROJECT-RELATED NOISE IMPACTS AND POSSIBLE MITIGATION MEASURES

Traffic Noise. Existing traffic noise levels along Piilani Highway and South Kihei Road are very high, and are expected to remain so through CY 2018. Traffic noise impacts along those two roadways will continue to occur at noise sensitive receptors which are not provided with noise mitigation measures such as sound attenuating walls and/or closure and air conditioning.

Project related traffic along Piilani Highway and South Kihei Road are not expected to cause significant increases in future traffic noise levels. Increases in future traffic noise levels along Piilani Highway resulting from project traffic are expected to range from 0.2 to 0.8 DNL by CY 2018. The largest increases (1.7 to 2.6 DNL) in project related traffic noise are predicted to occur along Kaonoulu Street. Adverse traffic noise impacts along Kaonoulu Street are not expected to occur since existing traffic noise levels are very low, and the addition of both project plus non-project traffic is not expected to cause traffic noise levels to exceed 65 DNL at existing residences along Kaonoulu Street by CY 2018. The noise sensitive residential buildings along Kaonoulu Street have adequate setback distances such that predicted CY 2018 traffic noise levels should remain in the "Moderate Exposure, Normally Acceptable" category at these buildings. For these reasons, traffic noise mitigation measures should not be required.

Potential Noise Impacts At Project's 226 Residential Units. Because the Piilani Promenade Project includes proposed residential units within the industrial zoned lands, noise impacts at the residential units from activities associated with the light industrial, business, and commercial uses are possible. In addition, traffic noise impacts from the future traffic on the new mauka section of Kaonoulu Street following completion of the Upcountry Highway are possible. Figure 6 indicated that the project's residential units should not experience traffic noise levels greater than 65 DNL by CY 2018. In order to examine the potential traffic noise levels following completion of the Upcountry Highway, Figure 7 was developed using data contained in Reference 7. Future traffic noise levels following completion of the Upcountry Highway could exceed 65 DNL at the southern end of the residential parcel at setback distances less than 81 feet from the centerline of East Kaonoulu Street. If this minimum setback distance cannot be achieved, the application of other traffic noise mitigation measures, such as the addition of sound attenuating walls or the use of closure with air conditioning should be considered.

Because the project's residential parcel is adjacent to existing and future nonresidential uses, potential noise impacts and noise complaints may occur due to audible noise emanating from these nonresidential uses. For multifamily residences, the State DOH noise limits are 60 dBA during the daytime (7:00 am to 10:00 pm) and 50 dBA during the nighttime (10:00 pm to 7:00 am). However, because the allowable State DOH noise limits are determined by the lot zoning at the source of the noise, a

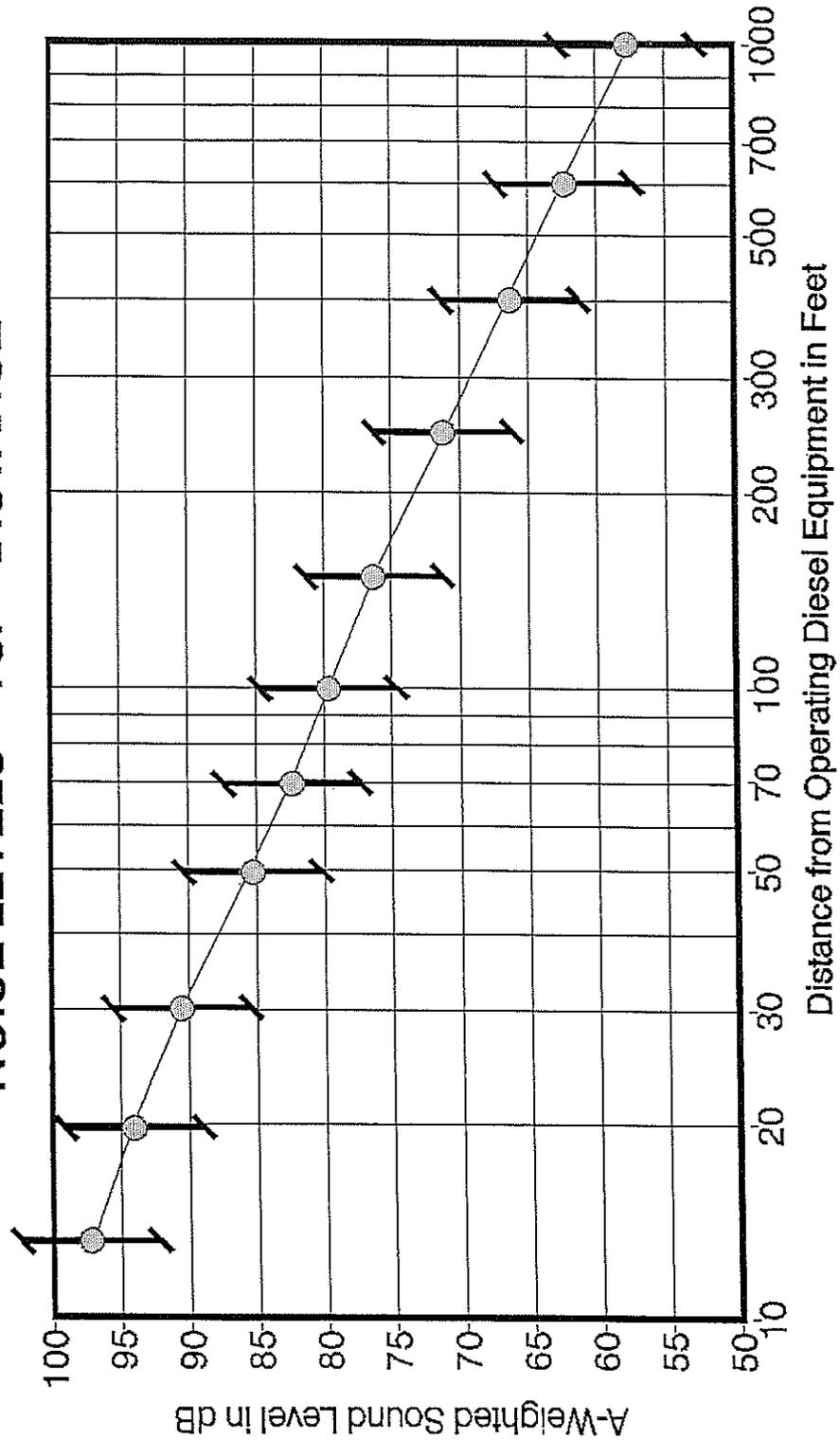
higher noise limit of 70 dBA during the daytime and nighttime will apply at the proposed residences in accordance with State DOH rules. Both the project and existing parcel north of the planned residential units are zoned Light Industrial, with applicable limits of 70 dBA during the daytime and nighttime periods. A steady noise level of 56 dBA during the daytime and nighttime would equate to the 65 DNL FHA/HUD standard for noise sensitive properties, so the potential exists for exceeding the 65 DNL standard by 14 dBA at the project's residential units. In situations like this, it would be prudent to include noise limits within the land conveyance documents to limit noise emissions from the tenants of the light industrial, business, and commercial lots to the State DOH limits for multifamily residential properties. These limits are 60 dBA and 50 dBA for the daytime and nighttime periods, respectively. These limits are also identical to the State DOH limits for business and commercial zoned lands.

It would also be prudent to include provisions for nighttime and early morning delivery trucks to ingress and egress the nonresidential lots via internal roadways which maximize the distances between the trucks and the project's residential buildings. These roadways could also include the circulation driveways within the parking areas. The use of beeper type backup alarms should be discouraged, and the use of broadband noise type backup alarms should be encouraged, primarily because the beeper type backup alarms are audible at longer distances than are the broadband noise backup alarms.

A noise conflict situation between light industrial zoned lands and residential uses on adjacent spaces may occur at the project's residential buildings at the north end of the project due to existing noise emissions from the existing light industrial subdivision to the north of the proposed residential buildings. Current noise emissions from the existing light industrial subdivision may be exceeding 50 dBA during the daytime and nighttime periods. These noise emission levels are probably in compliance with the State DOH noise limit of 70 dBA, but may be too high for future residences of the three project buildings. In situations like these, it may be prudent to include disclosure of the potential 70 dBA noise levels within the land conveyance documents of the proposed residential parcels. In addition, it may also be mutually beneficial to apply noise mitigation measures to the noise sources within the existing light industrial parcel(s) which exceed 50 dBA at the proposed residential dwellings.

General Construction Noise. Audible construction noise will probably be unavoidable during the entire project construction period. The total time period for construction is unknown, but it is anticipated that the actual work will be moving from one location on the project site to another during that period. Actual length of exposure to construction noise at any receptor location will probably be less than the total construction period for the entire project. Typical levels of exterior noise from construction activity (excluding pile driving activity) at various distances from the job site are shown in Figure 8. The impulsive noise levels of impact pile drivers are approximately 15 dB higher than the levels shown in Figure 8, while the intermittent noise levels of vibratory pile drivers are at the upper end of the noise level ranges depicted in the figure.

# ANTICIPATED RANGE OF CONSTRUCTION NOISE LEVELS VS. DISTANCE



CONSTRUCTION NOISE LEVELS VS. DISTANCE

FIGURE  
8

Figure 8 is useful for predicting exterior noise levels at short distances (within 100 FT) from the work when visual line of sight exists between the construction equipment and the receptor. Direct line-of-sight distances from the construction equipment operating on the mauka side of Piilani Highway to existing residential buildings will range from 150 FT to 1,850 FT, with corresponding average noise levels of 77 to 52 dBA (plus or minus 5 dBA). Typical levels of construction noise inside naturally ventilated and air conditioned structures are approximately 10 and 20 dB less, respectively, than the levels shown in Figure 8.

An existing residence located approximately 900 feet north of the project and south of Ohukai Road is the closest existing residence to the north of the project site. A large number of residences are located beyond 1,200 feet north of the project site across Ohukai Road. The highest noise levels at these residences from construction activities of 58 to 52 dBA are expected to occur during earthwork and site preparation activities near the north end of the Piilani Promenade development. The noise from construction activities on the project site will be audible at long distances from the Ohukai Road residences due to the relatively low (40 to 55 dBA) background noise levels at these residences.

The existing residences across Piilani Highway west of the project site would probably hear any construction activities involving earthwork or landscaping within the State Right-of-Way (ROW) on the makai side of Piilani Highway near the Kaonoulu Street intersection. The noise levels from these close-in construction activities may range from 80 to 95 dBA at existing residences along the makai ROW. Existing residences along the makai ROW may also hear the construction activities within the main project site mauka of Piilani Highway. The highest noise levels from construction activities of 75 to 77 dBA are expected to occur at these residences during earthwork and site preparation activities near the mauka ROW of Piilani Highway. The noise from construction activities will decrease and be masked by traffic noise along Piilani Highway at these residences along Piilani Highway as project construction activities move toward the east end of the project site. Adverse impacts from construction noise are not expected to be in the "public health and welfare" category due to the temporary nature of the work, and due to the administrative controls available for regulation of construction noise. Instead, these impacts will probably be limited to the temporary degradation of the quality of the acoustic environment in the immediate vicinity of the project site.

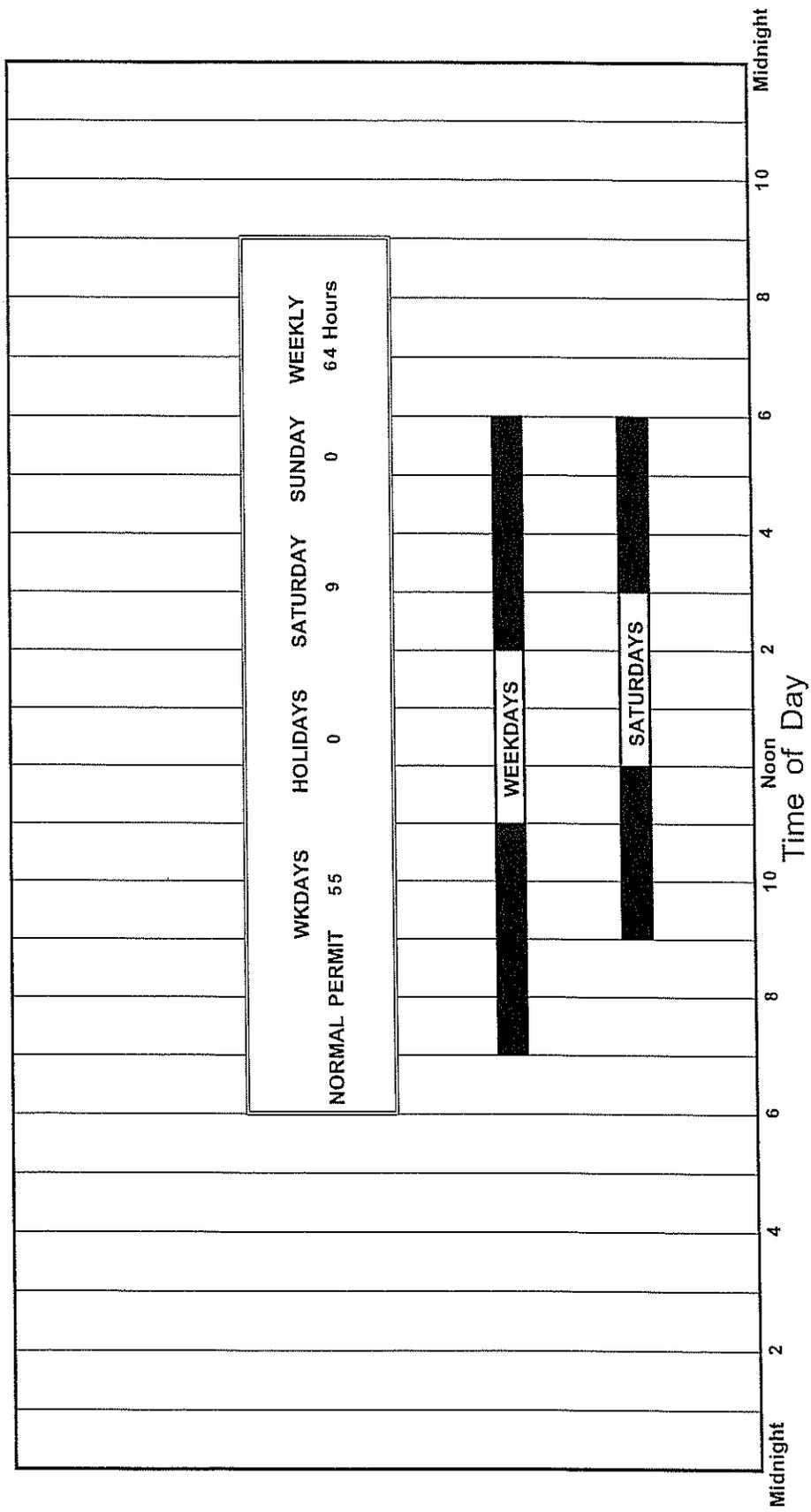
Mitigation of construction noise to inaudible levels will not be practical in all cases due to the intensity of construction noise sources (80 dBA at 100 FT distance), and due to the exterior nature of the work (rock breaking, grading and earth moving, trenching, concrete pouring, hammering, etc.). The use of properly muffled construction equipment should be required on the job site.

Peak airborne noise levels from pile driving may be as much as 15 dBA greater than noise levels shown in Figure 8 for non-impulsive (steady) construction noise sources. Although the pile driving can produce more intense noise levels, each pulse is

of short individual duration (less than one second). Therefore, its impact on speech communication is not as severe as that of a steady source of the same noise level.

Severe noise impacts are not expected to occur inside air conditioned structures which are beyond 200 FT from the project construction site. Inside naturally ventilated structures, interior noise levels (with windows or doors opened) are estimated to range between 65 to 53 dBA at 200 FT to 600 FT distances from the construction site. Closure of all doors and windows facing the construction site would generally reduce interior noise levels by an additional 5 to 10 dBA.

The incorporation of State Department of Health construction noise limits and curfew times, which are applicable throughout the State of Hawaii (Reference 5), is another noise mitigation measure which is normally applied to construction activities. Figure 9 depicts the normally permitted hours of construction. Noisy construction activities are not allowed on Sundays and holidays, during the early morning, and during the late evening and nighttime periods under the DOH permit procedures.



**FIGURE 9**

**AVAILABLE WORK HOURS UNDER DOH PERMIT PROCEDURES FOR CONSTRUCTION NOISE**

## APPENDIX A. REFERENCES

- (1) "Guidelines for Considering Noise in Land Use Planning and Control;" Federal Interagency Committee on Urban Noise; June 1980.
- (2) American National Standard, "Sound Level Descriptors for Determination of Compatible Land Use," ANSI S12.9-1998/ Part 5; Acoustical Society of America.
- (3) "Environmental Criteria and Standards, Noise Abatement and Control, 24 CFR, Part 51, Subpart B;" U.S. Department of Housing and Urban Development; July 12, 1979.
- (4) "Information on Levels of Environmental Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety;" U.S. Environmental Protection Agency; EPA 550/9-74-004; March 1974.
- (5) "Title 11, Administrative Rules, Chapter 46, Community Noise Control;" Hawaii State Department of Health; September 23, 1996.
- (6) "FHWA Highway Traffic Noise Model User's Guide;" FHWA-PD-96-009, Federal Highway Administration; Washington, D.C.; January 1998 and Version 2.5 Upgrade (April 14, 2004).
- (7) "Traffic Impact Analysis Report for Piilani Promenade;" Phillip Rowell and Associates; December 23, 2013.
- (8) Hourly Traffic Counts At Station B74003100000, Piilani Highway Between Kaonoulu Street and Kulanihakoi Road; Hawaii State Department of Transportation; September 28, 2011.
- (9) Hourly Traffic Counts At Station B74310000013, South Kihei Road Between Nohokai Street and Piikea Avenue; Hawaii State Department of Transportation; August 19, 2010.

## APPENDIX B

### EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

#### Descriptor Symbol Usage

The recommended symbols for the commonly used acoustic descriptors based on A-weighting are contained in Table I. As most acoustic criteria and standards used by EPA are derived from the A-weighted sound level, almost all descriptor symbol usage guidance is contained in Table I.

Since acoustic nomenclature includes weighting networks other than "A" and measurements other than pressure, an expansion of Table I was developed (Table II). The group adopted the ANSI descriptor-symbol scheme which is structured into three stages. The first stage indicates that the descriptor is a level (i.e., based upon the logarithm of a ratio), the second stage indicates the type of quantity (power, pressure, or sound exposure), and the third stage indicates the weighting network (A, B, C, D, E.....). If no weighting network is specified, "A" weighting is understood. Exceptions are the A-weighted sound level and the A-weighted peak sound level which require that the "A" be specified. For convenience in those situations in which an A-weighted descriptor is being compared to that of another weighting, the alternative column in Table II permits the inclusion of the "A". For example, a report on blast noise might wish to contrast the LCdn with the LAdn.

Although not included in the tables, it is also recommended that "Lpn" and "LepN" be used as symbols for perceived noise levels and effective perceived noise levels, respectively.

It is recommended that in their initial use within a report, such terms be written in full, rather than abbreviated. An example of preferred usage is as follows:

The A-weighted sound level (LA) was measured before and after the installation of acoustical treatment. The measured LA values were 85 and 75 dB respectively.

#### Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the term "equivalent". Hence, Leq, is designated the "equivalent sound level". For Ld, Ln, and Ldn, "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

The peak sound level is the logarithmic ratio of peak sound pressure to a reference pressure and not the maximum root mean square pressure. While the latter is the maximum sound pressure level, it is often incorrectly labelled peak. In that sound level meters have "peak" settings, this distinction is most important.

"Background ambient" should be used in lieu of "background", "ambient", "residual", or "indigenous" to describe the level characteristics of the general background noise due to the contribution of many unidentifiable noise sources near and far.

With regard to units, it is recommended that the unit decibel (abbreviated dB) be used without modification. Hence, DBA, PNdB, and EPNdB are not to be used. Examples of this preferred usage are: the Perceived Noise Level (Lpn was found to be 75 dB. Lpn = 75 dB). This decision was based upon the recommendation of the National Bureau of Standards, and the policies of ANSI and the Acoustical Society of America, all of which disallow any modification of bel except for prefixes indicating its multiples or submultiples (e.g., deci).

#### Noise Impact

In discussing noise impact, it is recommended that "Level Weighted Population" (LWP) replace "Equivalent Noise Impact" (ENI). The term "Relative Change of Impact" (RCI) shall be used for comparing the relative differences in LWP between two alternatives.

Further, when appropriate, "Noise Impact Index" (NII) and "Population Weighed Loss of Hearing" (PHL) shall be used consistent with CHABA Working Group 69 Report Guidelines for Preparing Environmental Impact Statements (1977).

## APPENDIX B (CONTINUED)

TABLE I  
A-WEIGHTED RECOMMENDED DESCRIPTOR LIST

<u>TERM</u>	<u>SYMBOL</u>
1. A-Weighted Sound Level	$L_A$
2. A-Weighted Sound Power Level	$L_{WA}$
3. Maximum A-Weighted Sound Level	$L_{max}$
4. Peak A-Weighted Sound Level	$L_{Apk}$
5. Level Exceeded x% of the Time	$L_x$
6. Equivalent Sound Level	$L_{eq}$
7. Equivalent Sound Level over Time (T) <sup>(1)</sup>	$L_{eq(T)}$
8. Day Sound Level	$L_d$
9. Night Sound Level	$L_n$
10. Day-Night Sound Level	$L_{dn}$
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$
12. Sound Exposure Level	$L_{SE}$

(1) Unless otherwise specified, time is in hours (e.g. the hourly equivalent level is  $L_{eq(1)}$ ). Time may be specified in non-quantitative terms (e.g., could be specified a  $L_{eq(WASH)}$  to mean the washing cycle noise for a washing machine).

SOURCE: EPA ACOUSTIC TERMINOLOGY GUIDE, BNA 8-14-78,

## APPENDIX B (CONTINUED)

### TABLE II RECOMMENDED DESCRIPTOR LIST

TERM	ALTERNATIVE <sup>(1)</sup>		OTHER <sup>(2)</sup>	UNWEIGHTED
	A-WEIGHTING	A-WEIGHTING	WEIGHTING	
1. Sound (Pressure) <sup>(3)</sup> Level	$L_A$	$L_{pA}$	$L_B, L_{pB}$	$L_p$
2. Sound Power Level	$L_{WA}$		$L_{WB}$	$L_W$
3. Max. Sound Level	$L_{max}$	$L_{Amax}$	$L_{Bmax}$	$L_{pmax}$
4. Peak Sound (Pressure) Level	$L_{Apk}$		$L_{Bpk}$	$L_{pk}$
5. Level Exceeded x% of the Time	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$
6. Equivalent Sound Level	$L_{eq}$	$L_{Aeq}$	$L_{Beq}$	$L_{peq}$
7. Equivalent Sound Level <sup>(4)</sup> Over Time(T)	$L_{eq(T)}$	$L_{Aeq(T)}$	$L_{Beq(T)}$	$L_{peq(T)}$
8. Day Sound Level	$L_d$	$L_{Ad}$	$L_{Bd}$	$L_{pd}$
9. Night Sound Level	$L_n$	$L_{An}$	$L_{Bn}$	$L_{pn}$
10. Day-Night Sound Level	$L_{dn}$	$L_{Adn}$	$L_{Bdn}$	$L_{pdn}$
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$	$L_{Adn(Y)}$	$L_{Bdn(Y)}$	$L_{pdn(Y)}$
12. Sound Exposure Level	$L_S$	$L_{SA}$	$L_{SB}$	$L_{Sp}$
13. Energy Average Value Over (Non-Time Domain) Set of Observations	$L_{eq(e)}$	$L_{Aeq(e)}$	$L_{Beq(e)}$	$L_{peq(e)}$
14. Level Exceeded x% of the Total Set of (Non-Time Domain) Observations	$L_{x(e)}$	$L_{Ax(e)}$	$L_{Bx(e)}$	$L_{px(e)}$
15. Average $L_x$ Value	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$

(1) "Alternative" symbols may be used to assure clarity or consistency.

(2) Only B-weighting shown. Applies also to C,D,E,.....weighting.

(3) The term "pressure" is used only for the unweighted level.

(4) Unless otherwise specified, time is in hours (e.g., the hourly equivalent level is  $L_{eq(1)}$ ). Time may be specified in non-quantitative terms (e.g., could be specified as  $L_{eq(WASH)}$  to mean the washing cycle noise for a washing machine.

APPENDIX C1

SUMMARY OF BASE YEAR AND YEAR 2018  
WEEKDAY TRAFFIC VOLUMES

ROADWAY LANES	*** CY 2013 ****		CY 2018 (NO BUILD)		CY 2018 (BUILD)	
	AM VPH	PM VPH	AM VPH	PM VPH	AM VPH	PM VPH
Mokulele Hwy., N. of N. Kihei Rd. (NB)	1,292	1,447	1,410	1,657	1,437	1,751
Mokulele Hwy., N. of N. Kihei Rd. (SB)	1,106	1,314	1,283	1,561	1,316	1,648
Two-Way	2,398	2,761	2,693	3,218	2,753	3,399
Piilani Hwy., Between Uwapo & N. Kihei (NB)	1,448	1,495	1,617	1,773	1,670	1,962
Piilani Hwy., Between Uwapo & N. Kihei (SB)	1,266	1,421	1,492	1,751	1,558	1,925
Two-Way	2,714	2,916	3,109	3,524	3,228	3,887
Piilani Hwy., Between Uwapo & Ohukai (NB)	1,278	1,601	1,369	1,904	1,448	2,189
Piilani Hwy., Between Uwapo & Ohukai (SB)	1,455	1,456	1,780	1,740	1,880	2,000
Two-Way	2,733	3,056	3,149	3,643	3,328	4,189
Piilani Hwy., Between Ohukai & Kaonoulu (NB)	1,115	1,548	1,181	1,820	1,288	2,199
Piilani Hwy., Between Ohukai & Kaonoulu (SB)	1,596	1,536	1,880	1,789	2,014	2,136
Two-Way	2,710	3,083	3,061	3,608	3,302	4,335
Piilani Hwy., Between Kaonoulu & Kulanihakoi (NB)	1,268	1,679	1,340	1,944	1,469	2,282
Piilani Hwy., Between Kaonoulu & Kulanihakoi (SB)	1,782	1,595	2,059	1,840	2,162	2,209
Two-Way	3,050	3,273	3,399	3,783	3,631	4,491
Piilani Hwy., Between Kulanihakoi & Piikea (NB)	1,298	1,704	1,510	1,992	1,626	2,296
Piilani Hwy., Between Kulanihakoi & Piikea (SB)	1,894	1,572	2,198	1,846	2,291	2,178
Two-Way	3,191	3,275	3,708	3,838	3,917	4,473
Piilani Hwy., South of Piikea (NB)	1,109	1,625	1,288	1,880	1,371	2,097
Piilani Hwy., South of Piikea (SB)	1,659	1,429	1,900	1,639	1,966	1,876
Two-Way	2,768	3,054	3,188	3,519	3,337	3,973
N. Kihei Rd., West of South Kihei (EB)	464	835	614	1,013	664	1,143
N. Kihei Rd., West of South Kihei (WB)	788	586	929	704	969	846
Two-Way	1,252	1,421	1,543	1,717	1,633	1,989
N. Kihei Rd., Between Piilani & S. Kihei (EB)	478	559	547	652	580	739
N. Kihei Rd., Between Piilani & S. Kihei (WB)	466	524	558	594	585	688
Two-Way	944	1,083	1,105	1,246	1,165	1,427
S. Kihei Rd., South of N. Kihei Rd. (NB)	555	414	624	472	637	520
S. Kihei Rd., South of N. Kihei Rd. (SB)	263	590	364	685	381	728
Two-Way	818	1,004	988	1,157	1,018	1,248

APPENDIX C1 (CONTINUED)

SUMMARY OF BASE YEAR AND YEAR 2018  
WEEKDAY TRAFFIC VOLUMES

ROADWAY LANES	**** CY 2013 ****		CY 2018 (NO BUILD)		CY 2018 (BUILD)	
	AM VPH	PM VPH	AM VPH	PM VPH	AM VPH	PM VPH
Uwapo Rd., W. of Piilani (EB)	259	169	283	217	300	260
Uwapo Rd., W. of Piilani (WB)	64	151	106	188	119	236
Two-Way	323	320	389	405	419	496
Ohukai Rd., W. of Piilani (EB)	244	245	253	275	270	318
Ohukai Rd., W. of Piilani (WB)	109	226	146	257	159	305
Two-Way	353	471	399	532	429	623
Ohukai Rd., E. of Piilani (EB)	295	270	295	270	308	318
Ohukai Rd., E. of Piilani (WB)	427	438	428	438	445	481
Two-Way	722	708	723	708	753	799
Kaonoulu St., Between Piilani & Kenolio (EB)	225	159	322	283	392	466
Kaonoulu St., Between Piilani & Kenolio (WB)	87	131	209	257	265	456
Two-Way	312	290	531	540	657	922
Kaonoulu St., Between Kenolio & Aluliike (EB)	73	98	146	218	206	374
Kaonoulu St., Between Kenolio & Aluliike (WB)	49	62	223	194	271	365
Two-Way	121	159	368	412	476	739
Kaonoulu St., Between Aluliike & S. Kihei (EB)	82	170	162	281	222	438
Kaonoulu St., Between Aluliike & S. Kihei (WB)	95	81	255	210	279	295
Two-Way	176	250	417	491	501	733
S. Kihei Rd. N. of Kaonoulu (NB)	523	525	609	604	633	689
S. Kihei Rd. N. of Kaonoulu (SB)	367	543	428	608	458	687
Two-Way	890	1,068	1,037	1,212	1,091	1,376
S. Kihei Rd. S. of Kaonoulu (NB)	554	626	678	748	708	827
S. Kihei Rd. S. of Kaonoulu (SB)	427	546	512	642	536	727
Two-Way	981	1,172	1,190	1,390	1,244	1,554
E. Kaonoulu St. E. of Piilani (EB)	N/A	N/A	N/A	N/A	356	1,191
E. Kaonoulu St. E. of Piilani (WB)	N/A	N/A	N/A	N/A	290	1,268
Two-Way	N/A	N/A	N/A	N/A	646	2,459
Kulanihakoi Rd. W. of Piilani (EB)	173	131	178	132	191	166
Kulanihakoi Rd. W. of Piilani (WB)	67	161	71	161	81	199
Two-Way	240	292	249	293	272	365
Kulanihakoi Rd. E. of Piilani (EB)	N/A	N/A	228	49	228	49
Kulanihakoi Rd. E. of Piilani (WB)	N/A	N/A	108	55	108	55
Two-Way	N/A	N/A	336	104	336	104
Piikea Ave. W. of Piilani (EB)	439	509	472	542	505	629
Piikea Ave. W. of Piilani (WB)	459	611	527	675	554	769
Two-Way	898	1,120	999	1,217	1,059	1,398

APPENDIX C2

SUMMARY OF BASE YEAR AND YEAR 2018  
SATURDAY TRAFFIC VOLUMES

ROADWAY LANES	CY 2013 VPH	CY 2018 (NO BUILD) VPH	CY 2018 (BUILD) VPH
Mokulele Hwy., N. of N. Kihei Rd. (NB)	1,026	1,269	1,377
Mokulele Hwy., N. of N. Kihei Rd. (SB)	1,134	1,439	1,558
Two-Way	2,160	2,708	2,935
Piilani Hwy., Between Uwapo & N. Kihei (NB)	1,107	1,424	1,640
Piilani Hwy., Between Uwapo & N. Kihei (SB)	1,296	1,679	1,916
Two-Way	2,403	3,103	3,556
Piilani Hwy., Between Uwapo & Ohukai (NB)	1,076	1,406	1,729
Piilani Hwy., Between Uwapo & Ohukai (SB)	1,191	1,558	1,914
Two-Way	2,267	2,964	3,643
Piilani Hwy., Between Ohukai & Kaonoulu (NB)	1,009	1,303	1,734
Piilani Hwy., Between Ohukai & Kaonoulu (SB)	1,142	1,457	1,932
Two-Way	2,151	2,760	3,666
Piilani Hwy., Between Kaonoulu & Kulanihakoi (NB)	1,070	1,369	1,833
Piilani Hwy., Between Kaonoulu & Kulanihakoi (SB)	1,142	1,432	1,853
Two-Way	2,212	2,801	3,685
Piilani Hwy., South of Kulanihakoi (NB)	1,109	1,408	1,824
Piilani Hwy., South of Kulanihakoi (SB)	1,104	1,394	1,772
Two-Way	2,213	2,802	3,596
N. Kihei Rd., West of South Kihei (EB)	548	768	946
N. Kihei Rd., West of South Kihei (WB)	516	665	827
Two-Way	1,064	1,433	1,773
N. Kihei Rd., Between Piilani & S. Kihei (EB)	449	532	651
N. Kihei Rd., Between Piilani & S. Kihei (WB)	411	485	593
Two-Way	859	1,016	1,243
S. Kihei Rd., South of N. Kihei Rd. (NB)	380	460	514
S. Kihei Rd., South of N. Kihei Rd. (SB)	407	549	608
Two-Way	787	1,009	1,122

APPENDIX C2 (CONTINUED)

SUMMARY OF BASE YEAR AND YEAR 2018  
SATURDAY TRAFFIC VOLUMES

ROADWAY LANES	CY 2013 VPH	CY 2018 (NO BUILD) VPH	CY 2018 (BUILD) VPH
Uwapo Rd., W. of Piilani (EB)	126	169	228
Uwapo Rd., W. of Piilani (WB)	110	148	202
Two-Way	236	317	430
Ohukai Rd., W. of Piilani (EB)	327	363	422
Ohukai Rd., W. of Piilani (WB)	158	210	264
Two-Way	485	573	686
Ohukai Rd., E. of Piilani (EB)	242	242	296
Ohukai Rd., E. of Piilani (WB)	166	166	225
Two-Way	408	408	521
Kaonoulu St., Between Piilani & Kenolio (EB)	139	277	527
Kaonoulu St., Between Piilani & Kenolio (WB)	100	263	489
Two-Way	239	540	1,016
Kaonoulu St., Between Kenolio & Alulike (EB)	77	206	420
Kaonoulu St., Between Kenolio & Alulike (WB)	45	199	393
Two-Way	122	405	813
Kaonoulu St., Between Alulike & S. Kihei (EB)	114	244	458
Kaonoulu St., Between Alulike & S. Kihei (WB)	89	229	326
Two-Way	202	472	783
S. Kihei Rd. N. of Kaonoulu (NB)	503	589	686
S. Kihei Rd. N. of Kaonoulu (SB)	455	527	634
Two-Way	958	1,116	1,320
S. Kihei Rd. S. of Kaonoulu (NB)	575	711	818
S. Kihei Rd. S. of Kaonoulu (SB)	518	611	708
Two-Way	1,093	1,322	1,526
E. Kaonoulu St. E. of Piilani (EB)	N/A	N/A	1,645
E. Kaonoulu St. E. of Piilani (WB)	N/A	N/A	1,532
Two-Way	N/A	N/A	3,177
Kulanihakoi Rd. W. of Piilani (EB)	125	125	173
Kulanihakoi Rd. W. of Piilani (WB)	101	101	145
Two-Way	226	226	318
Kulanihakoi Rd. E. of Piilani (EB)	N/A	N/A	N/A
Kulanihakoi Rd. E. of Piilani (WB)	N/A	N/A	N/A
Two-Way	N/A	N/A	N/A



**APPENDIX E-1**  
**Acoustic Study Update dated March 2016**

**ACOUSTIC STUDY FOR THE  
PIILANI PROMENADE PROJECT  
KIHEI, MAUI**

Prepared for:

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**MARCH 2016**

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## CHAPTER I. SUMMARY

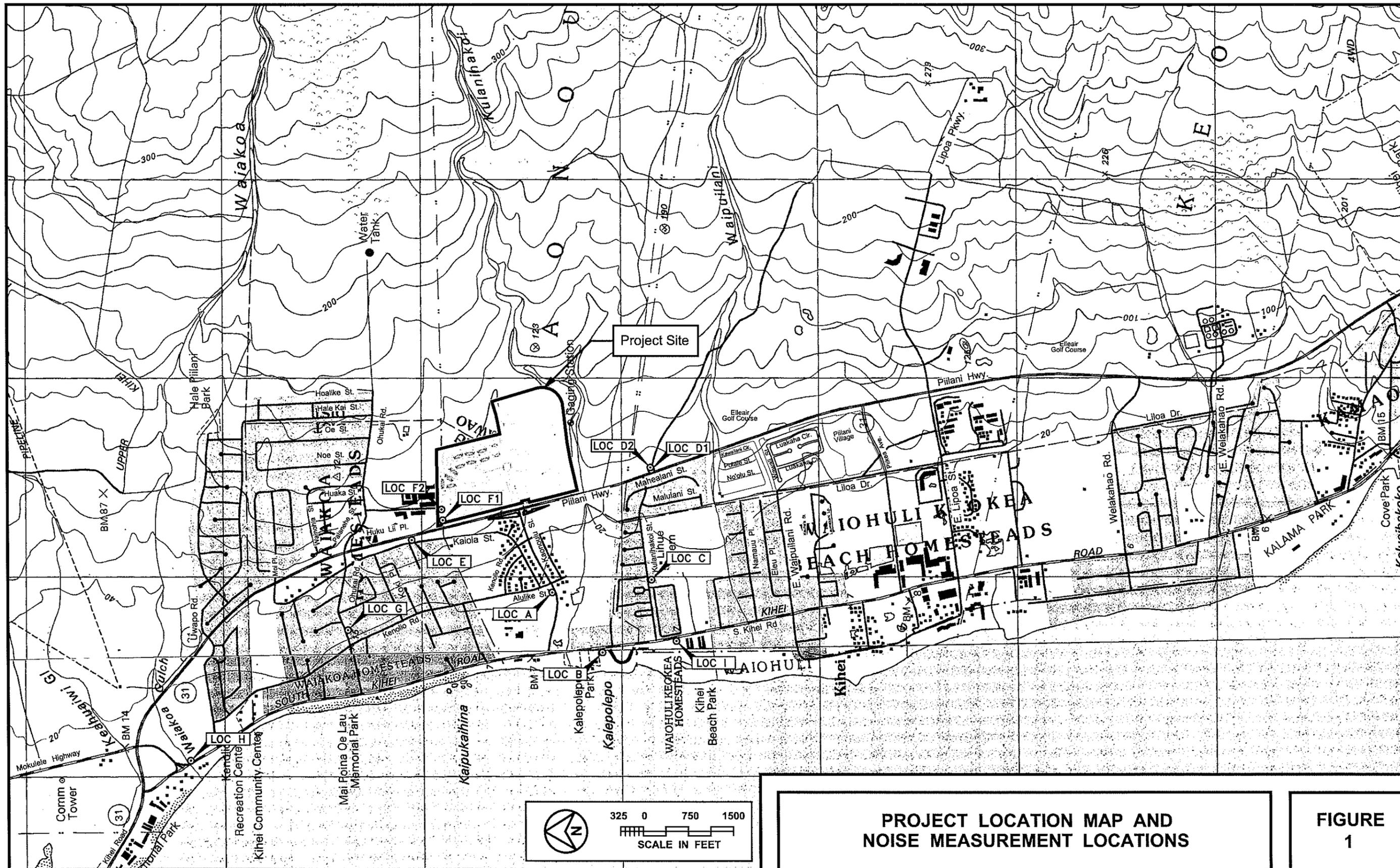
The existing and future traffic noise levels in the vicinity of the planned Piilani Promenade in Kihei, Maui were evaluated for their potential impacts and their relationship to current FHA/HUD noise standards for noise sensitive land uses. The traffic noise level increases along the roadways servicing the project site (see Figure 1) were calculated based upon the Traffic Impact Analysis Report (TIAR) by SSFM. Significant increases in traffic noise levels at noise sensitive properties are not expected to occur as a result of project traffic following project build-out by CY 2032.

The dominant traffic noise sources in the project environs will continue to be traffic along Piilani Highway and South Kihei Road. Future traffic noise levels along Piilani Highway by CY 2032 are expected to remain in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL at the first row of existing homes on the makai side of the highway. The future traffic noise levels in the project environs along South Kihei Road are expected to be in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL within 78 to 84 feet of the roadway's centerline. Along the lower volume connector streets between Piilani Highway and South Kihei Road, future traffic noise levels are expected to remain in the "Moderate Exposure, Acceptable" category, and less than 65 DNL at 53 feet or greater distance from the roadways' centerlines.

Along Piilani Highway fronting the project site, existing traffic noise levels of approximately 68 to 71 DNL (Day-Night Average Sound Level) are expected to increase to approximately 69 to 72 DNL at 100 foot distance from the centerline of the highway by CY 2032 as a result of project and non-project traffic. Increases of 0.0 to 1.4 DNL are associated with non-project traffic, and increases of 0.4 to 0.7 DNL are associated with project traffic.

The largest increases (2.9 to 3.6 DNL) in project related traffic noise are predicted to occur along Kaonoulu Street between Piilani Highway and South Kihei Road. Non-project traffic is expected to add 2.9 to 5.1 DNL of traffic noise to this section of Kaonoulu Street. Adverse traffic noise impacts along Kaonoulu Street east of Aulike Street are not expected to occur by CY 2032 since existing noise sensitive residences currently have adequate setbacks from the centerline of Kaonoulu Street and should remain in the "Moderate Exposure, Normally Acceptable" category. Along Kaonoulu Street west of Aulike Street, traffic noise levels are predicted to be 1 DNL unit above the FHA/HUD 65 DNL standard by CY 2032, with equal contributions from project and non-project traffic.

The project site is planned such that future noise sensitive residential uses of the project are situated at very large setback distances from Piilani Highway, where existing and future traffic noise levels from Piilani Highway are predicted to be less than 60 DNL. The large buffer distances to the highway will allow for the use of naturally ventilated buildings on the project site.



**PROJECT LOCATION MAP AND  
NOISE MEASUREMENT LOCATIONS**

**FIGURE  
1**

However, the addition of the proposed extension of Kaonoulu Street mauka of Piilani Highway will increase the existing background ambient noise levels along the center portion of the project site. Through project build-out in CY 2032, noise levels at the project's planned residential buildings fronting Kaonoulu Street should not exceed the 65 DNL federal standard or the Hawaii State Department of Transportation (HDOT) 66 Leq noise abatement criteria as long as the residential buildings are located at least 51 feet from the centerline of Kaonoulu Street. Based on the best available traffic forecasts available for future conditions following completion of the Upcountry Highway, a setback distance of 70 feet from the centerline of Kaonoulu Street is required for 65 DNL and 66 Leq to not be exceeded at these residential buildings. Noise mitigation measures in the form of a sound attenuating wall or closure and air conditioning would be required if adequate setback distances are not available. The future traffic noise levels at all planned residential buildings will not exceed the HDOT's "15 dB increase" noise abatement criteria.

In order to minimize the potential for noise conflicts between the project's residential units and the project's light industrial, business, and commercial tenants, the inclusion of various provisions within the land conveyance documents are recommended. These include limits on noise emissions from the light industrial, business, and commercial tenants to levels allowed by the State Department of Health (DOH) for multifamily dwellings; and disclosure of potential noise from adjoining nonresidential uses to owners of the project's residential units. In addition, the use of project driveways at maximum setback from the project's residential units by nighttime and early morning delivery trucks, and the use of broadband backup alarms instead of beeper type backup alarms within the nonresidential lots were recommended.

Unavoidable, but temporary, noise impacts may occur during construction of the proposed project, particularly during the excavation and earth moving activities on the project site. Because construction activities are predicted to be audible within the project site and at nearby properties, the quality of the acoustic environment may be degraded to unacceptable levels during periods of construction. Mitigation measures to reduce construction noise to inaudible levels will not be practical in all cases, but the use of quiet equipment and compliance with State Department of Health construction noise regulations are recommended as standard mitigation measures.

## CHAPTER II. PURPOSE

The primary objective of this study was to describe the existing and future traffic noise levels in the environs of the proposed Piilani Promenade in Kihei on the island of Maui (see Figure 1). Traffic forecasts for 2032 were used based upon the TIAR prepared by SSFM. Traffic noise level increases and impacts associated with the proposed development were to be determined within the project site as well as along the public roadways which are expected to service the project traffic. A specific objective was to determine future traffic noise level increases associated with both project and non-project traffic, and the potential noise impacts associated with these increases.

Impacts from on-site activities and short term construction noise at the project site were also included as noise study objectives. Recommendations for minimizing identified noise impacts were also to be provided as required.

### CHAPTER III. NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY

The noise descriptor currently used by federal agencies (such as FHA/HUD) to assess environmental noise is the Day-Night Average Sound Level (DNL). This descriptor incorporates a 24-hour average of instantaneous A-Weighted Sound Levels as read on a standard Sound Level Meter. By definition, the minimum averaging period for the DNL descriptor is 24 hours. Additionally, sound levels which occur during the nighttime hours of 10:00 PM to 7:00 AM are increased by 10 decibels (dB) prior to computing the 24-hour average by the DNL descriptor. A more complete list of noise descriptors is provided in APPENDIX B to this report.

Table 1, derived from Reference 1, presents current federal noise standards and acceptability criteria for residential land uses. Table 2, also extracted from Reference 1, presents the general effects of noise on people in residential use situations. Land use compatibility guidelines for various levels of environmental noise as measured by the DNL descriptor system are shown in Figure 2 (from Reference 2). As a general rule, noise levels of 55 DNL or less occur in rural areas, or in areas which are removed from high volume roadways. In urbanized areas which are shielded from high volume streets, DNL levels generally range from 55 to 65 DNL, and are usually controlled by motor vehicle traffic noise. Residences which front major roadways are generally exposed to levels of 65 DNL, and as high as 75 DNL when the roadway is a high speed freeway. In the project area, traffic noise levels associated with Piilani Highway and South Kihei Road are typically greater than 65 DNL along the Right-of-Way due to the relatively large volumes of traffic on these major thoroughfares.

For purposes of determining noise acceptability for funding assistance from federal agencies (FHA/HUD and VA), an exterior noise level of 65 DNL or less is considered acceptable for residences. This standard is applied nationally (Reference 3), including Hawaii. Because of our open-living conditions, the predominant use of naturally ventilated dwellings, and the relatively low exterior-to-interior sound attenuation afforded by these naturally ventilated structures, an exterior noise level of 65 DNL does not eliminate all risks of noise impacts. Because of these factors, and as recommended in Reference 4, a lower level of 55 DNL is considered as the "Unconditionally Acceptable" (or "Near-Zero Risk") level of exterior noise. However, after considering the cost and feasibility of applying the lower level of 55 DNL, government agencies such as FHA/HUD and VA have selected 65 DNL as a more appropriate regulatory standard.

For commercial, industrial, and other non-noise sensitive land uses, exterior noise levels as high as 75 DNL are generally considered acceptable. Exceptions to this occur when naturally ventilated office and other commercial establishments are exposed to exterior levels which exceed 65 DNL.

On the island of Maui, the State Department of Health (DOH) regulates noise from construction activities through the issuance of permits for allowing excessive

**TABLE 1**

**EXTERIOR NOISE EXPOSURE CLASSIFICATION  
(RESIDENTIAL LAND USE)**

<b>NOISE EXPOSURE CLASS</b>	<b>DAY-NIGHT SOUND LEVEL</b>	<b>EQUIVALENT SOUND LEVEL</b>	<b>FEDERAL (1) STANDARD</b>
<b>Minimal Exposure</b>	<b>Not Exceeding 55 DNL</b>	<b>Not Exceeding 55 Leq</b>	<b>Unconditionally Acceptable</b>
<b>Moderate Exposure</b>	<b>Above 55 DNL But Not Above 65 DNL</b>	<b>Above 55 Leq But Not Above 65 Leq</b>	<b>Acceptable(2)</b>
<b>Significant Exposure</b>	<b>Above 65 DNL But Not Above 75 DNL</b>	<b>Above 65 Leq But Not Above 75 Leq</b>	<b>Normally Unacceptable</b>
<b>Severe Exposure</b>	<b>Above 75 DNL</b>	<b>Above 75 Leq</b>	<b>Unacceptable</b>

Notes: (1) Federal Housing Administration, Veterans Administration, Department of Defense, and Department of Transportation.

(2) FHWA uses the Leq instead of the Ldn descriptor. For planning purposes, both are equivalent if: (a) heavy trucks do not exceed 10 percent of total traffic flow in vehicles per 24 hours, and (b) traffic between 10:00 PM and 7:00 AM does not exceed 15 percent of average daily traffic flow in vehicles per 24 hours. The noise mitigation threshold used by FHWA for residences is 67 Leq.

**TABLE 2**  
**EFFECTS OF NOISE ON PEOPLE**  
**(Residential Land Uses Only)**

EFFECTS <sup>1</sup>	Hearing Loss	Speech Interference		Annoyance <sup>2</sup>	Average Community <sup>4</sup> Reaction	General Community Attitude Towards Area
		Indoor	Outdoor			
DAY-NIGHT AVERAGE SOUND LEVEL IN DECIBELS	Qualitative Description	%Sentence Intelligibility	Distance In Meters for 95% Sentence Intelligibility	% of Population <sup>3</sup> Highly Annoyed		
75 and above	May Begin to Occur	98%	0.5	37%	Very Severe	Noise is likely to be the most important of all adverse aspects of the community environment.
70	Will Not Likely Occur	99%	0.9	25%	Severe	Noise is one of the most important adverse aspects of the community environment.
65	Will Not Occur	100%	1.5	15%	Significant	Noise is one of the important adverse aspects of the community environment.
60	Will Not Occur	100%	2.0	9%	Moderate	Noise may be considered an adverse aspect of the community environment.
55 and below	Will Not Occur	100%	3.5	4%	to Slight	Noise considered no more important than various other environmental factors.

1. "Speech Interference" data are drawn from the following tables in EPA's "Levels Document": Table 3, Fig. D-1, Fig. D-2, Fig. D-3. All other data from National Academy of Science 1977 report "Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 on Evaluation of Environmental Impact of Noise."

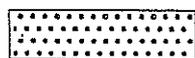
2. Depends on attitudes and other factors.

3. The percentages of people reporting annoyance to lesser extents are higher in each case. An unknown small percentage of people will report being "highly annoyed" even in the quietest surroundings. One reason is the difficulty all people have in integrating annoyance over a very long time.

4. Attitudes or other non-acoustic factors can modify this. Noise at low levels can still be an important problem, particularly when it intrudes into a quiet environment.

NOTE: Research implicates noise as a factor producing stress-related health effects such as heart disease, high-blood pressure and stroke, ulcers and other digestive disorders. The relationships between noise and these effects, however, have not as yet been quantified.

LAND USE	ADJUSTED YEARLY DAY-NIGHT AVERAGE SOUND LEVEL (DNL) IN DECIBELS				
	50	60	70	80	90
Residential – Single Family, Extensive Outdoor Use	Compatible	With Insulation per Section A.4			
Residential – Multiple Family, Moderate Outdoor Use	Compatible	With Insulation per Section A.4			
Residential – Multi-Story Limited Outdoor Use	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
Hotels, Motels Transient Lodging	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
School Classrooms, Libraries, Religious Facilities	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
Hospitals, Clinics, Nursing Homes, Health Related Facilities	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
Auditoriums, Concert Halls	Compatible	With Insulation per Section A.4			
Music Shells	With Insulation per Section A.4	With Insulation per Section A.4			
Sports Arenas, Outdoor Spectator Sports	Compatible	With Insulation per Section A.4	With Insulation per Section A.4		
Neighborhood Parks	Compatible	With Insulation per Section A.4	With Insulation per Section A.4		
Playgrounds, Golf courses, Riding Stables, Water Rec., Cemeteries	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
Office Buildings, Personal Services, Business and Professional	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
Commercial – Retail, Movie Theaters, Restaurants	Compatible	With Insulation per Section A.4	With Insulation per Section A.4	With Insulation per Section A.4	
Commercial – Wholesale, Some Retail, Ind., Mfg., Utilities	Compatible	With Insulation per Section A.4			
Livestock Farming, Animal Breeding	Compatible	With Insulation per Section A.4			
Agriculture (Except Livestock)	Compatible	With Insulation per Section A.4			



Compatible



Marginally Compatible



With Insulation per Section A.4



Incompatible

LAND USE COMPATIBILITY WITH YEARLY AVERAGE DAY-NIGHT AVERAGE SOUND LEVEL (DNL) AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED.  
 (Source: American National Standards Institute S12.9-1998/Part 5)

FIGURE  
2

noise during limited time periods. State DOH noise regulations are expressed in maximum allowable property line noise limits rather than DNL (see Reference 5). Although they are not directly comparable to noise criteria expressed in DNL, State DOH noise limits for residential, commercial, and industrial lands equate to approximately 55, 60, and 76 DNL, respectively.

## CHAPTER IV. GENERAL STUDY METHODOLOGY

Existing traffic noise levels were measured at eight locations (A, B, C, D1, D2, E, G, and H) along public roadways in the project environs to provide a basis for developing the project's traffic noise contributions along the roadways which will service the proposed development. In addition, existing background noise levels were obtained at two locations (F1 and F2) within the proposed project site to validate the traffic noise model used for predicting future traffic noise levels from Piilani Highway within the project area. The locations of the measurement sites are shown in Figure 1. Noise measurements were performed during the month of November 2013. The results of the traffic noise measurements were compared with calculations of existing traffic noise levels to validate the computer model used. The traffic noise measurement results and their comparisons with computer model predictions of corresponding traffic noise levels are summarized in Table 3.

Traffic noise calculations for the existing conditions as well as noise predictions for the Year 2032 were performed using the Federal Highway Administration (FHWA) Traffic Noise Model (Reference 6). Traffic data entered into the noise prediction model were: roadway and receiver locations; hourly traffic volumes; average vehicle speeds; estimates of traffic mix; and "Loose Soil" propagation loss factor. The traffic data and forecasts for the project (Reference 7), plus the spot traffic counts obtained during the noise measurement periods were the primary sources of data inputs to the model. Appendices C1 and C2 summarize the weekday AM and PM peak hour traffic volumes and the Saturday peak hour traffic volumes for CY 2016 and 2032 which were used to model existing and future traffic noise along the streets in the vicinity of the project site. For existing and future traffic along the streets in the vicinity of the project site, it was assumed that the average noise levels, or  $Leq(h)$ , during the weekday AM or PM peak traffic hour were equal to the 24-hour DNL along those roadways. This assumption was based on computations of both the hourly  $Leq$  and the 24-hour DNL of traffic noise on Piilani Highway (see Figure 3) and South Kihei Road (see Figure 4) using Hawaii State Department of Transportation hourly traffic counts from References 8 and 9.

Traffic noise calculations for both the existing and future conditions in the project environs were developed for ground level receptors with and without the benefit of shielding from natural terrain features or man made obstructions. Traffic noise levels were also calculated for future conditions with and without the proposed project. The forecasted changes in traffic noise levels over existing levels were calculated with and without the project, and noise impact risks evaluated. The relative contributions of non-project and project traffic to the total noise levels were also calculated, and an evaluation of possible traffic noise impacts was made.

Calculations of average exterior and interior noise levels from construction activities were performed for typical naturally ventilated and air conditioned dwellings. Predicted noise levels were compared with existing background ambient noise levels, and the potential for noise impacts was assessed.

TABLE 3

TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

<u>LOCATION</u>	Time of Day <u>(HRS)</u>	Ave. Speed <u>(MPH)</u>	Hourly Traffic Volume -----			Measured Leg (dB)	Predicted Leg (dB)
			<u>AUTO</u>	<u>M.TRUCK</u>	<u>H.TRUCK</u>		
A. 50 FT from the center- line of Kaonoulu St. (Saturday, 11/9/13)	0728 TO 0824	34	152	0	0	55.4	55.3
B. 50 FT from the center- line of S. Kihei Rd. (Saturday, 11/9/13)	0841 TO 0941	37	821	6	5	63.4	63.3
C. 50 FT from the center- line of Kulanihakoi St. (Saturday, 11/9/13)	1010 TO 1055	35	165	1	1	58.9	57.9
D1. 50 FT from the center- line of Piilani Highway (Saturday, 11/9/13)	1118 TO 1216	55	2,487	31	10	74.5	74.2
D2. 93 FT from the center- line of Piilani Highway (Saturday, 11/9/13)	1118 TO 1216	55	2,487	31	10	68.6	68.3

**TABLE 3 (CONTINUED)**  
**TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS**

<u>LOCATION</u>	Time of Day <u>(HRS)</u>	Ave. Speed <u>(MPH)</u>	Hourly Traffic Volume -----			Measured <u>Leq (dB)</u>	Predicted <u>Leq (dB)</u>
			<u>AUTO</u>	<u>M.TRUCK</u>	<u>H.TRUCK</u>		
E. 63 FT from the center-line of Piilani Highway (Saturday, 11/9/13)	1237	46	2,375	26	10	69.9	70.0
	TO 1337						
F1. 112 FT from the center-line of Piilani Highway (Saturday, 11/9/13)	1403	N/A	N/A	N/A	N/A	64.3	N/A
	TO 1500						
F2. 289 FT from the center-line of Piilani Highway (Saturday, 11/9/13)	1416	N/A	N/A	N/A	N/A	54.0	N/A
	TO 1431						
G. 50 FT from the center-line of Ohukai St. (Saturday, 11/9/13)	1528	30	219	0	0	56.1	56.1
	TO 1628						
H. 50 FT from the center-line of S. Kihei Rd. (Saturday, 11/9/13)	1643	39	791	3	4	63.9	63.7
	TO 1743						

**TABLE 3 (CONTINUED)**  
**TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS**

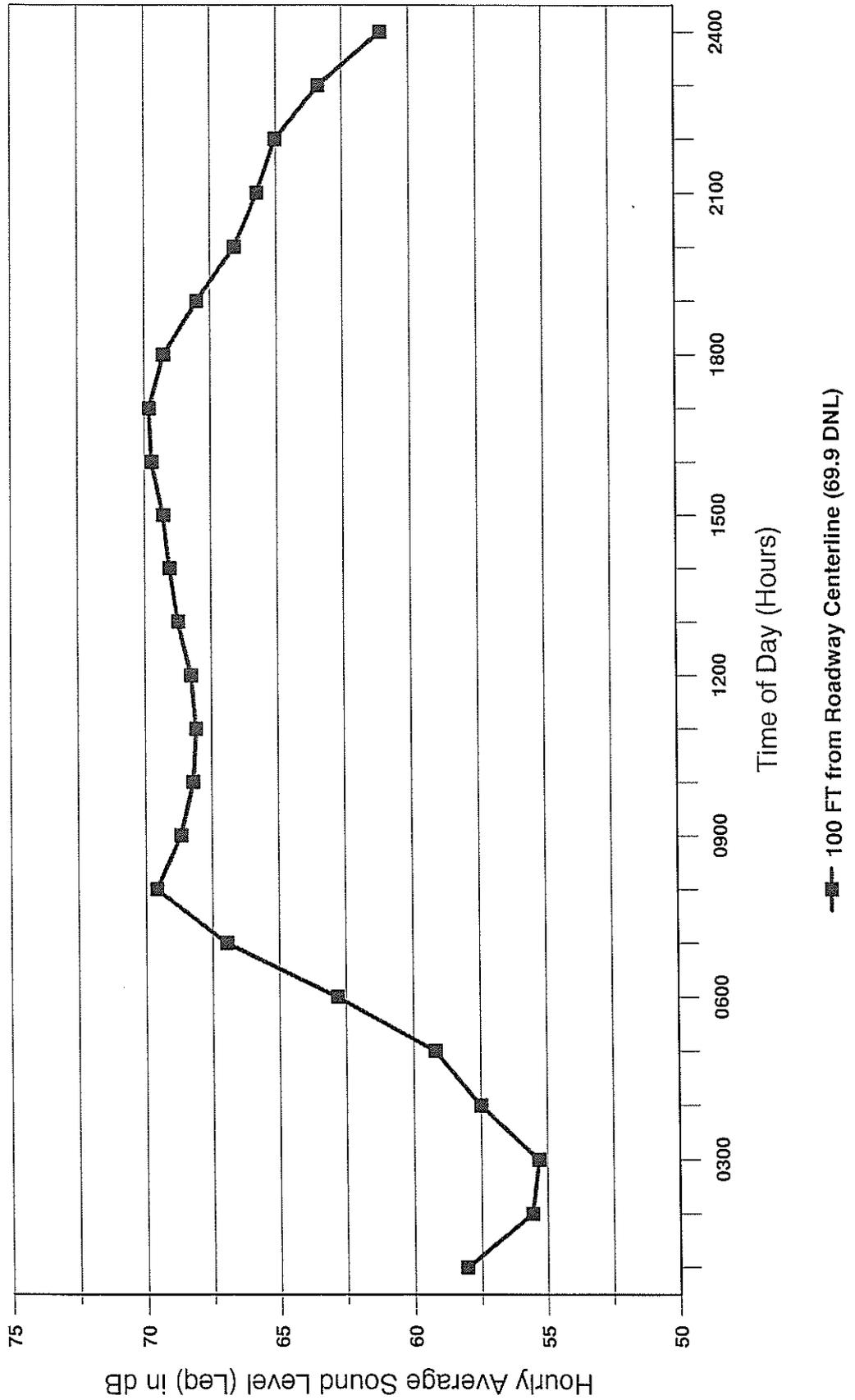
<u>LOCATION</u>	<u>Time of Day</u> <u>(HRS)</u>	<u>Ave. Speed</u> <u>(MPH)</u>	<u>Hourly Traffic Volume</u>			<u>Measured</u> <u>Leq (dB)</u>	<u>Predicted</u> <u>Leq (dB)</u>
			<u>AUTO</u>	<u>M.TRUCK</u>	<u>H.TRUCK</u>		
H. 50 FT from the center-line of S. Kihei Rd. (Wednesday, 11/13/13)	0642 TO 0742	41	829	8	5	65.4	65.1
G. 50 FT from the center-line of Ohukai St. (Wednesday, 11/13/13)	0752 TO 0852	30	198	3	0	55.5	55.5
I. 50 FT from the center-line of S. Kihei Rd. (Wednesday, 11/13/13)	1002 TO 1102	39	930	16	8	64.9	65.0
C. 50 FT from the center-line of Kulanihakoi St. (Wednesday, 11/13/13)	1122 TO 1222	35	124	1	0	58.9	58.9
E. 63 FT from the center-line of Piilani Highway (Wednesday, 11/13/13)	1317 TO 1417	46	2,600	36	34	70.5	70.8

TABLE 3 (CONTINUED)

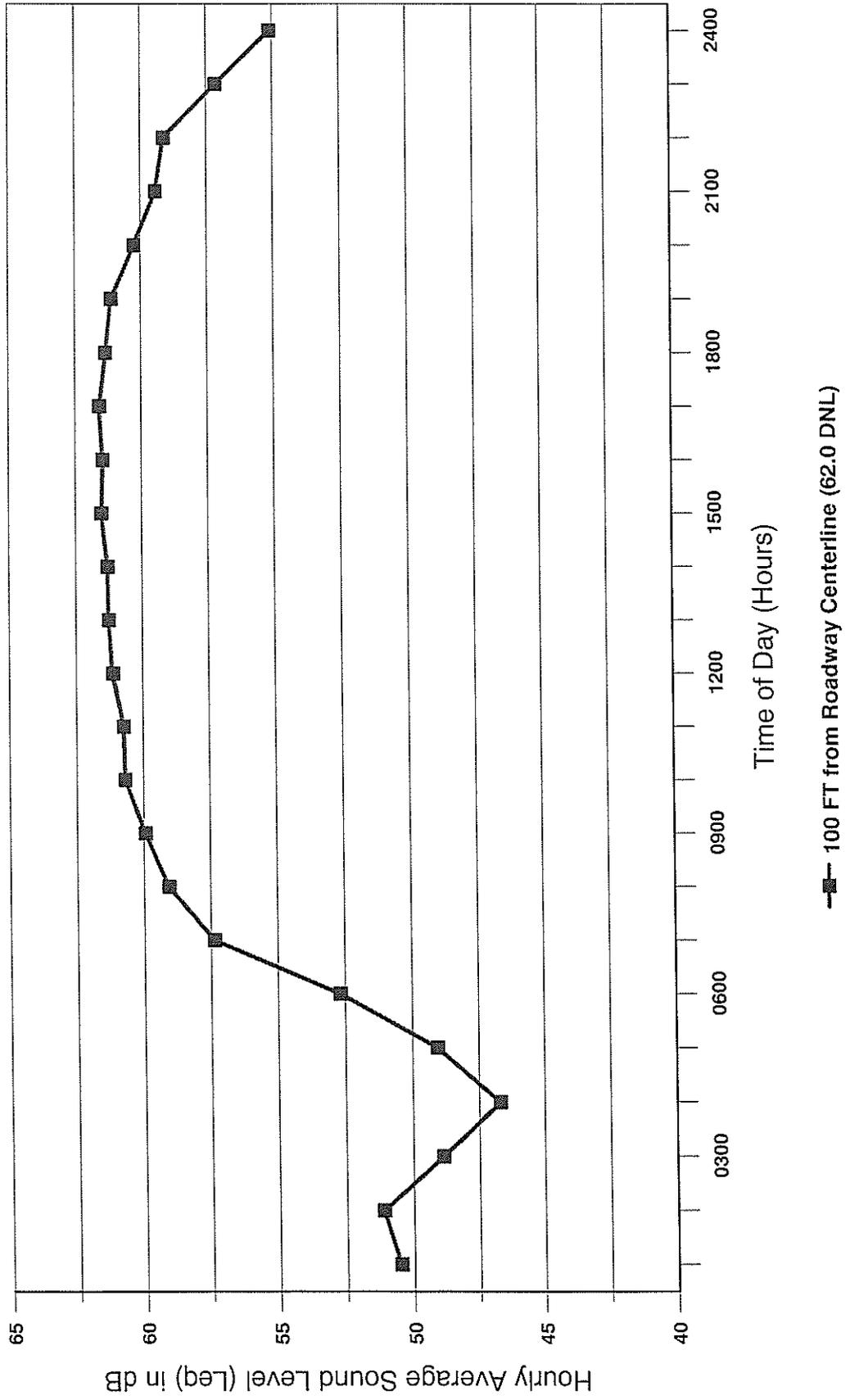
TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

<u>LOCATION</u>	Time of Day <u>(HRS)</u>	Ave. Speed <u>(MPH)</u>	Hourly Traffic Volume -----		Measured Leg.(dB)	Predicted Leg.(dB)
			<u>AUTO</u>	<u>H.TRUCK</u>		
A. 50 FT from the center- line of Kaonoulu St. (Wednesday, 11/13/13)	1442 TO 1542	34	189	2      0	57.2	57.2
D1. 50 FT from the center- line of Piilani Highway (Wednesday, 11/13/13)	1607 TO 1707	55	3,311	16    10	75.2	75.1
D2. 93 FT from the center- line of Piilani Highway (Wednesday, 11/13/13)	1607 TO 1707	55	3,311	16    10	69.9	69.3
D1. 50 FT from the center- line of Piilani Highway (Wednesday, 11/13/13)	1710 TO 1810	55	2,838	18    7	74.5	74.2
D2. 93 FT from the center- line of Piilani Highway (Wednesday, 11/13/13)	1710 TO 1810	55	2,838	18    7	69.1	68.5

**FIGURE 3**  
**HOURLY TRAFFIC NOISE LEVELS VS. TIME OF DAY**  
**STA. B74003100000, PIILANI HIGHWAY BETWEEN KAONOULU ST. AND KULANIHAKOI RD., 9/28/11**



**FIGURE 4**  
**HOURLY TRAFFIC NOISE LEVELS VS. TIME OF DAY**  
**STA. B74310000013, SOUTH KIHEI ROAD BETWEEN NOHOKAI ST. AND PIIKEA AVE., 8/19/10**



## V. EXISTING ACOUSTICAL ENVIRONMENT

The existing background ambient noise levels within the project site are relatively low at the mauka (east) end and high on the makai (west) end of the site. Traffic along Piilani Highway controls the background noise levels at the makai end of the project site, and diminishes to inaudible levels at the mauka end of the project site. On the makai side of Piilani Highway, existing traffic noise levels also diminish with increasing distances from Piilani Highway, and are controlled by the traffic on connector roads and South Kihei Road in areas between Piilani Highway and the shoreline.

Traffic and background ambient noise measurements along the public roadways in the project environs were obtained on a Saturday (September 9, 2013) and on a Wednesday (September 13, 2013) at eleven locations (A, B, C, D1, D2, E, F1, F2, G, H, and I) in the project environs. These locations are shown in Figure 1. The results of these traffic and background ambient noise measurements are summarized in Table 3, with measurement locations identified in Figure 1. The measurement locations were typically located at street level. As shown in Table 3, correlation between measured and predicted traffic noise levels was good. The Traffic Noise Model's "Loose Soil" propagation loss factor was used to obtain the good correlation.

Calculations of existing traffic noise levels along the public roadways in the project environs during the weekday PM peak traffic hour are presented in Table 4A. The hourly Leq (or Equivalent Sound Level) contribution from each roadway section in the project environs was calculated for comparison with forecasted traffic noise levels with and without the project. In Table 4A, the Leq values shown also represent the DNL values for the roadways shown. The existing setback distances from the roadways' centerlines to their associated 65 and 75 DNL contours were also calculated as shown in Table 5A for the weekdays. The contour line setback distances do not take into account noise shielding effects or the additive contributions of traffic noise from intersecting street sections. Tables 4B and 5B present similar calculations of existing traffic noise levels and setback distances to the 65 and 75 DNL contours for the Saturday peak hours.

The existing traffic noise levels in the project environs along Piilani Highway are in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL at the first row of existing homes on the makai side of the highway. The existing traffic noise levels in the project environs along South Kihei Road are in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL within 57 to 60 feet of the roadway's centerline. Along the lower volume connector streets, existing traffic noise levels are in the "Moderate Exposure, Acceptable" category, and less than 65 DNL at 50 feet or greater distance from the roadways' centerlines.

The existing background noise levels at the project site were estimated by measuring existing background noise levels at Locations F1 and F2, and by using these

TABLE 4A

EXISTING (CY 2016) TRAFFIC VOLUMES AND NOISE LEVELS  
ALONG ROADWAYS IN PROJECT AREA  
(PM PEAK HOUR, WEEKDAYS)

LOCATION	SPEED (MPH)	TOTAL VPH	***** VOLUMES (VPH) *****			50' Leq	100' Leq	200' Leq
			AUTOS	M. TRUCKS	H. TRUCKS			
Mokulele Hwy., N. of N. Kihei Rd.	55	3,051	2,996	31	24	75.8	69.1	62.5
Piilani Hwy., Between Uwapo & N. Kihei *	50	3,402	3,341	34	27	71.4	69.4	63.7
Piilani Hwy., Between Uwapo & Ohukai	46	3,443	3,381	34	28	73.1	68.3	62.7
Piilani Hwy., Between Ohukai & Kaonoulu	46	3,461	3,398	35	28	73.1	68.4	62.7
Piilani Hwy., Between Kaonoulu & Kulanihakai	55	3,599	3,534	36	29	75.1	70.9	65.1
Piilani Hwy., Between Kulanihakai & Piikea	55	3,625	3,560	36	29	75.7	70.9	65.1
Piilani Hwy., South of Piikea	55	3,520	3,457	35	28	75.6	70.8	65.0
N. Kihei Rd., West of South Kihei	50	1,576	1,551	16	9	70.4	64.4	58.0
N. Kihei Rd., Between Piilani & S. Kihei	46	1,236	1,217	12	7	68.2	62.2	56.0
S. Kihei Rd., South of N. Kihei Rd.	41	1,072	1,055	11	6	66.1	60.2	54.1
Uwapo Rd., W. of Piilani	30	218	215	3	0	55.7	49.9	44.0
Kaiwahine St. E. of Piilani	30	321	316	5	0	57.3	51.8	45.8
Ohukai Rd., W. of Piilani	30	392	386	6	0	58.3	52.5	46.6
Ohukai Rd., E. of Piilani	30	819	800	12	7	62.1	56.5	51.0
Kaonoulu St., Between Piilani & Kenolio	34	270	267	3	0	59.1	53.2	47.1
Kaonoulu St., Between Kenolio & Aluilke	34	135	134	1	0	56.0	50.1	44.0
Kaonoulu St., Between Aluilke & S. Kihei	34	230	228	2	0	58.3	52.4	46.4
S. Kihei Rd. N. of Kaonoulu	39	1,169	1,140	20	9	66.1	60.3	54.3
S. Kihei Rd. S. of Kaonoulu	39	1,293	1,261	22	10	66.5	60.7	54.7
E. Kaonoulu St. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kulanihakai St. W. of Piilani	35	253	251	2	0	62.1	56.2	50.1
Kulanihakai St. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Piikea Ave. W. of Piilani	35	1,130	1,121	9	0	64.5	58.0	52.5

\*Piilani Hwy., Between Uwapo & N. Kihei's Leq shown in "50' Leq" column was calculated at 75' instead of 50'.

TABLE 4B

EXISTING (CY 2016) TRAFFIC VOLUMES AND NOISE LEVELS  
ALONG ROADWAYS IN PROJECT AREA  
(PEAK HOUR, SATURDAY)

LOCATION	SPEED (MPH)	TOTAL VPH	***** VOLUMES (VPH) *****			50' Leq	100' Leq	200' Leq
			AUTOS	M TRUCKS	H TRUCKS			
Mokulele Hwy., N. of N. Kihei Rd.	55	2,421	2,382	29	10	74.7	68.0	61.3
Piilani Hwy., Between Uwapo & N. Kihei *	50	2,574	2,533	31	10	70.3	68.3	62.5
Piilani Hwy., Between Uwapo & Ohukai	46	2,636	2,593	32	11	71.8	67.0	61.4
Piilani Hwy., Between Ohukai & Kaonoulu	46	2,578	2,537	31	10	71.7	66.9	61.2
Piilani Hwy., Between Kaonoulu & Kulanihakai	55	2,677	2,634	32	11	74.3	69.5	63.7
Piilani Hwy., Between Kulanihakai & Piikea	55	2,684	2,641	32	11	74.3	69.5	63.7
Piilani Hwy., South of Piikea	55	2,531	2,491	30	10	74.1	69.2	63.4
N. Kihei Rd., West of South Kihei	50	1,262	1,248	13	1	69.3	63.2	56.7
N. Kihei Rd., Between Piilani & S. Kihei	46	990	979	10	1	67.1	61.0	54.7
S. Kihei Rd., South of N. Kihei Rd.	39	927	917	9	1	64.6	58.7	52.5
Uwapo Rd., W. of Piilani	30	213	210	3	0	56.5	50.7	44.8
Kaiwahine St. E. of Piilani	30	240	236	4	0	57.0	51.5	45.5
Ohukai Rd., W. of Piilani	30	319	314	5	0	58.3	52.5	46.6
Ohukai Rd., E. of Piilani	30	552	543	8	1	60.8	55.1	49.2
Kaonoulu St., Between Piilani & Kenolio	34	236	234	2	0	57.6	51.7	45.7
Kaonoulu St., Between Kenolio & Aluilike	34	134	133	1	0	55.1	49.2	43.2
Kaonoulu St., Between Aluilike & S. Kihei	34	205	203	2	0	57.0	51.2	45.1
S. Kihei Rd. N. of Kaonoulu	37	1,017	994	17	6	64.7	58.9	53.0
S. Kihei Rd. S. of Kaonoulu	37	1,138	1,112	19	7	65.2	59.4	53.5
E. Kaonoulu St. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kulanihakai St. W. of Piilani	35	205	203	2	0	58.7	52.8	46.7
Kulanihakai St. E. of Piilani	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Piikea Ave. W. of Piilani	35	1,026	1,017	8	1	64.1	57.6	52.2

\*Piilani Hwy., Between Uwapo & N. Kihei's Leq shown in "50' Leq" column was calculated at 75' instead of 50'.

**TABLE 5A**

**EXISTING AND CY 2032 DISTANCES TO 65  
AND 75 DNL CONTOURS (WEEKDAYS)**

<u>STREET SECTION</u>	<u>65 DNL SETBACK (FT)</u>		<u>75 DNL SETBACK (FT)</u>	
	<u>EXISTING</u>	<u>CY 2032</u>	<u>EXISTING</u>	<u>CY 2032</u>
Mokulele Hwy., N. of N. Kihei Rd.	154	180	54	63
Piilani Hwy., Between Uwapo & N. Kihei	171	213	45	58
Piilani Hwy., Between Uwapo & Ohukai	150	159	38	40
Piilani Hwy., Between Ohukai & Kaonoulu	151	162	38	41
Piilani Hwy., Between Kaonoulu & Kulanihakoi	202	229	51	63
Piilani Hwy., Between Kulanihakoi & Piikea	202	226	55	62
Piilani Hwy., South of Piikea	200	215	55	59
N. Kihei Rd., West of South Kihei	93	115	29	36
N. Kihei Rd., Between Piilani & S. Kihei	72	89	23	27
S. Kihei Rd., South of N. Kihei Rd.	57	69	18	21
Uwapo Rd., W. of Piilani	16	22	< 12	< 12
Kaiwahine St. E. of Piilani	19	36	< 12	< 12
Ohukai Rd., W. of Piilani	22	22	< 12	< 12
Ohukai Rd., E. of Piilani	35	34	< 12	< 12
Kaonoulu St., Between Piilani & Kenolio	25	49	< 12	15
Kaonoulu St., Between Kenolio & Alulike	17	48	< 12	14
Kaonoulu St., Between Alulike & S. Kihei	23	47	< 12	14
S. Kihei Rd. N. of Kaonoulu	57	78	17	24
S. Kihei Rd. S. of Kaonoulu	60	84	18	25
E. Kaonoulu St. E. of Piilani	N/A	79	N/A	24
Kulanihakoi St. W. of Piilani	36	45	< 12	14
Kulanihakoi St. E. of Piilani	N/A	28	N/A	< 12
Piikea Ave. W. of Piilani	47	53	16	18

**Notes:**

- (1) All setback distances are from the roadways' centerlines.
- (2) See Tables 4A and 6A for traffic volume, speed, and mix assumptions.
- (3) Setback distances are for ground level receptors.

**TABLE 5B**

**EXISTING AND CY 2032 DISTANCES TO 65  
AND 75 DNL CONTOURS (SATURDAY)**

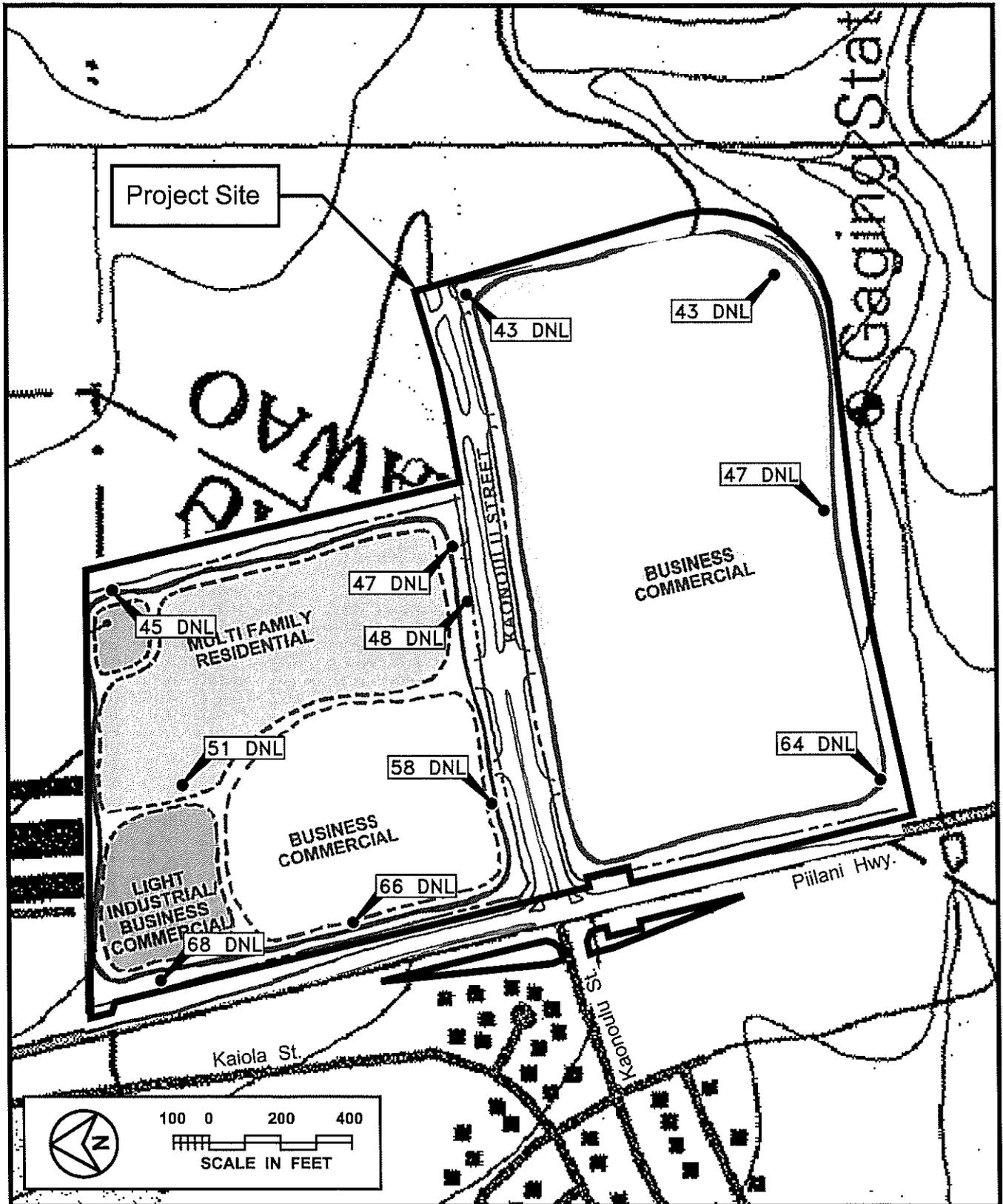
<u>STREET SECTION</u>	<u>65 DNL SETBACK (FT)</u>		<u>75 DNL SETBACK (FT)</u>	
	<u>EXISTING</u>	<u>CY 2032</u>	<u>EXISTING</u>	<u>CY 2032</u>
Mokulele Hwy., N. of N. Kihei Rd.	136	162	48	57
Piilani Hwy., Between Uwapo & N. Kihei	148	184	38	50
Piilani Hwy., Between Uwapo & Ohukai	128	138	31	34
Piilani Hwy., Between Ohukai & Kaonoulu	126	140	31	35
Piilani Hwy., Between Kaonoulu & Kulanihakoi	171	198	45	53
Piilani Hwy., Between Kulanihakoi & Piikea	171	193	45	52
Piilani Hwy., South of Piikea	165	182	44	49
N. Kihei Rd., West of South Kihei	82	103	26	33
N. Kihei Rd., Between Piilani & S. Kihei	63	79	20	25
S. Kihei Rd., South of N. Kihei Rd.	48	59	15	18
Uwapo Rd., W. of Piilani	18	21	< 12	< 12
Kaiwahine St. E. of Piilani	18	30	< 12	< 12
Ohukai Rd., W. of Piilani	22	24	< 12	< 12
Ohukai Rd., E. of Piilani	30	40	< 12	12
Kaonoulu St., Between Piilani & Kenolio	21	42	< 12	13
Kaonoulu St., Between Kenolio & Alulike	16	42	< 12	13
Kaonoulu St., Between Alulike & S. Kihei	19	40	< 12	12
S. Kihei Rd. N. of Kaonoulu	48	67	15	20
S. Kihei Rd. S. of Kaonoulu	51	72	16	22
E. Kaonoulu St. E. of Piilani	N/A	73	N/A	18
Kulanihakoi St. W. of Piilani	24	30	< 12	< 12
Kulanihakoi St. E. of Piilani	N/A	N/A	N/A	N/A
Piikea Ave. W. of Piilani	45	53	16	18

**Notes:**

- (1) All setback distances are from the roadways' centerlines.
- (2) See Tables 4B and 6B for traffic volume, speed, and mix assumptions.
- (3) Setback distances are for ground level receptors.

measurements in conjunction with the FHWA Traffic Noise Model to calculate existing traffic noise level contributions from Piilani Highway at various locations within the Piilani Promenade Project site. The results of these existing traffic noise calculations are shown in Figure 5. From Figure 5, existing traffic noise levels on the project site are estimated to range from 64 to 68 DNL at the westernmost (makai) side of the project site to 43 to 47 DNL at the easternmost (mauka) corners of the project site. At the planned multifamily residential units, existing traffic noise levels are very low and less than 55 DNL at both ground floor and second floor dwelling units.

While existing traffic noise levels are very low (less than 55 DNL) at the planned residential portion of the project, noise emissions from the existing commercial buildings north of the planned residences were greater than 50 dBA (59 DNL) and could be a source of potential noise complaints from the project residents. Suggestions for reducing these noise emissions are provided in Chapter VII of this report.



**PROJECT LOCATION MAP AND EXISTING TRAFFIC NOISE LEVELS**

**FIGURE 5**

## CHAPTER VI. FUTURE NOISE ENVIRONMENT

Predictions of future traffic noise levels were made using the traffic volume assignments of Reference 7 for CY 2032 with and without the proposed project. Future projections of project plus non-project traffic noise levels for CY 2032 on the new sections of Kaonoulu Street east (mauka) of Piilani Highway through the project site were estimated using the prior 2018 traffic forecasts from Reference 10, and scaling them up to 2032 using the East Kaonoulu Street forecasts at Piilani Highway from Reference 7. Appendices C1 and C2 summarize the traffic volumes for weekday AM and PM peak hours and for the Saturday peak hour for 2032 which were used to model future traffic noise along the streets in the vicinity of the project site. In general, the Saturday peak hour traffic volumes are lower than the weekday PM peak hour volumes, so the corresponding traffic noise levels are also lower during Saturdays.

Future traffic noise levels at distances of 50, 100, and 200 feet from the centerlines of the roadways which would service the project are shown in Tables 6A and 6B for the weekday PM peak and Saturday peak hours of traffic, under the Build Alternative. Predicted increases in the setback distances to the 65 and 75 DNL contours are shown in Tables 5A and 5B. The separate non-project and project traffic noise contributions for the Build Alternative for 2032 are shown in Tables 7A and 7B.

From Table 7A, increases in future traffic noise levels of 0.4 to 0.7 DNL are expected along Piilani Highway in the project environs by 2032 as a result of project traffic. The growth in non-project traffic by CY 2032 is predicted to result in traffic noise level increases of 0.0 to 1.4 DNL along Piilani Highway. Larger increases in future traffic noise levels due to non-project traffic are predicted to occur along South Kihei Road by CY 2032, with project traffic adding 0.3 to 0.6 DNL to the non-project noise levels by CY 2032. The largest total increase (8.7 DNL) in traffic noise level is anticipated to occur along Kaonoulu Street between Kenolio and Alulike Streets, and is primarily associated with non-project traffic. The next largest total increase (6.2 DNL) in traffic noise is anticipated to occur along Kaonoulu Street between Alulike Street and South Kihei Road. Predicted increases in traffic noise by CY 2032 due to project traffic along Kaonoulu Street are 3.6 DNL or less. Along the other remaining roadways in the project environs, predicted increases in traffic noise by CY 2032 due to project traffic are 2.0 DNL or less.

Future traffic noise levels along Piilani Highway by CY 2032 are expected to remain in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL at the first row of existing homes on the makai side of the highway. The future traffic noise levels in the project environs along South Kihei Road are expected to be in the "Significant Exposure, Normally Unacceptable" category, and at or greater than 65 DNL within 78 to 84 feet of the roadway's centerline. Along the lower volume connector streets between Piilani Highway and South Kihei Road, future traffic noise levels are generally expected to remain in the "Moderate Exposure, Acceptable"

TABLE 6A

FUTURE (CY 2032) TRAFFIC VOLUMES AND NOISE LEVELS  
ALONG ROADWAYS IN PROJECT AREA  
(PM PEAK HOUR, WEEKDAYS, BUILD)

LOCATION	SPEED (MPH)	TOTAL VPH	***** VOLUMES (VPH) *****			50' Leq	100' Leq	200' Leq
			AUTOS	M TRUCKS	H TRUCKS			
Mokulele Hwy., N. of N. Kihei Rd.	55	4,320	4,242	43	35	77.3	70.6	64.0
Piilani Hwy., Between Uwapo & N. Kihei *	50	5,152	5,059	52	41	73.2	71.2	65.5
Piilani Hwy., Between Uwapo & Ohukai	41	5,253	5,158	53	42	73.5	68.7	63.2
Piilani Hwy., Between Ohukai & Kaonoulu	41	5,437	5,340	54	43	73.6	68.9	63.3
Piilani Hwy., Between Kaonoulu & Kulanihako'i	50	5,922	5,816	59	47	76.6	71.8	66.1
Piilani Hwy., Between Kulanihako'i & Piikea	50	5,794	5,690	58	46	76.5	71.7	66.0
Piilani Hwy., South of Piikea	50	5,355	5,258	54	43	76.1	71.3	65.6
N. Kihei Rd., West of South Kihei	50	2,392	2,354	24	14	72.2	66.2	59.8
N. Kihei Rd., Between Piilani & S. Kihei	46	1,839	1,810	18	11	69.9	64.0	57.8
S. Kihei Rd., South of N. Kihei Rd.	41	1,566	1,541	16	9	67.8	61.9	55.8
Uwapo Rd., W. of Piilani	30	373	367	6	0	58.1	52.3	46.4
Kaiwahine St. E. of Piilani	30	1,046	1,030	16	0	62.4	57.0	51.0
Ohukai Rd., W. of Piilani	28	457	450	7	0	58.2	52.4	46.6
Ohukai Rd., E. of Piilani	28	894	874	13	7	61.8	56.2	50.7
Kaonoulu St., Between Piilani & Kenolio	32	1,231	1,219	12	0	64.8	59.0	53.0
Kaonoulu St., Between Kenolio & Aluilike	34	981	971	10	0	64.6	58.8	52.7
Kaonoulu St., Between Aluilike & S. Kihei	34	944	935	9	0	64.4	58.6	52.5
S. Kihei Rd. N. of Kaonoulu	39	2,148	2,094	37	17	68.7	62.9	57.0
S. Kihei Rd. S. of Kaonoulu	39	2,439	2,378	41	20	69.3	63.5	57.5
E. Kaonoulu St. E. of Piilani	32	2,653	2,605	27	21	68.8	63.1	57.4
Kulanihako'i St. W. of Piilani	33	484	480	4	0	64.1	58.3	52.3
Kulanihako'i St. E. of Piilani	31	230	228	2	0	60.1	54.3	48.4
Piikea Ave. W. of Piilani	33	1,716	1,702	14	0	65.5	59.1	53.7

\*Piilani Hwy., Between Uwapo & N. Kihei's Leq shown in "50' Leq" column was calculated at 75' instead of 50'.

TABLE 6B

FUTURE (CY 2032) TRAFFIC VOLUMES AND NOISE LEVELS  
ALONG ROADWAYS IN PROJECT AREA  
(PEAK HOUR, SATURDAY, BUILD)

LOCATION	SPEED (MPH)	TOTAL VPH	***** VOLUMES (VPH) *****			H TRUCKS	50' Leq	100' Leq	200' Leq
			AUTOS	M TRUCKS	H TRUCKS				
Mokulele Hwy., N. of N. Kihei Rd.	55	3,552	3,495	43	14	76.3	69.6	63.0	
Piilani Hwy., Between Uwapo & N. Kihei *	50	4,108	4,043	49	16	72.1	70.0	64.3	
Piilani Hwy., Between Uwapo & Ohukai	41	4,259	4,191	51	17	72.4	67.6	62.0	
Piilani Hwy., Between Ohukai & Kaonoulu	41	4,310	4,241	52	17	72.5	67.7	62.1	
Piilani Hwy., Between Kaonoulu & Kulanihako'i	50	4,679	4,604	56	19	75.4	70.6	64.9	
Piilani Hwy., Between Kulanihako'i & Piikea	50	4,475	4,403	54	18	75.3	70.4	64.7	
Piilani Hwy., South of Piikea	50	4,014	3,950	48	16	74.8	70.0	64.2	
N. Kihei Rd., West of South Kihei	50	2,043	2,021	20	2	71.4	65.3	58.8	
N. Kihei Rd., Between Piilani & S. Kihei	46	1,532	1,515	15	2	69.0	63.0	56.6	
S. Kihei Rd., South of N. Kihei Rd.	39	1,410	1,395	14	1	66.4	60.5	54.3	
Uwapo Rd., W. of Piilani	30	285	281	4	0	57.7	52.0	46.1	
Kaiwahine St. E. of Piilani	30	527	518	8	1	60.9	55.5	49.6	
Ohukai Rd., W. of Piilani	28	451	444	7	0	59.0	53.3	47.4	
Ohukai Rd., E. of Piilani	28	1,134	1,116	17	1	63.1	57.4	51.6	
Kaonoulu St., Between Piilani & Kenolio	32	1,096	1,084	11	1	63.6	57.8	51.9	
Kaonoulu St., Between Kenolio & Alulike	34	895	885	9	1	63.5	57.7	51.7	
Kaonoulu St., Between Alulike & S. Kihei	34	848	839	8	1	63.2	57.4	51.4	
S. Kihei Rd. N. of Kaonoulu	37	1,913	1,869	33	11	67.5	61.7	55.7	
S. Kihei Rd. S. of Kaonoulu	37	2,181	2,131	37	13	68.1	62.3	56.3	
E. Kaonoulu St. E. of Piilani	32	2,815	2,784	28	3	67.7	62.7	56.8	
Kulanihako'i St. W. of Piilani	33	389	386	3	0	60.7	54.9	48.8	
Kulanihako'i St. E. of Piilani	31	0	0	0	0	N/A	N/A	N/A	
Piikea Ave. W. of Piilani	33	1,680	1,665	13	2	65.6	59.1	53.7	

\*Piilani Hwy., Between Uwapo & N. Kihei's Leq shown in "50' Leq" column was calculated at 75' instead of 50'.

TABLE 7A

**CALCULATIONS OF PROJECT AND NON-PROJECT  
TRAFFIC NOISE CONTRIBUTIONS (WEEKDAYS, CY 2032 )**

<u>STREET SECTION</u>	NOISE LEVEL INCREASE DUE TO:	
	<u>NON-PROJECT TRAFFIC</u>	<u>PROJECT TRAFFIC</u>
Mokulele Hwy., N. of N. Kihei Rd.	1.3	0.2
Piilani Hwy., Between Uwapo & N. Kihei *	1.4	0.4
Piilani Hwy., Between Uwapo & Ohukai	0.0	0.4
Piilani Hwy., Between Ohukai & Kaonoulu	0.0	0.5
Piilani Hwy., Between Kaonoulu & Kulanihakoi	0.2	0.7
Piilani Hwy., Between Kulanihakoi & Piikea	0.3	0.5
Piilani Hwy., South of Piikea	0.1	0.4
N. Kihei Rd., West of South Kihei	1.2	0.6
N. Kihei Rd., Between Piilani & S. Kihei	1.3	0.5
S. Kihei Rd., South of N. Kihei Rd.	1.4	0.3
Uwapo Rd., W. of Piilani	1.8	0.6
Kaiwahine St. E. of Piilani	5.0	0.2
Ohukai Rd., W. of Piilani	-0.1	0.0
Ohukai Rd., E. of Piilani	0.3	-0.6
Kaonoulu St., Between Piilani & Kenolio	2.9	2.9
Kaonoulu St., Between Kenolio & Alulike	5.1	3.6
Kaonoulu St., Between Alulike & S. Kihei	3.1	3.1
S. Kihei Rd. N. of Kaonoulu	2.3	0.3
S. Kihei Rd. S. of Kaonoulu	2.2	0.6
E. Kaonoulu St. E. of Piilani	N/A	63.1 *
Kulanihakoi St. W. of Piilani	0.1	2.0
Kulanihakoi St. E. of Piilani	53.6	0.7 *
Piikea Ave. W. of Piilani	0.6	0.5

Notes:

1. "\*" Large DNL values result from comparisons of future roadway DNL values with currently non-existing roadways.
2. "N/A" results from lack of applicable traffic data for that roadway.

**TABLE 7B**

**CALCULATIONS OF PROJECT AND NON-PROJECT  
TRAFFIC NOISE CONTRIBUTIONS (SATURDAY, CY 2032 )**

<u>STREET SECTION</u>	NOISE LEVEL INCREASE DUE TO:	
	<u>NON-PROJECT TRAFFIC</u>	<u>PROJECT TRAFFIC</u>
Mokulele Hwy., N. of N. Kihei Rd.	1.2	0.4
Piilani Hwy., Between Uwapo & N. Kihei *	1.3	0.4
Piilani Hwy., Between Uwapo & Ohukai	0.2	0.4
Piilani Hwy., Between Ohukai & Kaonoulu	0.3	0.5
Piilani Hwy., Between Kaonoulu & Kulanihakoi	0.4	0.7
Piilani Hwy., Between Kulanihakoi & Piikea	0.4	0.5
Piilani Hwy., South of Piikea	0.3	0.5
N. Kihei Rd., West of South Kihei	1.5	0.6
N. Kihei Rd., Between Piilani & S. Kihei	1.4	0.6
S. Kihei Rd., South of N. Kihei Rd.	1.5	0.3
Uwapo Rd., W. of Piilani	0.7	0.6
Kaiwahine St. E. of Piilani	3.0	1.0
Ohukai Rd., W. of Piilani	0.5	0.3
Ohukai Rd., E. of Piilani	2.5	-0.2
Kaonoulu St., Between Piilani & Kenolio	3.4	2.7
Kaonoulu St., Between Kenolio & Alulike	5.2	3.3
Kaonoulu St., Between Alulike & S. Kihei	3.2	3.0
S. Kihei Rd. N. of Kaonoulu	2.5	0.3
S. Kihei Rd. S. of Kaonoulu	2.3	0.6
E. Kaonoulu St. E. of Piilani	N/A	62.7 *
Kulanihakoi St. W. of Piilani	-0.1	2.2
Kulanihakoi St. E. of Piilani	N/A	0.0
Piikea Ave. W. of Piilani	1.1	0.4

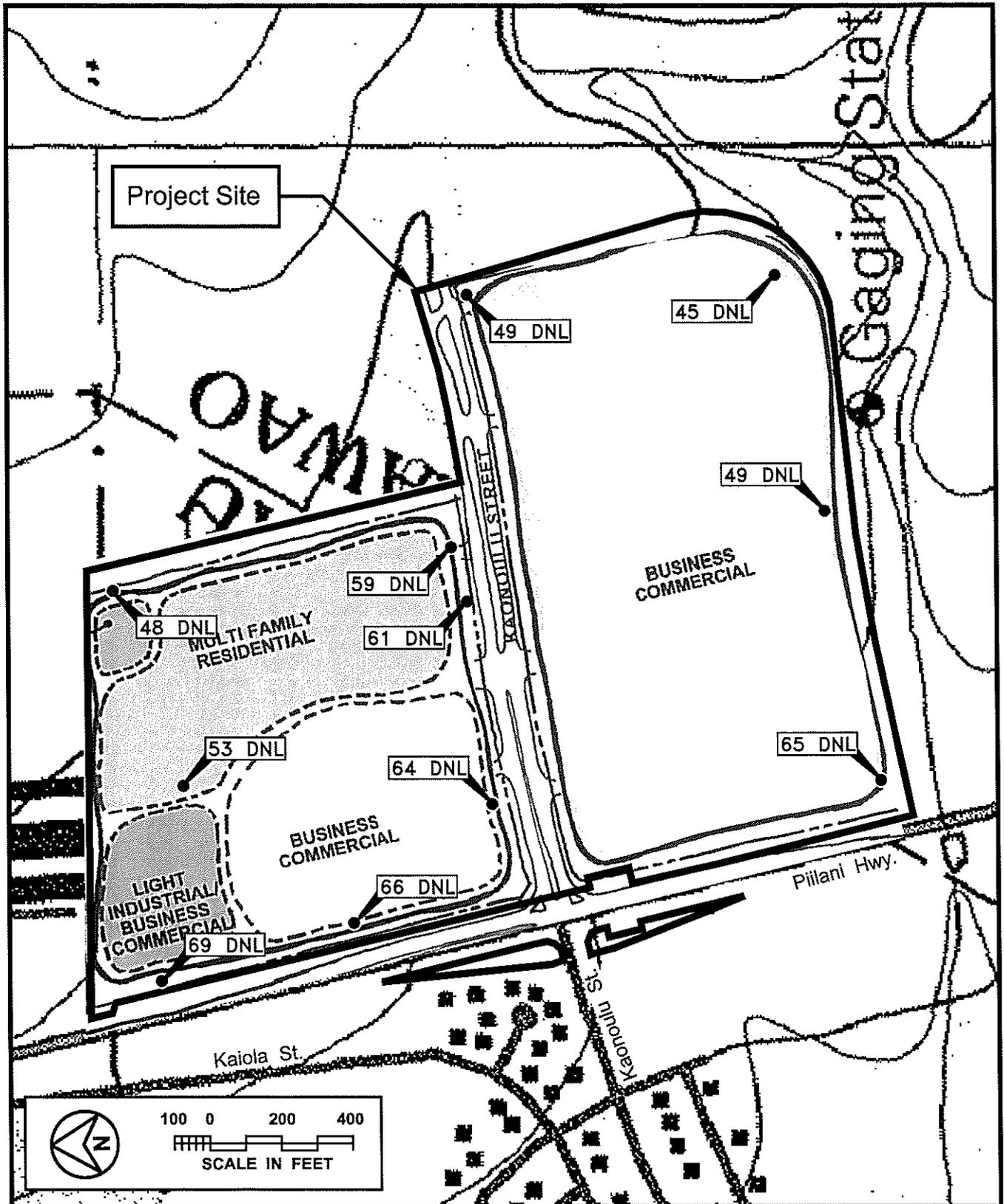
Notes:

1. "\*\*\*" Large DNL value results from comparisons of future roadway DNL values with currently non-existing roadways.
2. "N/A" results from lack of applicable traffic data for that roadway.

category, and less than 65 DNL at 53 feet or greater distance from the roadways' centerlines.

The dominant traffic noise sources in the project environs will continue to be traffic along Piilani Highway and South Kihei Road. The new section of Kaonoulu Street east of Piilani Highway will also be a dominant traffic noise source on the mauka side of Piilani Highway. Figure 6 depicts the predicted traffic noise levels over the project site under the Build Alternative by CY 2032. The planned multifamily residences of the project fronting Kaonoulu Street should not experience future traffic noise levels greater than the 65 DNL FHA/HUD standard or the 66 Leq noise abatement criteria of the HDOT by 2032 as long as their setback distances from the centerline of Kaonoulu Street are at least 51 feet. While the predicted future traffic noise levels exceed 65 DNL at the project's lots which front Piilani Highway, these predicted levels are compatible with the planned business, commercial, or light industrial uses. The traffic noise levels shown in Figure 6 will probably increase from the values shown following completion of the Upcountry Highway, particularly at the locations near the new section of Kaonoulu Street.

Potential traffic noise levels over the project site following completion of the Upcountry Highway and with Kaonoulu Street accommodating the additional traffic from the Upcountry Highway were estimated using CY 2025 forecasts of traffic volumes along Kaonoulu Street east of Piilani Highway contained in Reference 10. The potential traffic noise contributions from Kaonoulu Street were increased in accordance with the traffic forecasts for Kaonoulu Street from Figure 22 of the earlier traffic study (Reference 10), and were approximately 13 percent larger than the CY 2032 traffic volume forecast of Reference 7. Traffic noise levels along Kaonoulu Street using these assumptions of the Upcountry Highway's contributions increased by 1.0 to 2.0 DNL above the CY 2032 traffic noise level predictions. The traffic noise levels at all units of the proposed multifamily residential parcel will not exceed the HDOT's "15 dB increase" noise abatement criteria as a result of the completion of the Upcountry Highway. For the southernmost buildings of the residential parcel, a minimum setback distance of 70 feet from the centerline of Kaonoulu Street is required so that traffic noise levels do not exceed 65 DNL or the 66 Leq HDOT noise abatement criteria.



**PROJECT LOCATION MAP AND  
FUTURE (CY 2032) TRAFFIC NOISE LEVELS**

**FIGURE  
6**

## CHAPTER VII. DISCUSSION OF PROJECT-RELATED NOISE IMPACTS AND POSSIBLE MITIGATION MEASURES

Traffic Noise. Existing traffic noise levels along Piilani Highway and South Kihei Road are very high, and are expected to remain so through CY 2032. Traffic noise impacts along those two roadways will continue to occur at noise sensitive receptors which are not provided with noise mitigation measures such as sound attenuating walls and/or closure and air conditioning.

Project related traffic along Piilani Highway and South Kihei Road are not expected to cause significant increases in future traffic noise levels. Increases in future traffic noise levels along Piilani Highway resulting from project traffic are expected to range from 0.4 to 0.7 DNL by CY 2032. The largest increases (2.9 to 3.6 DNL) in project related traffic noise are predicted to occur along Kaonoulu Street, with non-project traffic also contributing with equal or larger increases in future traffic noise levels. Adverse traffic noise impacts along Kaonoulu Street are possible towards the west end of Kaonoulu where relatively small setback distances could result in future traffic noise levels exceeding the 65 DNL FHA/HUD standard by 1 DNL unit in CY 2032. The remaining majority of noise sensitive residential buildings along Kaonoulu Street have adequate setback distances such that predicted CY 2032 traffic noise levels should remain in the "Moderate Exposure, Normally Acceptable" category at these buildings. For these reasons, traffic noise mitigation measures should not be required.

Potential Noise Impacts At Project's 226 Residential Units. Because the Piilani Promenade Project includes proposed residential units within the industrial zoned lands, noise impacts at the residential units from activities associated with the light industrial, business, and commercial uses are possible. In addition, traffic noise impacts from the future traffic on the new mauka section of Kaonoulu Street following completion of the Upcountry Highway are possible. Figure 6 indicated that the project's residential units should not experience traffic noise levels greater than 65 DNL by CY 2032. Future traffic noise levels following completion of the Upcountry Highway could exceed 65 DNL at the southern end of the residential parcel at setback distances less than 70 feet from the centerline of Kaonoulu Street. If this minimum setback distance cannot be achieved, the application of other traffic noise mitigation measures, such as the addition of sound attenuating walls or the use of closure and air conditioning should be considered.

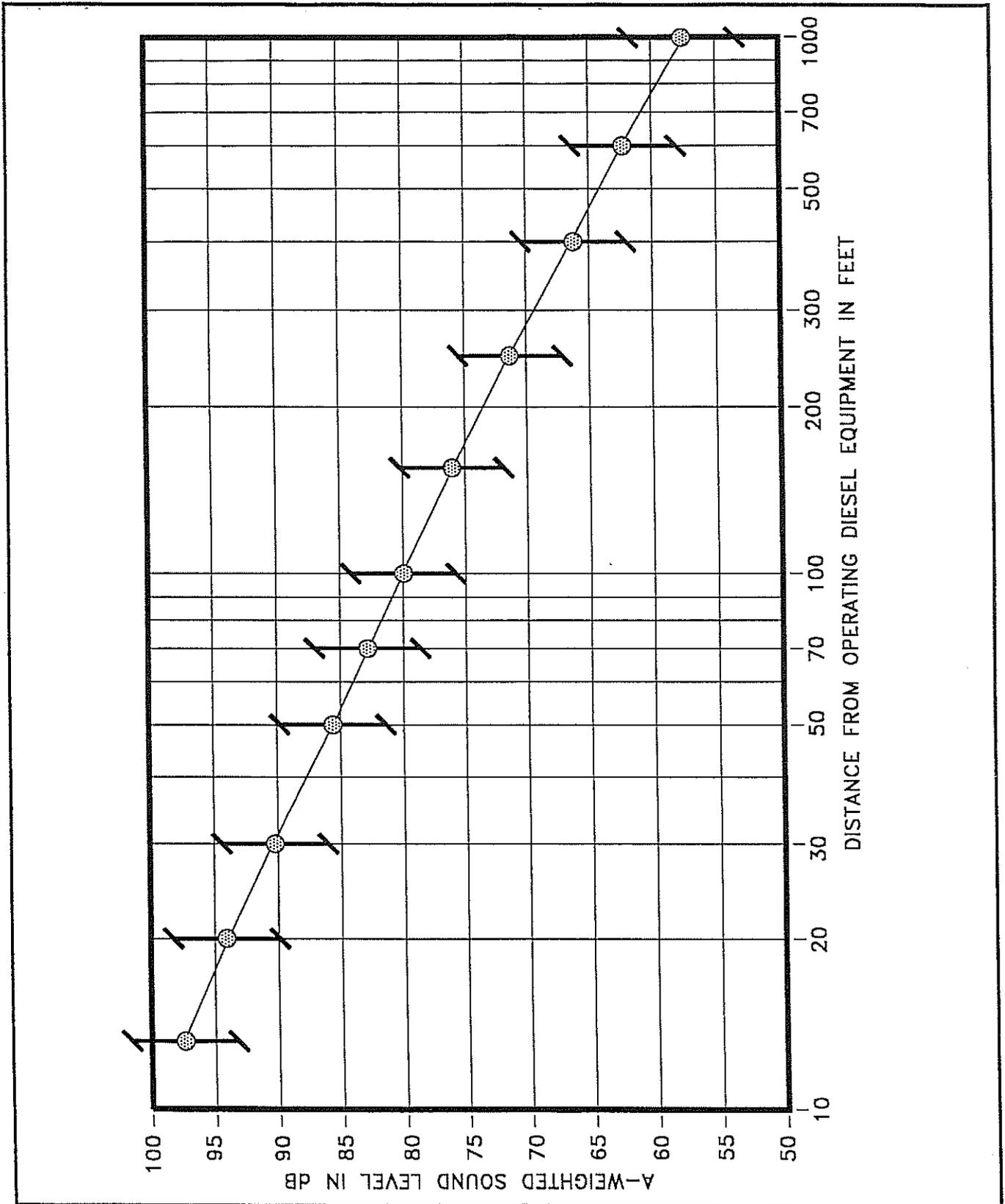
Because the project's residential parcel is adjacent to existing and future nonresidential uses, potential noise impacts and noise complaints may occur due to audible noise emanating from these nonresidential uses. For multifamily residences, the State DOH noise limits are 60 dBA during the daytime (7:00 am to 10:00 pm) and 50 dBA during the nighttime (10:00 pm to 7:00 am). However, because the allowable State DOH noise limits are determined by the lot zoning at the source of the noise, a higher noise limit of 70 dBA during the daytime and nighttime will apply at the proposed residences in accordance with State DOH rules. Both the project and existing parcel

north of the planned residential units are zoned Light Industrial, with applicable limits of 70 dBA during the daytime and nighttime periods. A steady noise level of 56 dBA during the daytime and nighttime would equate to the 65 DNL FHA/HUD standard for noise sensitive properties, so the potential exists for exceeding the 65 DNL standard by 14 dBA at the project's residential units. In situations like this, it would be prudent to include noise limits within the land conveyance documents to limit noise emissions from the tenants of the light industrial, business, and commercial lots to the State DOH limits for multifamily residential properties. These limits are 60 dBA and 50 dBA for the daytime and nighttime periods, respectively. These limits are also identical to the State DOH limits for business and commercial zoned lands.

It would also be prudent to include provisions for nighttime and early morning delivery trucks to ingress and egress the nonresidential lots via internal roadways which maximize the distances between the trucks and the project's residential buildings. These roadways could also include the circulation driveways within the parking areas. The use of beeper type backup alarms should be discouraged, and the use of broadband noise type backup alarms should be encouraged, primarily because the beeper type backup alarms are audible at longer distances than are the broadband noise backup alarms.

A noise conflict situation between light industrial zoned lands and residential uses on adjacent spaces may occur due to existing noise emissions from the existing light industrial subdivision to the north of the proposed residential buildings. Current noise emissions from the existing light industrial subdivision may be exceeding 50 dBA during the daytime and nighttime periods. These noise emission levels are probably in compliance with the State DOH noise limit of 70 dBA, but may be too high for future residences. In situations like these, it may be prudent to include disclosure of the potential 70 dBA noise levels within the rental documents of the proposed residential units. In addition, it may also be mutually beneficial to apply noise mitigation measures to the noise sources within the existing light industrial parcel(s) which exceed 50 dBA at the proposed residential dwellings.

General Construction Noise. Audible construction noise will probably be unavoidable during the entire project construction period. The total time period for construction is unknown, but it is anticipated that the actual work will be moving from one location on the project site to another during that period. Actual length of exposure to construction noise at any receptor location will probably be less than the total construction period for the entire project. Typical levels of exterior noise from construction activity (excluding pile driving activity) at various distances from the job site are shown in Figure 7. The impulsive noise levels of impact pile drivers are approximately 15 dB higher than the levels shown in Figure 7, while the intermittent noise levels of vibratory pile drivers are at the upper end of the noise level ranges depicted in the figure.



**ANTICIPATED RANGE OF CONSTRUCTION NOISE LEVELS VS. DISTANCE**

**FIGURE 7**

Figure 7 is useful for predicting exterior noise levels at short distances (within 100 FT) from the work when visual line of sight exists between the construction equipment and the receptor. Direct line-of-sight distances from the construction equipment operating on the mauka side of Piilani Highway to existing residential buildings will range from 150 FT to 1,850 FT, with corresponding average noise levels of 77 to 52 dBA (plus or minus 5 dBA). Typical levels of construction noise inside naturally ventilated and air conditioned structures are approximately 10 and 20 dB less, respectively, than the levels shown in Figure 7.

An existing residence located approximately 900 feet north of the project and south of Ohukai Road is the closest existing residence to the north of the project site. A large number of residences are located beyond 1,200 feet north of the project site across Ohukai Road. The highest noise levels at these residences from construction activities of 58 to 52 dBA are expected to occur during earthwork and site preparation activities near the north end of the Piilani Promenade development. The noise from construction activities on the project site will be audible at long distances from the Ohukai Road residences due to the relatively low (40 to 55 dBA) background noise levels at these residences.

The existing residences across Piilani Highway west of the project site would probably hear any construction activities involving earthwork or landscaping within the State Right-of-Way (ROW) on the makai side of Piilani Highway near the Kaonoulu Street intersection. The noise levels from these close-in construction activities may range from 80 to 95 dBA at existing residences along the makai ROW during work on the Kaonoulu Street intersection improvements. Existing residences along the makai ROW may also hear the construction activities within the main project site mauka of Piilani Highway. The highest noise levels during construction activities on the project site of 75 to 77 dBA are expected to occur at these residences during earthwork and site preparation activities near the mauka ROW of Piilani Highway. The noise from construction activities will decrease and be masked by traffic noise along Piilani Highway at these residences along Piilani Highway as project construction activities move toward the east end of the project site. Adverse impacts from construction noise are not expected to be in the "public health and welfare" category due to the temporary nature of the work, and due to the administrative controls available for regulation of construction noise. Instead, these impacts will probably be limited to the temporary degradation of the quality of the acoustic environment in the immediate vicinity of the project site.

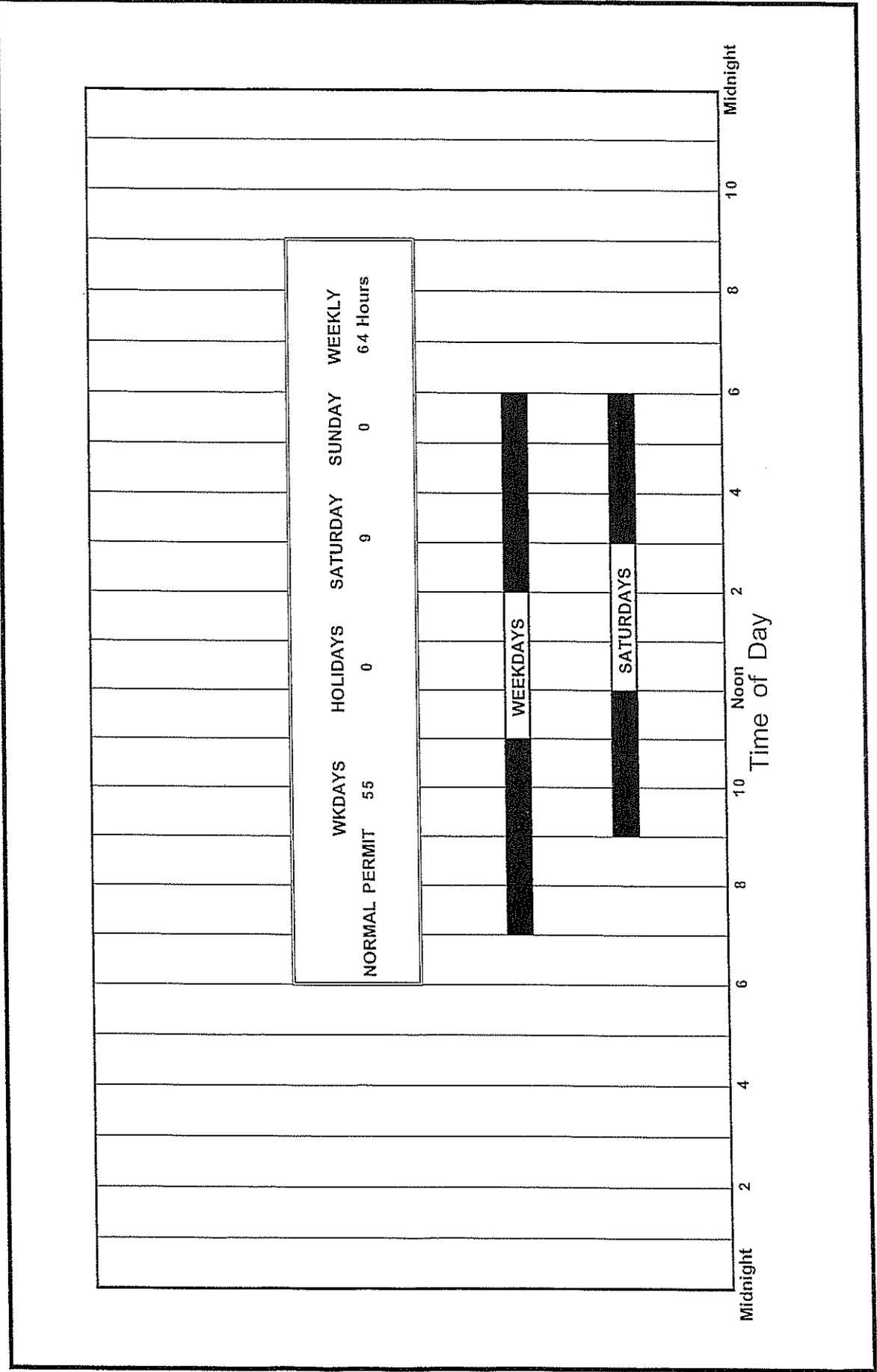
Mitigation of construction noise to inaudible levels will not be practical in all cases due to the intensity of construction noise sources (80 dBA at 100 FT distance), and due to the exterior nature of the work (rock breaking, grading and earth moving, trenching, concrete pouring, hammering, etc.). The use of properly muffled construction equipment should be required on the job site.

Peak airborne noise levels from pile driving may be as much as 15 dBA greater than noise levels shown in Figure 7 for non-impulsive (steady) construction noise

sources. Although the pile driving can produce more intense noise levels, each pulse is of short individual duration (less than one second). Therefore, its impact on speech communication is not as severe as that of a steady source of the same noise level.

Severe noise impacts are not expected to occur inside air conditioned structures which are beyond 200 FT from the project construction site. Inside naturally ventilated structures, interior noise levels (with windows or doors opened) are estimated to range between 65 to 53 dBA at 200 FT to 600 FT distances from the construction site. Closure of all doors and windows facing the construction site would generally reduce interior noise levels by an additional 5 to 10 dBA.

The incorporation of State Department of Health construction noise limits and curfew times, which are applicable throughout the State of Hawaii (Reference 5), is another noise mitigation measure which is normally applied to construction activities. Figure 8 depicts the normally permitted hours of construction. Noisy construction activities are not allowed on Sundays and holidays, during the early morning, and during the late evening and nighttime periods under the DOH permit procedures.



**FIGURE 8**

**AVAILABLE WORK HOURS UNDER DOH PERMIT PROCEDURES FOR CONSTRUCTION NOISE**

## APPENDIX A. REFERENCES

- (1) "Guidelines for Considering Noise in Land Use Planning and Control;" Federal Interagency Committee on Urban Noise; June 1980.
- (2) American National Standard, "Sound Level Descriptors for Determination of Compatible Land Use," ANSI S12.9-1998/ Part 5; Acoustical Society of America.
- (3) "Environmental Criteria and Standards, Noise Abatement and Control, 24 CFR, Part 51, Subpart B;" U.S. Department of Housing and Urban Development; July 12, 1979.
- (4) "Information on Levels of Environmental Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety;" U.S. Environmental Protection Agency; EPA 550/9-74-004; March 1974.
- (5) "Title 11, Administrative Rules, Chapter 46, Community Noise Control;" Hawaii State Department of Health; September 23, 1996.
- (6) "FHWA Highway Traffic Noise Model User's Guide;" FHWA-PD-96-009, Federal Highway Administration; Washington, D.C.; January 1998 and Version 2.5 Upgrade (April 14, 2004).
- (7) "Piilani Promenade Draft Traffic Impact Analysis Report Update;" SSFM International; March 4, 2016.
- (8) Hourly Traffic Counts At Station B74003100000, Piilani Highway Between Kaonoulu Street and Kulanihakoi Road; Hawaii State Department of Transportation; September 28, 2011.
- (9) Hourly Traffic Counts At Station B74310000013, South Kihei Road Between Nohokai Street and Piikea Avenue; Hawaii State Department of Transportation; August 19, 2010.
- (10) "Traffic Impact Analysis Report for Piilani Promenade;" Phillip Rowell and Associates; December 23, 2013.

## APPENDIX B

### EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

#### Descriptor Symbol Usage

The recommended symbols for the commonly used acoustic descriptors based on A-weighting are contained in Table I. As most acoustic criteria and standards used by EPA are derived from the A-weighted sound level, almost all descriptor symbol usage guidance is contained in Table I.

Since acoustic nomenclature includes weighting networks other than "A" and measurements other than pressure, an expansion of Table I was developed (Table II). The group adopted the ANSI descriptor-symbol scheme which is structured into three stages. The first stage indicates that the descriptor is a level (i.e., based upon the logarithm of a ratio), the second stage indicates the type of quantity (power, pressure, or sound exposure), and the third stage indicates the weighting network (A, B, C, D, E.....). If no weighting network is specified, "A" weighting is understood. Exceptions are the A-weighted sound level and the A-weighted peak sound level which require that the "A" be specified. For convenience in those situations in which an A-weighted descriptor is being compared to that of another weighting, the alternative column in Table II permits the inclusion of the "A". For example, a report on blast noise might wish to contrast the LCdn with the LAdn.

Although not included in the tables, it is also recommended that "Lpn" and "LepN" be used as symbols for perceived noise levels and effective perceived noise levels, respectively.

It is recommended that in their initial use within a report, such terms be written in full, rather than abbreviated. An example of preferred usage is as follows:

The A-weighted sound level (LA) was measured before and after the installation of acoustical treatment. The measured LA values were 85 and 75 dB respectively.

#### Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the term "equivalent". Hence, Leq, is designated the "equivalent sound level". For Ld, Ln, and Ldn, "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

The peak sound level is the logarithmic ratio of peak sound pressure to a reference pressure and not the maximum root mean square pressure. While the latter is the maximum sound pressure level, it is often incorrectly labelled peak. In that sound level meters have "peak" settings, this distinction is most important.

"Background ambient" should be used in lieu of "background", "ambient", "residual", or "indigenous" to describe the level characteristics of the general background noise due to the contribution of many unidentifiable noise sources near and far.

With regard to units, it is recommended that the unit decibel (abbreviated dB) be used without modification. Hence, DBA, PNdB, and EPNdB are not to be used. Examples of this preferred usage are: the Perceived Noise Level (Lpn was found to be 75 dB. Lpn = 75 dB). This decision was based upon the recommendation of the National Bureau of Standards, and the policies of ANSI and the Acoustical Society of America, all of which disallow any modification of bel except for prefixes indicating its multiples or submultiples (e.g., deci).

#### Noise Impact

In discussing noise impact, it is recommended that "Level Weighted Population" (LWP) replace "Equivalent Noise Impact" (ENI). The term "Relative Change of Impact" (RCI) shall be used for comparing the relative differences in LWP between two alternatives.

Further, when appropriate, "Noise Impact Index" (NII) and "Population Weighed Loss of Hearing" (PHL) shall be used consistent with CHABA Working Group 69 Report Guidelines for Preparing Environmental Impact Statements (1977).

## APPENDIX B (CONTINUED)

**TABLE I**  
**A-WEIGHTED RECOMMENDED DESCRIPTOR LIST**

<u>TERM</u>	<u>SYMBOL</u>
1. A-Weighted Sound Level	$L_A$
2. A-Weighted Sound Power Level	$L_{WA}$
3. Maximum A-Weighted Sound Level	$L_{max}$
4. Peak A-Weighted Sound Level	$L_{Apk}$
5. Level Exceeded x% of the Time	$L_x$
6. Equivalent Sound Level	$L_{eq}$
7. Equivalent Sound Level over Time (T) <sup>(1)</sup>	$L_{eq(T)}$
8. Day Sound Level	$L_d$
9. Night Sound Level	$L_n$
10. Day-Night Sound Level	$L_{dn}$
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$
12. Sound Exposure Level	$L_{SE}$

(1) Unless otherwise specified, time is in hours (e.g. the hourly equivalent level is  $L_{eq(1)}$ ). Time may be specified in non-quantitative terms (e.g., could be specified a  $L_{eq(WASH)}$  to mean the washing cycle noise for a washing machine).

SOURCE: EPA ACOUSTIC TERMINOLOGY GUIDE, BNA 8-14-78,

APPENDIX B (CONTINUED)

TABLE II  
RECOMMENDED DESCRIPTOR LIST

TERM	ALTERNATIVE <sup>(1)</sup>		OTHER <sup>(2)</sup>	UNWEIGHTED
	A-WEIGHTING	A-WEIGHTING	WEIGHTING	
1. Sound (Pressure) <sup>(3)</sup> Level	$L_A$	$L_{pA}$	$L_B, L_{pB}$	$L_p$
2. Sound Power Level	$L_{WA}$		$L_{WB}$	$L_W$
3. Max. Sound Level	$L_{max}$	$L_{Amax}$	$L_{Bmax}$	$L_{pmax}$
4. Peak Sound (Pressure) Level	$L_{Apk}$		$L_{Bpk}$	$L_{pk}$
5. Level Exceeded x% of the Time	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$
6. Equivalent Sound Level	$L_{eq}$	$L_{Aeq}$	$L_{Beq}$	$L_{peq}$
7. Equivalent Sound Level <sup>(4)</sup> Over Time(T)	$L_{eq(T)}$	$L_{Aeq(T)}$	$L_{Beq(T)}$	$L_{peq(T)}$
8. Day Sound Level	$L_d$	$L_{Ad}$	$L_{Bd}$	$L_{pd}$
9. Night Sound Level	$L_n$	$L_{An}$	$L_{Bn}$	$L_{pn}$
10. Day-Night Sound Level	$L_{dn}$	$L_{Adn}$	$L_{Bdn}$	$L_{pdn}$
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$	$L_{Adn(Y)}$	$L_{Bdn(Y)}$	$L_{pdn(Y)}$
12. Sound Exposure Level	$L_S$	$L_{SA}$	$L_{SB}$	$L_{Sp}$
13. Energy Average Value Over (Non-Time Domain) Set of Observations	$L_{eq(e)}$	$L_{Aeq(e)}$	$L_{Beq(e)}$	$L_{peq(e)}$
14. Level Exceeded x% of the Total Set of (Non-Time Domain) Observations	$L_{x(e)}$	$L_{Ax(e)}$	$L_{Bx(e)}$	$L_{px(e)}$
15. Average $L_x$ Value	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$

(1) "Alternative" symbols may be used to assure clarity or consistency.

(2) Only B-weighting shown. Applies also to C,D,E,.....weighting.

(3) The term "pressure" is used only for the unweighted level.

(4) Unless otherwise specified, time is in hours (e.g., the hourly equivalent level is  $L_{eq(1)}$ ). Time may be specified in non-quantitative terms (e.g., could be specified as  $L_{eq(WASH)}$  to mean the washing cycle noise for a washing machine.

APPENDIX C1

SUMMARY OF BASE YEAR AND YEAR 2032  
WEEKDAY TRAFFIC VOLUMES

ROADWAY LANES	**** CY 2016 *****		CY 2032 (NO BUILD)		CY 2032 (BUILD)	
	AM VPH	PM VPH	AM VPH	PM VPH	AM VPH	PM VPH
Mokulele Hwy., N. of N. Kihei Rd. (NB)	1,224	1,477	1,575	1,993	1,600	2,094
Mokulele Hwy., N. of N. Kihei Rd. (SB)	1,170	1,574	1,578	2,131	1,606	2,226
Two-Way	2,394	3,051	3,153	4,124	3,206	4,320
Piilani Hwy., Between Uwapo & N. Kihei (NB)	1,439	1,649	1,892	2,315	1,942	2,517
Piilani Hwy., Between Uwapo & N. Kihei (SB)	1,412	1,753	1,934	2,446	1,990	2,636
Two-Way	2,851	3,402	3,826	4,760	3,932	5,152
Piilani Hwy., Between Uwapo & Ohukai (NB)	1,322	1,728	1,653	2,424	1,715	2,670
Piilani Hwy., Between Uwapo & Ohukai (SB)	1,601	1,716	2,241	2,349	2,307	2,583
Two-Way	2,923	3,443	3,894	4,773	4,021	5,253
Piilani Hwy., Between Ohukai & Kaonoulu (NB)	1,226	1,720	1,590	2,492	1,645	2,751
Piilani Hwy., Between Ohukai & Kaonoulu (SB)	1,747	1,741	2,488	2,408	2,523	2,686
Two-Way	2,973	3,461	4,078	4,900	4,167	5,437
Piilani Hwy., Between Kaonoulu & Kulanihakai (NB)	1,300	1,799	1,716	2,586	1,833	2,983
Piilani Hwy., Between Kaonoulu & Kulanihakai (SB)	1,938	1,800	2,722	2,513	2,821	2,939
Two-Way	3,238	3,599	4,438	5,099	4,653	5,922
Piilani Hwy., Between Kulanihakai & Piikea (NB)	1,276	1,837	1,924	2,640	2,015	2,949
Piilani Hwy., Between Kulanihakai & Piikea (SB)	1,976	1,789	2,774	2,514	2,853	2,846
Two-Way	3,252	3,625	4,698	5,153	4,868	5,794
Piilani Hwy., South of Piikea (NB)	1,180	1,815	1,797	2,531	1,862	2,755
Piilani Hwy., South of Piikea (SB)	1,758	1,705	2,479	2,359	2,536	2,600
Two-Way	2,938	3,520	4,276	4,890	4,398	5,355
N. Kihei Rd., West of South Kihei (EB)	556	849	681	1,039	724	1,181
N. Kihei Rd., West of South Kihei (WB)	890	727	1,268	1,059	1,305	1,211
Two-Way	1,446	1,576	1,949	2,098	2,029	2,392
N. Kihei Rd., Between Piilani & S. Kihei (EB)	574	589	725	820	753	915
N. Kihei Rd., Between Piilani & S. Kihei (WB)	570	647	728	823	753	924
Two-Way	1,144	1,236	1,452	1,643	1,505	1,839
S. Kihei Rd., South of N. Kihei Rd. (NB)	594	454	981	780	993	831
S. Kihei Rd., South of N. Kihei Rd. (SB)	305	618	370	688	385	735
Two-Way	899	1,072	1,351	1,468	1,378	1,566
Uwapo Rd., W. of Piilani (EB)	193	103	228	163	234	185
Uwapo Rd., W. of Piilani (WB)	60	115	110	165	116	188
Two-Way	253	218	338	328	350	373

APPENDIX C1 (CONTINUED)

SUMMARY OF BASE YEAR AND YEAR 2032  
WEEKDAY TRAFFIC VOLUMES

ROADWAY LANES	**** CY 2016 *****		CY 2032 (NO BUILD)		CY 2032 (BUILD)	
	AM VPH	PM VPH	AM VPH	PM VPH	AM VPH	PM VPH
Kaiwahine St., E. of Piilani (EB)	90	202	275	582	281	605
Kaiwahine St., E. of Piilani (WB)	251	119	626	419	632	441
Two-Way	341	321	901	1,001	913	1,046
Ohukai Rd., W. of Piilani (EB)	291	202	311	242	307	234
Ohukai Rd., W. of Piilani (WB)	90	190	120	215	106	223
Two-Way	381	392	431	457	413	457
Ohukai Rd., E. of Piilani (EB)	407	370	482	490	423	408
Ohukai Rd., E. of Piilani (WB)	490	449	600	519	506	486
Two-Way	897	819	1,082	1,009	929	894
Kaonoulu St., Between Piilani & Kenolio (EB)	228	120	361	318	450	614
Kaonoulu St., Between Piilani & Kenolio (WB)	57	150	235	310	328	618
Two-Way	285	270	595	627	777	1,231
Kaonoulu St., Between Kenolio & Alulike (EB)	56	78	176	248	255	517
Kaonoulu St., Between Kenolio & Alulike (WB)	26	57	164	187	250	464
Two-Way	82	135	339	435	504	981
Kaonoulu St., Between Alulike & S. Kihei (EB)	66	154	176	277	246	519
Kaonoulu St., Between Alulike & S. Kihei (WB)	81	76	186	181	265	425
Two-Way	147	230	362	457	511	944
S. Kihei Rd. N. of Kaonoulu (NB)	481	566	810	964	833	1,050
S. Kihei Rd. N. of Kaonoulu (SB)	347	603	606	1,013	626	1,098
Two-Way	828	1,169	1,416	1,977	1,459	2,148
S. Kihei Rd. S. of Kaonoulu (NB)	512	671	871	1,084	916	1,241
S. Kihei Rd. S. of Kaonoulu (SB)	397	622	671	1,042	722	1,198
Two-Way	909	1,293	1,542	2,126	1,638	2,439
E. Kaonoulu St. E. of Piilani (EB)	N/A	N/A	N/A	N/A	371	1,313
E. Kaonoulu St. E. of Piilani (WB)	N/A	N/A	N/A	N/A	369	1,340
Two-Way	N/A	N/A	N/A	N/A	740	2,653
Kulanihakoi St. W. of Piilani (EB)	190	134	240	159	266	244
Kulanihakoi St. W. of Piilani (WB)	96	119	121	149	143	240
Two-Way	286	253	361	308	409	484
Kulanihakoi St. E. of Piilani (EB)	N/A	N/A	480	105	480	105
Kulanihakoi St. E. of Piilani (WB)	N/A	N/A	230	125	230	125
Two-Way	N/A	N/A	710	230	710	230
Piikea Ave. W. of Piilani (EB)	430	564	500	784	526	869
Piikea Ave. W. of Piilani (WB)	530	566	625	756	647	847
Two-Way	960	1,130	1,125	1,540	1,173	1,716

APPENDIX C2

SUMMARY OF BASE YEAR AND YEAR 2032  
SATURDAY PEAK HOUR TRAFFIC VOLUMES

ROADWAY LANES	CY 2016 VPH	CY 2032 (NO BUILD) VPH	CY 2032 (BUILD) VPH
Mokulele Hwy., N. of N. Kihei Rd. (NB)	1,246	1,747	1,822
Mokulele Hwy., N. of N. Kihei Rd. (SB)	1,175	1,644	1,730
Two-Way	2,421	3,391	3,552
Piilani Hwy., Between Uwapo & N. Kihei (NB)	1,331	1,984	2,111
Piilani Hwy., Between Uwapo & N. Kihei (SB)	1,243	1,825	1,997
Two-Way	2,574	3,809	4,108
Piilani Hwy., Between Uwapo & Ohukai (NB)	1,346	1,972	2,170
Piilani Hwy., Between Uwapo & Ohukai (SB)	1,290	1,879	2,089
Two-Way	2,636	3,850	4,259
Piilani Hwy., Between Ohukai & Kaonoulu (NB)	1,311	1,984	2,193
Piilani Hwy., Between Ohukai & Kaonoulu (SB)	1,268	1,880	2,118
Two-Way	2,578	3,864	4,310
Piilani Hwy., Between Kaonoulu & Kulanihakoi (NB)	1,375	2,046	2,407
Piilani Hwy., Between Kaonoulu & Kulanihakoi (SB)	1,302	1,945	2,272
Two-Way	2,677	3,991	4,679
Piilani Hwy., Between Kulanihakoi & Piikea (NB)	1,352	1,988	2,272
Piilani Hwy., Between Kulanihakoi & Piikea (SB)	1,332	1,939	2,203
Two-Way	2,684	3,927	4,475
Piilani Hwy., South of Piikea (NB)	1,262	1,808	2,015
Piilani Hwy., South of Piikea (SB)	1,269	1,807	1,999
Two-Way	2,531	3,615	4,014
N. Kihei Rd., West of South Kihei (EB)	650	825	960
N. Kihei Rd., West of South Kihei (WB)	612	957	1,083
Two-Way	1,262	1,782	2,043
N. Kihei Rd., Between Piilani & S. Kihei (EB)	486	696	782
N. Kihei Rd., Between Piilani & S. Kihei (WB)	504	670	750
Two-Way	990	1,366	1,532
S. Kihei Rd., South of N. Kihei Rd. (NB)	440	768	814
S. Kihei Rd., South of N. Kihei Rd. (SB)	487	547	596
Two-Way	927	1,315	1,410

APPENDIX C2 (CONTINUED)

SUMMARY OF BASE YEAR AND YEAR 2032  
SATURDAY PEAK HOUR TRAFFIC VOLUMES

ROADWAY LANES	CY 2016 VPH	CY 2032 (NO BUILD) VPH	CY 2032 (BUILD) VPH
Kaiwahine St., E. of Piilani (EB)	115	245	263
Kaiwahine St., E. of Piilani (WB)	125	245	264
Two-Way	240	490	527
Ohukai Rd., W. of Piilani (EB)	173	218	237
Ohukai Rd., W. of Piilani (WB)	146	206	214
Two-Way	319	424	451
Ohukai Rd., E. of Piilani (EB)	266	601	564
Ohukai Rd., E. of Piilani (WB)	286	611	570
Two-Way	552	1,212	1,134
Kaonoulu St., Between Piilani & Kenolio (EB)	136	329	599
Kaonoulu St., Between Piilani & Kenolio (WB)	100	248	497
Two-Way	236	576	1,096
Kaonoulu St., Between Kenolio & Alulike (EB)	84	249	490
Kaonoulu St., Between Kenolio & Alulike (WB)	50	183	405
Two-Way	134	432	895
Kaonoulu St., Between Alulike & S. Kihei (EB)	120	240	460
Kaonoulu St., Between Alulike & S. Kihei (WB)	86	191	389
Two-Way	205	430	848
S. Kihei Rd. N. of Kaonoulu (NB)	505	877	945
S. Kihei Rd. N. of Kaonoulu (SB)	512	888	968
Two-Way	1,017	1,765	1,913
S. Kihei Rd. S. of Kaonoulu (NB)	589	971	1,116
S. Kihei Rd. S. of Kaonoulu (SB)	549	935	1,065
Two-Way	1,138	1,906	2,181
E. Kaonoulu St. E. of Piilani (EB)	N/A	N/A	1,461
E. Kaonoulu St. E. of Piilani (WB)	N/A	N/A	1,354
Two-Way	N/A	N/A	2,815
Kulanihakoi St. W. of Piilani (EB)	112	127	204
Kulanihakoi St. W. of Piilani (WB)	93	113	185
Two-Way	205	240	389
Kulanihakoi St. E. of Piilani (EB)	N/A	0	0
Kulanihakoi St. E. of Piilani (WB)	N/A	0	0
Two-Way	N/A	0	0
Piikea Ave. W. of Piilani (EB)	491	751	828
Piikea Ave. W. of Piilani (WB)	535	780	852
Two-Way	1,026	1,531	1,680



**APPENDIX E-2**  
**Acoustic Study Update**  
**Dated January 23, 2017**

# Y. Ebisu & Associates

Acoustical and Electronic Engineers

1126 12th Ave., Room 305  
Honolulu, Hawaii 96816  
Ph. (808) 735-1634 – Fax (808) 732-0409  
e-mail: ebisuyassoc@aol.com

YEA Job #51.032  
January 23, 2017

Chris Hart & Partners, Inc.  
115 N. Market Street  
Wailuku, Maui, HI 96793

Attention: Mr. Brett A. Davis  
Land Planner

Subject: Noise Study Report for the Piilani Promenade Project, Kihei, Maui

Dear Mr. Davis:

My noise study report for the subject project dated March 2016 utilized traffic volumes from the SSFM International draft traffic study (TIAR) dated 3/4/16. The final TIAR dated December 20, 2016 contains existing and future traffic volumes which are identical to the volumes in the draft TIAR. Therefore, all conclusions regarding noise impacts as contained in my March 2016 noise study report should be applicable to the proposed development of the Piilani Promenade plus the adjoining Honua`ula offsite workforce housing project.

My March 2016 noise study report did not mention the potential noise impacts of the Piilani Promenade Project on the adjoining Honua`ula offsite workforce housing project. Because the Honua`ula offsite workforce housing project is located mauka of the Piilani Promenade's 226 residential units, and adjoins these residential units on the north side of E. Kanouolu Street, any potential adverse noise impacts at the Honua`ula offsite workforce housing project can be compared to the potential noise impacts which were previously disclosed at the Piilani Promenade's 226 residential units as follows:

1. There should be less exposure to noise from the Piilani Promenade project's noise sources since only the south side of the Honua`ula offsite workforce housing project will face the Piilani Promenade's Business/ Commercial activities;

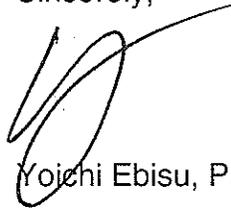
2. Piilani Promenade traffic on E. Kanouolu Street fronting the Honua`ula offsite workforce housing project should be less than Piilani Promenade traffic on E. Kanouolu Street fronting the Piilani Promenade's 226 residential units. Total predicted traffic noise in 2032 at the Honua`ula offsite workforce housing project should also be less than the 59 to 61 DNL predicted at the Piilani Promenade's 226 residential units (see noise study report Figure 6, page 30).

Mr. Brett A. Davis

January 23, 2017  
Page 2

Let me know if you have any questions or require further clarifications regarding the information provided above.

Sincerely,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

Yoichi Ebisu, P.E.

cc: Mr. Charles Jencks



**APPENDIX F**  
**Archaeological Inventory Survey dated March 2014,**  
**revised August 26, 2015**

**AN ARCHAEOLOGICAL INVENTORY SURVEY  
FOR ON- AND OFF-SITE IMPROVEMENTS ASSOCIATED  
WITH THE PROPOSED PIILANI PROMENADE  
PROJECT, AND UPDATED RECOMMENDATIONS  
FOR SITES IDENTIFIED IN A  
1994 ARCHAEOLOGICAL INVENTORY SURVEY,  
KA'ONO'ULU *AHUPUA'A*,  
WAILUKU AND MAKAWAO DISTRICTS,  
ISLAND OF MAUI  
(ON-SITE TMK (2) 3-9-001: 16, 169-174, AND OFF-SITE TMK (2) 2-2-  
002: 016, 077 AND 082, (2) 3-9-001: 148, (2) 3-9-048: 122)**

**Prepared on behalf of:**

**Mr. Robert Poynor,  
Vice President  
Sarofim Realty Advisors**

**Prepared by:**

**Xamanek Researches, LLC  
Pukalani, Maui**

**Erik M. Fredericksen**

*14 March 2014 (DRAFT)  
26 August 2015 (REVISED)*

## ABSTRACT

The project area is located within Ka'ono'ulu *Ahupua'a*, Makawao and Wailuku Districts, Maui. The proposed 74.871-acre Piilani Promenade project is subject to a pending motion to amend before the State Land Use Commission. For the purposes of the Environmental Impact Statement review process this archaeological inventory survey is using a total Area of Potential Effect (APE) of 101.658 acres of land. Effected on-site TMKs include: TMK (2) 3-9-001: 16, 169-174. Effected off-site TMKs include TMK (2) 2-2-002: 016, 077 AND 082, (2) 3-9-001: 148, and (2) 3-9-048: 122).

Xamanek Researches previously conducted an archaeological inventory survey of a c. 88-acre portion of the proposed project area in 1994 (formerly TMK: (2) 3-9-001: 16, and (2) 2-2-02: Portion of 15). About 14 acres of land that had not been previously surveyed at the inventory survey level will be used for proposed off-site improvements associated with the Piilani Promenade development. The proposed off-site improvements include a water storage tank facility, access roads, and improvements to the Piilani Highway.

Xamanek Researches LLC carried out an archaeological survey of the proposed on- and off-site improvements project area in January and February 2014, with follow-up work carried out in the drier months of July and August 2015. Previous bulldozing activities, prior ranching and more recent farming operations, road construction activities, as well as erosion have impacted portions of the project area. No significant material culture remains were located on the c. 14-acre off-site improvements portion of the proposed project area during archaeological fieldwork. One new site was identified during our July-August 2015 fieldwork on Parcel 16 of the on-site improvements project area. Site 50-50-10-8266 is interpreted as a possible precontact temporary habitation area, and qualifies for significance under Criterion "d" for its information content. Data recovery is the recommended mitigation for this low rock enclosure.

The 1994 archaeological inventory survey identified a total of 20 archaeological sites (Fredericksen, et. al, 1994). These historic properties were designated Sites 50-50-10-3727 through 3746. Given the time that has elapsed since the 1994 inventory survey of the original 88-acre project area, a re-evaluation of the previously identified sites was conducted in the winter of 2014 and in the drier summer of 2015. Several sites were found to have been impacted, and 2 (Sites 3734 and 3739) essentially destroyed by post-1994 bulldozing activities on the on-site portion of the project area (Parcel 16). While the significance assessments for remaining Sites 3727-3733, 3735-3738, and 3740-3745 remain the same (all Criterion "d"), data recovery is now the recommended mitigation for several of these sites.

A forthcoming data recovery plan will be developed for Sites 3727, 3728, 3735, 3736, 3741-3745, as well as newly identified Site 8266. In addition, per input from the SHPD Maui office, a project specific archaeological monitoring plan will be prepared for the entire 101.658-acre APE for on-site and off-site improvements for the proposed Piilani Promenade project.

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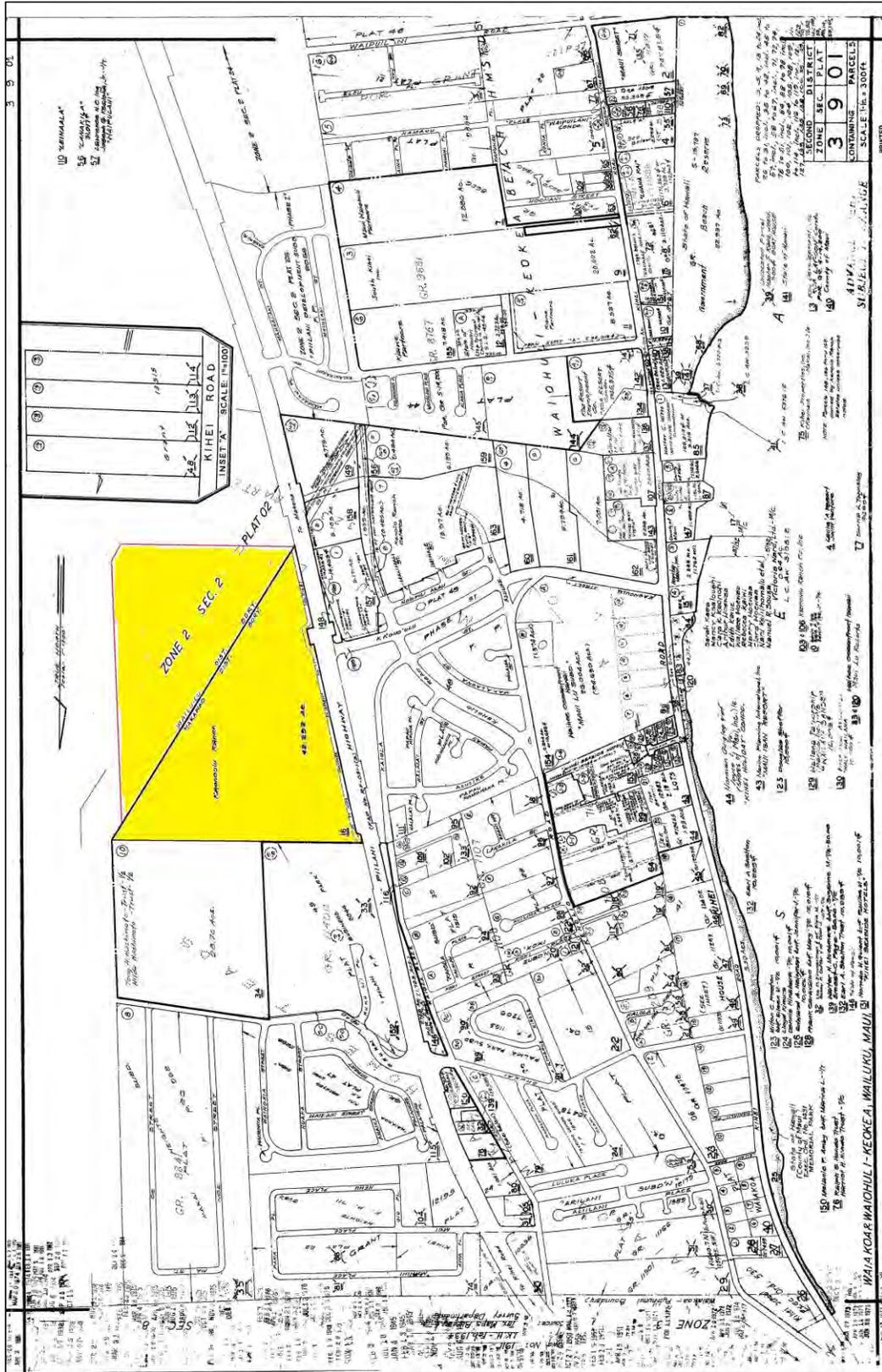
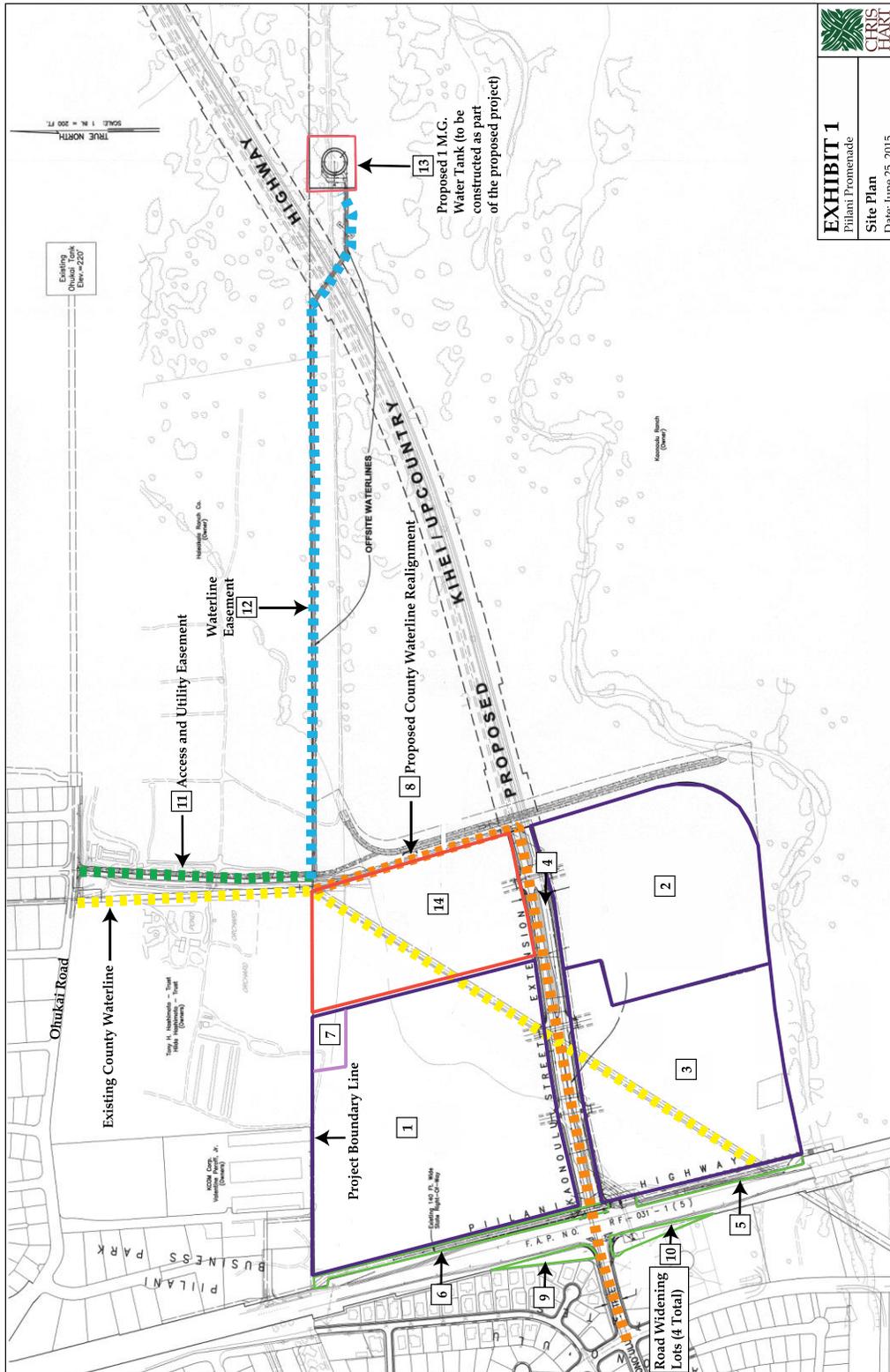


Figure 2: Tax Key Map with 1994 project area in yellow TMK: (2) 3-9-01: 16, 169, 170 - 174, Kihei. Off-site locations depicted on Figures 3 and 4.



**Figure 3: Plan view of the proposed Piilani Promenade project area, including the COM waterline easement (in yellow) that crosses along the Makawao and Wailuku District line.**



**Figure 4: Satellite photo of general on-site project area (in red) and off-site project area (in yellow). Shovel Tests 1-3 at water tank area depicted in green.**

## INTRODUCTION

Mr. Charles Jencks, representative for the Piilani Promenade project, contacted Erik Fredericksen, Xamanek Researches LLC, in 2013 about a proposed development in Kihei, Maui (Figures 1-4 and 8). The proposed project included a parcel that had been previously surveyed at the inventory level in 1994 (Fredericksen, et al., 1994). In addition, a c. 14-acre portion of land that had not been surveyed was proposed for off-site improvements. The proposed project is located in Ka'ono'ulu *ahupua'a*, Makawao and Wailuku Districts, Maui (see Figure 8). The current proposed development has a different landowner and is known as the Piilani Promenade. Xamanek Researches previously conducted an archaeological inventory survey of the c. 88-acre parcel in 1994 (TMK: (2) 3-9-001: 16, and (2) 2-2-02: Portion of 15). The proposed 74.871-acre Piilani Promenade project is subject to a pending motion to amend before the State Land Use Commission. For the purposes of the Environmental Impact Statement review process this archaeological inventory survey is using a total Area of Potential Effect (APE) of 101.658 acres of land. This total includes the Piilani Promenade project as proposed, the adjacent proposed Honua'ula affordable housing project and associated off-site infrastructure easements. Effected on-site TMKs include TMK (2) 3-9-001: 16, and 169-174. Effected off-site TMKs include TMK (2) 2-2-002: 016, 077 and 082, (2) 3-9-001: 148, and (2) 3-9-048: 122). Refer to Table 6 for specific information regarding on-site and off-site TMKs. Lot 2-B, a 13.129-acre portion of the original 88-acre property covered in the 1994 AIS, is now owned by a separate entity, Honua'ula Partners, LLC (Figure 8). This portion of the original 88-acre property will be developed for an affordable housing project, and is not part of the proposed Piilani Promenade development, but is included in the EIS process and the current archaeological inventory survey.

About 14 acres of land that had not been previously surveyed at the inventory survey level will be used for proposed off-site improvements associated with the Piilani Promenade development. The proposed off-site improvements include a 1.0 MG water storage tank facility, access roads, and improvements to the Piilani Highway. These TMK's include (2) 2-2-002: 016, 077 and 082, (2) 3-9-001: 148, and (2) 3-9-048: 122. Xamanek Researches LLC carried out fieldwork for the proposed off-site improvements in January and February 2014. Previous bulldozing activities, as well as prior ranching and more recent farming activities, and road construction activities appear to have impacted this land. No significant material culture remains were encountered during our survey of the off-site improvements portion of the APE in 2014.

As noted above, the 1994 AIS covered an 88-acre portion of land, c. 75 acres of which are to be included in the proposed development, and c. 13 acres that will be developed for an affordable housing project (by Honua'ula, LLC). The 1994 inventory

survey identified a total of 20 archaeological sites, all of which are located within the proposed Piilani Promenade development. These historic properties were designated SIHP No. 50-50-10-3727 through 3746. The various sites included stone piles and cairns (8), enclosures (2), parallel alignments (3), erosion containment wall segments (1), surface scatters (5), and a petroglyph on a boulder. Some of the stone piles, the alignments and one of the enclosures appeared to be associated with previous military activities in the area. The surface scatters and the petroglyph were interpreted as possible precontact features. The erosion containment wall segments were interpreted as ranch era features. Portions of the project area were found to have previously been impacted by bulldozing activities, likely associated with military and ranching activities, and the construction of a County of Maui waterline (completed in 1979). The previous installation of this large (36-inch diameter) County of Maui Central Maui waterline was found to have impacted a portion of the project area along the boundary between Makawao and Wailuku Districts.

All of the sites identified in the 1994 AIS qualified for significance, because of their information content (Criterion “d”). The petroglyph (Site 3746) also qualified for cultural significance under Criterion “e”. The 1994 report recommended preservation for the Site 3746 petroglyph, and the State Historic Preservation Division concurred that no additional work was needed for the remaining sites. At this time there was no recommendation for archaeological monitoring. A prior landowner removed the petroglyph/boulder and transported it to a location in upcountry Kula.

Given the time that has elapsed since the 1994 inventory survey of the original c. 88-acre parcel was carried out, a re-evaluation of mitigation treatment for the previously identified sites was conducted during the winter of 2014, and the project area was again examined in the drier months of July and August 2015. Our most recent fieldwork in 2015 was in response to comments from Maui Cultural Lands regarding several previously identified sites that were not relocated during our 2014 fieldwork. One new site, an enclosure (Site 8266) was located as a result of our 2015 fieldwork. In addition, the status of individual previously identified sites was updated. Results are included in this revised inventory survey report.

The following report presents the results of our current inventory survey for the proposed on-site and off-site improvements for the Piilani Promenade development. This report has been prepared on behalf of the Piilani Promenade development per the direction of Mr. Charles Jencks.

## STUDY AREA

The project area is located in Kihei, Makawao and Wailuku Districts, within Ka'ono'ulu *Ahupua'a*. Pi'ilani Highway borders the study area on the west, Monsanto leased land borders the north, and east. Kulanihakoi Gulch borders the property on the south. The Kihei Commercial Center is located to the north of the project area, as are agricultural land and a commercial nursery. Much of the land surrounding the project area have been previously disturbed by farming, ranching, road construction, and industrial use.

Surface visibility on the study area at the time of the original field visit and project testing during the 1994 inventory survey was fair to good. At the time of the 2014 fieldwork, Kihei had experienced heavy rains prior to the survey and vegetation growth was heavy. Subsequent follow-up work was undertaken in July and August 2015, when the project area was quite dry, and visibility was generally fair to good. Observed vegetation was dominated by non-native grass species (primarily buffelgrass). In addition, a few scattered *kiawe* (*Prosopis pallida*) trees (young), as well as *koa haole* (*Leucaena leucocephala*) shrubs and various annual weeds were also noted. Two pioneering native plants species, *'ilima* (*Sida fallax*) and *'uhaloa* (*Waltheria americana*), were noted in low quantities in some open portions of this previously disturbed parcel. The project lies an estimated 600 m inland from the Kihei coastline.

This arid portion of Maui is typical of the inland Kihei region, with soil components primarily composed of aeolian sands, silty clay, and weathered parent material and shallow bedrock. This dry region receives an average annual rainfall of c. 10 to 15 inches.

As previously noted, the proposed development is located in Makawao and Wailuku Districts, Maui. The approximate elevation of the on- and off-site project area ranges from c. 30 ft. to 234 ft. AMSL. The project area presently contains large amounts of imported fill (including boulders), a large sand stockpile, a base yard, and informally deposited fill/debris. The off-site water storage tank is partially within an area that Monsanto has cultivated over a number of years. The other proposed off-site improvements are located in previously disturbed areas, including the road shoulder area *makai* (west) of Piilani Highway. Land clearing associated with the relatively recent installation of a cattle fence has impacted portions of the overall project area as well (primarily Parcel 16).

## BACKGROUND RESEARCH

### Pre-contact period/Early Post-contact Period

The Piilani Promenade project area is located within Ka'ono'ulu *Ahupua'a*, in the modern Districts of Wailuku and Makawao. The traditional district of Kula included all of Ka'ono'ulu *Ahupua'a*. Given that the project area is situated within the traditional district of Kula; most of the background information included is reflective of the subject project area's location. The traditional district of Kula was known for the propagation of *'uala* or sweet potato in prehistoric times.

*The "potatoes were planted in crumbling lava with humus, as on eastern Maui and in Kona....the soil is softened and heaped carelessly in little pockets and patches using favorable spots on slopes.... rocky lands in the olden days were walled up all around with the big and small stones of the patch until there was a wall about 2 feet high" (Handy and Handy, 1972).*

Kula had the combination of good volcanic soil, cool temperatures, arid climate and frequent cloud cover that provided the ideal growing environment for the sweet potato.

The archaeological evidence supports the claims of a considerable population of early Hawaiians in the Kula area. Walker (1931) recorded many *heiau* in the Makawao district, which includes Ka'ono'ulu, around the 2000-3000 ft. elevation indicating a large level of human activity. The slopes of Haleakala provided wood for fuel, shelter and canoe building. There were also a large variety of plants used to make medicines and native birds, which were caught for a variety of uses. Residents of Kula traveled down slope to the "coastal zone" in order to exploit the ocean resources (Cordy, 1977). This along with the resources of the upper Kula area made it possible for habitation on the slopes of Haleakala.

The slopes of Haleakala were also well suited for raising pigs. The abundance of *'uala* was ideal for feeding the pigs. Pigs were a supplementary food source, used as sacrifices in elaborate ceremonies and collected as taxes from chiefs. Later, pigs were provided to the sailors entering Lahaina to replenish their food supply.

## Post-contact Period/Early Historic Period

The traditional district of Kula was a relatively minor political territory under the jurisdiction of the West Maui chiefs. It is an arid region with no perennial streams, located on the western slope of Haleakala Crater. The primary resources of the upland area of Kula district were dry forest products, and dry land agricultural products, e.g. sweet potatoes (Kolb, July 1997, p. 25). Within this larger traditional land division (*moku*) there are several long, narrow *ahupua`a* that stretch to the ocean shore (See Figures 5 and 6).

While the bulk of Ka'ono'ulu *Ahupua`a* lies within Makawao District (traditional District of Kula), a small portion of this land unit is located in Wailuku District. Nearly the entire *ahupua`a* of Ka'ono'ulu was included in Land Commission Award 3237, to H. Hewahewa, and consisted of 5715 acres. The current project area is located within Ka'ono'ulu *Ahupu`a*, and is a part of a portion of Royal Patent Number 7447, Land Commission Award Number 3237 part 2 also to H. Hewahewa.

The nearby *ahupua`a* of Keokea became part of the Hawaii Government Lands during the Mahele of 1848. Perusal of the Land Commission Awards data reveal that no *kuleana* were awarded in the coastal portion of the *ahupua`a*. A total of 52 claims were recorded, all of which were in the traditional Kula District. Of these claims, more than half (28) were not awarded (Waihona 'Aina data base). Awarded LCA's were for house lots, and/or garden plots (*kula* lands). A number of claimants lived in Wailuku and Waikapu, where they had primary claims, their claims in Keokea being subsidiary claims on small farm plots. All of the awarded plots are located above the 750-foot contour line, on both sides of the Old Government road that follows the general route of the *alanui apuni* (See Figure 6) [Kolb et al., 1997, pp. 50-60].

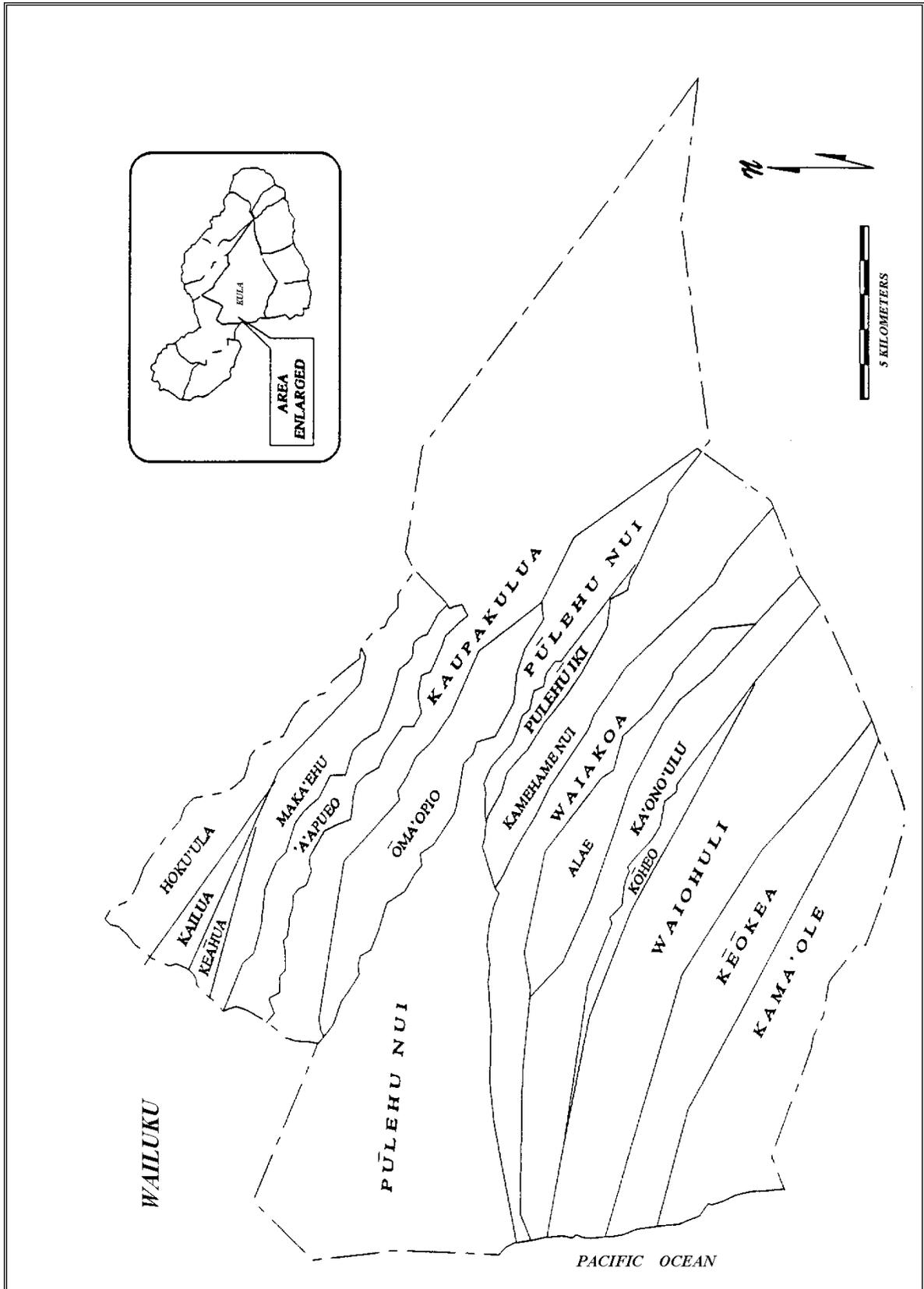


Figure 5: Map showing the Kula lands (Kolb et al., 1997, p. 24).



Kula land is described by Handy and Handy (1972, pg. 510) as:

*“...open country, or plain, as distinct from valley or stream bottom, and has long been used as a term to distinguish between dry, or “kula land” and “wet-taro land”. This is an essential characteristic of Kula, the central plain of Maui which is practically devoid of streams. ...Kula was widely famous for its sweet-potato plantations. ‘Uala was the staple of life here.”*

By the 1840s, the increased number of whaling ships anchoring off Maui shores created a substantial market for produce such as sweet and Irish potatoes, which grew well in the Kula region. Irish potatoes were coveted more highly, however, and became of greater importance in the produce trade. They were transported from the Kula fields to the shore, where they were often sold directly to ships that called at Kalepolepo. From there they were shipped to Lahaina, where the bulk of the whaling fleet moored.

The California Gold Rush began in 1848, and resulted in a potato “boom” on Maui that began in the fall of 1849. Captain John Halstead established a trading post<sup>1</sup> in 1849 in the village of Kalepolepo, in order to take advantage of this commercial activity. He built a large Pennsylvania Dutch-style, 3-story residence next to the south wall of Kalepolepo Fishpond. His trading station was located on the first floor of this structure. It was known locally as the *Koa House*. Halstead’s large prominent house stood as a landmark for nearly one hundred years<sup>2</sup> —and was visited by Kamehamehas III, IV and V between 1850 and 1870.

Kuykendall (1938, p. 313) refers to an article in the Polynesian in November of 1849:

*“The call for [potatoes] is loud and pressing, as some vessels bound for California have taken as many as 1,000 barrels each. The price is high, and the probability is that the market cannot be supplied this autumn. Kula, however, is full of people...preparing the ground for planting, so that if the demand from California shall be urgent next spring as it is now the people will reap a rich harvest.”*

The coastal portions of Ka’ono’ulu, Keokea and Waiohuli *Ahupua`a* appear to have been relatively unaffected by the upland “potato boom”, which lasted only a few years. For the most part, the coastal area was fairly sparsely, and occupied by people who primarily concentrated on the exploitation of marine resources.

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<sup>1</sup> Captain Halstead arrived in Lahaina from New York in 1838, and married the chiefess Kauwikilani Davis, granddaughter of Isaac Davis, Kamehameha I’s advisor.

<sup>2</sup> In 1946 it was abandoned and was leased by the Kihei Yacht Club, the members of which tried to burn it down because it was so unsafe. Several attempts failed, but eventually the Maui Fire Department was called in and succeeded in reducing it to ashes in August of 1946 (Kolb, 1997, p. 70).

Despite the relatively low population reported living in the overall Kihei area, the trading village of Kalepolepo (to the west) represented a concentration of people, and it was felt that they were in need of spiritual guidance. To this effect, construction of a small stone church was begun in 1843 at Kalepolepo near the trading post, under the direction of David Malo.

David Malo was the son of a soldier in the army of Kamehameha I, and was born in 1793 on the Big Island. He later moved to Lahaina in the 1820s, where he came under the influence of Reverend William Richards and was converted to Christianity. With the establishment of Lahainaluna high school in 1831, David Malo enthusiastically enrolled as one of its first students. In 1843 he was licensed to the Christian ministry, and assigned to a congregation in Kalepolepo. He began construction of Kilolani Church, which continued until 1852. It was completed shortly before the death of David Malo on October 21, 1853. Following his death, his Kilolani congregation dispersed, and never met again at Kalepolepo. A fire is said to have damaged the structure, while a flood in the 1880s also impacted the little stone church. The ruins of this church are listed on the National Register of Historic Places (SIHP NO 50-50-09-1587). Religious services were once again conducted at the ruins of this church in 1976. It is locally known today as “Trinity-Church-By-The-Sea”.

Another economic activity in the traditional district of Kula was cattle ranching, which had become a booming enterprise by the 1880s.

## **History of Ka’ono’ulu Ranch Land and Land Commission Awards (LCA)**

The ranch is made up of portions of three *ahupua’a*: Ka’ono’ulu, Alae, and Koheo. The subject parcel is located near the western border of the 5966.72-acre Ka’ono’ulu Ranch. The bulk of the *ahupua’a* of Ka’ono’ulu was included in Land Commission Award 3237, to H. Hewahewa, and consisted of 5715 acres. Land Commission Award 3237: 20 consisted of a portion of the *ahupua’a* of Alae to A. Keohokaole, identified as Alae 3 of an unknown size. Land Commission Award 8452: 19 gave title to a portion of the *ahupua’a* of Koheo, again to A. Keohokaole. The acreage was not specified in the LCA listings.

A Chinese immigrant on Maui, Young Hee, obtained the Ranch lands during the 1860’s – 70’s from A. Keohokaole, (who was granted the lands from Kamehameha IV on June 8, 1858). In the early 1980’s, Young Hee returned to China because of personal family problems, and while there, decided to sell his Maui properties. Clause Spreckels, a major entrepreneur on Maui at that time, heard about Young Hee’s property and was determined to buy it. To that end, he sent an offer to buy and a check for the amount of the offer via sailing ship to Young Hee in China.

At that time, William H. Cornwall, who was also looking for land on Maui, heard that the Young Hee property was for sale. He literally “caught the ship” to China, in

hopes of meeting Young Hee and purchasing the property. During a conversation with the Captain he learned that Claus Spreckels' letter to Young Hee was onboard. Cornwall then arranged to be put ashore before reaching the final port. During the interim, he found Young Hee, offered to buy the property, paid for it, obtained the land title and was sailing back to Hawaii by the time Mr. Spreckels' offer reached the former owner.

Harold W. Rice purchased the property from the Cornwall family in 1916. An article in The Maui News, dated August 25, 1916, states that Mr. Rice became the largest individual landowner on Maui with the purchase of the Hee Property. It also goes on to say that Mr. Rice resigned as the assistant manager of Maui Agricultural Company, where he had worked for five years, to devote himself to his ranching activities. In 1918 he was elected senator from Maui to the territorial legislature, and served in that capacity for many terms.

In another article dated December 4, 1926, The Maui News mentions the success of Ka'ono'ulu Ranch:

*“Ka'ono'ulu Ranch, the property of Senator Harold Rice, is a combination of five different ranch properties which were known as the Robinson Ranch, The Enos Ranch, the Frank Correra Ranch, and the old Cornwall Ranch. It is one of the largest properties of its kind in the whole territory and from the outset has met with the greatest success. Cattle from its pastures, horses from its breed farm and hogs from its fattening lot are eagerly sought on the markets of the territory...”*

*“Ka'ono'ulu Ranch is a business concern pure and simple and Senator Rice gives it his personal supervision throughout the entire year. The ranch property extends over a wide area and there is not a month in the year in which the genial owner does not visit every portion of the property to keep in touch with the various phases of the industry of cattle raising.”*

The article continues with a discussion of the Senator's love for polo, and for selecting and training colts for playing the game. It says:

*“Senator Rice is of the firm belief that this will result in Maui having a string of ponies in the not distant future that will equal anything anywhere in the world and go a long way towards perpetuating the name of the Valley Isle in polo circles the world over.”*

Always on the lookout for ways to improve the products of the Ranch, Senator Rice began shipping beef, which had been fattened on pigeon peas, to market in Honolulu. The Maui News reports (August 3, 1927):

*“A unique feature of Senator Rice’s new enterprise is the fact that he will do all his slaughtering at his Maui plant, shipping the dressed beef to Honolulu in cold storage.*

*‘It has been my experience that livestock is frequently badly bruised when shipped from other islands’, said Rice, ‘and this results in an inferior grade of beef. I believe we will obtain much better results by slaughtering on Maui and shipping the dressed beef.’*

*Senator Rice’s cattle ranch on Maui is one of the showplaces of that island. All his stock is finished off on pigeon peas before being sent to market.”*

The Ka’ono’ulu Ranch Co., Ltd. purchased Ka’ono’ulu Ranch from Senator Rice in 1956. In 1982, this company entered into a Limited Partnership.

In her discussion of land use in the upper and lower Kula areas, Wong-Smith (in, Donham, April 1990, Appendix B, p. B-6) points out that by the 1880’s, lower Kula sections had largely become pastureland for the booming cattle industry. Large sections of Crown land were leased for grazing acreage. By 1918, Harold Rice was purchasing large tracts of land from Kula farmers for the purpose of establishing a ranch.

Previous researchers have categorized this region as the “intermediate”, probably used intermittently by humans for subsistence and perhaps some agricultural activities (e.g., Cox, 1976, Cordy 1977). Although more recent work supports this idea, and even implies greater usage than initially suspected, it is still likely that the “intermediate” was more an area of transit between the marine resources of the coastal zone and the inhabited inland zone (Corey and Athens, 1988; Dobyns, 1988).

During the latter half of the 19<sup>th</sup> century, cattle ranching became well established in the Kihei region. During World War II, Kihei was utilized in various military training programs. Many of the military activities imposed physical changes on the land. Firing ranges for small and large-bore weapons were developed; areas for “mock” combat training exercises were constructed; and mechanized combat equipment was used to practice beach assault landings (Oral history from Jack Crouse, 1993).

Large portions of Ka’ono’ulu Ranch were used by military. The Army, Navy and Marines engaged in practice maneuvers on the property. Henry Rice recounts one occasion when he and other family members were caught on a shelling practice session and had to take refuge in the small gulch, which bisects the property. He described the many kinds of military machinery used in modifying the property, and the dummy pillboxes that were built in this area. He said that Wailea area also had pillboxes, and that it was a practice area for the Iwo Jima landing.

Since World War II, the general Kihei region has undergone rapid commercial and residential development. The former Maui Lu Resort<sup>3</sup> had been part of the Ranch and was purchased by a Canadian named Gibson. Prior to the Maui Lu Resort's development, the property on which it was formerly located, had been the base for a large piggery which extended *mauka* to what is now Pi'ilani Highway.

A smaller ranch was located in the general vicinity of the project area - Kama'ole Ranch. An article in The Maui News (December 19, 1908) states that Antone F. Tavares of Makawao "purchased S, Ahmi's Kama'ole Ranch property for \$8,500.00. The ranch, located in droughty Kula district was a fine piece of property." It goes on to say that Mr. Ahmi refused a former offer for \$9,500.00 when he was asking \$15,000.00 for it.<sup>4</sup>

The Maui News (March 7, 1928) noted:

*"Senator A.F. Tavares has sold Kama'ole Ranch to Haleakala Ranch for approximately \$110,000. For himself he retains the title to the cottage on the place and about 5.95 acres surrounding it... At present there are about 500 head of cattle running over the ranch and the purchasers have an option on this livestock at \$40 per head. Kama'ole ranch has an area of approximately 1500 acres. It adjoins the Ulupalakua ranch, which is owned by Frank F. Baldwin. Alexander and Baldwin, Ltd., is agent for Haleakala ranch and the purchase of Kama'ole brings together two properties, which occupy many thousands of acres of cattle land on the slopes of Haleakala. Kama'ole is to be continued by the purchasers as a cattle ranch."*

The bulk of the *ahupua'a* of Ka'ono'ulu lies within Makawao District, which was considered to be government lands after the Great Mahele. While a good deal of agricultural activity took place in the mid- and latter 1800's in the upland Kula region, little activity is noted for the lower portions of the *ahupua'a* where the current project area is located.

Since the early part of the 20th century portions of the Kihei area have been used primarily for cattle ranching. The importation of alien grass species such as buffel grass (*Cenchrus ciliaris*) for livestock feed has greatly altered the natural flora of the general area. In addition, ranching activities have no doubt impacted archaeological features that are present in the general area.

During the early 20<sup>th</sup> century, there was little to attract people to South Maui, except good fishing and fine beaches. Only about 350 people made Kihei their home at

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<sup>3</sup> The Maui Lu Resort was sold in 2014, and was demolished in early 2015. The property is currently being redeveloped.

<sup>4</sup> Mr. Ahmi was also known as Sun Mei, a notable personage in Kula in the early part of the century. In 1901 he was arrested for stealing cattle, and he sued for false imprisonment a few weeks later. In 1903 he was indicted in a police bribery case, but was later acquitted. He was also involved in civil suits, and tax cases, as well as being outspoken in political matters during 1904 and 1905. By 1906 his property was listed in a sheriff's sale, and sold in 1908 (Bartholomew, 1985).

this time. Finally, in 1932, the government offered 11 beach lots for sale—the Waiohuli-Keokea Homesteads—with the hope of spurring development of a desirable residential district. These homestead lands lie to the west of the present study area.

An article in *The Maui News* dated November 11, 1931 reports that the coveted Kihei Beach lands “will be opened for Public Sale in the near future for home building”. Those in favor of the sale, say that it would promote development of the Kihei area into a better-class residential district. The chief of the opposition for the sale was Senator Harold W. Rice, who maintained that the area should be preserved as government property and should be turned over to homesteaders.

As it turned out there was little interest in Kihei lands, and only 6 of the parcels were sold. By 1950, farmland could be gotten for about \$225 per acre and residential lots sold for 5 to 10 cents a square foot (Bartholomew and Bailey, p. 142). Kihei was not thought of as a desirable living area, for the most part, due to the general dry, dusty and hot conditions.

A few years after the partition of these homestead lots, World War II erupted, and this part of South Maui was soon dominated by the military. As previously mentioned, during World War II, military activity impacted portions of Kihei. Such activities included operations of the Naval Combat Demolition Training and Experimental Base, the Kama’ole Amphibious Training Base, and the Pu’unene Naval Air Station. The present study area may likely have been impacted as well. Archaeological evidence of such military activity was located during an inventory survey of Parcels 16 and 15 (Portion) in 1994 (Fredericksen, et. al., July 1994).

An article on the front page of *The Maui News* dated June 9, 1945, gave information about the placing off-limits of land located in Kihei-Makena. It reads:

*“Beginning at the north at the southern boundary of the property of William Harvey, tax map key 390257, which is approximately 3.3 miles south of the pier located across Makena road from the Kihei Store and ending at the south of the southern end of the Naval Air Station, Pu’unene, recreation beach five miles south of the pier across from the Kihei Store, and extending from the western boundary of Makena Road to an imaginary extension of the shore line of Ma’alaea Bay extending at all point 2000 yards seaward of the actual shoreline thereof. The northern and southern boundaries of the area described herein have been identified by placing of out-of-bounds signs thereon.”*

The prohibition applied to military as well as civilian personnel, with the exception of those attached to the Naval Combat Demolition Training and Experimental Base, the Kama’ole Amphibious Training Base, and the Pu’unene Naval Air Station. They were allowed to use the facilities of the Naval Air Station recreation beach situated within the area. Kalama Park was accessible, but persons had to remain within the park boundaries, and could not swim, wade,

or fish in the waters adjacent to the park under any circumstances. Civilians living within the restricted area were allowed access to their homes, however.

Only in fairly recent times—from the 1960s on—has Kihei taken on importance as a place of residence and commerce. At present it is one of Maui’s busiest tourist areas, with condominium/hotel development, and associated commercial activities. At the same time, with the increase of population, it has become a major residential area.



**Photo 1: Aerial view of Kama'ole Beach area in Kihei during the 1940s, showing military installations (probably the Kama'ole Amphibious Training Base). [Bartholomew and Bailey, p. 142]**

## **Previous Archaeological Work in the Kihei Area**

As previously noted, the current project area lies within Ka'ono'ulu *Ahupua'a*. Archaeologists have studied this land division and others in the Kihei area over the last 20+ years, in conjunction with tourist resort, community housing, and commercial development.

### **Previous work within the Piilani Promenade project area**

#### **Xamanek Researches (1994)**

Xamanek Researches conducted an archaeological inventory survey of the c. 88-acre parcel of land in 1994 (TMK: [2] 3-1-09: 16 and Portion of 15). As previously noted, approximately 75 acres of this parcel will form the on-site portion of the Piilani Promenade development (Figure). A total of 20 sites, designated Sites 50-50-10-3727 through 3746, were located during this survey. These sites consisted of rock piles and cairns (8), enclosures (2), parallel alignments (3), erosion containment wall segments (1), surface scatters (5), and a petroglyph on a boulder. Some of the stone piles, the alignments and one of the enclosures appeared to be associated with previous military activities in the area. The surface scatters and the petroglyph were interpreted as possible precontact features. The erosion containment wall segments were interpreted as ranch era features. Portions of the project area had been previously impacted by bulldozing activities, likely associated with previous military and ranching activities. The previous installation of a large (36-inch diameter) waterline that runs diagonally through the parcel was found to have impacted this portion of the project area. This 1994 report is included in its entirety in Appendix A of this document.

#### **Kihei-Upcountry Highway (2000)**

An archaeological inventory survey for the proposed Kihei-Up Country Highway examined a portion of the current project area (Colin et al., 2000). A number of sites were identified in the overall corridor, which extended from the Kula area to Piilani Highway, a distance of several km. One site was identified as a previously undocumented historic property within the Piilani Promenade project area. This site, designated SIHP No. 50-50-10-4776, was described as a rock mound with an associated midden scatter. What appeared to be a previously excavated test unit was noted at the time of this 2000 survey. Subsequent fieldwork undertaken by Xamanek Researches LLC in the summer of 2015 indicates that Site 4776 is a portion of previously identified Site 3727.

## **Archaeological monitoring plan**

Archaeological monitoring was recommended by the State Historic Preservation Division (SHPD) in a 2011 letter that cites the 1994 Xamanek Researches AIS of the c. 88-acre parcel that will contain the planned on-site improvements for the proposed Piilani Promenade project (SHPD DOC #1103MD05). This letter can be found in Appendix B of the current report. Pursuant to this SHPD comment letter, an archaeological monitoring plan was prepared for a larger portion of land in Ka'ono'ulu *ahupua'a* (Chafee and Dega, 2011). This AMP was submitted to the SHPD and approved in a March 2011 review letter (SHPD DOC NO: 1108MD12). While this monitoring plan includes much of the current project area, it is not project specific. Per input from SHPD, Xamanek Researches LLC will prepare an updated monitoring plan for the proposed Piilani Promenade development.

## **Previous nearby archaeological work**

In 2008 (Shefcheck et al.) conducted an inventory survey of a c. 515-acre portion of land in Ka'ono'ulu *Ahupua'a*, some of which is adjacent to the current project area. During this 2008 survey 40 new archaeological sites were identified and recorded. Of the 40 sites, eight were associated with precontact activities. These sites consisted of a temporary rock shelter with petroglyphs, enclosures, platforms, a rock mounds and a rock wall. The remaining sites are associated with the WWII era and ranching activities. Two sites – 6405 and 6412 were slated for Data Recovery. Site 6405 was a lithic scatter. Site 6412 was a mix of precontact and historic military components showing evidence of adaptive re-use. A number of sites were recommended for preservation because they represent Hawaiian traditional structures. These sites included Sites 6390, 6413, 6414, 6415, 6416, 6419, and 6420. The above sites were located within an area that has been referred to by some as the “intermediate zone” - where habitation is limited and temporary. SHPD approved mitigation measures consisting of monitoring, data recovery, and preservation (DOC No 0809PC17). This letter is included in Appendix B.

Environmental Impact Study Corp (EISC) conducted an archaeological study in Kihei in 1982. A second study was undertaken by PHRI in July of 1989, for Baldwin Pacific's Pi'ilani Residential Community, Phase I (TMK 2-2-02: poor 42). These studies took place to the south of the project area

The EISC study located one site that was described as “a possible alignment of very loosely stacked basalt extending downslope from an outcrop knoll” (1982, pg. B-4), and did not recommend further work because of low research potential. The PHRI survey, conducted by Theresa Donham (July, 1989), encompassed 114 acres situated along the western side of Pi'ilani Highway, between Kihei Elementary School and Lokenani Intermediate School and the northern border of Waiohuli *Ahupua'a*. During that survey five new sites were discovered, and two others relocated—Site 2476 identified by EISC, and Site 1705 initially recorded by Cordy during his reconnaissance survey for the Corps of Engineers (1977).

Donham's work on all 7 identified sites determined that two sites were bulldozer push piles, and these were not assigned SIHP numbers. The other five sites were mapped and tested in order to determine their significance. Site 1705 was described as a faced wall, possibly a corral. Sites 2473 and 2475 are thought to be historic dependency structures associated with ranching activities. Site 2475 consists of two stone cairn features, one of which was recommended for data recovery, as it was thought it might contain human remains. The fifth site, Site 2476 is a complex of five rock alignments, which may have had an agricultural function (Donham, 1989, pp. 8-14).

Archaeological data recovery was undertaken in 1990 on Site 2475, to determine if it was a burial complex. Subsurface test excavations did not produce human remains, or evidence of cultural deposits, midden or charcoal. However, further data recovery "indicated that it was a terrace complex covering a major portion of the natural terrace crest and its slopes" (Donham, 1990, p. 10). The site was interpreted as an agricultural complex and appeared "to represent relatively intensive modification of natural slopes for purposes of planting" (Ibid.). The rock alignments that compose Site 2476, which lies nearby, may also be additional terracing. The location of the site, one-half mile mauka of the coastal zone", an area which was exploited more heavily than the "intermediate zone" in general. She suggests the possibility of seasonal usage during periods of increased rainfall, or simply the response to land availability pressures in the coastal zone (Donham, 1990, p. 10).

Two of the first studies in the lowland portion of the *ahupua`a*, were conducted in association with the construction of Pi'ilani Highway (Cox, 1976; Cordy, 1977). The studies by Cox (1976) along the coastal area included information about two heiau, Kalaihi Heiau (in Ka'ono`ulu *Ahupua`a*), and Kealaipoa Heiau in the adjacent Waiohuli *Ahupua`a*. He also mentions 3 fishponds noted from historic sources, one of which may have been rebuilt by Kamehameha I. Cordy found wall remnants at the mouth of Waipuilani Gulch (Site 1704), which may be the remains of one of these ponds (1977). He also located Site 1705, mentioned earlier, which was in the Piilani Residential Subdivision, which lies to the south of the current project.

In 1986, Kennedy conducted a surface reconnaissance survey for the Silversword Golf Course, and reported in a brief letter that no archaeological features were found in the approximate 125-acre survey area. This golf course lies to the southeast of the present project area.

On the grounds of Lokelani Intermediate School, about 2 km southwest of the project area, Xamanek Researches excavated a rock shelter, Site 3193, in July of 1993 (Fredericksen, et al., September 1993). This shelter was 5.5 meters in length, extended a maximum of 1.6 meters inward, and had a maximum interior height that was 0.85 m. The ceiling was dome shaped and dropped to the ground level at either side. A large kiawe tree, which had recently burned, had formerly grown at the drip line of this overhang. The site appears to have been used intermittently, and contained midden, artifacts and over 100 pieces of volcanic glass. Much of the volcanic glass was waste material, the by-product of knapping activity. Midden consisted primarily of *pipipi*

(*Nerita Picea*), cowry (*Cypraea* sp.), and cone shell (*Conus* sp.). Recovered artifacts included bone picks, coral abraders and a piece of worked faunal bone. Three hearths were excavated, and charcoal from one yielded a radiocarbon date of AD 1560-1800 (270 +/- 120 RCYBP).

Other archaeological work southwest or *makai* of the study area in Waiohuli *ahupua'a* was carried out by Xamanek Researches for the Azeka II Shopping Center and Longs Drug Center (Fredericksen, et. al., 1990a and 1990b). No significant archaeological finds were made. However, identification of the wetland areas was established at this time, and subsequently the Federal and State Wetlands Sanctuary were developed. A parcel at the intersection of Lower Kihei Road and Lipoa was also surveyed (Fredericksen, et. al., February 1994), and no significant archaeological finds were made. The above study areas would have likely been within a wetlands area directly east or *mauka* of the coastal zone sand dunes in precontact times.

In the upland region, PHRI carried out an inventory survey of Keokea and Waiohuli Subdivision for the Department of Hawaiian Home Lands (Brown and Haun, 1989). The University of Hawaii-Manoa held an archaeological field school there in the summer of 1994, under the direction of Michael Kolb. Both of these studies identified numerous precontact sites, indicating fairly extensive habitation and agricultural activity in the uplands region.

Monahan (2003) conducted an Archaeological Inventory Survey, including subsurface testing, of a 28.737-acre portion of the Maui Research and Technology Park, within the area investigated by Kennedy in 1986. The only observation was a small arrangement of stacked boulder interpreted as a "push pile". No other historic or precontact features were noted.

McGerty et al. (2000) surveyed 15 selected areas within the Elleair Maui Golf Club. Five archaeological sites were identified. State Site Nos. 50-50-10- 5043 -5047 contained a total of seven surface features. These features were interpreted as agricultural terraces, perhaps dating from the precontact periods while the C-shaped rock formations were built during the WWII training era. Ten test units were excavated which did not yield any further cultural material.

Additional testing was carried out along the northeastern flank of the Elleair Maui Golf Club property (Tome and Dega, 2002). This study identified an historic ranching corral and a short agricultural wall, collectively Site 5233. No other structures or subsurface deposits were identified. Another inventory survey along the southern flank of the Elleair Maui Golf Course failed to yield any additional archaeological features (Dega 2003).

In 2004, Scientific Consultant Services (SCS), Inc. conducted an archaeological inventory survey on two undeveloped lots totaling approx. 56.647 acres near the Elleair Maui Golf Club Course, across Ka'ono'ulu to the south of the Piilani Promenade project area. A surface survey and subsurface testing was performed. Four surface features

consisting of stacked basalt stones were located within the project area, each was assigned a separate state site number (Site 50-50-10-5506 through Site 50-50-10-5509). Test excavations yielded buried cultural material consistent with precontact-era in three of these sites. Site -5509 however was a C-shaped rock pile and did not yield any cultural material and was interpreted as WWII era. No additional work was recommended (Monahan, 2004).

Xamanek Researches, LLC carried out a field inspection of a c. 9.5-acre parcel known as Ka'Ono'Ulu Estates Phase V to the west of the Piilani Promenade project area. This previous field inspection of this parcel was carried out in early 2006. The property was found to have been extensively disturbed and no further work was recommended (Fredericksen, 2006). The SHPD subsequently issued a no-effect letter, following review of the field inspection report (SHPD DOC NO: 0607JP19).

In 2013 Xamanek Researches LLC completed an assessment survey of an 8.274-acre parcel for the Ka'ono'ulu 201-H Housing project (formerly known as Ka'ono'ulu Phase VI). This project is located directly across Pi'ilani Highway (west) from the proposed Piilani Promenade development. Test results indicate that the study area had been heavily impacted by previous earth moving activities associated with the construction of access roads along on its southern half; as well as large amounts of imported fill (including boulders), a stock pile, a base yard, informally deposited fill/debris, and a portable office complex. The southern portion of the project area was previously altered for a permitted flood control project in 2000, which leads into a water retention area that cannot be developed. There was no evidence of any significant material culture remains encountered during this prior assessment survey. (Fredericksen, 2013)



**Table 1: Selected Archaeological Studies in the Kihei Area**

<b>Authors</b>	<b>Date</b>	<b>Nature of Work</b>	<b>Findings</b>
Burgett, McGerty Dunn and Spear	June 1996	TMK: 3-9-12: 13, Monitoring at Kihei Public Library, Kama'ole <i>Ahupua'a</i>	Five sites with 20 features – 2 habitation sites, 1 habitation and shrine ( <i>ko'a</i> ), 1 habitation and probable burial and 1 scatter of human remains. Date ranges AD 1280 to c. 1800.
Donham, Theresa	1989	Inventory survey of Pi'ilani Residential Community, Phase I—TMK 2-2-02: por. 42. Waiohuli <i>Ahupua'a</i> and Phase II- Keokea <i>Ahupua'a</i>	5 Surface sites, including agricultural terrace (Site 2475). Suggests “coastal perimeter zone” be added to Cordy’s model. Similar, but fewer features
Fredericksen, Walter and Demaris	1990	TMK: 3-9-20: 7. Inventory survey.	No significant findings
	July 1990a	Monitoring for Azeka Place.	Wetlands-no significant archaeological findings.
	July 1990b	Monitoring for Longs Drugs	Wetlands-no significant archaeological findings.
	1991	TMK: 3-9-17: 26. Inventory survey.	No significant findings
	1992	TMK: 3-9-04: 79. Additional inventory work.	Scattered surface human remains in large sand dune area.
Fredericksen, Demaris, Erik and Walter	September 1993	TMK: 2-2-02: 21. Inventory survey and data recovery	Rock shelter (Site 3193) with hearths and volcanic glass debitage, shellfish midden. Dated AD 1560-1800 (270 +/- 120 RCYBP).
	August 1994	TMK: 3-9-30: 21. Inventory survey.	No significant findings
Fredericksen, Erik, Demaris, and Walter	June 1994	TMK: 3-9-18: 1. Inventory survey	11 sites including rock shelter (Site 3541) dated AD 1520 to c. 1800 (220 +/- 60 RCYBP).
	July 1994	TMK: 3-9-01: 16 and 2-22-02: por. 15. Inventory survey.	20 surface sites, including walls, military cairns, modified rock piles, and 1 petroglyph (Site 3746).
	February 1994	TMK: 3-9-02: 91-94, 133-135. Inventory survey.	Wetlands—no significant archaeological findings.
	November 1994	TMK: 3-9-18: 17 and 3-9-20: 27. Subsurface testing Site 2636	Open area site, indigenous artifacts, and hearth—radiocarbon date: AD 1295 to 1495 (530 +/- 80 BP)
Fredericksen, Erik and Demaris	April 1995	TMK: 2-2-02: portion 66, 67; 3-9-02: 109. Inventory survey	Wetlands near South Kihei Road. Rock overhang shelter (Site 3529). Volcanic glass debitage, indigenous artifacts, shellfish midden.
	September 1996	Data recovery on Site 3529.	Additional indigenous artifacts. 3 radiocarbon dates: AD 1470-c.1800 (260 +/- 70 BP; 240 +/- 60 BP; 230 +/- 60 BP).
	February 1999	TMK: 2-2—02: por. 69 - Inventory survey	Rock enclosures, temporary habitation (Sites 4725-4727)
Fredericksen, Demaris and Erik	2000	TMK: 2-2-02: por. 69. Data recovery on Site 4727	Rock enclosure, temporary habitation, and activity area of coral tool manufacture
	2001	TMK: 3-9-10: 75 and 78	Habitation site remnant (Site 5003) with possible associated human burial.
	2002	TMK: 3-9-20: 34	Coastal habitation site remnant (Site 5170). Radiocarbon date of 220 +/- 50 BP.
Fredericksen, Erik	2013	TMK: 3-9-001: 157 and 158 - Assessment survey	No significant findings during this survey project.

**Table 1 continues**

<b>Authors</b>	<b>Date</b>	<b>Nature of Work</b>	<b>Findings</b>
Hammatt and Shideler	1989 and 1992	Inventory survey, Kama`ole <i>Ahupua`a</i>	Historic house platform, 2 <i>ko`a</i> (Sites 2633 and 2637).
Kennedy	1986	Archaeological reconnaissance of Silversword golf course.	No significant findings in 125-acre area.
McCurdy, T. and H. Hammatt	2013	AIS for the Kulanihakoiki Bridge Replacement TMK: 3-9-001, 999, 162, and 143 pos	No significant findings, bridge built in 1911- SIHP 7606
Neller, Earl	1982	TMK: 3-9-12: 3. Reconnaissance survey of Kalama Park	Investigated finds of human remains.
Pantaleo et al., 1991	1991	Inventory Survey of Kihei school lots. Kama`ole lands.	Historic sites, food midden scatter.
Rotunno-Hazuka and Pantaleo 1991	1991	TMK: 3-9-18: 1—Diamond Resort parcel.	No significant findings.
Shefcheck, D., S. Cordle, M. Dega	2008	TMK: 2-2-002: 015 por	40 new sites located, 8 identified as precontact

**ADDITIONAL REFERECES ARE LOCATED IN THE “REFERENCES” SECTION IN THIS REPORT**

## Settlement Patterns and Predicted Findings

The study area lies in the “intermediate zone” beyond the “coastal zone”, which is an area of habitation, using the model developed by Cordy (1977). There are no *kuleana* claims in this near coastal portion of Ka’ono’ulu *ahupua’a*, suggesting that habitation was likely temporary in these arid lands. Ross Cordy (1977) identified the occurrence of three ecological “zones” in the Kihei area. These included the coastal zone of habitation, the intermediate, or barren zone, and the inland habitation zone. The “coastal zone” was one of habitation and marine resource exploitation (i.e., the fishponds). The “intermediate or barren zone” was generally considered to be an inhospitable area, in which little human activity was to be expected, with the exception of intermittent and/or transitory habitation along *makai-mauka* trails inland.<sup>5</sup> The “inland habitation zone” was an area above c. 1500 feet of elevation, where conditions were ideal for growing sweet potatoes and other subsistence crops.

The “intermediate zone” has proven to be less barren than was originally thought, as more studies have identified sites used for intermittent habitation scattered along inland trail routes. Donham’s identification of agricultural terraces in a similar elevation of the study area suggests that the perimeter of the coastal zone may have been more heavily utilized for seasonal food production activities than had been previously thought. However, she also noted that agricultural activity could have been intermittent during seasonal increases in rainfall, or periods of overall increased moisture. She proposed another zone, the “coastal perimeter zone” to designate this area (Donham, 1990).

The “inland zone” has also been more intensively studied, principally with the research done on behalf of the Department of Hawaiian Home Lands in Waiohuli and Keokea Subdivisions (Brown and Haun, 1989; Riford, 1987; Kolb, Conte and Cordy, 1997). All of the *kuleana* claims and awards in Waiohuli, Keokea and Kama’ole are in this *mauka* habitation zone, as well.

The overall pattern of this part of the island is fairly well understood, with relatively intensive activity on the coast, and further inland (*mauka*). These two areas are connected by *makai-mauka* trails, along which economic goods were transported for exchange. The existence of such a trail in Kama’ole has been suggested by several archaeological studies.

Post-contact land usage consisted primarily of pasture for cattle grazing on lands mauka of the coastal zone. During World War II, the near coastal area was impacted by military activity, which no doubt altered the topography to some degree. Refer to Photograph 1 for an aerial view of the Kama’ole Beach area, which lies c. 3 km to the southwest of the study area. This photograph was taken during WWII, and shows the extent of clearing and construction carried out by the military in this portion of Kihei.

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<sup>5</sup> Subsequent work has indicated that this area was more utilized than was thought at the time in the 1970s.

The predicted findings, based on background research, could include remnants of temporary habitation areas, trails, remnants of *mauka/makai* trails, ranch-era features such as rock walls and enclosures, and military features.

## Overview of the Kihei Piilani Promenade Project

Xamanek Researches previously conducted an archaeological inventory survey (AIS) of a c. 88-acre parcel in 1994 (TMK: (2) 3-9-001: 16, and (2) 2-2-02: Portion of 15). This property is located in Ka'ono'ulu *Ahupua'a*, Makawao and Wailuku Districts. The current proposed development area, now known as the Piilani Promenade, consists of a c. 75-acre portion of this original survey area (Figure 8). In addition, about 14 acres of land that had not been previously surveyed at the inventory survey level will be used for proposed off-site improvements (Figure 8). Previous bulldozing activities, as well as prior ranching and more recent farming activities, and road construction activities have impacted this land that is slated for off-site improvements. Lot 2-B, a c. 13-acre portion of the original 88-acre property covered in the 1994 AIS, is now owned by a separate entity, Honua'ula Partners, LLC. This portion of the 88-acre property will be developed for an affordable housing project, and is not part of the proposed Piilani Promenade development. Xamanek Researches LLC carried out fieldwork on the on-site and off-site improvements project areas for the proposed Piilani Promenade development in the winter of 2014 and summer of 2015.

As noted above, the 1994 AIS covered an 88-acre portion of land (Figures 8 and 9). The original inventory survey identified a total of 20 archaeological sites. These historic properties were designated Sites 50-50-10-3727 through 3746. The various sites included stone piles and cairns (8), enclosures (2), parallel alignments (3), erosion containment wall segments (1), surface scatters (5), and a petroglyph on a boulder (Table 2). Some of the stone piles, the alignments and one of the enclosures appeared to be associated with previous military activities in the area. The surface scatters and the petroglyph were interpreted as possible precontact features. The erosion containment wall segments were interpreted as ranch era features. Portions of the project area were found to have previously impacted by earthmoving activities, likely associated with previous military, ranching activities, and the construction of a County of Maui waterline (completed in 1979). The prior installation of this large (36-inch diameter) County of Maui Central Maui waterline was found to have impacted a portion of the project area around the boundary between Makawao and Wailuku Districts.

All of the sites identified in the 1994 AIS qualified for significance, because of their information content (Criterion "d"). The petroglyph (Site 3746) also qualified for cultural significance under Criterion "e". The 1994 AIS recommended preservation for the Site 3746 petroglyph, and the State Historic Preservation Division concurred that no additional work was needed for the remaining sites. At this time there was no recommendation for archaeological monitoring. The landowner at the time removed the petroglyph/boulder from the property and relocated it to upcountry Kula in 1994 after the inventory survey was completed.

Given the time that has elapsed since the 1994 inventory survey of the 88-acre parcel, a re-evaluation of the previously identified sites was conducted, with fieldwork undertaken in January and February 2014 and July and August 2015. Five of the originally identified sites have been impacted by post-1994 bulldozing activities on the property. Two of the five sites have been heavily impacted by mechanical land disturbance activities (i.e. Sites 3738 and 3739). While the significance assessments for Sites 50-50-10-3727 through 3745 remain the same, data recovery is now the recommended mitigation for several of these sites. A forthcoming data recovery plan will be developed for Sites 3727, 3728, 3735, 3736, and 3741-3745, as well as newly identified Site 8266. In addition, an archaeological monitoring plan will be developed for the entire 88-acre property, including Lot 2-B that is owned by Honua’ula Partners, LLC, and the c. 14-acre portion of land for the proposed off-site improvements for the Piilani Promenade project.

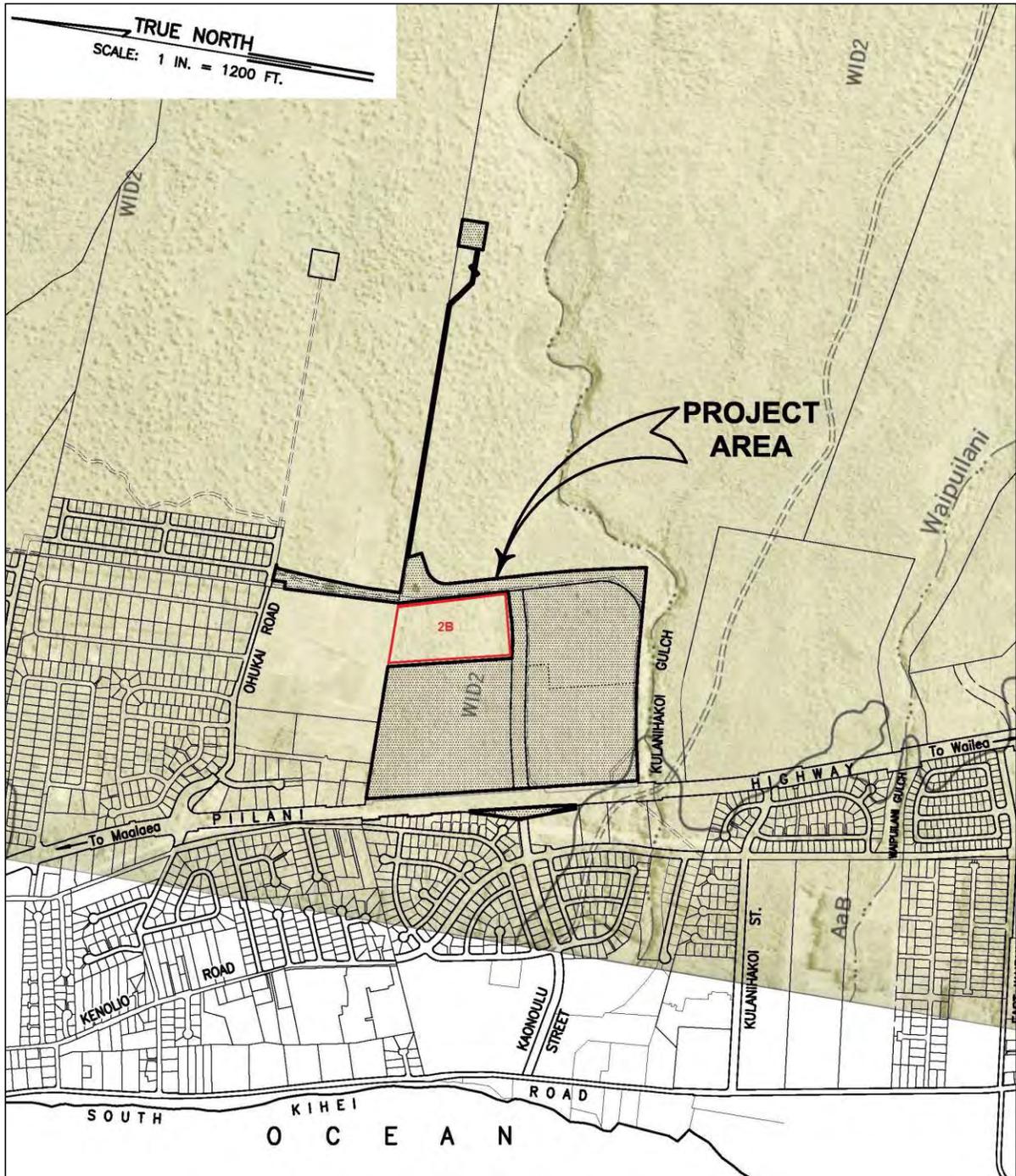
**Table 2: Summary of Sites and artifacts located during the 1994 AIS - Xamanek Researches**

Site 50-50-10-	Site Type	Findings
3727*	Stone pile	Basalt core, worked basalt flakes, ww** rock
3728*	Stone pile	Water worn rock
3729*	Stone cairn	Utilized basalt flake, basalt core, ww rock
3732	Stone cairn	Coral chunk
3735*	Enclosure	Waterworn rocks, food can metal key
3737*	Parallel alignment	Basalt core, ww hammer stone, ww rock, coral chunk, lead slug
3738	Parallel alignment	Utilized cobble
3741*	Surface scatter	Basalt flakes, ww rocks, coral
3743	Surface scatter	Basalt cores, basalt flakes, ww rocks, coral
3744*	Surface scatter	Utilized basalt flakes, basalt core, grinding stone, ww rock, coral, volcanic glass flake and core
3745*	Surface scatter	Basalt flakes, basalt core, ww rock, utilized basalt, coral

\* = Tested sites

\*\* = waterworn

To see a more detailed description of these sites refer to Appendix A for the 1994 AIS report.



**Figure 8: Piilani Promenade project area, with Lot 2B outlined in red (owned by Honua’ula Partners, LLC). This c. 13-acre portion of land is included in the proposed Piilani Promenade development EIS and the current AIS.**



Figure 9: Topographic map with site locations (newly identified Site 8266 in red).

**Table 3: Sites located during the 1994 AIS - Xamanek Researches**

<b>STATE SITE #50-50-10-</b>	<b>DESCRIPTION</b>	<b>FUNCTION/AGE</b>	<b>SIGNIFICANCE/ ADDITIONAL WORK**</b>
3727*	Stone piles	Agricultural/indeterminate	"D"/no
3728*	Stone piles	Agricultural/indeterminate	"D"/no
3729*	Stone cairn	Marker/indeterminate	"D"/no
3730	Stone cairn	Marker/indeterminate	"D"/no
3731	Stone cairn	Marker/post contact	"D"/no
3732	Stone cairn	Marker/indeterminate	"D"/no
3733	Stone cairn	Marker/post contact	"D"/no
3734	Stone pile	Agricultural/indeterminate	"D"/no
3735*	Enclosure	Military/WW II	"D"/no
3736*	Enclosure	Possible shelter/pre contact	"D"/no
3737	Parallel alignment	Military/WW II	"D"/no
3738	Parallel alignment	Military/WW II	"D"/no
3739	Parallel alignment	Military/WW II	"D"/no
3740	Erosion containment walls	Ranching/post contact	"D"/no
3741*	Surface scatter	Temp habitation/pre contact	"D"/no
3742	Surface scatter	Temp habitation/indeterminate	"D"/no
3743	Surface scatter	Temp habitation/precontact	"D"/no
3744*	Surface scatter	Temp habitation/precontact	"D"/no
3745*	Surface scatter	Temp habitation/precontact	"D"/no
3746	Petroglyph	Marker/precontact	"D" and "E"/removed

\* = Tested sites

\*\*Updated mitigation recommendations are noted in Table 4.

**Table 4: Updated 2015 Mitigation Recommendations**

Site # 50-50-10-	Site Type	2015 Mitigation Recommendation
3727	Stone piles	Data Recovery (DR)
3728	Stone piles	DR
3729	Stone cairn	DR
3730	Stone cairn	No further work (NFW)
3731	Stone cairn	NFW
3732	Stone cairn	DR
3733	Stone cairn	NFW
3735	Enclosure	DR
3736	Enclosure	DR
3737	Parallel alignment	NFW
3738	Parallel alignment	NFW
3740	Erosion containment walls	NFW
3741	Surface scatter	DR
3742	Surface scatter	DR
3743	Surface scatter	DR
3744	Surface scatter	DR
3745	Surface scatter	DR
8266	Enclosure	DR

**DR = Data Recovery**

## Discussion

Of the 20 identified sites during the 1994 AIS, 8 were sampled with a total of 10 test units.<sup>6</sup> Out of those 10 test units, only two units yielded any subsurface cultural remains. The majority of the recovered cultural material consisted of marine shellfish midden, interpreted as food remains. Other portable remains included one utilized-basalt flake fragment, several unworked basalt flakes, and several pieces of coral and waterworn rocks. No suitable charcoal for radiometric analysis was located during the subsurface testing process. These results are summarized in Table 2 of the 1994 AIS, which is included in Appendix A of the current document. Refer to Figures 10-29 below for plan views of previously identified Sites 3727 through 3746. In addition, refer to the On-site Improvements Project Area section (pg. 67) for updated figures (Figures 35-37), and photo views (Photos 25-38) of relatively recently altered Sites 3730, 3732, 3734, and 3737-3745. See Figure 39 for a plan view of newly identified Site 8266.

<sup>6</sup> As previously noted, a former landowner removed the Site 3746 petroglyph boulder from the project area in late 1994.

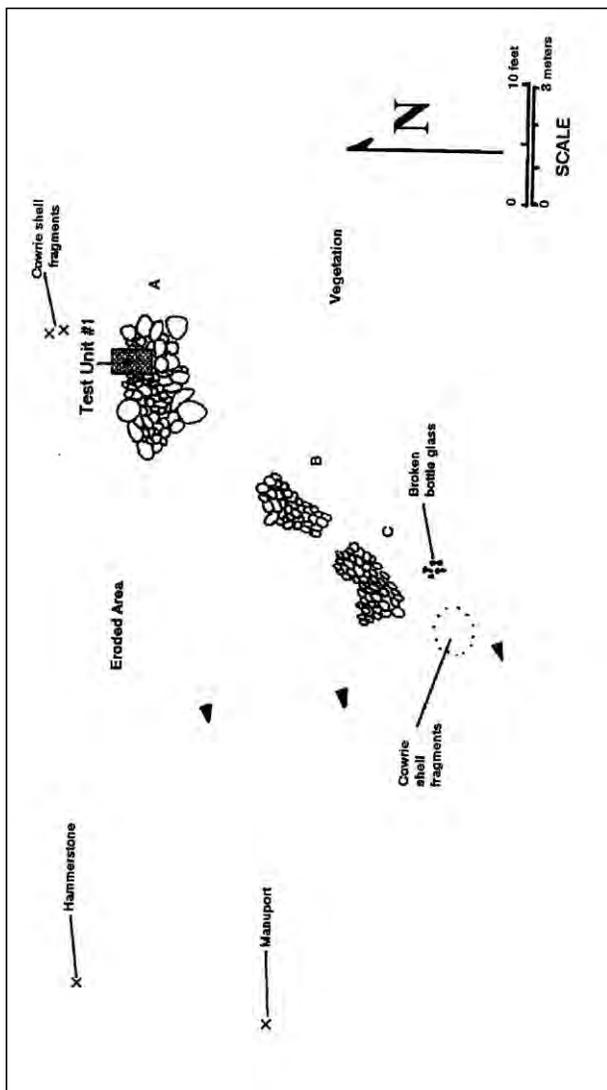


Figure 10: Site 3727 – Plan View.

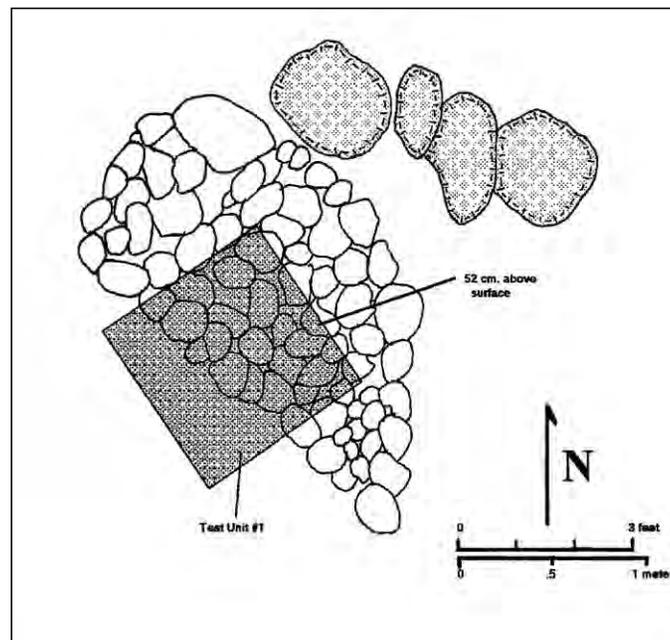


Figure 11: Site 3728 – Plan View.

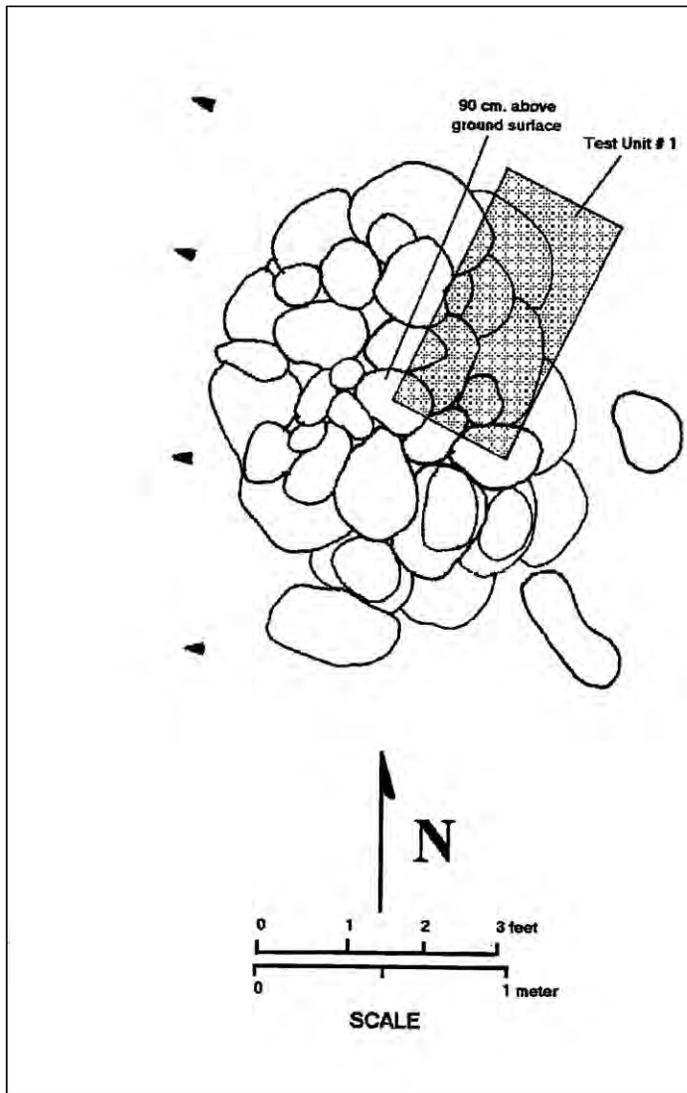


Figure 12: Site 3729 – Plan View.

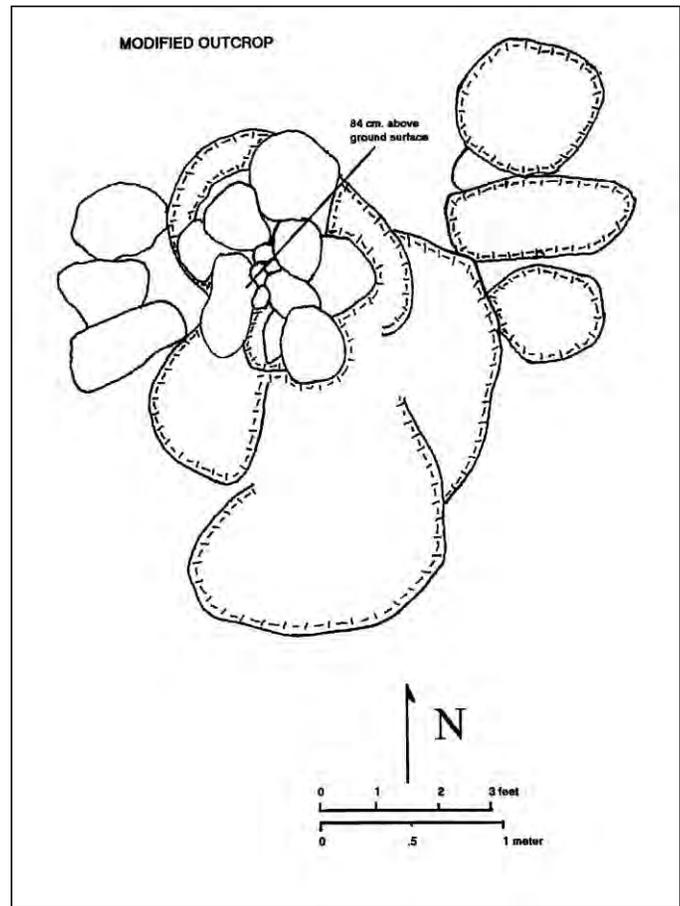


Figure 13: Site 3730 – Plan View.

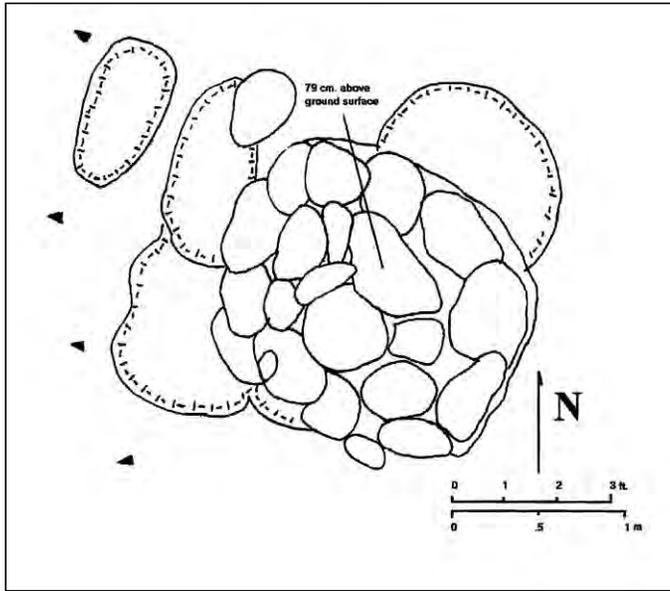


Figure 14: Site 3731 – Plan View.

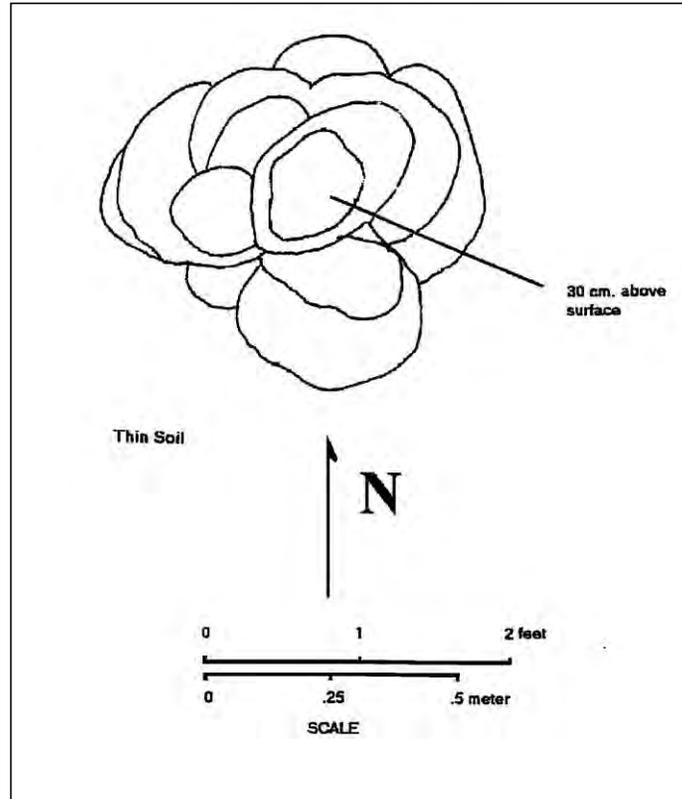


Figure 15: Site 3732 - Plan View.

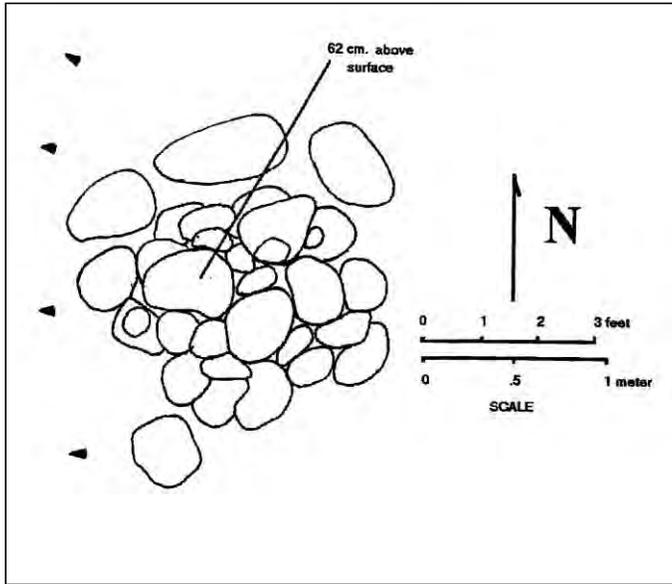


Figure 16: Site 3733 – Plan View.

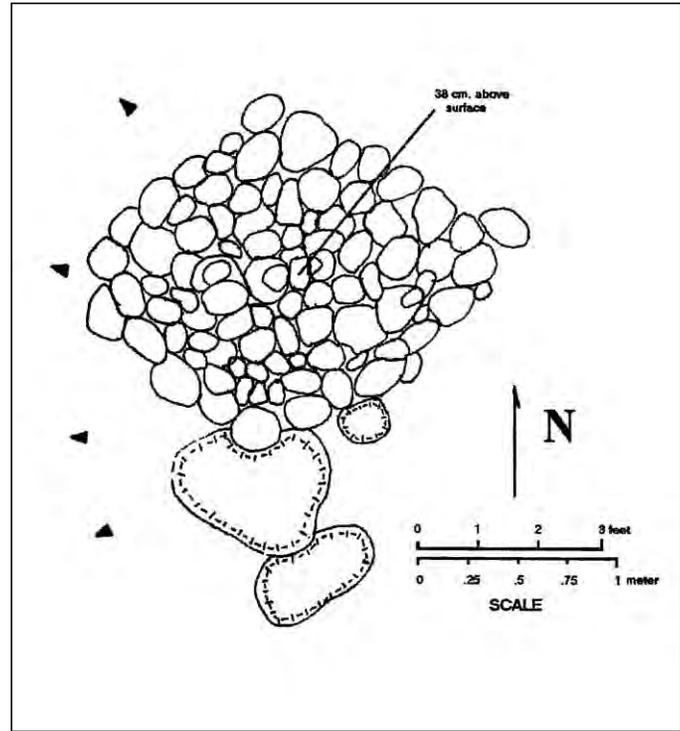


Figure 17: Site 3734 – Plan View.

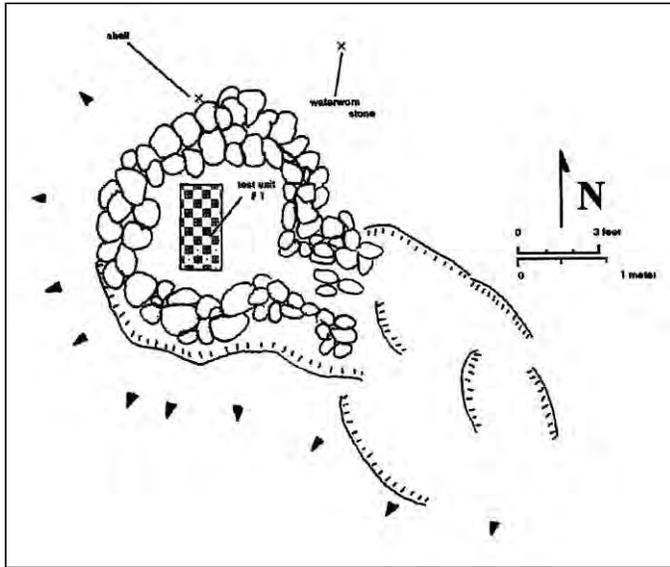


Figure 18: Site 3735 – Plan View.

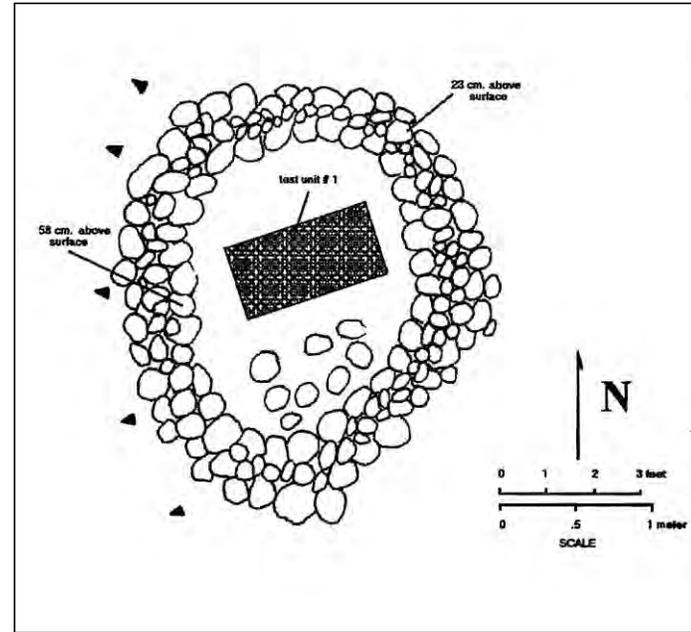


Figure 19: Site 3736 – Plan View.

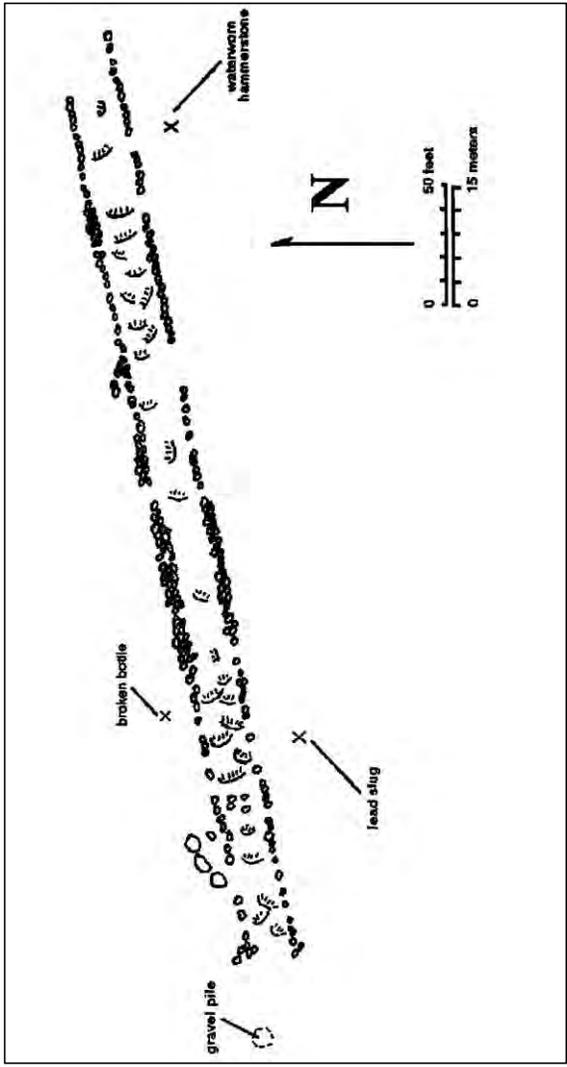


Figure 20: Site 3737 – Plan View.

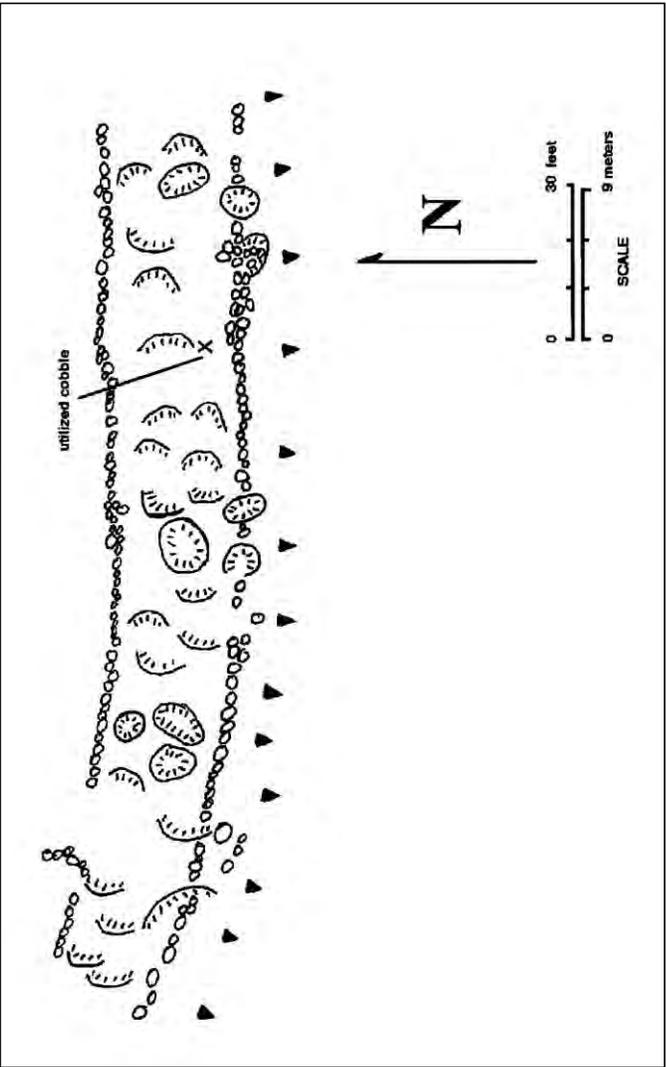


Figure 21: Site 3738 – Plan View.

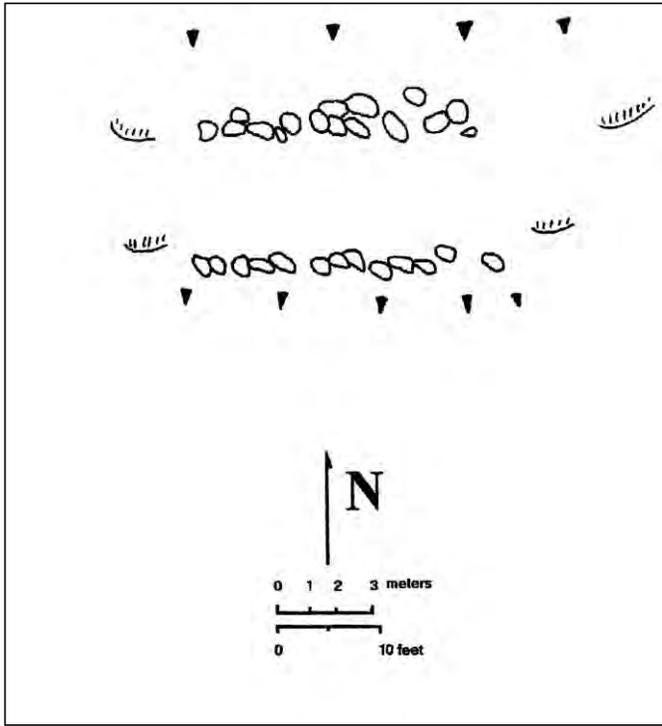


Figure 22: Site 3739 – Plan View.

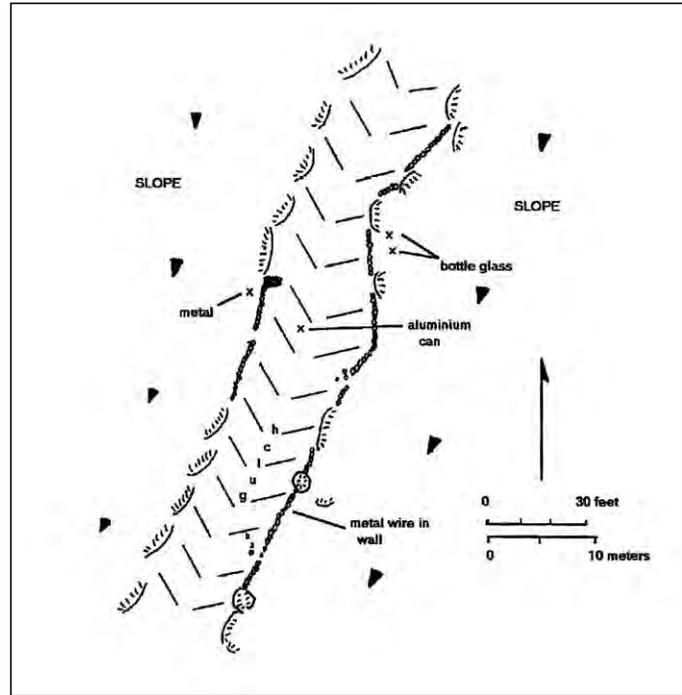


Figure 23: Site 3740 – Plan View.

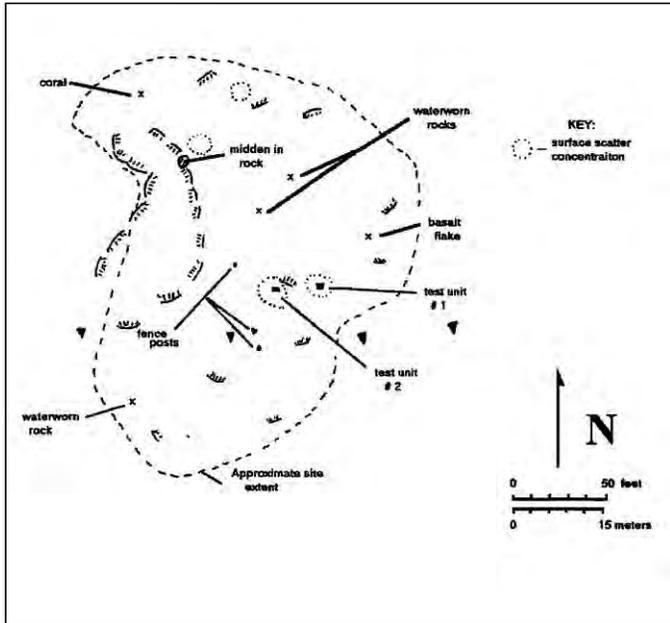


Figure 24: Site 3741 – Plan View.

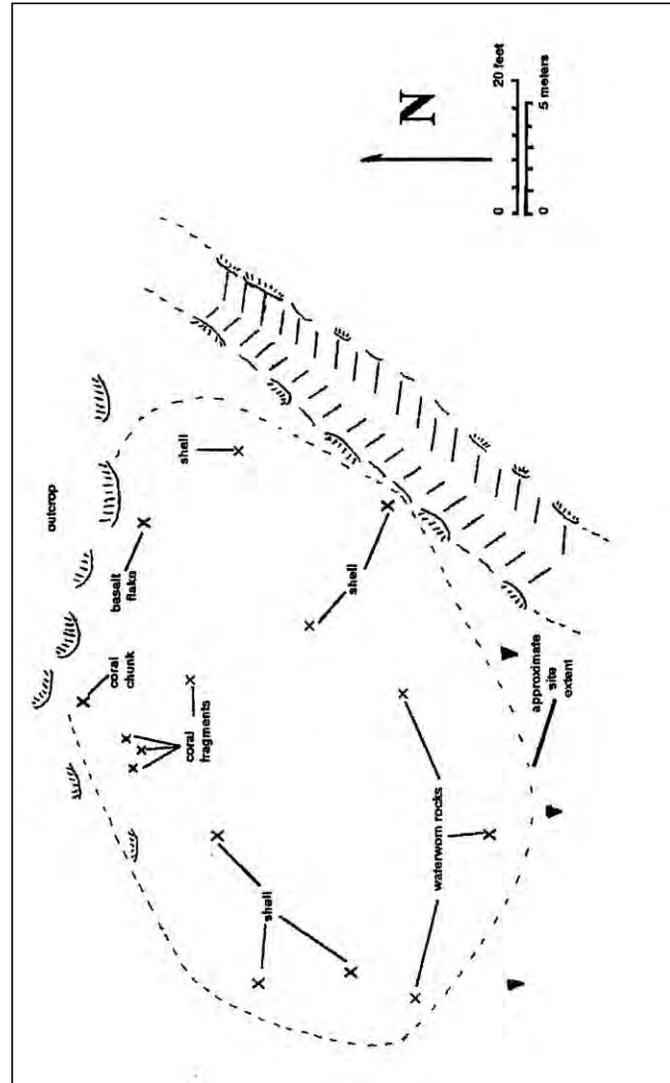


Figure 25: Site 3742 – Plan View.

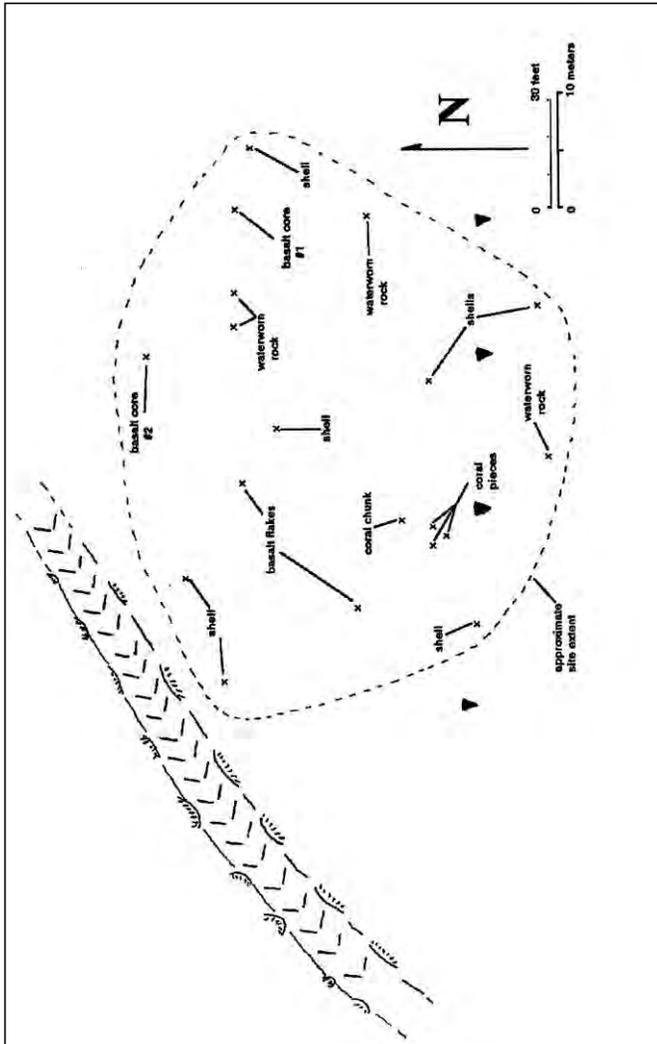


Figure 26: Site 3743 – Plan View.

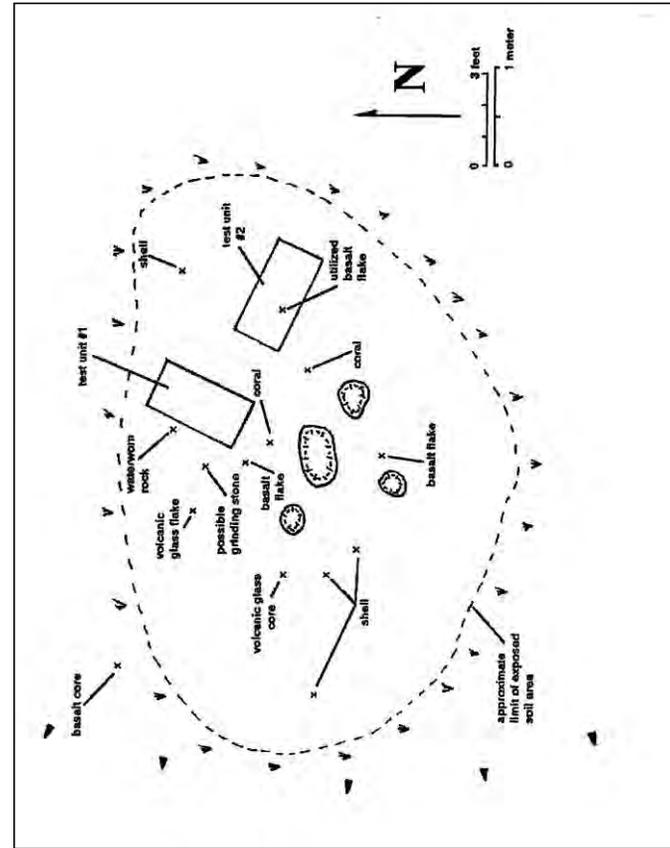


Figure 27: Site 3744 – Plan View.

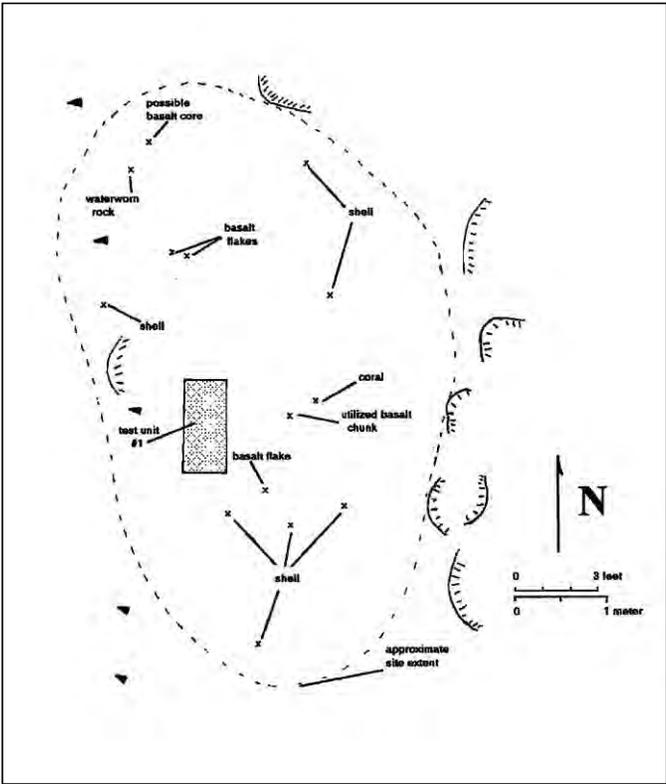


Figure 28: Site 3745 – Plan View.

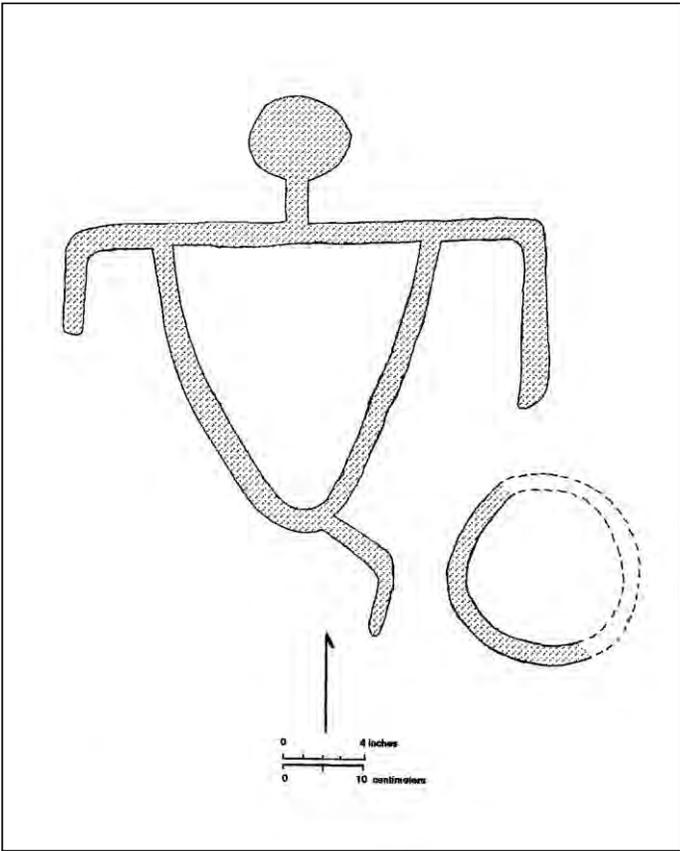


Figure 29: Site 3746 – Plan View.

# ARCHAEOLOGICAL SURVEY RESULTS

## ARCHAEOLOGICAL FIELD METHODS

Xamanek Researches LLC conducted an archaeological inventory survey of the proposed on- and off-site improvements for the planned Piilani Promenade project in Kihei during the winter of 2014 and the summer of 2015 (TMK (3-9-001: 169, 170-174 and various off-site TMK's). As previously discussed, our work included a reevaluation of archaeological sites that were located during the 1994 Xamanek Researches AIS of what is now referred to as the on-site portion of the Piilani Promenade project.

Proposed off-site improvements portions of the project were the focus of the 2014 inventory survey effort. The off-site fieldwork took place on 9, 13 and 17 January, and 3 February 2014. Project archaeologists included Jennifer Frey, B.A., Daniel Vicars, B.A., and Erik Fredericksen (SHPD Permit #14-11 and #15-14). In addition, Mark Donham, B.A., attempted to relocate sites that were originally documented during the 1994 AIS of what is now the on-site portion of the Piilani Promenade project area. This fieldwork was conducted on 26-28 February 2014, when the project area was heavily grassed over.

Supplemental fieldwork was carried out during the summer of 2015 primarily on the on-site portion of the Piilani Promenade project area. Inventory level fieldwork was undertaken on 21-24, 27, 28, 30, 31 July, 3-6 and 11 August. Project archaeologists Marco Molina, B.A. and Hugh Coflin, B.A. carried out a 100% pedestrian inspection of the on-site project area. In addition, all previously identified sites from the 1994 study were relocated, reassessed, and altered/impacted sites were remapped. One new site, an enclosure (Site 8266), was located and documented during the 2015 fieldwork. Finally, the SHPD Maui staff archaeologist visited the project area on 4 and 11 August to view the identified historic properties on the project area and to visit the location of a modern petroglyph.

Of the originally identified 20 sites, the Site 3746 petroglyph was previously removed, and Site 3734 (stone pile) and Site 3739 (parallel boulder alignment) have been destroyed by previous heavy equipment activity on the project area. The remaining 17 sites are listed in Table 5, along with newly identified Site 8266 (a rock enclosure). Six of the remaining 17 original sites have been impacted in varying degrees by bulldozing activities after the 1994 study and prior to our 2014-2015 fieldwork. Erik Fredericksen was the director and principal investigator for the overall project (SHPD Permit #15-14).

The off-site archaeological investigation consisted of a 100% surface inspection of the proposed 1.0 MG water storage tank and access road, as well as the additional access road off of Ohukai Road and the Piilani Highway improvements. Three manually

excavated shovel tests were utilized to assess the very shallow rocky soil deposit in selected portions of the proposed water tank locale. Excavated soil was screened through 1/8<sup>th</sup> inch hardware cloth. The on-site portion of the archaeological investigation utilized a 100% surface pedestrian inspection with c. 5 m spacing between field team members and N-S sweeps. Excavation soil at Site 8266 was also screened through 1/8<sup>th</sup> inch hardware cloth. Written notes were kept in the field, and photographs were taken in a digital format. Field notes and photographs are stored on site at the Xamanek Researches LLC Pukalani facility.

## **2014-2015 AIS - Xamanek Researches LLC**

The current archaeological inventory survey of the 101.658-acre APE included on-site and off-site improvements portions of the Piilani Promenade project area. In addition, a reevaluation of the 1994 AIS site mitigation recommendations for the 88-acre on-site project area was undertaken. The effected on-site TMKs include TMK (2) 3-9-001: 16, and 169-174. Effected off-site TMKs include TMK (2) 2-2-002: 016, 077 and 082, (2) 3-9-001: 148, and (2) 3-9-048: 122).

## **General Project area**

The general project area contains c. 88 acres of previously surveyed property (on-site project area), and c. 14 acres of newly added off-site areas for a total APE of 101.658 acres. A total of 20 sites were located during the inventory survey in 1994 of the 88-acre property. Of these sites there were 8 rock piles and cairns, 2 enclosures, 3 parallel alignments, 1 erosion containment wall segment, 5 surface scatters, and a petroglyph on a boulder. These sites were designated 50-50-10-3727 through 3746. Although the majority of the sites were associated with ranching and WWII military activities, the petroglyph and surface scatter remains were interpreted as possible precontact sites. The petroglyph boulder was removed from the project area by a previous landowner after the 1994 AIS was completed. An after the fact Preservation Plan (Munekiyo & Arakawa, Inc., 1994) was prepared on behalf of the former landowner, and the State Historic Preservation subsequently approved this document.<sup>7</sup>

A 36-inch diameter County of Maui Department of Water Supply waterline was completed in c. 1979 and runs along the Makawao and Wailuku boundary, which runs diagonally through the project area (see Figure 3). This waterline is buried but has, at times, become visible because of soil erosion. At the time of our inspection it was not longer visible. This waterline will be abandoned and removed during the course of the Piilani Promenade development. A replacement waterline will be installed along the eastern boundary of the development in an easement, and near the proposed development's southern boundary.

The 2014 Xamanek Researches LLC survey of the proposed off-site improvements project area was conducted in January and February. No new sites were

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<sup>7</sup> There is continuing discussion among members of the Hawaiian community regarding the status of Site 3746 and if it will be returned to the Piilani Property from its current location in Kula.

located during this fieldwork. The project archaeologists were Jennifer Frey, B.A., and Daniel Vicars, B.A. Erik Fredericksen (SHPD Permit #14-11, #15-14) was the project director and principal investigator for the project. 2014 project viewing conditions were fair, because of recent heavy rainfall, with resultant invasive grass and weed cover. During the survey it was noted that previous sheet erosion has washed away much of the shallow soil deposit and exposed bedrock and boulders.

A portion of the original 1994 AIS 88-acre project area is currently being used for a base yard, a large sand stockpile, and contains a large stockpile of new drainage and waterline pipes. This impacted area is located on much of the 13.129-acre lot identified as Lot 2B, which is owned by Honua'ula Partners, LLC. As previously noted, this portion of land is owned by a different entity and is not part of the proposed Piilani Promenade development, which is on the remaining c. 75-acre portion of the property. However, Lot 2B will be included in the forthcoming project specific monitoring plan for the Piilani Promenade development (refer to Figure 8).

Included in the 2014 portion of the inventory survey are the proposed off-site improvement areas, which are now needed for the Piilani Promenade development. These proposed off-site improvements consist of a water storage tank facility, access roads to the water tank and secondary access to the project area, and finally improvements to Piilani Highway where the main access to the project will be located. These areas are discussed below.

**Table 5: Site Relocation - 2015 UTM Data**

Site #	Type	Easting	Northing	Condition	Integrity	Cause
3727*	Stone piles	765525	2298536	Good	Unaltered	
3728*	Stone piles	765492	2298510	Good	Unaltered	
3729	Stone cairn	765669	2298615	Fair	Unaltered	
3730	Stone cairn	765689	2298554	Fair	Altered	Dozer
3731	Stone cairn	765773	2298572	Good	Unaltered	
3732	Stone cairn	765843	2298560	Fair	Altered	Dozer
3733	Stone cairn	765840	2298587	Fair	Altered	?
3735*	Enclosure	765633	2298285	Good	Unaltered	
3736*	Enclosure	765596	2298352	Good	Unaltered	
3737	Parallel alignment	765702	2298309	Fair	Altered	Dozer
3738	Parallel alignment	765665	2298277	Poor	Altered	Dozer
3740	Erosion walls	765583	2298775	Good	Unaltered	
3741*	Surface scatter	765422	2298635	Good	Unaltered	
3742*	Surface scatter	765432	2298566	Good	Unaltered	
3743*	Surface scatter	765453	2298491	Good	Unaltered	
3744*	Surface scatter	765617	2298361	Good	Unaltered	
3745*	Surface scatter	765790	2298667	Good	Unaltered	
8266*	Enclosure	765841	2298446	Good	Unaltered	

\* Denotes sites recommended for Data Recovery

Table 5 reflects the current (2015 UTM data) location and interpreted function of the sites identified during the 1994 Xamanek Researches AIS of the 88-acre property, and follow up fieldwork in 2014 and 2015, which located a rock enclosure (Site 8266). Our 2015 pedestrian inspection of the on-site project area confirms that relatively recent bulldozer activities likely associated with the installation of a cattle fence and land clearing for the storage of equipment and supplies to be used during planned construction have impacted portions of the property. In addition much of the project area elsewhere also appears to have been impacted by relatively recent (i.e. appears to be within last 5 years) bulldozing activity. A total of 6 sites appear to have been impacted by prior land clearing activities. Sites impacted by relatively recent earthmoving activities include Sites 3730, 3732, 3734, and 3737-3740.

A total of ten sites are recommended for Data Recovery work. These sites include Sites 3727, 3728, 3735, 3736, 3741-3745, and 8266. A forthcoming data recovery plan for the above sites will be developed in consultation with the SHPD.

**Table 6: On-Site and Off-Site TMK's for the Proposed  
Piilani Promenade Project**

	TMK	OWNERSHIP	Description	Acreage
	<b>Land owned by PPN/PPS</b>			
	<b>Development Parcels</b>			
1	(2) 3-9-01:016	PPN/PPS	Development Parcel Phase 1	30.132
2	(2) 3-9-01:170	PPN/PPS	Development Parcel Phase 2	18.519
3	(2) 3-9-01:171	PPN/PPS	Development Parcel Phase 2	19.539
	<b>Kihei-Upcountry Highway lot</b>			
4	(2) 3-9-01:172	PPN/PPS	Roadway Widening Lot	4.898
	<b>Piilani Highway Widening Lots</b>			
5	(2) 3-9-01:173	PPN/PPS	Piilani HWY widening lot	0.924
6	(2) 3-9-01:174	PPN/PPS	Piilani HWY widening lot	0.859
			<b>subtotal</b>	<b>74.871</b>
	<b>Onsite Easements</b>			
7	no TMK	-	MECO substation	
8	no TMK	-	County waterline relocation	
	<b>Land Not owned by PPN/PPS</b>			
	<b>Piilani Highway Widening Lots</b>			
9	(2) 3-9-048:122	KENRANES	Piilani HWY widening lot	0.332
10	(2) 3-9-001:148	PACIFIC WEST COMMUNITIES Inc.	Piilani HWY widening lot	0.407
			<b>subtotal</b>	<b>0.739</b>
	<b>Offsite Easements</b>			
11	(2) 2-2-02:016 (portion)	Haleakala Ranch Company	Roadway and utility easement	1.119
12	(2) 2-2-02:082 (portion)	Kaonoulu Ranch LLLP	1.0 MG Water Tank transmission line easement	10.646
			<b>subtotal</b>	<b>11.765</b>
	<b>Offsite Water Tank</b>			
13	(2) 2-2-02:077 (portion)	Kaonoulu Ranch LLLP	1.0 MG Water Tank site	1.154
			<b>subtotal</b>	<b>1.154</b>
	<b>Off site land reviewed for EIS purposes</b>			
	<b>Offsite Multi-family</b>			
14	(2) 3-9-01:169	Honuaula Partners	Future affordable Multi-family development	13.129
			<b>subtotal</b>	<b>13.129</b>
			<b>101.658 acres</b>	



**Photo 2: General view of the project area showing current vegetated conditions. View towards the northwest along Piilani Highway.**



**Photo 3: Photo of the sand storage pile, c. 2 meters tall, is stored on northern portion of proposed Piilani Promenade development, near Lot 2B.**



**Photo 4: View to the east of the proposed off-site waterline easement project area. The cultivated Monsanto fields are in view in background.**



**Photo 5: Photo showing the existing waterline manhole near the northeast of the base yard. This water line will be abandoned and a new waterline will be installed along the east and south border of the Piilani Promenade project area.**



**Photo 6: Small drainage gully that crosses Lot 2B near the base yard.**



**Photo 7: Base yard near Lot 2B. View to the west. Note the chain link fence is within the Lot 2B section owned by Honua`ula Partners, LLC. View to the west.**



**Photo 8: Base yard on portion of Piilani Promenade. Note the fenced area is owned by Honua`ula Partners, LLC. View to the northeast.**



**Photo 9: Base yard on Lot 2B - owned by Honua`ula Partners, LLC. View to the north.**

## Off-Site Improvements - 2014 Fieldwork

### Off-Site Water Storage Tank and access road:

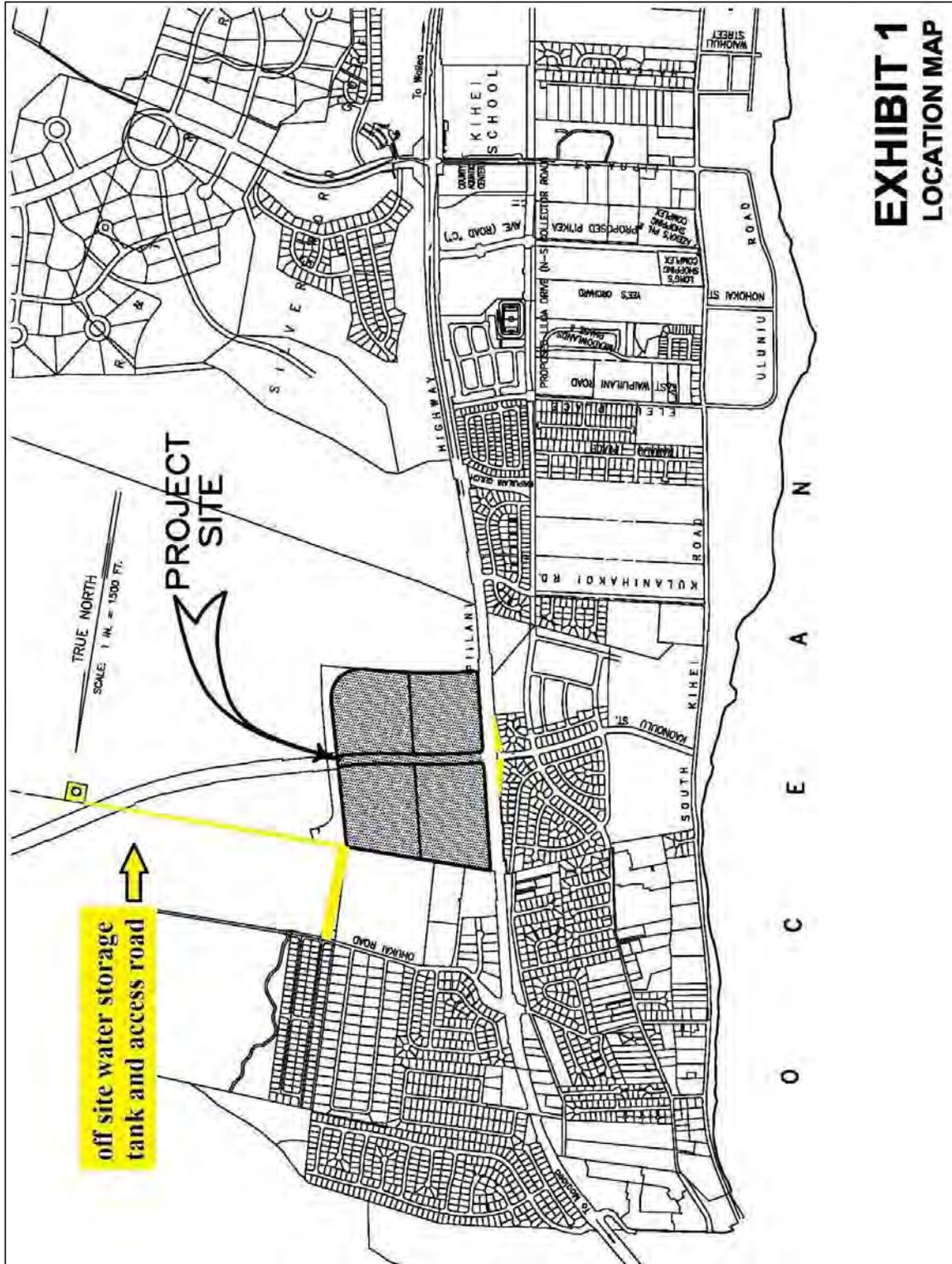
Survey of the 1-acre off-site water storage tank area (TMK: 2-2-002: 077 and 082) took place on 13 January and 3 February 2014. The project archaeologists included Jennifer J. Frey B.A. and Daniel Vicars, B.A. Three manually excavated shovel tests were utilized to assess the very shallow soil deposit in selected locations (refer to Figure 4 for ST locations). Excavated soil was screened through 1/8<sup>th</sup> inch hardware cloth. Shovel test results are discussed in the Archaeological Findings section.



**Photo 10: Overview of the off-site water storage tank facility.**



**Photo 11: Overview of off-site water storage facility and access area, view towards the ocean(west). Note Monsanto cultivated fields in background. TMK: 2-2-002: 077 and 082.**



**EXHIBIT 1  
LOCATION MAP**

Figure 30: Off-Site water storage facility tank and access road, TMK: 2-2-002: 077 and 082. Off-site access road to Ohukai Road, TMK: 2-2-022: 016. Off-site road improvements along Piliari Highway, TMK: 3-9-001: 148 and 3-9-048: 122.

## **Off Site access road to Ohukai Road**

The proposed off-site access road to Ohukai Road was covered by a 100% pedestrian survey. Given that the current dirt access road is regularly utilized by farm-related traffic, no subsurface testing was carried out. The off-site access road is contained on a portion of TMK: 2-2-002: 016. The current access road is highly disturbed and modified. Monsanto Farms uses much of this parcel for storage of discarded farm equipment and “trash”. Invasive non-native vegetation springs up along the roadway. There is no evidence of significant material cultural remains in this area. Photos and map follow:



**Photo 12: Overview of the Ohukai Access Road – TMK: 2-2-002: 016.**



**Photo 13: Overview of the Ohukai Access Road – TMK: 2-2-002: 016.**



**Photo 14: Overview of the Ohukai Access Road – TMK: 2-2-002: 016.**

### **Off-Site Piilani Highway Improvements**

The final off-site project area is located along the *makai* side of the Piilani Highway at the entrance to the Ka Ono Ulu Estates housing neighborhood. This small 2-

acre portion of the project will include improvements to the existing intersection. These roadside parcels are contained on TMK's 3-9-001: 148 and 3-9-048: 122.



**Photo 15: Photo of the off-site improvement area, view towards the North. Piilani Promenade Project in view on the right of the highway.**



**Photo 16: Off-site project improvements area, view towards Wailea (South), Piilani Promenade Project in view just to the left of the highway.**

## **Waterline Improvement easement**

This portion of the off-site improvements project area was formerly proposed for an overflow diversion to the nearby Kulanihakoi Gulch. However, project plans now call for overflow diversion to be carried in a proposed drain line that will cross the on-site portion of the development within the roadway right-of-way in an east-west manner. The off-site easement is now only being used for the to be rerouted Central Maui waterline. Jennifer Frey and Erik Fredericksen surveyed the proposed waterline easement on 11 February 2014. This waterline easement is located along the eastern edge of the Piilani Promenade project area (Figure 31). The southern portion of the waterline corridor runs within the on-site portion of the Piilani Promenade Project area, parallel to and above a section of Kulanihakoi Gulch.

At the time of the survey, the impact of sheet erosion was noticeable in much of the corridor. Signs of prior erosion were noted and the majority of the visible surface consisted of weathered subsoil and exposed bedrock. Invasive grasses and weeds covered the ground wherever remnant soil was present. No cultural remains were located during this portion of the archaeological survey. No shovel tests were attempted due to rocky conditions and limited soil cover. A location map and photos of the survey area follow below:

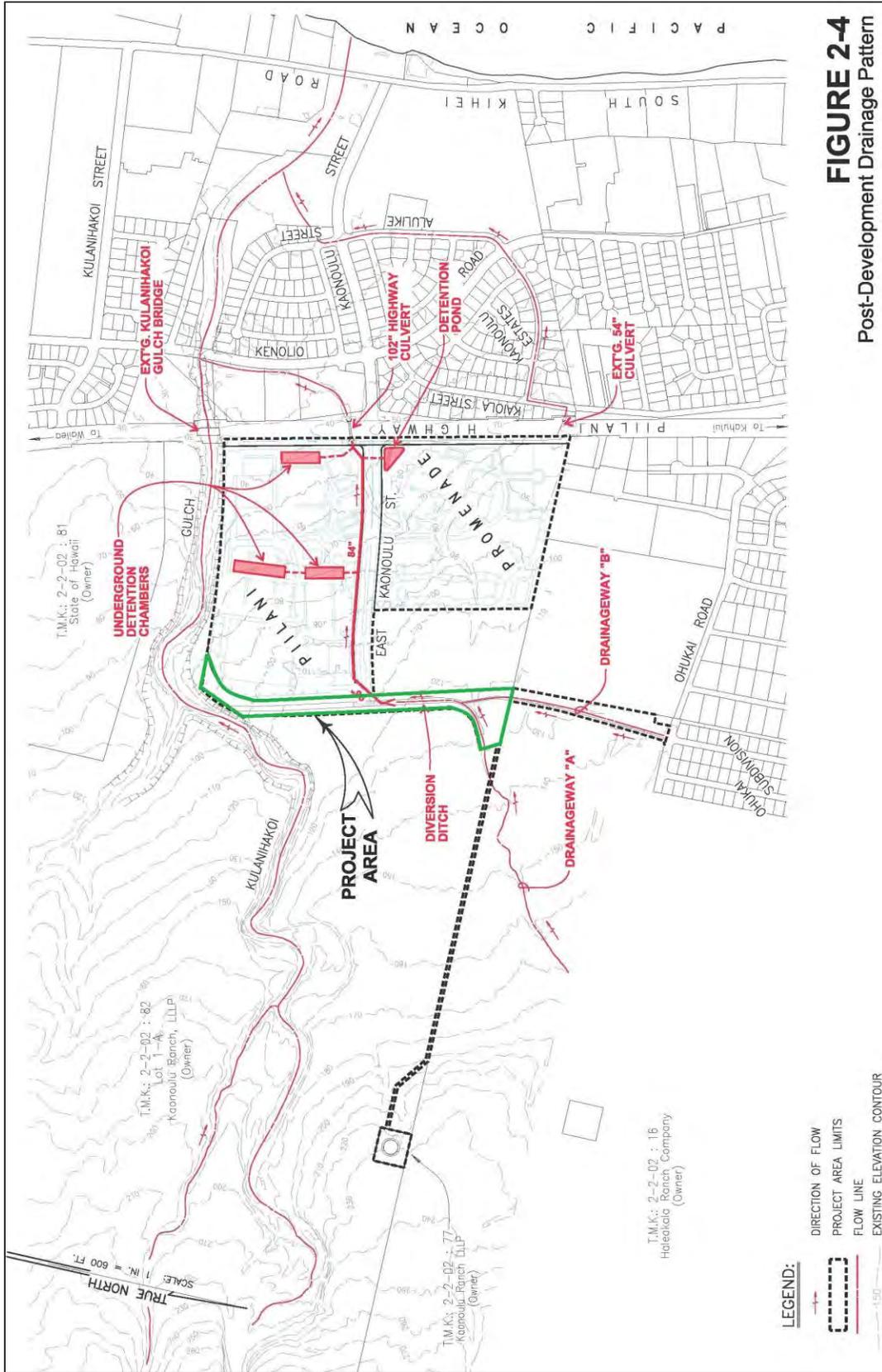
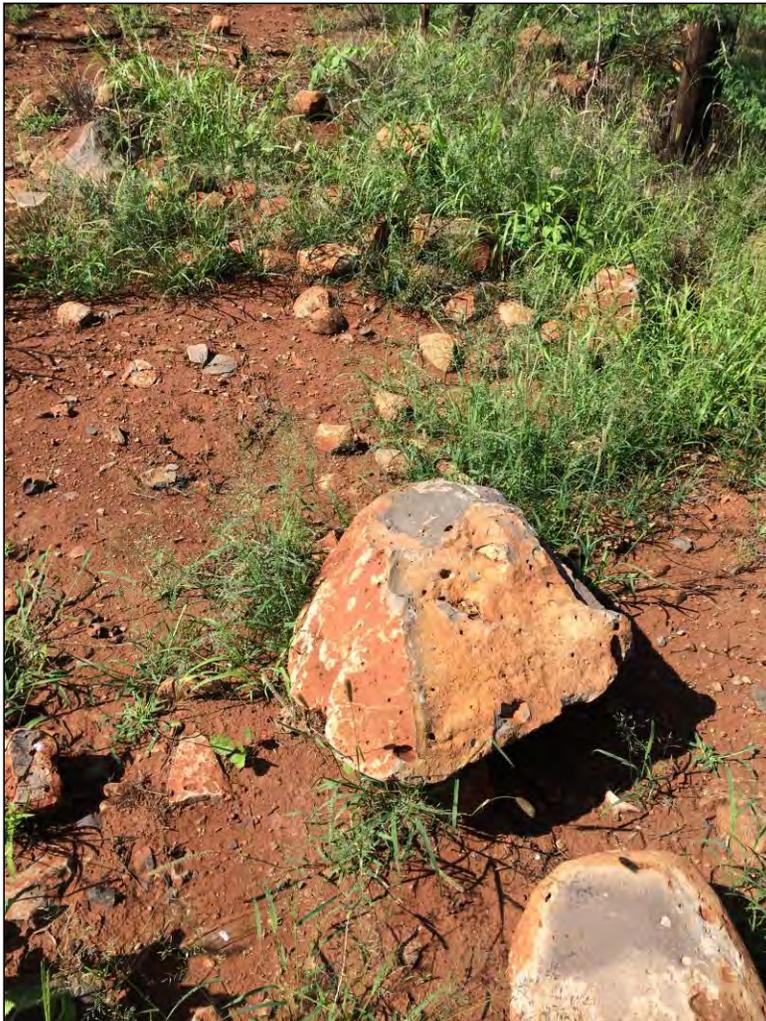


Figure 31: Surveyed area of the newly proposed water line easement (in green).



**Photo 17: Bulldozer scarring on rocks.**



**Photo 18: General condition of the waterline easement area.**



**Photo 19: View of the proposed waterline easement area near the south end, above Kulanihakoi Gulch.**



**Photo 20: Kulanihakoi Gulch showing the flood washed bottom after the heavy recent rains. This gulch will not be impacted during the construction project.**



**Photo 21: View to the southeast of Kulanihakoi Gulch after the recent rains. This gulch is off of the project area and will not be impacted.**

## **Community Consultation**

On Tuesday, 25 February 2014, a community consultation meeting was held for interested parties to address their concerns regarding this specific project. A total of 12 community members attended. The meeting was recorded and the transcripts are available in Appendix C of this report for further reference.

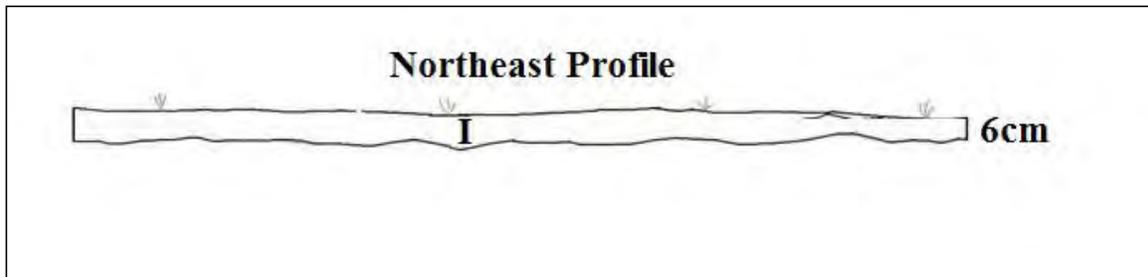
## Off-Site Water Storage Tank Facility (TMK: 2-2-022: 077 and 082)

The archaeological survey of the off-site water storage tank area was carried out in January 2014. The archaeologists systematically surveyed the proposed c. 13-acres of the off-site water storage tank and access road areas. There were no significant material culture remains located during the course of this survey. In addition three 50x50cm shovel tests were excavated in the area of the proposed water storage tank off-site facility. There were no sites located within the proposed APE for the water tank and access road. However a remnant of a bulldozed roadway and a linear rock alignment were noted c. 50 m upslope and east (*mauka*) of the water tank site locale. These features are outside of the easement and APE and will not be affected by construction.

There was one soil layer type encountered during the shovel testing. Each shovel test is discussed below:

**Shovel Test 1:** Located in the locale of the proposed future 1.0 MG water tank.

Layer I: 0-6cmbs, brown silt, topsoil covering the rocky terrain, this layer is sterile



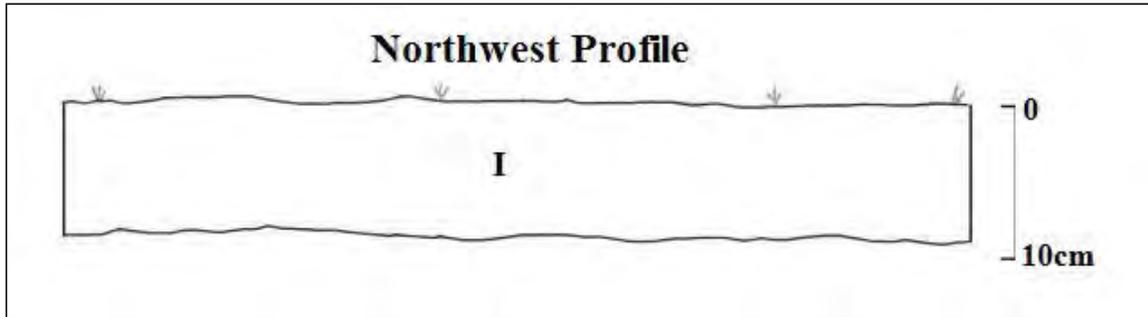
**Figure 32:** Northeast profile of Shovel Test 1.



**Photo 22: Northeast profile of Shovel Test 1.**

**Shovel Test 2:** Located within the proposed water tank locale.

Layer I: 0-9cmbs, brown silt, topsoil covering the rocky terrain, this layer is sterile



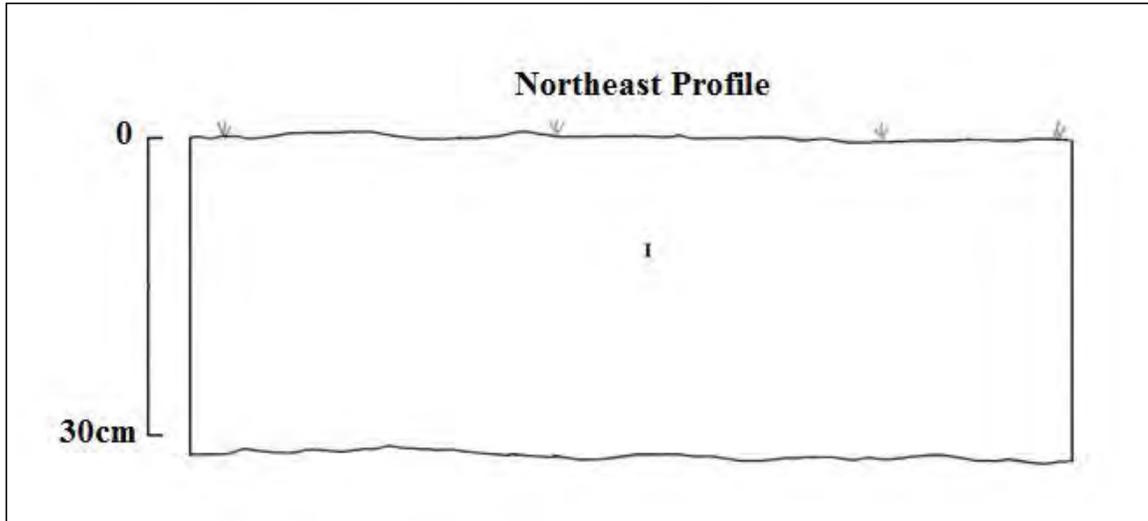
**Figure 33:** Northwest profile of Shovel Test 2.



**Photo 23:** Northwest profile of Shovel Test 2.

**Shovel Test 3:** Located within the proposed water tank locale.

Layer I: 0-30cmbs, brown silt, slightly rocky, this layer is sterile.



**Figure 34:** Representative Profile 3, northeast profile.



**Photo 24:** Northeast Profile of Shovel Test 3.

## **On-site Improvements Project Area - 2015 Fieldwork**

As previously noted, Xamanek Researches LLC conducted supplemental fieldwork primarily on the on-site improvements portion of the proposed Piilani Promenade project area (Parcel 16). The additional fieldwork was carried out between mid-July and the first week of August 2015. This supplemental effort was undertaken following comments by Maui Cultural Lands that some sites previously not relocated during our 2014 fieldwork might still be on the project area (Appendix E). Given that our 2014 fieldwork was carried out in the winter months and that surface visibility was obscured by thick vegetation, our 2015 fieldwork was conducted in the drier summer months of 2015.

The entire on-site improvements project area was reexamined with a 100% pedestrian inspection utilizing 5 meter spacing between crewmembers. All 19 of the originally identified sites were relocated.<sup>8</sup> However, several of these sites appear to have been disturbed to varying degrees by relatively recent (i.e. between 1994 and 2015 fieldwork) bulldozing activities on the project area. In addition, one new site, a rock enclosure, was located and documented; it has been designated SIHP 50-50-10-8266. It is discussed after the following section that documents recent disturbances to Sites 3730, 3732, 3734, 3737-3739, and 3740.

### **Sites altered by relatively recent mechanical activities**

The 7 sites that have been impacted by relatively recent bulldozing activities on the project area include Site 3730 (rock cairn), Site 3732 (rock cairn), Site 3734 (rock pile), Sites 3737-3739 (parallel boulder alignments), and a section of the Site 3740 erosion containment walls in the gully that crosses the northern portion of Parcel 16 (identified as Ka'ono'ulu Gulch on some maps). The impacts described below have occurred sometime after the 1994 inventory survey and prior to our recent fieldwork. Disturbances documented at these previously identified sites are discussed below.

#### **Site 3730**

Several rocks have been dislodged from this stone cairn. Some mechanical scars were noted on rocks nearby this site, suggesting that this site may have been inadvertently disturbed during earthmoving activities on the project area. Refer to Photo 25 for the current condition of Site 3730 (compare with Figure 13).

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<sup>8</sup> This total does not include the Site 3746 petroglyph, which was removed from the project area by a former landowner.



**Photo 25: View to the SE of Site 3730 stone cairn - 2015.**

### **Site 3732**

This second stone cairn also appears to have been disturbed by relatively recent heavy equipment activities on the project area. Several dislodged cobbles were noted around the base of this feature. Refer to Photo 26 for the current condition of Site 3732; compare with Figure 15 of this report.



**Photo 26: View to the south of Site 3732 stone cairn - 2015.**

### **Site 3734 (stone pile)**

This low rock pile was originally documented in 1994. At the time, it measured c. 1.5 m N/S by 2.1 m E/W by 0.38 m in height. When it was relocated in 2015, it had been essentially destroyed. It appears that a bulldozer had run over it, crushing and displacing feature component rocks. Refer to Photo 27 below for current condition of this site.



**Photo 27: View to the north across remnants of Site 3734 rock pile. Note displaced component rocks and flattened nature of feature.**

### **Site 3737 (parallel alignment)**

This long, linear military-era site consists of two parallel boulder alignments. It remains in generally good condition. However, the site appears to have been traversed by a bulldozer in several different locations. Recent heavy equipment scars were noted on some of the boulders contained within the site, along with older mechanical scars that were noted during the 1994 archaeological inventory survey. Refer to Photos 28-30 for current conditions.



**Photo 28: View to the north of Site 3737, scarred boulders visible at center left - 2015.**



**Photo 29: View to the north of Site 3737, scarred boulders, displaced soil - 2015.**



**Photo 30: View to the north of Site 3737, scarred boulders visible at center left - 2015.**

### **Site 3738 (parallel alignment)**

This linear military-era site consists of two parallel boulder alignments, which have been heavily impacted by bulldozing activities, likely associated with the installation of a nearby cattle fence. At the time of our recent fieldwork, Site 3738 was in generally poor condition, and had been substantially altered. It is estimated that the site is less than 25% intact. Recent heavy equipment scars were again noted on some of the boulders contained within this site, along with older mechanical scars that were seen during the 1994 archaeological inventory survey. Refer to Figure 35 and Photos 31-34 for current conditions.

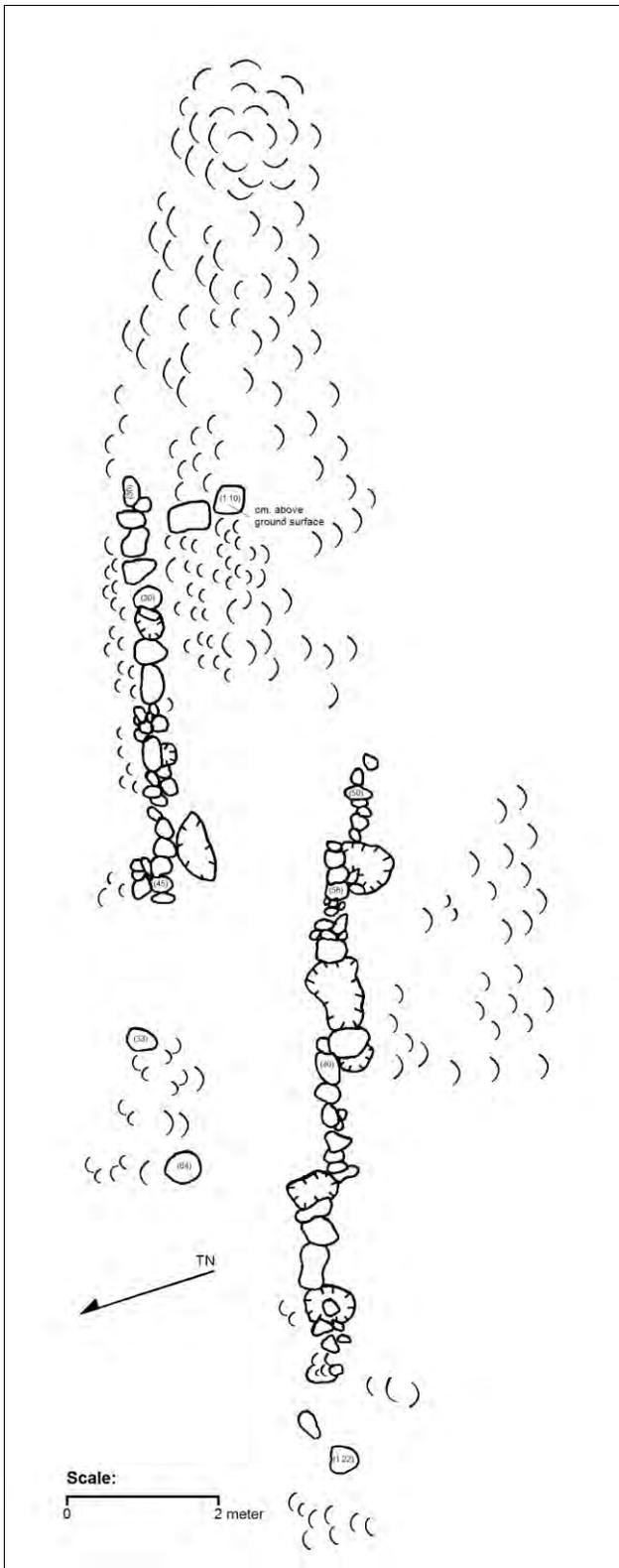


Figure 35: Plan view of Site 3738, modern disturbance.



**Photo 31: View to the west of altered Site 3738. Note: newer cattle fence and bulldozed access road at left.**



**Photo 32: Overview to the west of bulldozed access road near Site 3738. Note displaced boulders in background.**



**Photo 33: View to the south of displaced boulders, Site 3738.**



**Photo 34: View to the north, displaced boulders with machine scars visible.**

## Site 3739

This third World War II era parallel rock alignment has essentially been destroyed. Possible displaced feature boulders were noted at the southwestern edge of the former site. As in the case of Site 3738, Site 3739 appears to have been impacted by earthmoving activities carried out in support of the construction of the newer cattle fence that forms the project area's southern boundary. Refer to Figure 36 and Photo 35 for current conditions.

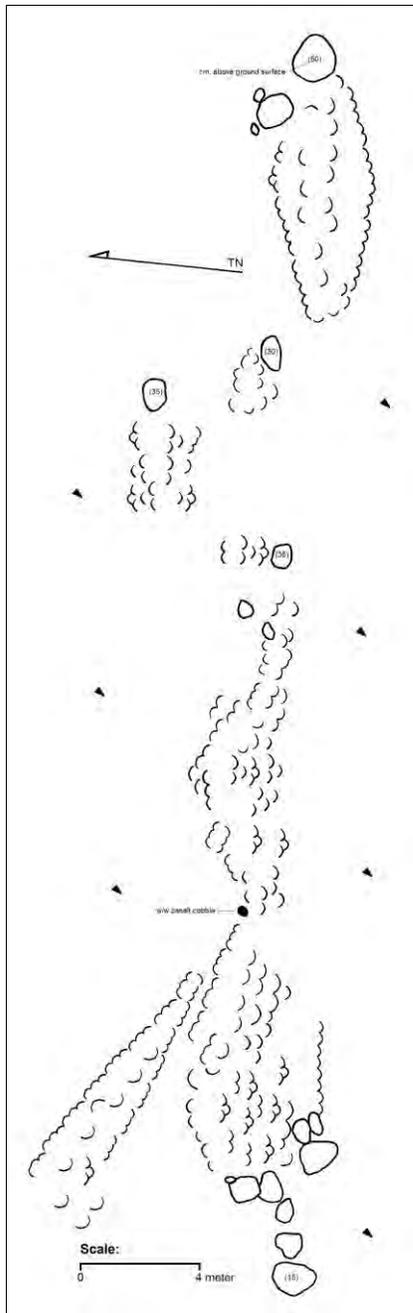


Figure 36: Plan view of former Site 3739.



**Photo 35: View to the east of displaced boulders possibly associated with former Site 3739.**

### **Site 3740**

This ranch-era erosion control feature is located in the gully that crosses the northern portion of the project area. While Site 3740 has been impacted by prior heavy equipment activities on the project area, this impact has been minimal in this locale. At the time of our walkover, one low wall section exhibited some minor heavy equipment scars likely associated with a recent gulch crossing. Refer to Photo 36 below. This site remains in generally good condition.

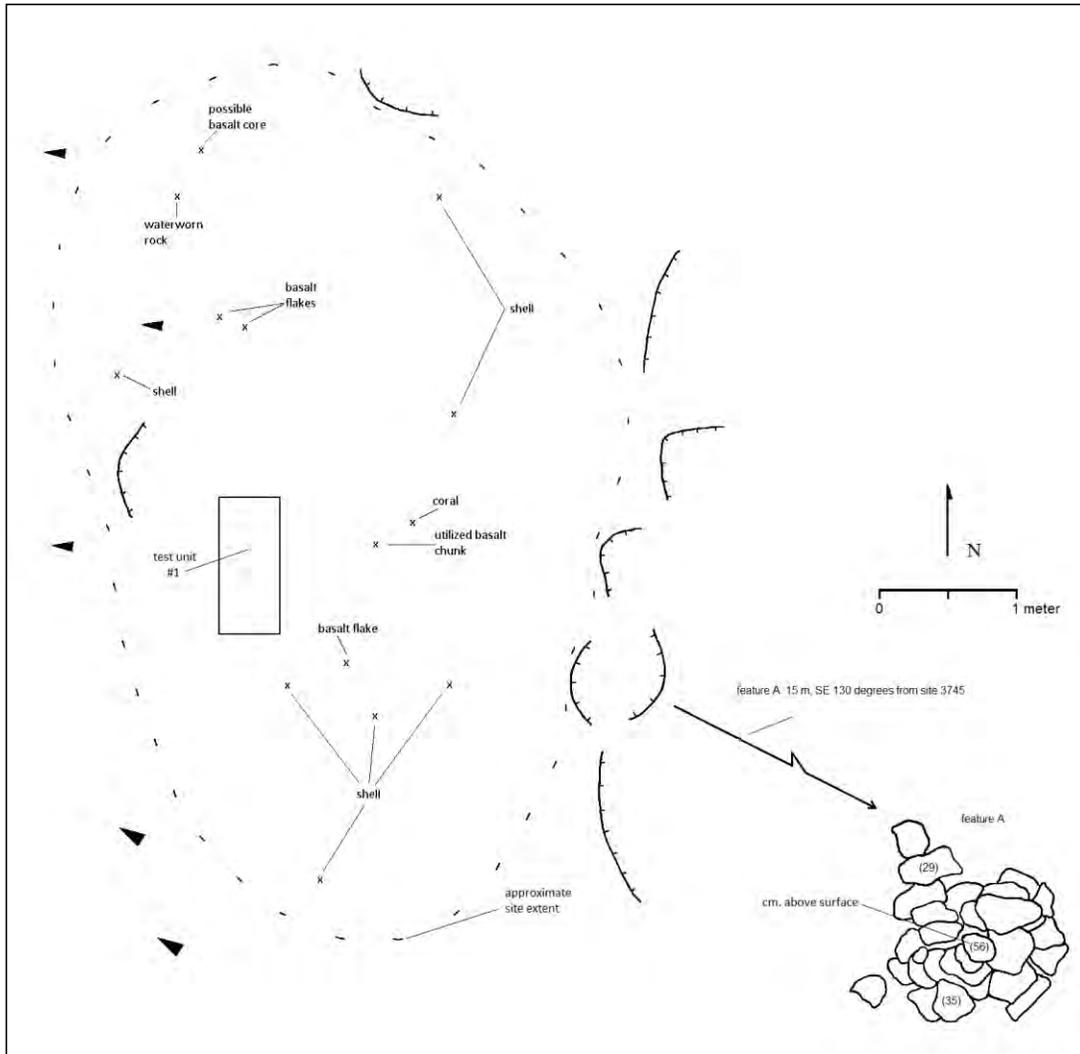


**Photo 36: View to the NE across a section of Site 3740. Note small, displaced boulders at lower center right (base yard visible in background right).**

## **Reconstructed rock pile near Site 3745**

### **Site 3745**

Site 3745 was originally located during the 1994 inventory survey of Parcel 16. This site consisted of a modestly sized surface scatter. A nearby, altered rock pile was located during our supplemental fieldwork in July-August 2015. This low feature appears to have been substantially reconstructed. This interpretation is based upon the presence of non-weathered and weathered rocks mixed within the construction of the overall feature. Given that this feature is located in a small, natural depression, and is not readily visible from the surrounding area, its function remains unknown. Refer to Figure 37 and Photos 37-38 for current conditions.



**Figure 37: Plan view of Site 3745, with reconstructed stone pile.**



**Photo 37: View to the NNW across Feature A, reconstructed rock pile.**



**Photo 38: View to the ESE of Feature A, reconstructed rock pile.**

## Site 50-50-10-8266

This previously unidentified site consists of a rectangular-shaped rock enclosure that incorporates some native bedrock in its construction. This site was noted when Maui Cultural Lands volunteers made an informal visit to the project area in the early summer of 2015. Site 8266 is located near a promontory in an area of relatively dense grass cover. Xamanek Researches LLC staff located and recorded this feature during our supplemental work on the project area in July-August 2015.

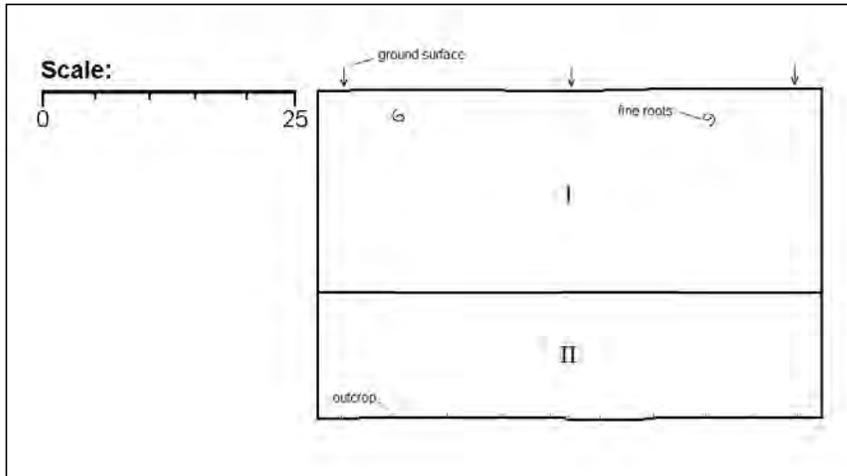
<b>SITE:</b>	<b>50-50-10-8266</b>
<b>SITE TYPE:</b>	Enclosure
<b>FUNCTION:</b>	Temporary habitation
<b>PROBABLE AGE;</b>	Possible precontact
<b>TOTAL FEATURES:</b>	One
<b>DIMENSIONS:</b>	6.4 meters long by 3.5 m wide by up to 0.25 m high
<b>SIGNIFICANCE:</b>	Criterion "d"
<b>CONDITION:</b>	Fair
<b>DESCRIPTION:</b>	Site 50-50-04-8266 consists of a low rectangular enclosure that appears to have been utilized on a temporary basis. This feature is constructed of subangular basalt cobbles. This enclosure is c. 6.4 meters in length by up to 3.5 m wide by a maximum 0.25 m high. The feature appears to have been impacted by cattle grazing and heavy equipment activities sometime in the past. One small piece of weathered coral was noted on the surface near this site. One test unit was utilized to assess subsurface conditions in the interior of this low feature, which is in fair to good condition.

### Test Unit 1

This 0.5 by 0.5 meter unit was placed in the central interior of the enclosure to sample subsurface conditions (see Figure 37 and Figure 38). Two shallow soil layers were encountered in TU 1. Recovered portable remains included marine shellfish, small pieces of weathered coral, and a small, unutilized basalt chip (Table 7). Layer I (0-20 cm), slightly compact, reddish brown (5 YR 4/4) silty clay with a fine-grained texture. Modest amounts of portable remains consisting of marine shellfish (9.3 g) were recovered, along with a small, unworked basalt flake (0.7 g), 10 fragments of weathered coral (7.8 g). Layer II (20-23 cm) was composed of yellowish red (5 YR 4/6) clay with small pieces of weathered bedrock. Small amounts of marine shellfish (2.9 g), and 4 small pieces of coral were recovered from this thin stratum, which terminated at bedrock.

### Discussion

Recovered portable remains from excavation at this small enclosure suggest that Site 8266 was utilized on an intermittent basis for temporary habitation. The absence of any post-contact trade items suggests that this feature was utilized in precontact times.



**Figure 38: North face profile of Test Unit 1, Site 8266.**

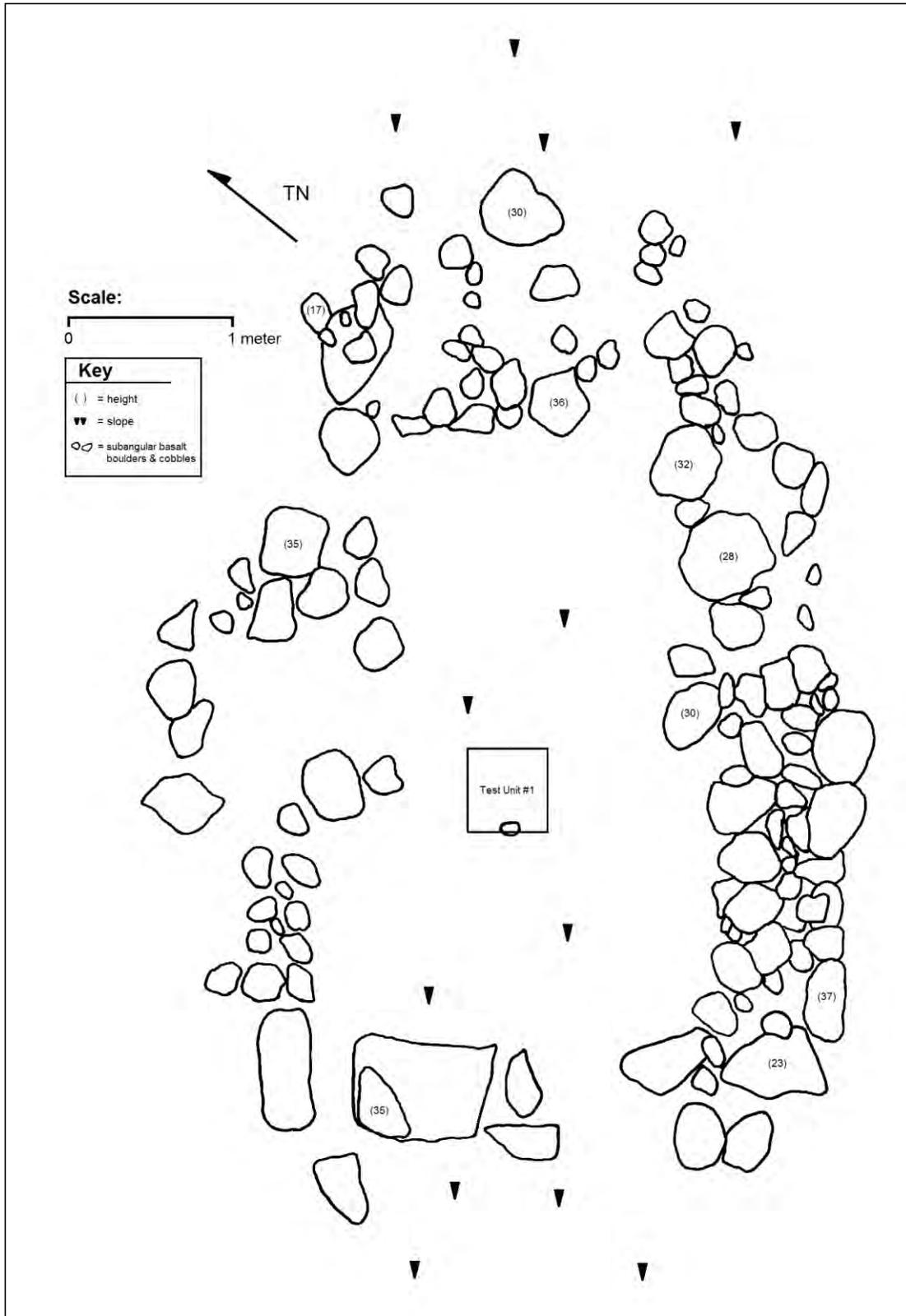


Figure 39: Plan view of Site 8266 enclosure, Piilani Promenade project, Kihei.



**Photo 39: View to the NW across Site 8266, site cleared of vegetation and debris.**



**Photo 40: View to the SW across Site 8266.**



**Photo 41: View to the NE across Site 8266.**



**Photo 42: View to the SW, excavation of TU 1 at Site 8266 complete.**

**TABLE 7: Summary of portable remains - TU 1, Site 8266**

<b>Portable remains (Layer I, Level I [0-20 cmbs]</b>	<b>Weight (g)</b>	<b>Comments</b>
Brachidontes sp.	2.9	7 pcs. (weathered)
Cypraea sp.	4.3	6 pcs. (weathered)
Nerita picea	2.1	4 pcs. (weathered)
Coral	7.8	10 small pieces
Basalt flake	0.7	Unworked
<b>Portable remains (Layer I, Level II [20-23 cmbs]</b>	<b>Weight (g)</b>	<b>Comments</b>
Cypraea sp.	1.1	1 pc. (weathered)
Nerita picea	1.8	4 pcs. (weathered)
Coral	4.5	4 pcs.

## SUMMARY AND CONCLUSIONS

The archaeological survey of the Piilani Promenade project 101.658-acre APE was conducted in the winter of 2014 and in the summer of 2015. Surface visibility was poor to fair in the winter, and fair to good in the drier summer. One new historic property was located during our inventory survey of the project area. This site consists of a rectangular rock enclosure and has been designated SIHP No. 50-50-10-8266. Based on subsurface test results, this site appears to be a temporary habitation area that was possibly used in precontact times. The c. 88-acre on-site portion of the project area was first examined during a survey carried out by Xamanek Researches in 1994. A total of 20 sites were originally located by this earlier survey. The previously identified Sites were designated SIHP No. 50-50-10-3727 through 3746. Of the original sites, 17 remain. Seven of these have been impacted to some extent by post-1994 earthmoving activities on the project area. Of the impacted sites, Site 3734 (a rock pile) and Site 3739 (parallel boulder alignment) have essentially been destroyed. In addition, the Site 3746 petroglyph was physically removed from the project area in late 1994 by a previous landowner. As such, a total of 18 sites are present within the Piilani Promenade on-site portion of the project area. No historic properties were located on the previously disturbed off-site portions of the project area.

The 18 sites that are contained within the Piilani Promenade project area include 7 stone piles and cairns (Sites 3727-3733), 3 enclosures (Sites 3735, 3736 and 8266), 2 parallel alignments (Sites 3737 and 3738), erosion containment wall segments (Site 3740), and 5 surface scatters (Sites 3741-3745). The erosion containment wall segments (Site 3740) are interpreted as ranch era features, with possible erosion or animal control function(s). Some of the stone piles (Sites 3731 and 3733), the alignments (Sites 3737 and 3738), and 1 of the enclosures (Site 3735) appear to be associated with previous WWII era activities in the project area. Of the 5 remaining stone piles/cairns, Sites 3727 and 3728 may possibly be agricultural clear piles (based upon the generally small size of component rocks). Sites 3729, 3730, and 3732 have indeterminate functions but are tentatively interpreted as markers. The 5 surface scatters (Site 3741-3745) are interpreted as possible precontact features associated with temporary habitation activities. Two of the enclosures (Sites 3736 and 8266) are interpreted as possible precontact temporary habitation/shelter areas. The presence of only modest amounts of food midden remains at sampled Sites 3736, 3741, 3744, 3745 and 8266 suggests that use was intermittent, rather than intensive.

As noted earlier in this report, bulldozing activities, likely associated with previous military and ranching era activities, have previously impacted portions of the project area. The previous installation of a large (36-inch diameter) waterline was found

to have impacted a portion of the proposed development area along the Makawao and Wailuku District boundary.

Based on the results of the previous 1994 study, the current survey, as well as nearby archaeological work, it appears that this portion of Kihei was used for a variety of purposes in the past. The presence of possible precontact sites within the project area including 2 temporary habitation areas, 5 surface scatter sites, 2 sites that contain possible agricultural clear piles, as well as 3 possible rock markers and the former Site 3746 petroglyph boulder suggests that the project area was utilized on a temporary basis, possibly as a rest area while transiting *mauka/makai*. The project area was utilized for ranch land in the post-contact period, and activities associated with this type of land use may have impacted portions of the project area. Military use appears to have impacted portions of the project area, altering the landscape, and, possibly dismantling former sites to construct newer ones (such as the parallel boulder alignments). More recently, the installation of the Central Maui waterline in the late 1970s impacted a portion of the on-site project area.

## Site Significance Evaluations

The following significance evaluations are based on the Rules Governing Procedures for Historic Preservation Review (DLNR 1996; Chapter 275). According to these rules, a site must possess integrity of location, design, setting, materials, workmanship, feeling and association and shall meet one or more of the following criteria:

**Criterion “a”**—Be associated with events that have made an important contribution to the broad patterns of our history;

**Criterion “b”**—Be associated with the lives of persons important in our past;

**Criterion “c”**—Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;

**Criterion “d”**—Have yielded, or is likely to yield, important information for research on prehistory or history;

**Criterion “e”**—Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts.

The 17 remaining sites identified in the 1994 inventory survey continue to qualify for significance under Criterion “d” for their information content. Two sites: Site 3734 and Site 3739; have been essentially destroyed by relatively recent bulldozing activities on Parcel 16. In addition, Site 3738 is c. 75% disturbed. The newly identified Site 8266 enclosure on the on-site project area (Parcel 16) qualifies for significance under Criterion “d” for its information content. As previously noted, a former landowner removed the Site 3746 petroglyph from Parcel 16 following the 1994 archaeological inventory survey. Refer to Table 8 for Significance Evaluations and Mitigation Recommendations.

## Mitigation Recommendations

One new site, a rectangular-shaped rock enclosure was identified on Parcel 16 during fieldwork in 2015. This site has been designated SIHP 50-50-10-8266, and is significant for its information content (Criterion “d”). As previously noted, 20 sites were originally located during the 1994 inventory survey of the on-site portion of the proposed Piilani Promenade development (Parcel 16). Of these, a total of 7 appear to have been impacted by post-1994 bulldozing activities on the on-site portion of the project area (Parcel 16). Sites 3734 and 3739 have been essentially destroyed. Data recovery is now the recommended mitigation for Sites 3727-3729, 3732, 3735 and 3736, Sites 3741 through 3745, and newly identified Site 8266 (see Table 8). A data recovery plan will be prepared and submitted once the AIS report has been approved by the SHPD.

As previously noted, the Site 3746 petroglyph was removed from the property in late 1994 by a former landowner. An after the fact Preservation Plan for the treatment of this petroglyph was submitted in October 1994 (Munekiyo & Arakawa, Inc.).

In 2011 a monitoring plan was completed and accepted for a large parcel within Ka’ono’ulu *ahupua’a* (SHPD DOC #1108MD012). While the proposed Piilani Promenade development is located within this *ahupua’a*, a project specific monitoring plan will be prepared for on- and off-site project improvements per input from the SHPD Maui office. Also included in the forthcoming monitoring plan will be Lot 2B, which is owned by a separate entity, but which will be affected by actions of the proposed development.

**TABLE 8: Site Evaluations and Recommendations - Piilani Promenade**

<b>Site # 50-50-10-</b>	<b>Site Type</b>	<b>Recommendation</b>
3727	Stone piles	Data Recovery (DR)
3728	Stone piles	DR
3729	Stone cairn	DR
3730	Stone cairn	No further work (NFW)
3731	Stone cairn	NFW
3732	Stone cairn	DR
3733	Stone cairn	NFW
3735	Enclosure	DR
3736	Enclosure	DR
3737	Parallel alignment	NFW
3738	Parallel alignment	NFW
3740	Erosion containment walls	NFW
3741	Surface scatter	DR
3742	Surface scatter	DR
3743	Surface scatter	DR
3744	Surface scatter	DR
3745	Surface scatter	DR
8266	Enclosure	DR

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**APPENDIX A:  
1994 AIS REPORT**

**ARCHAEOLOGICAL INVENTORY SURVEY  
AND BOTANICAL SURVEY REPORT  
KAONOULU LIGHT INDUSTRIAL PROJECT  
KAONOULU *AHUPUA`A*, WAILUKU AND  
MAKAWAO DISTRICTS, MAUI ISLAND  
(TMK: 3-9-01: 16 AND 2-2-02: por. 15)**

**Prepared for:**

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Wailuku, Maui, Hawaii**

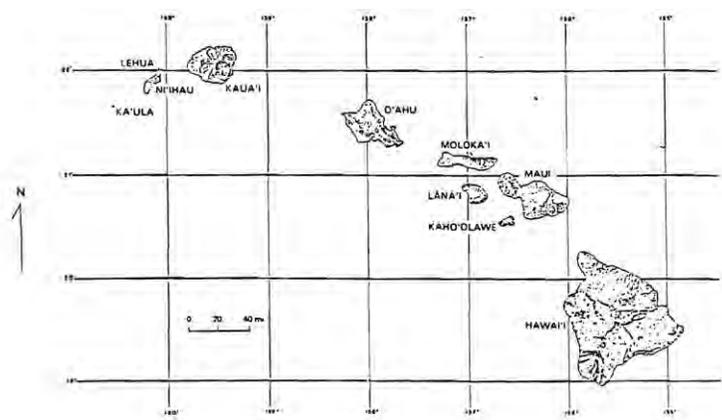
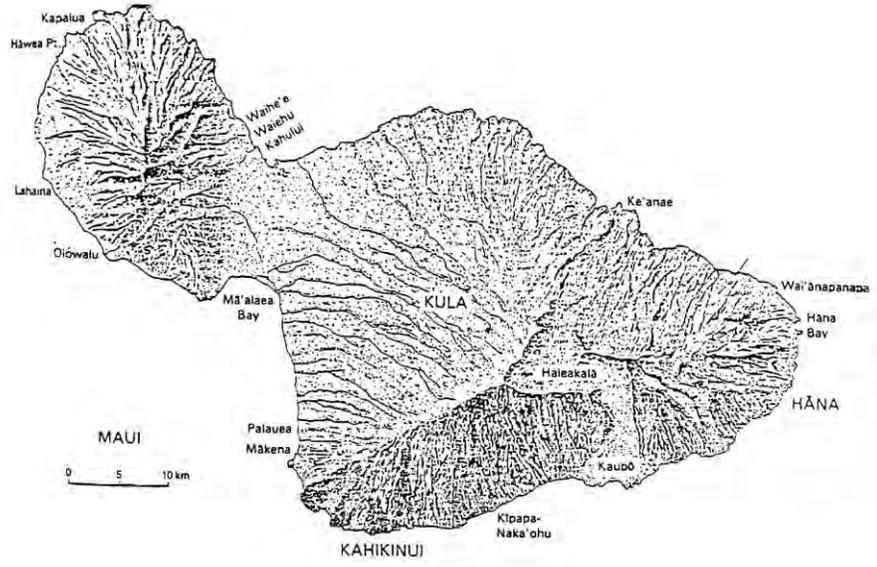
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**BOTANICAL SURVEY  
David Paul**

***Revised*  
July 1994**



### **ABSTRACT**

An archaeological inventory survey and data recovery were performed on an 88 acre parcel of Kaonoulu Ranch land in Kihei, Maui, Hawaii (TMK 3-9-01: 16 and 2-2-02: por. 15), slated for development as the Ka Ono Ulu Light Industrial Project. The necessary fieldwork work was accomplished between late October, 1993 and January, 1994.

During the survey 21 sites were discovered, tested and described. Of the 21 sites, 20 of them received State Inventory of Historic Places (SIHP) numbers, from 50-10-3727 to 50-10-3746. All of these sites were evaluated and Site 3746, a petroglyph, was recommended for removal and preservation. No further archaeological work is recommended for the Ka Ono Ulu Light Industrial Project.

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## INTRODUCTION

In early August 1993, we were contacted by Michael T. Munekiyo, of Michael T. Munekiyo Consulting, Inc., Wailuku, Maui, Hawaii, regarding the undertaking of a botanical survey and an archaeological inventory survey for an 88 acre parcel of Kaonoulu Ranch land in Kihei, Maui, Hawaii. Both studies are required for the State Land Use Commission boundary amendment for the subject parcel, with the archaeological inventory survey also being required by the State Historical Preservation Division for permit purposes.

We received maps and other relevant data on August 16, 1993, and submitted our proposal for the work on August 17, 1993. That proposal was accepted and an initial strategy survey was performed in late October. Fieldwork for the botanical survey began November 6, with archaeological fieldwork being initiated shortly thereafter. Fieldwork for the inventory survey and data recovery continued into mid-January, 1994.

The parcel has been used for cattle grazing since the late 19th century, leaving the land relatively open to visual observation of any existing surface cultural features. Our survey included a pedestrian surface survey, noting potential sites and other interesting features. Subsurface testing was performed at features where enough accumulated soil remained for testing. Eroded lava bedrock is visible over much of the project surface area. Thin, eroded soils predominate.

Features were mapped and described in field notes. Photo-documentation of features and artifacts was undertaken where appropriate. Artifacts were collected for analysis and description in the report.

## THE SURVEY AREA AND NATURAL HISTORY

The survey parcel is located in the *ahupua'a* of Kaonoulu, with the boundary between Makawao and Wailuku Districts dividing the parcel into two triangular portions (Map 1). It is further identified on TMK 3-9-01: 16 and TMK 2-2-02: por. 15 (Map 2). It is c. 88 acres in land area. The parcel is part of the c. 5966 acre Kaonoulu Ranch, owned by the Rice family.

The parcel is bounded on the north by a cattle fence, an existing light-industrial development, and the Waiakoa Homesteads. The western border is formed by an

additional cattle fence and Pi'ilani Highway. Kulanihakoi Gulch borders Ranch land to the south, while undeveloped land borders the eastern boundary of the study area.

Geologically, most of the Kihei region of Maui is located on eroded, *late stage lavas*, and a narrow beach, coastal strip, which is composed of alluvium, dune sand and lagoonal deposits (University of Hawaii, 1983, pp. 38-42). Major former volcanic activity in the region largely accounts for the rugged, exposed outcropping of lava rock typical of the landscape.

Elevations on the parcel range from c. 30 feet AMSL along the low, western border to more than 125 feet AMSL upslope toward Haleakala (Map 3). The terrain is fairly rugged, exhibiting bedrock outcroppings, loose eroded bedrock boulders and thin soil overlaying bedrock. Some of the eroded bedrock boulders are quite large, a meter or more in diameter, and weigh hundreds of pounds. Soils tend to be thin and eroded. Observed soils represent two main series: *Alae sandy loam* and *Waiakoa stony silty clay loam* (Foote et al. 1972, pp. 26, 108 and 125-27).

Although the Kaonoulu Ranch lands extend into at least two physiographic zones, the study parcel portion falls within the *kiawe, lowland-shrubs zone*, an area of low annual rainfall, usually less than 20 inches (University of Hawaii, 1983, pp. 55-58). It lies between the coastal beach zone and the inland zone. The *kiawe, lowland-shrubs zone* is notably dry and somewhat inhospitable (Photo #1).

The study area is primarily vegetated by drought resistant alien grass and tree species. According to Henry Rice, current manager of Kaonoulu Ranch, the predominant alien grass is identified as "Buffel T44". The property exhibits signs of erosion where the vegetation cover is sparse. A small gulch (c. 3-6 m. deep) traverses the northern half of the Ranch land, trending toward the southwest. A rough gravel road runs along the western boundary of the study area. A modern corral associated with ranching operations is located in the southwestern part of the study area. A wire fence crosses the study area near the eastern boundary. This fence follows a bearing of 164 degrees. The Central Maui Transmission Waterline Easement #1, placed during the late 1960's, cuts across the subject property from the northeast to the southwest (personal communication, Henry Rice, 1994).

The exposed and dry nature of the parcel is reflected in the relative paucity of floral species present. David Paul's "Botanical Survey" of this parcel, (see Appendix B), categorizes it as "*lowland dry grassland*", with the dominant understory species being buffelgrass (*Cenchrus ciliaris*). The overstory is varied, but strongly exhibits *kiawe* (*Prosopis pallida*) and *klu* (*Acacia farnesiana*). In accounting for the simple floral composition on the parcel, Paul says (Appendix B, p. 2):

*"The simple composition of the vegetation on the site is presently due to the lack of moisture, grazing by cattle and feral animals, and an occasional fire. The*

*greatest concentration of species is located along the road on the makai side of the land where there has been recent disturbance."*

The relatively sparse ground cover on parts of the study area and extensive areas of exposed bedrock allowed easier access for the pedestrian survey.

## **BACKGROUND HISTORICAL RESEARCH**

### **Historic land use and settlement patterns**

The subject parcel is located near the western border of the 5966.72 acre Kaonoulu Ranch (TMK 3-9-01: 16 and TMK 2-2-02: 15). The Ranch is made up of portions of three *ahupua'a*: Kaonoulu, Alea, and Koheo. According to Henry Rice (personal communication, 1994) the Kaonoulu Ranch is nearly 9000 acres in its entirety.

Nearly the entire *ahupua'a* of Kaonoulu was included in Land Commission Award 3237, to H. Hewahewa, and consisted of 5715 acres. Land Commission Award 8452: 20 consisted of a portion of the *ahupua'a* of Alea to A. Keohokaole, identified as Alea 3 of an unknown size. Land Commission Award 8452: 19 gave title to a portion of the *ahupua'a* of Koheo, again to A. Keohokaole (Granted June 8, 1858, from Kamehameha IV). The acreage was not specified in the Land Commission Award listings. However, the three awards make up 5966.72 acres of the Ranch shown on TMK 2-2-02: 15. In the period between 1860 and 1870, the Ranch lands were obtained from A. Keohokaole, by a Chinese immigrant, Young Hee. In the 1890's Young Hee had to return to China because of personal family problems, and decided to sell his Maui land interests. The Ranch lands were then acquired by William H. Cornwall.

Harold W. Rice purchased the property from the Cornwall family in 1916. An article in **THE MAUI NEWS**, dated August 25, 1916, states that Mr. Rice became the largest individual landowner on Maui with the purchase of the Hee property. It also goes on to say that Mr. Rice resigned as the assistant manager of Maui Agricultural Company, where he had worked for five years, to devote himself full-time to his ranching activities. In 1918 he was elected senator from Maui to the territorial legislature, and served in that capacity for many terms.

Another **THE MAUI NEWS** article, December 4, 1926, mentions the success of Kaonoulu Ranch:

*"Kaonoulu Ranch, the property of Senator Harold Rice, is a combination of five different ranch properties which were known as the Robinson Ranch, the Enos Ranch, the Frank Correa Ranch, part of the Freitas Ranch and the old Cornwall Ranch. It is one of the largest properties of its kind in the whole territory and from the outset has*

*met with the greatest success. Cattle from its pastures, horses from its breed farm and hogs from its fattening lot are eagerly sought on the markets of the territory.*

*Kaonoulu Ranch is a business concern pure and simple and Senator Rice gives it his personal supervision throughout the entire year. The ranch property extends over a wide area and there is not a month in the year in which the genial owner does not visit every portion of the property to keep in touch with the various phases of the industry of cattle raising."*

The article continues with a discussion of the Senator's love for polo, and for selecting and training colts for playing the game. It says:

*"Senator Rice is of the firm belief that this will result in Maui having a string of ponies in the not distant future that will equal anything anywhere in the world and go a long way towards perpetuating the name of the Valley Isle in polo circles the world over."*

Always on the lookout for ways to improve the products of the Ranch, Senator Rice began shipping beef, which had been fattened on pigeon peas, to market in Honolulu. **THE MAUI NEWS** reports (August 3, 1927):

*"A unique feature of Senator Rice's new enterprise is the fact that he will do all his slaughtering at his Maui plant, shipping the dressed beef to Honolulu in cold storage.*

*'It has been my experience that livestock is frequently badly bruised when shipped from the other islands', said Rice, 'and this results in an inferior grade of beef.*

*'I believe we will obtain much better results by slaughtering on Maui and shipping the dressed beef.'*

*Senator Rice's cattle ranch on Maui is one of the showplaces of that island. All his stock is finished off on pigeon peas before being sent to market."*

Kaonoulu Ranch was purchased from Senator Rice by the Kaonoulu Ranch Co., Ltd. in 1956. In 1982, this company entered into a Limited Partnership.

In her discussion of land use in the upper and lower Kula areas, Wong-Smith (in, Donham, April, 1990, Appendix B, p. B-6) points out that by the 1880's, lower Kula sections had largely become pasture land for the booming cattle industry. Large sections of Crown land were leased for grazing acreage. By 1918, Harold Rice was purchasing large tracts of land from Kula farmers for the purpose of establishing a ranch (See above).

During the latter half of the 19th century, cattle ranching became well-established in the Kihei region. During World War II, Kihei was utilized in various military training programs. Many of the military activities imposed physical changes on the land. Firing ranges for small and large-bore weapons were developed; areas for "mock" combat training exercises were constructed; and mechanized combat equipment was used to practice beach assault landings (Oral history from Jack Crouse, 1993).

The present study parcel was used by the military during World War II. The Army, Navy and Marines engaged in practice maneuvers on the property and military machinery was used in modifying the property. Dummy pill-boxes also were built on the study parcel, as well as in the Wailea area, which was a practice location for the Iwo Jima landing.

Since World War II, the general Kihei region has undergone rapid commercial and residential development. The Maui Lu Resort had been part of the Ranch and was purchased by a Canadian named Gibson. Prior to its development, the property on which it is located, had been the base for a large piggery which extended *mauka* to what is now Pi'ilani Highway.

## ARCHAEOLOGICAL BACKGROUND RESEARCH

### Precontact Settlement Patterns

Previous researchers have categorized this region of Maui as the "*intermediate, or barren zone*" (Cox, 1976, Cordy 1977). It is the area which stretches from the *coastal zone*, where the exploitation of marine resources was the prime economic activity, to the *inland zone*, where habitation and agricultural activity dominated. For this reason it seems probable that the region was used intermittently by humans for subsistence and perhaps some agricultural activities. Even this intermittent usage does not appear to have taken place until late-prehistoric times. Donham suggests reexamining this model, in light of her findings of a dry land agricultural terrace in Phase I of the Pi'ilani Residential Subdivision survey, and adding a *coastal perimeter zone* in some areas (July 1989, p. 10). Other research tends to support this idea (Corey and Athens, 1988; Dobyms, 1988), and implies even greater usage inland of the *coastal zone* than initially suspected. However, it is still likely that the *intermediate or barren zone* was an area to be transited between the *coastal zone*, with its marine resources, and the inhabited *inland zone*, and was only used in late precontact times when population pressures demanded.

No specific archaeological work has been conducted on the *ahupua'a* of Kaonoulu, but the neighboring Waiohuli and Keokea *ahupua'a* have undergone some research (Donham July 1989, April 1990). However, the gulch to the south of the subject parcel (Kulanihakoi Gulch) is a significant geological feature which could well have served as a corridor leading inland in precontact times. Mr. Rice indicated that there were petroglyphs in the gulch at higher elevations which would tend to corroborate this notion. We did not confirm this information however, as our activities were confined to the 88 acre study parcel.

Consultation with the State Historic Preservation Division and archaeological literature indicated the probability of historic and prehistoric sites for this parcel. Historic sites would likely include ranching activity and World War II military use. As postulated by earlier researchers, prehistoric sites indicating transient and intermittent use are found in this region of Kihei and usually reflect subsistence activities involved with exploitation of coastal marine resources ( Kirch, 1971; Cordy, 1977, 1988 ).

#### **Summary of previous archaeological research**

Early work in Kihei was done by Winslow Walker, in his 1931 archaeological survey of Maui. In recent years, numbers of archaeological surveys have been conducted in the same general area of Kihei, where the present study parcel is located. Examples (with no effort at a complete listing of such works) include: Cox (1976), Cordy (1977, 1988), Cordy and Athens (1988), Dobyns (1988), Donham (July 1989, April 1990), Fredericksen et al. (1990, 1992, 1993), Kennedy (1986), Kirch (1971) and Walton (1972). All of these works are in general agreement regarding land use and settlement patterns in the Kihei region.

Kennedy's reconnaissance survey for the Silversword Golf Course concluded in a brief letter report that no archaeological features were found (1986). This property is located about 1.5 kilometers south of the present study parcel.

Donham (July 1989, April 1990) incrementally completed two surveys on a 188 acre parcel nearby the subject parcel at TMK 2-2-02: por. 42. Phase I (114 acres) extends northward from Lipoa Street to the southern border of the subject parcel, on the *makai* side of Pi'ilani Highway. Phase II (74 acres) extends southward from Lipoa Street. During the surveys, 21 archaeological sites were discovered, relocated from earlier surveys and verified as to type of site, e.g., alignment, temporary shelter, assemblage, enclosure, etc. (Ibid., July 1989, ii; April 1990, p. 11).

A rock shelter on the *makai* side of Pi'ilani Highway, directly across from the Silversword Golf Course, located on the grounds of Lokelani Intermediate School, was excavated by Xamanek Researches in July, 1993. A considerable amount of shell midden and over 100 pieces of volcanic glass were recovered during the archaeological inventory survey and data recovery project. A wood-charcoal sample from one of three hearths yielded a date of 279+/- 120 RCYBP--AD 1560-1800 (Fredericksen et. al., 1993, p. 9).

Radiometric dates obtained by Schilt and Dobyns (1980, p. 46) from the Wailea area to the south of the study parcel also fall within relatively late prehistoric times, between AD 1550 and 1750. These dates are consistent with the hypothesis that there was limited land usage in Kihei until overall population density in the late-prehistoric, early-contact period prompted intermittent utilization of the scarce resources present there.

## **ARCHAEOLOGICAL FIELD METHODS**

Field work for the archaeological inventory survey was conducted by four to five research personnel on various days between November 5 and December 12, 1993. Archaeological data recovery was carried out by two to four crew members between January 2 and January 10, 1994. The project directors were Walter M. Fredericksen (Ph.D.abd) and Demaris L. Fredericksen (Ph.D.abd), and the Field Director was Erik M. Fredericksen (M.A.).

The archaeological inventory survey consisted of two parts. A pedestrian survey covering 100 percent of the property was first conducted, beginning at the northern portion of the eighty-eight acre study area. Field members were spaced at 5.0 meter intervals and pedestrian sweeps were oriented in a north-south direction. The southernmost point of each sweep was marked with flagging tape in order to maintain uniform spacing. As archaeological features were encountered, they were flagged by crew members. These features were then given temporary site numbers and plotted on a topographic map.

Field inspection of located sites formed the second portion of the archaeological inventory survey. When feasible, sites were cleared of vegetation. All sites were visually inspected, measured, mapped, and photographed. Written, descriptive notes were recorded for each of the 21 sites found in the project area. All sites were mapped with a hand-held digital compass and either metric tape or hand-held metric distance meters. Evaluations of located archaeological sites were conducted during the field inspection phase of the inventory survey. Of the 21 sites identified, 20 were given permanent State Inventory of Historic Places site numbers (Map 3).

Subsurface testing was undertaken on eight of the 20 numbered sites. Selection of sites for data recovery work was based on three criteria: 1) size and appearance; 2) presence or absence of soil; 3) presence or absence of surface cultural remains. A total of ten test units were manually excavated. Of these test units, eight were 0.5 x 1.0 meter and two were 1.0 x 1.0 meter square. In all cases, test units were excavated to bedrock or decayed bedrock. One hundred percent of the excavated soil was screened through 1/8" mesh hardware cloth. All material culture remains found in the screening process were recovered for laboratory analysis.

## **FIELD RESULTS**

During the course of the archaeological inventory survey, twenty-one sites were located. Of these, twenty were assigned permanent State Inventory of Historic Places (SIHP) numbers--50-10-3727 to 50-10-3746. A recent bulldozed rock terrace associated

with construction activity for Central Maui Transmission Waterline Easement #1 was not given a SIHP number.

In general, most archaeological sites on this property are located on the southern half of the project. Portions of the northern Ranch property appear to have been bulldozed many years ago. Blasting has also taken place on various portions of the project area (Photo #2). Other surface disturbance occurred when the Central Maui Transmission Waterline #1 was placed across the property in the late 1960's (Henry Rice, personal communication 1994). However, despite a fair amount of surface disturbance, it is apparent that the subject property has been utilized by humans in both pre-contact and historic times.

The twenty numbered sites consisted of one multiple stone feature complex, two individual stone piles, and five individual cairns, two enclosures, three separate, parallel alignments, an erosion containment wall system, five midden and lithic surface scatters, and a petroglyph. A brief discussion of the twenty numbered sites follows. Portable remains (except shell) were collected on the surface around sites where present. Table 1 summarizes these surface collections made in the project area. See Appendix A for detailed site descriptions.

#### **SURFACE FINDINGS**

##### **Sites 3727 to 3734** (Figures 1-10; Photos 3-6)

A total of eight stone pile and cairn sites were found. They are located between 51 to 113 feet AMSL to the south of the gulch that traverses the study area (Map 3). Only Site 3727 contains multiple components. This site consists of a low, elongated stone pile resting on soil and two smaller, low stone piles resting partially on bedrock. Sites 3728 to 3734 consist of single components.

Of the above mentioned sites, only Sites 3727 (Feature A), 3728, and 3729 rested on soil. These sites consist of larger (i.e. over 80 cm. thickness) stone piles. The remaining components of Sites 3730 to 3734 are smaller and/or placed directly on bedrock, or very thin soil overlying bedrock.

No portable cultural remains were found directly associated with any of the components of these sites. However, portable remains were located on the surface in the vicinity (c. 20 m.) of Sites 3727, 3728, 3729, and 3732 (see Table 1). Sites 3727 (Feature A), 3728, and 3729 were initially thought to be possible burials. They were chosen for data recovery work due to their components' size, location on soil, and the presence of material culture remains in the general vicinity.

**Stone Enclosure Sites 3735 and 3736** (Figures 12, 13; Photos 7, 8)

The two stone enclosures are situated in the southern portion of the study area (Map 3). Both sites are located on promontories at approximately 60 feet AMSL, c. 100 meters apart. Site 3735 is a roughly constructed mushroom-shaped feature c. 35-51 cm. in height, with an inside diameter of c. 1.5 meters. Site 3736 is less well preserved than 3735. It is an oval-shaped enclosure c. 20 to 45 cm. in height, with an inside diameter of 1.5 to 1.9 meters. Both structures are built with angular basalt cobbles which exhibit only minor weathering. Site 3735 contains a few cobbles that appear to have been broken and scarred in the past by heavy equipment.

No portable remains were found directly associated with these structures. However, two waterworn stones and a can opener key were found in the vicinity of site 3735 (Table 1). Both sites were selected for subsurface testing.

**Stone Alignment Sites 3737, 3738, and 3739** (Figures 14-16; Photo 1)

Three separate sets of parallel alignments were located near the southern boundary of the study area (Map 3). Each of the sites is roughly oriented in an east-west direction. These sites rest primarily on bedrock. Both Sites 3737 and 3738 are constructed with large basalt stones c. 40-90 cm. in diameter and placed in two parallel alignments c. 6 meters apart. Site 3738 is on the edge of Kulanihakoi Gulch and Site 3737 is some 45 meters to the north. Site 3739 is on a gently sloping bank of the gulch, 75 meters west of site 3738. Site 3739 is much smaller than the other two sites.

These three sets of parallel alignments appear to be associated with military maneuvers that were conducted in the Kihei area. Several large boulders in these parallel alignments exhibit weathered heavy equipment scars.

**Erosion Containment Wall System Site 3740** (Figure 17; Photo 9)

This site is located along the edges of the central portion of the small gulch that crosses the project area (Map 3). Site 3740 consists of two comparatively short wall segments (c. 11 m. long) on the west bank of the gulch, and a longer series of wall segments (total c. 44 m.) on the east bank. Some sections of the eastern walls have collapsed. Site 3740 walls are constructed from the dense "blue rock" which is found nearby on the property. Some machinery generated scars are visible on a few of the stones used in the construction of these walls. In addition, some metal wire was found in a wall segment on the eastern side of the gulch. These walls are situated in areas that have been impacted by erosion in the past.

**Midden and Lithic Surface Scatter Sites 3741 to 3745** (Figures 18-24; Photo 10)

As noted earlier in this report, much of the study area has experienced significant amounts of erosion. The five midden and lithic surface scatter sites are all in areas that

have been impacted by both water and to a lesser extent, wind erosion. In general, the soil is quite thin and bedrock is exposed in many areas. These sites are more common on the lower western portion of the project area (Map 3). One site, Site 3745 lies on the *mauka*, or eastern portion of the study area at c. 105 feet AMSL. With the exception of Site 3742, all of the surface scatter sites contained both shell midden and worked and/or utilized lithic materials. Site 3742 contained a low concentration of shell midden and three waterworn stones.

Of the five sites, Sites 3741, 3744 and 3745 were chosen for data recovery work. These three sites are in areas that possess soil deposits sufficient for subsurface testing. In addition, these sites contained surface concentrations of midden and lithic materials. The surface of Site 3744 also contained a waste flake of volcanic glass, and a volcanic glass core.

#### **Petroglyph Site 3746 (Figure 25; Photo 11)**

Site 3746 is located at c. 99 feet AMSL, c. 36 meters west of the fence line that is placed near the eastern border of the study area (Map 3). The petroglyph is a figure of a man, and is pecked into a large, weathered basalt boulder, c. 1.10 m. in height by 91 cm. in width, by 85 cm. in thickness.

This site is located in an area of shallow soil and weathered bedrock. It is near a promontory. Inspection of the general vicinity revealed no other material culture remains. This petroglyph does not appear to be associated with any other site in the study area. The boulder on which it is carved does not appear to have been moved in historic times by heavy machinery, as there are no machinery scars on it. While it could be a trail marker, there do not appear to be any intact remnants of trails in the area of the petroglyph.

#### **SUBSURFACE FINDINGS**

In all, ten test unit excavations were placed in eight sites. Eight of the test units were 0.5 x 1.0 meter and two were 1.0 x 1.0 meter square. One meter square units were placed in Sites 3728 and 3741. All units were excavated using 10 cm. levels. One hundred percent of excavated soil was sifted through 1/8" screen. Subsurface investigation was utilized in order to try to assess the age and function of the tested sites.

These sites include two stone piles and a cairn (Sites 3727 - Feature A, 3728, and 3729), both enclosures (Sites 3735 and 3736), and three of the midden and lithic surface scatters (Sites 3741, 3744, and 3745). All test units were excavated to bedrock or decayed bedrock. Subsurface test results are summarized in Table 2.

In general, soil deposits excavated in the test units were thin, with bedrock or decayed bedrock encountered at c. 14 to 32 cm. below surface. Stratigraphy consisted of two main soil layers.

Layer I was typically the thickest stratum, ranging from 12 to 21 cm. This soil is reddish brown in color (5 YR 4-5/4), with a compact, fine-grained texture and a high clay content. When present, cultural material was located in the top 10 cm. of Layer I.

Layer II consists of a course-grained yellowish-red soil (5 YR 4/6), with small pieces of weathered bedrock. In all cases, this stratum yielded no cultural material remains.

Sites 3727 (Feature A), 3728, and 3729 yielded no cultural material remains. Portions of the stone piles and cairns were dismantled and test units were placed into the soil under cleared sections of these components. Sites 3727 (Feature A), 3728, and 3729 contained both Layers I and II. Soil under the stone components was compact and undisturbed at these sites.

Test units placed in both enclosures (Sites 3735 and 3736) were shallow and yielded no cultural material. The soil layers appeared undisturbed and intact. Layer I was present in both excavations and c. 6 to 9 cm. thick. Layer II was c. 3 to 5 cm. thick. No profiles were drawn.

A total of five test units were placed in the surface scatters. Layer I in both Sites 3741 and 3744 contained portable remains. In Test Unit #1 at Site 3745, Layer I was sterile.

At Site 3741, eight species of marine shellfish were recovered from Test Unit #1 (1.0 x 1.0 meter) and two species from Test Unit #2 (0.5 x 1.0 meter). Test Unit #1 also contained a utilized basalt flake, while Test Unit #2 contained a waterworn stone and a piece of coral. No materials suitable for radiocarbon analysis were discovered. In both test units, portable remains were not present below the upper 10 cm. of Layer I. It is important to note that the upper 10 cm. of Layer I was less compact and appears to have been churned by cattle activity. While cattle had not been on the property for about a month prior to our survey, abundant hoof prints and dried scat were visible at these sites.

Layer II was encountered at about 13 to 15 cm. below surface in both test units. This stratum was sterile.

At Site 3744, stratigraphy was similar to that of 3741. However, soil deposits were deeper. Two test units, each 0.5 x 1.0 meter, were excavated. Portable remains were recovered from both subsurface tests. Layer I was 14 to 22 cm. thick. Only two species of marine shellfish were recovered from Test Unit #1, while Test Unit #2 yielded none. However, Test Unit #1 yielded an unworked basalt flake, a broken waterworn stone, and two pieces of coral. Test Unit #2 contained three unworked basalt flakes, a

waterworn stone, and five pieces of coral. No materials suitable for radiocarbon dating were located. Only the upper 10 cm. of Layer I contained material cultural remains. Once again, this portion of Layer I appears to have been churned by cattle activity.

Both Sites 3741 and 3744 have subsurface deposits containing portable remains. However, at both sites, only the upper 10 cm. of Layer I contains any cultural material. It appears likely that this portion of Layer I has been churned by cattle crossing both site areas repeatedly over the years.

## DISCUSSION

Archaeological investigation indicates that portions of the study area have been utilized and/or modified by humans in the past. Former human activities seem to fall into three general categories including indigenous use, military use, and ranching use. Table 3 summarizes site function and probable age assessment.

Indigenous land use appears to have been of an intermittent nature. As noted earlier, the study area is in a marginal environmental location in Kihei. While no suitable samples for radiocarbon analysis were discovered at any of the archaeological sites, it is quite probable that indigenous land use occurred during the late precontact to early post-contact period. This was most likely temporary use, stimulated by overall increases in population density during this time period.

While no direct evidence of past indigenous agricultural activity was encountered on this dry parcel of Ranch land, it is possible that some of the stone features at Sites 3727, 3728, and 3734 are remnants of dry land agriculture. However, as noted earlier, portions of the project area have been disturbed and modified in historic times by military, and ranch activities. In addition, construction work in modern times associated with the Central Maui Transmission Waterline Easement #1 may have impacted archaeological features from the study area. As noted earlier, this water transmission line crosses the property from northeast to southwest. This construction corridor may have effected portions of the project area near Sites 3727, 3728, 3734, 3735 and 3736.

Although the project area has been disturbed by bulldozing, grubbing, and blasting activities, it is apparent that Hawaiians utilized portions of the property in the past. This land use was most likely temporary, based upon the exploitation of coastal marine resources. Two surface scatters, Sites 3741 and 3744, provide the strongest evidence for this land use. The three other midden and lithic surface scatters also indicate marine resource exploitation. In addition, the lack of any clearly defined cultural layer in tested areas also suggests intermittent, rather than permanent use for the project area.

While the five surface scatter sites (3741 to 3745) indicate temporary indigenous use, only one possible habitation shelter (Site 3736) was located. The enclosure at Site

3736 seems to be somewhat small for habitation (c. 1.5 by 1.9 m. inside diameter). In addition, this feature contains some rock that may have been broken by force--possibly blasting. It is of interest to note that remnant populations of *pili* grass (*Heteropogon contortus*) were observed in portions of the project area during the botanical survey (see Appendix B). It is quite probable that this native grass species was much more abundant prior to the Western introduction of cattle and buffelgrass (*Cenchrus ciliaris*), and would have been available for use in thatching temporary dwellings.

While it is tempting to identify Site 3735 as a shelter enclosure or agricultural feature, three factors indicate a likely military association. First, this stone enclosure has a relatively small inside diameter of c. 1.5 m. Second, basalt cobbles and rock used in construction do not exhibit signs of weathering. Rather, many of the rocks are quite angular and appear to have been broken by force (i.e. bulldozer or blasting). Lastly, soil inside this feature is relatively shallow (c. 10-15 cm.), stratigraphically similar to other areas of the project, and not indicative of past agricultural activities (i.e. low organic content and rocky). Consequently, this feature seems most likely to be associated with past military maneuvers on the project area.

The three sets of parallel alignments are most suggestive of past military activities on the study area. Sites 3737 and 3738 appear to be roads for overland equipment such as tanks and other all-terrain vehicles. While Site 3738 is less clearly defined smaller and narrower, it appears to be some sort of road, as well. All three sites have some rock in them that exhibit heavy equipment scars.

Like the above mentioned apparent military sites, site 3740 on the northeastern portion of the study is likely historic. Wall segments of this site are in areas of high erosion potential. Indicators of historic construction include steel wire and some rock with heavy equipment scars incorporated into the walls.

## RECOMMENDATIONS

The archaeological fieldwork conducted during this investigation was at the inventory level with subsurface testing which provided a sufficient amount of information collected to permit determination of likely site age, function and significance. Significance evaluations presented in Table 4 are based upon the five criteria (A-E) used for the National Register of Historic Places (NRHP). These criteria are paraphrased below.

- A. Association with events or broad patterns important in the history of a given area.

- B. Association with the lives of persons important to the history of a given area.
- C. Site embodies distinctive architectural achievements; represents the work of a master; or possesses high artistic value.
- D. Site has or is likely to yield important information about the history or prehistory of an area.
- E. Site is perceived by a given ethnic community as having traditional cultural value.

Based on archaeological inventory survey and subsurface testing results, no further archaeological work is recommended for sites 3727 to 3745. While these sites fall under Criterion "D" of the NRHP, they are no longer considered significant for their information content.

However, the petroglyph (Site 3746), while falling under Criterion "D" still requires additional attention. It can also be classified under Criterion "E", as possessing a traditional art form. As such, it has a cultural value that exceeds the basic information inherent in the form and style of the rendering. It is recommended that the petroglyph, which is on a boulder c. 1 meter in diameter, be moved to a more secure location. It does not appear that the boulder would fracture upon being moved, but caution should be taken not to mar the petroglyph or boulder with machinery. Some initial discussions have been undertaken with the Maui Historical Society about accepting it for display on their grounds. However, it might be more appropriate for Site 3746 to remain on display in a secure location within the *ahupua'a* of Kaonoulu, perhaps within the landscaping of Kaonoulu Light Industrial project. This possibility has not been pursued to date.

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**TABLE 1**

**SUMMARY OF SURFACE COLLECTIONS**

**Site #3727 (in vicinity)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
possible basalt core	575.0	107.6 x 89.2 x 52.5
worked basalt flake	31.1	57.6 x 37.7 x 13.6
waterworn rock	95.3	65.3 x 43.1 x 23.6

**Site #3728 (in vicinity)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
waterworn rock	275.0	82.3 x 70.0 x 35.0

**Site #3729 (in vicinity)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
utilized basalt flake	132.6	88.7 x 29.5 x 48.7
possible basalt core	1150.0	131.5 x 93.3 x 95.0
waterworn rock	317.1	83.9 x 42.7 x 66.3

**Site #3732 (in vicinity)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
coral chunk	235.2	150.2 x 133.4 x 141.7

**Site #3735 (in vicinity)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
waterworn rock	209.0	63.8 x 58.5 x 44.8
waterworn rock	334.4	86.2 x 52.4 x 50.5
metal key (ie. opening corned beef can)	14.0	75.9 x 30.9 x 6.0

**Site #3737**

Portable Remains	Weight (gm.)	L x W x T (mm.)
basalt core	1160.8	120.6 x 101.3 x 68.0
waterworn hammerstone	1837.1	143.0 x 112.8 x 76.5
waterworn rock	195.2	70.5 x 48.7 x 45.8
coral chunk	93.6	77.5 x 41.6 x 50.7
lead slug	11.6	21.5 x 11.3 x 11.0

**Site #3738**

Portable Remains	Weight (gm.)	L x W x T (mm.)
utilized cobble	415.1	152.0 x 121.4 x 63.2

**Site #3741**

Portable Remains	Weight (gm.)	L x W x T (mm.)
unworked basalt flake	59.6	65.7 x 61.5 x 18.2
unworked basalt flake	210.2	97.1 x 60.4 x 31.5

**Site #3741 (cont.)**

unworked basalt flake	17.1	33.4 x 33.0 x 9.8
waterworn rock	225.2	107.0 x 63.3 x 32.7
waterworn rock	260.3	77.5 x 60.0 x 44.5
waterworn rock	130.6	63.0 x 57.5 x 28.5
waterworn rock	325.1	10.9 x 6.5 x 3.7
coral piece	6.2	36.1 x 18.5 x 16.1
coral piece	2.1	32.3 x 23.0 x 15.7

**Site #3742**

Portable Remains	Weight (gm.)	L x W x T (mm.)
unworked basalt flake	35.1	49.3 x 30.2 x 17.6
waterworn rock	38.9	52.6 x 27.2 x 20.8
waterworn rock	76.4	51.5 x 40.1 x 24.8
waterworn rock	98.1	62.6 x 50.6 x 21.2
coral chunk	300.5	91.2 x 87.2 x 75.2
coral piece	7.9	40.2 x 28.4 x 13.4
coral piece	6.4	35.2 x 21.8 x 16.0
coral piece	8.8	43.0 x 31.5 x 14.2
coral piece	10.1	42.0 x 28.2 x 20.3

#### Site #3743

Portable Remains	Weight (gm.)	L x W x T (mm.)
basalt core #1	250.0	74.3 x 58.3 x 49.7
basalt core #2	225.2	81.0 x 76.1 x 31.4
unworked basalt flake	700.8	135.3 x 103.1 x 40.9
unworked basalt flake	55.3	35.0 x 16.2 x 6.8
waterworn rock	525.0	102.5 x 64.5 x 57.5
waterworn rock	121.7	68.8 x 46.0 x 26.0
waterworn rock	63.5	39.2 x 17.3 x 14.2
waterworn rock	135.2	70.5 x 42.2 x 30.4
coral chunk	108.8	68.5 x 39.9 x 63.5
coral piece	2.8	23.0 x 16.8 x 12.2
coral piece	3.9	21.0 x 18.5 x 13.4
coral piece	3.8	24.3 x 19.1 x 12.1

#### Site #3744

Portable Remains	Weight (gm.)	L x W x T (mm.)
utilized basalt flake #1	4.9	27.3 x 22.9 x 5.1
unworked basalt flake	9.2	45.5 x 25.9 x 10.8
unworked basalt flake	12.2	44.2 x 28.1 x 8.4
basalt core	300.9	89.6 x 67.1 x 54.0
possible grinding stone	350.2	96.0 x 47.6 x 55.2
waterworn rock	82.1	61.3 x 40.1 x 28.6
coral chunk	28.8	59.4 x 44.5 x 24.8
coral piece	1.4	22.0 x 16.9 x 9.5
volcanic glass flake	.2	11.9 x 9.6 x 3.2
volcanic glass core	1.4	13.0 x 11.3 x 10.0

#### Site #3745

Portable Remains	Weight (gm.)	L x W x T (mm.)
unworked basalt flake	24.2	31.2 x 26.0 x 9.6
unworked basalt flake	28.6	35.6 x 23.2 x 13.4
unworked basalt flake	32.1	33.1 x 19.8 x 15.2
possible basalt core	860.9	107.9 x 76.5 x 78.1
waterworn rock	132.6	66.2 x 53.8 x 32.6
utilized basalt chunk	70.7	66.6 x 40.0 x 21.7
coral piece	3.2	18.4 x 13.8 x 10.5

#### General Surface

Portable Remains	Weight (gm.)	L x W x T (mm.)
waterworn rock	125.6	60.6 x 46.2 x 38.6
possible pecking stone	600.8	110.7 x 67.8 x 53.4
possible hammerstone	2990.6	158.0 x 155.0 x 86.3

**TABLE 2**

**SUMMARY OF SUBSURFACE TESTING**

**Site #3741 Test Unit #1 (Level 1: 0-10 cm.)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
utilized basalt flake	24.4	46.0 x 35.0 x 17.0
<b>Midden: Shell</b>		
Buccinidae (Engina alveolata)	0.3 (1 pc.)	-
Conidae (conus)	1.0 (1 pc.)	-
Cymatidae (Cymatium gemmatum)	2.6 (1 pc.)	-
Cypracidae (Cypraea)	28.7 (21 pc.)	-
Mytilidae (Brachidontes)	2.7 (32 pc.)	-
Neritidae (Nerita)	1.1 (6 pc.)	-
Patellidae (Cellana)	0.1 (1 pc.)	-
Turbinidae (Turbo sandwicensis)	2.3 (8 pc.)	-

**Site #3741 Test Unit #2 (Level 1: 0-10 cm.)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
waterworn rock (dense basalt)	28.0	34.3 x 32.0 x 16.0
coral piece	2.5	20.0 x 15.0 x 11.0
<b>Midden: Shell</b>		
Conidae (conus)	5.1 (2 pc.)	-
Cypracidae (Cypraea)	1.7 (2 pc.)	-

**Site #3744 Test Unit #1 (Level 1: 0-10 cm.)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
unworked basalt flake	1.3	1.5 x 1.1 x 0.6
waterworn rock (broken)	30.6	40.0 x 27.7 x 21.1
coral piece	7.8	3.9 x 2.6 x 1.8
coral piece	1.4	1.6 x 1.2 x 1.1
<b>Midden: Shell</b>		
Cirripedia (barnacle)	0.1 (1 pc.)	-
Neritidae (Nerita)	0.3 (6 pc.)	-

**Site #3744 Test Unit #2 (Level 1: 0-10 cm.)**

Portable Remains	Weight (gm.)	L x W x T (mm.)
unworked basalt flake	50.5	67.6 x 49.8 x 15.3
unworked basalt flake	14.8	26.1 x 15.8 x 4.7
unworked basalt flake	16.3	24.6 x 19.3 x 7.2
waterworn rock	113.2	52.6 x 51.2 x 27.5
coral piece	4.4	27.0 x 16.1 x 16.1
coral piece	1.3	17.8 x 16.1 x 6.0
coral piece	1.2	14.1 x 14.1 x 9.9
coral piece	1.1	13.1 x 6.7 x 5.3
coral piece	0.9	16.5 x 6.6 x 3.1

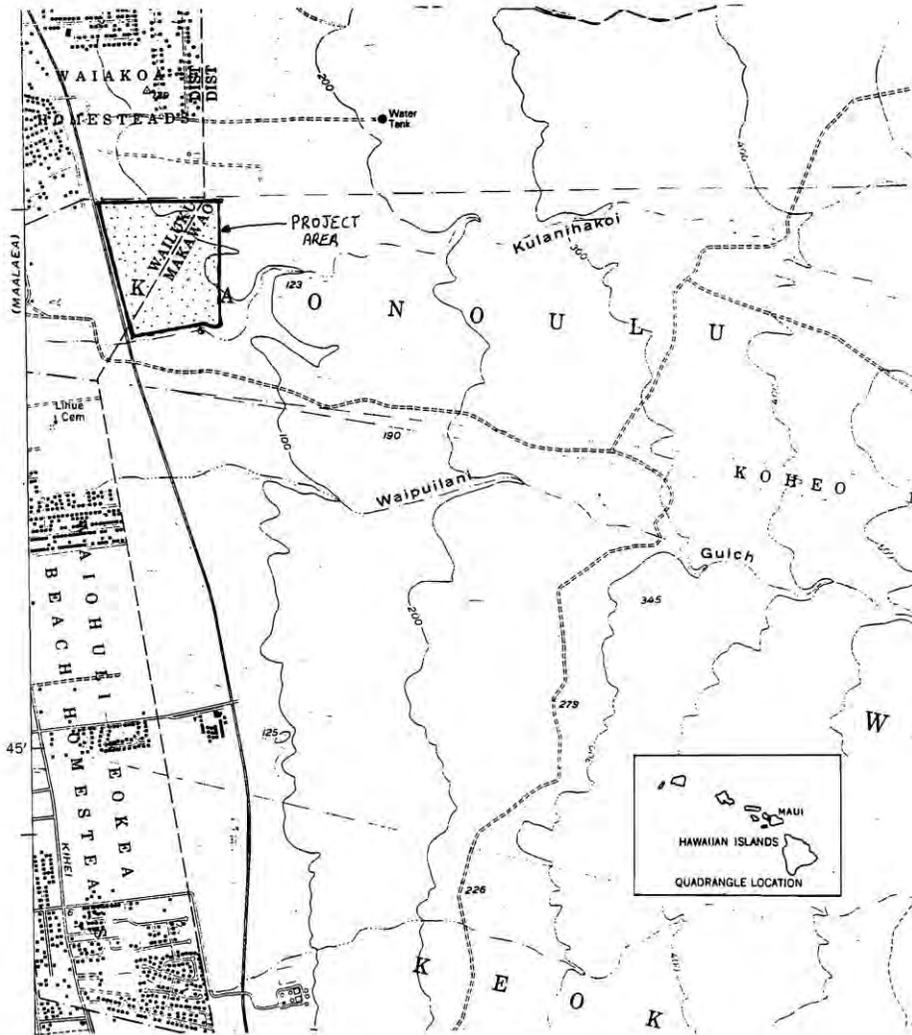
**TABLE 3****SITE FUNCTION AND AGE ASSESSMENT**

STATE SITE #	DESCRIPTION	FUNCTION	AGE
50-10-3727	Stone Piles	Agriculture (?)	Indeterminate
50-10-3728	Stone Pile	Agriculture (?)	Indeterminate
50-10-3729	Stone Cairn	Marker	Indeterminate
50-10-3730	Stone Cairn	Marker	Indeterminate
50-10-3731	Stone Cairn	Marker	Post-contact
50-10-3732	Stone Cairn	Marker	Indeterminate
50-10-3733	Stone Cairn	Marker	Post-contact
50-10-3734	Stone Pile	Agriculture (?)	Indeterminate
50-10-3735	Enclosure	Military	World War II
50-10-3736	Enclosure	Possible Shelter	Precontact (?)
50-10-3737	Parallel Alignment	Military	World War II
50-10-3738	Parallel Alignment	Military	World War II
50-10-3739	Parallel Alignment	Military (?)	World War II (?)
50-10-3740	Erosion Containment Walls	Ranching	Post-contact
50-10-3741	Surface Scatter	Temporary Habitation	Pre-contact
50-10-3742	Surface Scatter	Temporary Habitation (?)	Indeterminate
50-10-3743	Surface Scatter	Temporary Habitation (?)	Precontact
50-10-3744	Surface Scatter	Temporary Habitation	Precontact
50-10-3745	Surface Scatter	Temporary Habitation (?)	Precontact
50-10-3746	Petroglyph	Marker (?)	Precontact (?)

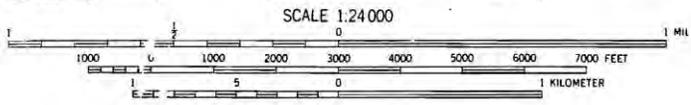
**TABLE 4**

**SITE LIST AND SIGNIFICANCE ASSESSMENT**

STATE SITE #	DESCRIPTION	SIGNIFICANCE	ADDITIONAL WORK
50-10-3727	Stone Piles	D	No
50-10-3728	Stone Pile	D	No
50-10-3729	Stone Cairn	D	No
50-10-3730	Stone Cairn	D	No
50-10-3731	Stone Cairn	D	No
50-10-3732	Stone Cairn	D	No
50-10-3733	Stone Cairn	D	No
50-10-3734	Stone Pile	D	No
50-10-3735	Enclosure	D	No
50-10-3736	Enclosure	D	No
50-10-3737	Parallel Alignment	D	No
50-10-3738	Parallel Alignment	D	No
50-10-3739	Parallel Alignment	D	No
50-10-3740	Erosion Containment Walls	D	No
50-10-3741	Surface Scatter	D	No
50-10-3742	Surface Scatter	D	No
50-10-3743	Surface Scatter	D	No
50-10-3744	Surface Scatter	D	No
50-10-3745	Surface Scatter	D	No
50-10-3746	Petroglyph	D, E	Yes, move to a secure location

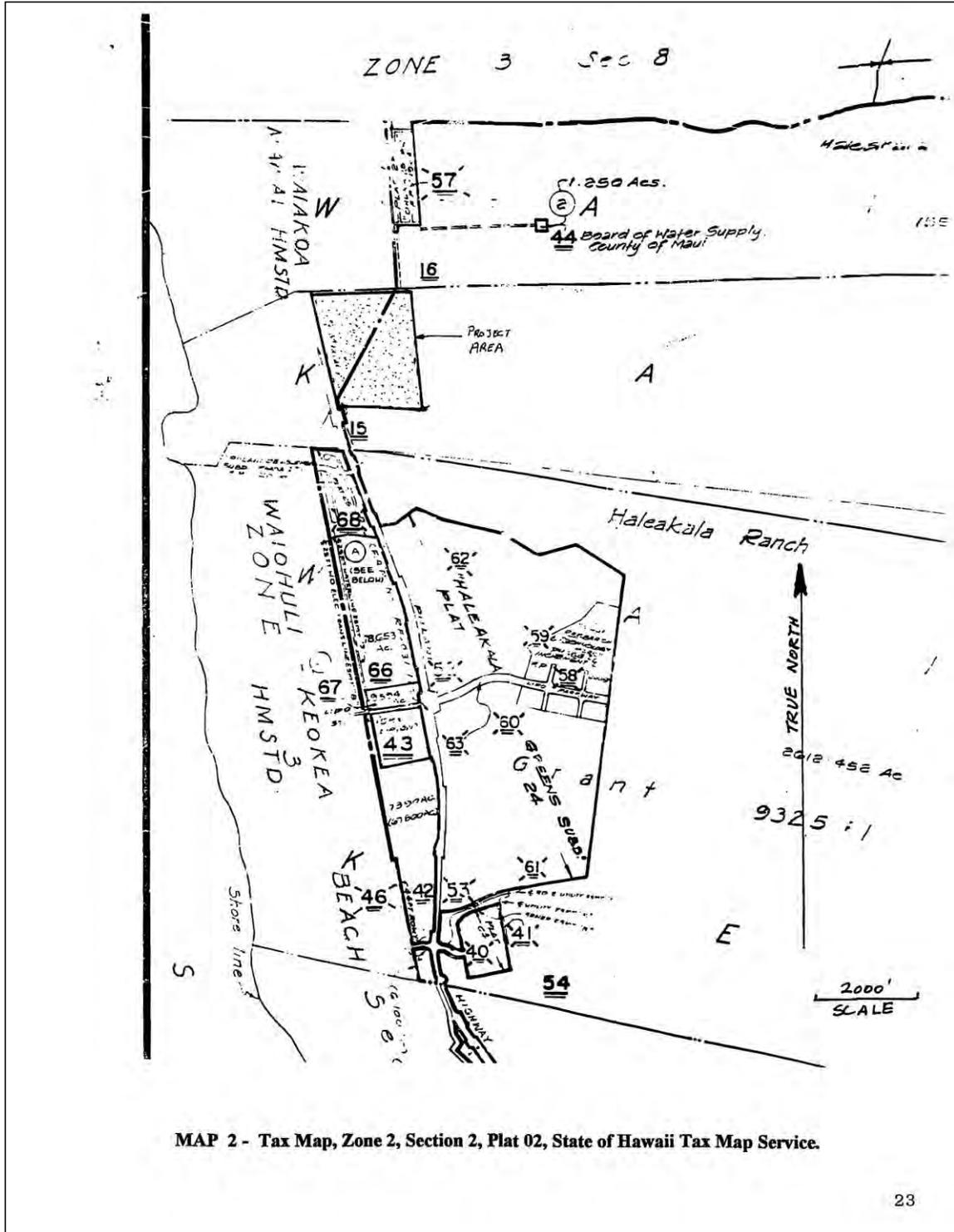


114°  
 TRUE NORTH  
 MAGNETIC NORTH  
 APPROXIMATE MEAN  
 DECLINATION 1983



CONTOUR INTERVAL 20 FEET  
 DATUM IS MEAN SEA LEVEL  
 DEPTH CURVES IN FEET—DATUM IS MEAN LOWER LOW WATER  
 DASHED LINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER  
 THE RELATIONSHIP BETWEEN THE TWO DATUMS IS VARIABLE  
 THE AVERAGE RANGE OF TIDE IS APPROXIMATELY 2 FEET

**MAP 1 - Topographic Map, U.S.G.S., Puu O Kali Quadrangle, Scale 1:2400, 1983.**



MAP 2 - Tax Map, Zone 2, Section 2, Plat 02, State of Hawaii Tax Map Service.



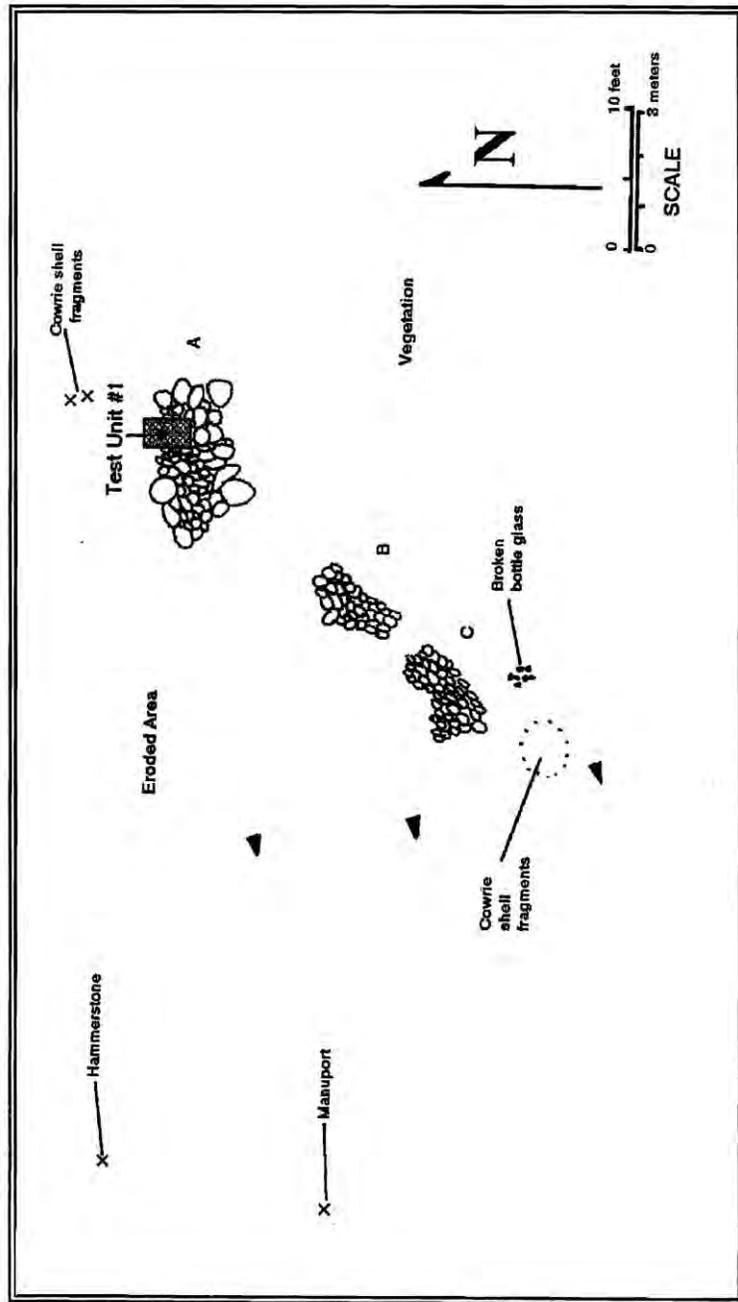
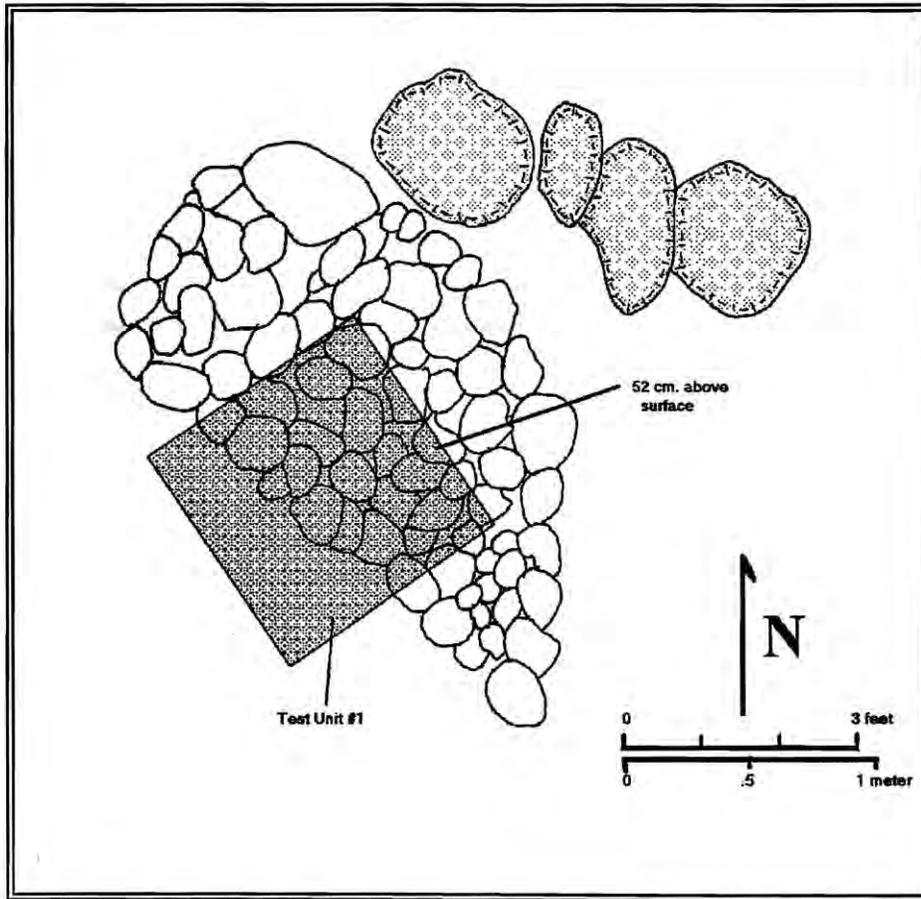


FIGURE 1 - Site 3727 - Plan view: Stone Features A, B, and C.



**FIGURE 2 - Site 3728 -- Plan view: Stone Pile.**

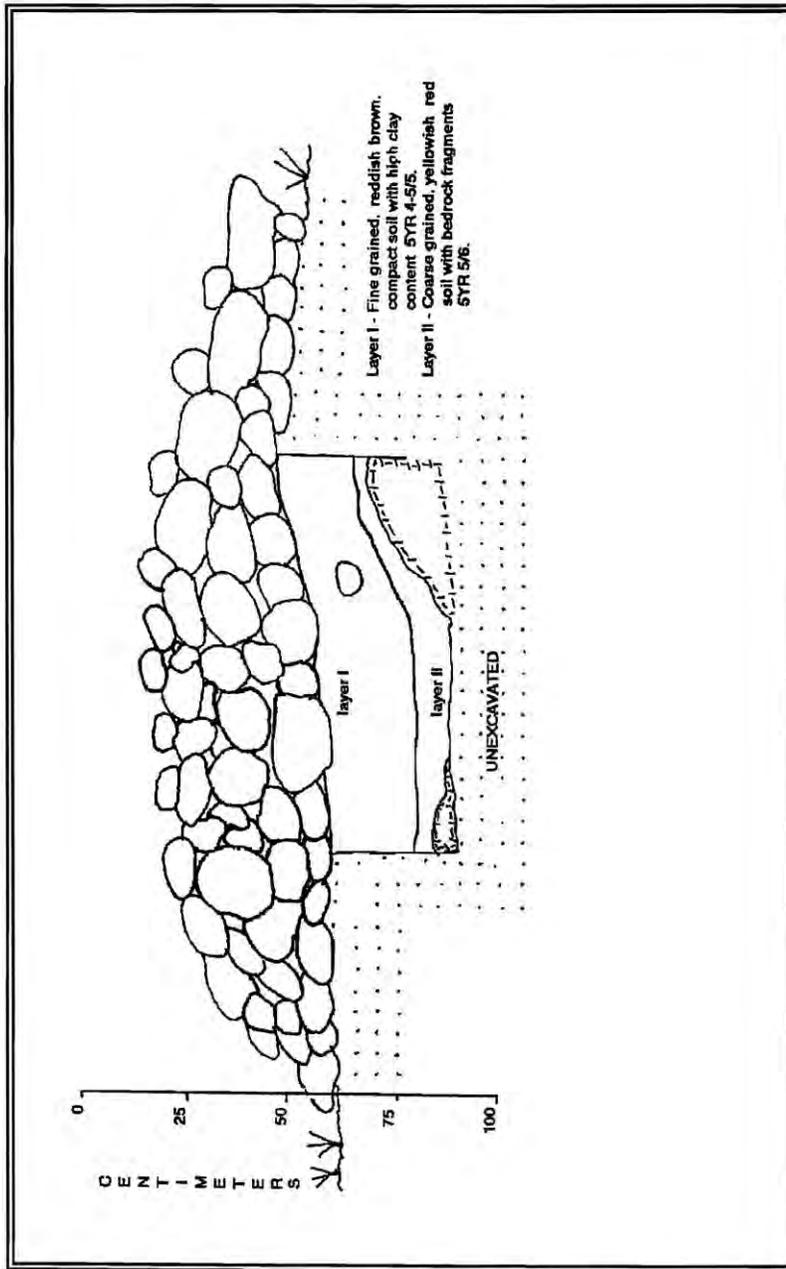
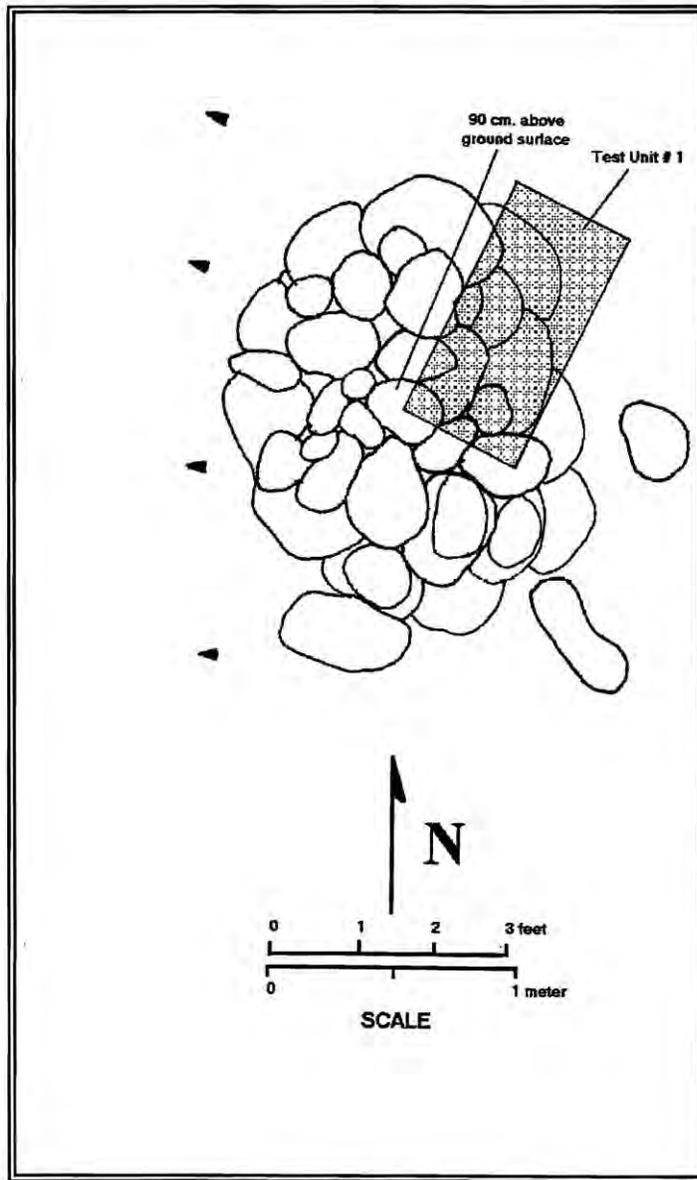


FIGURE 3 - Site 3728 -- Profile: East face of Test Unit #1, including stone feature.



**FIGURE 4 - Site 3729 -- Plan view: Stone Cairn.**

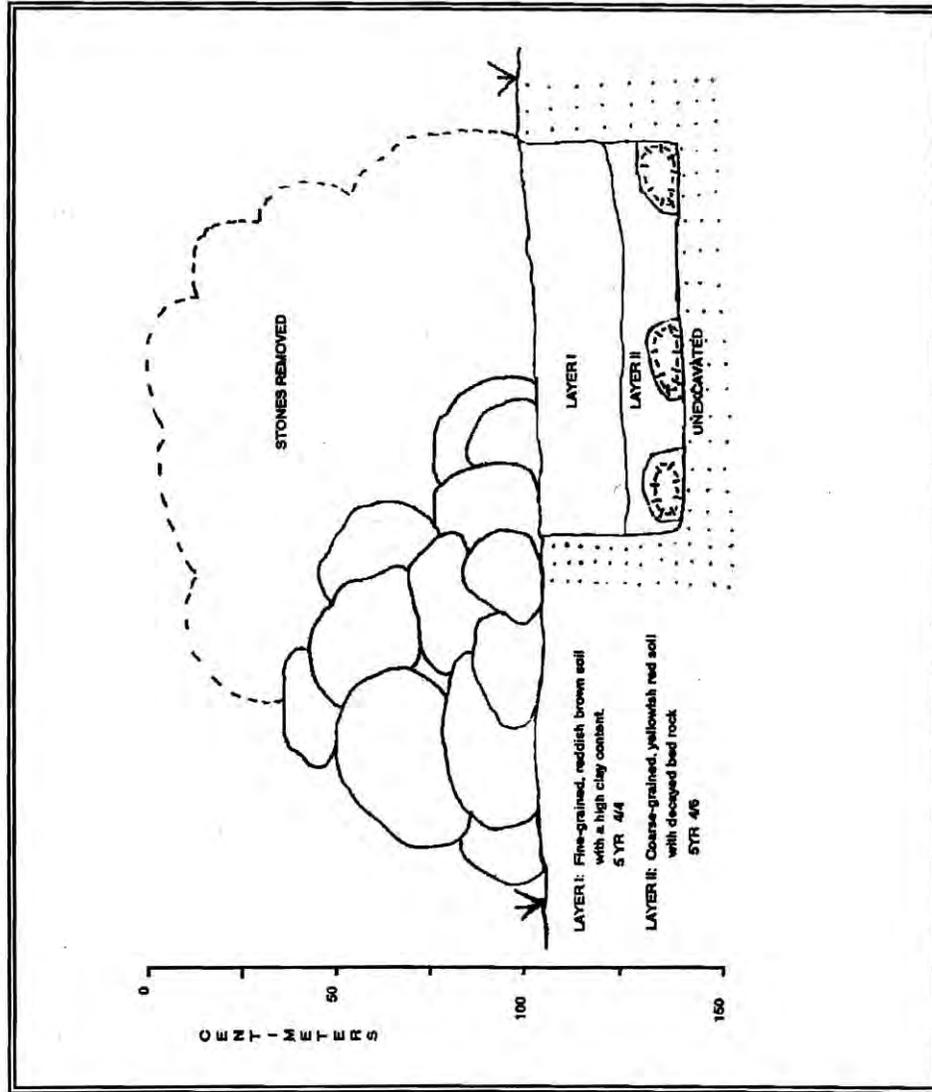
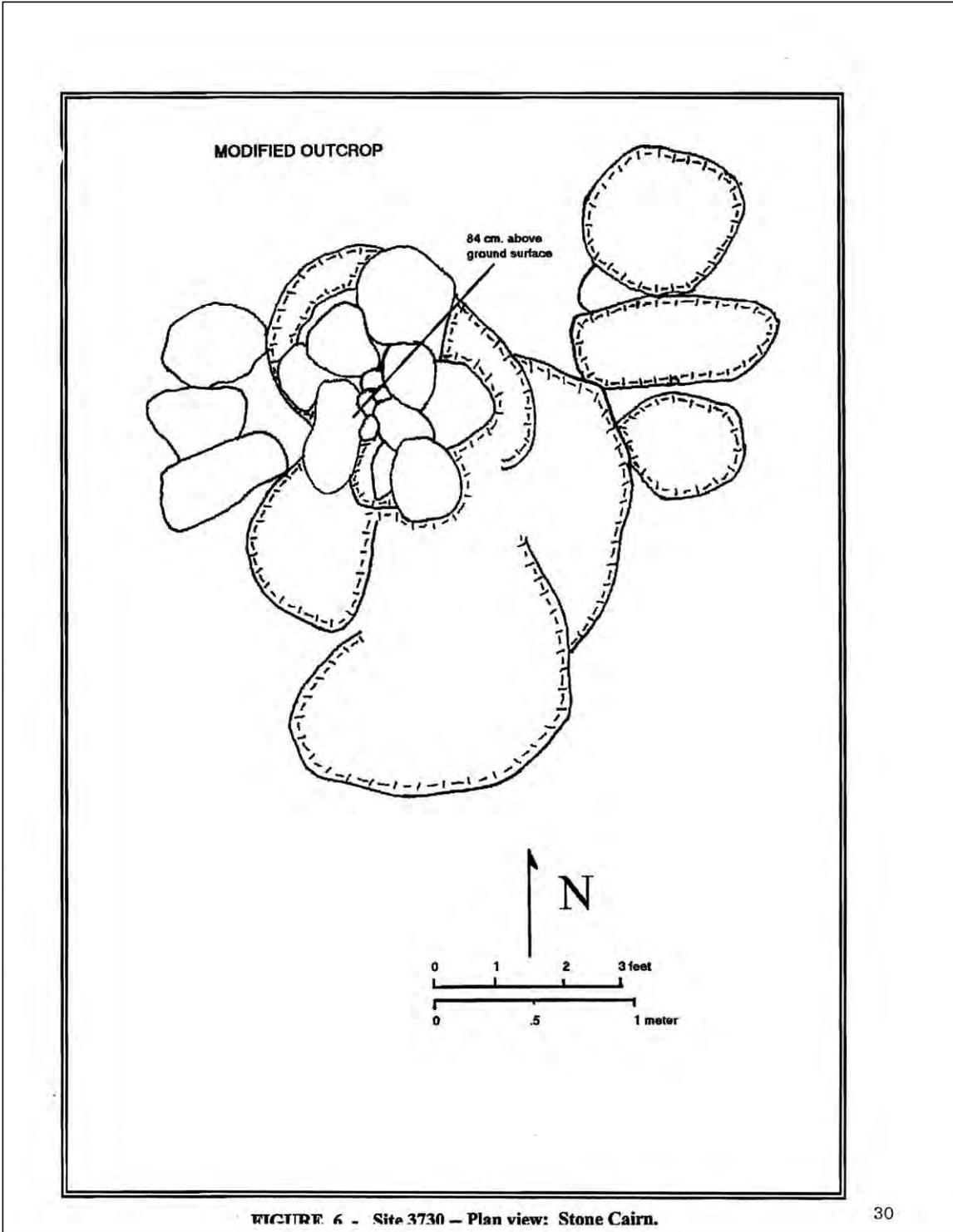
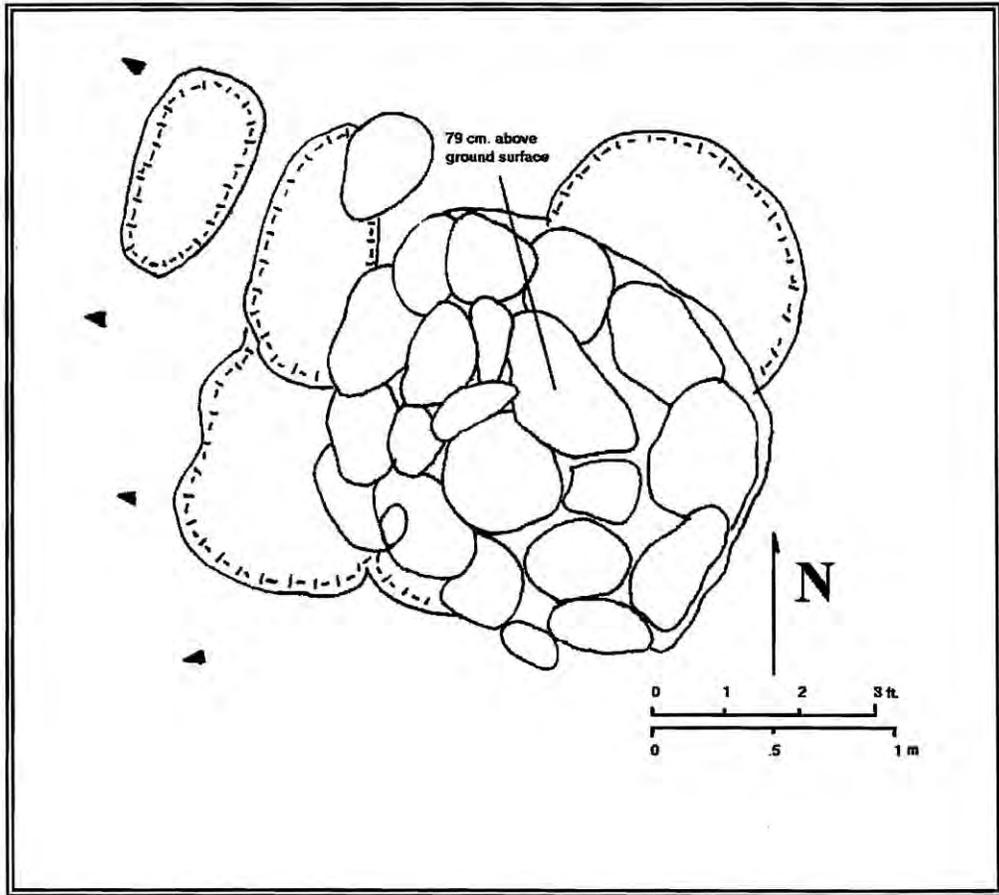
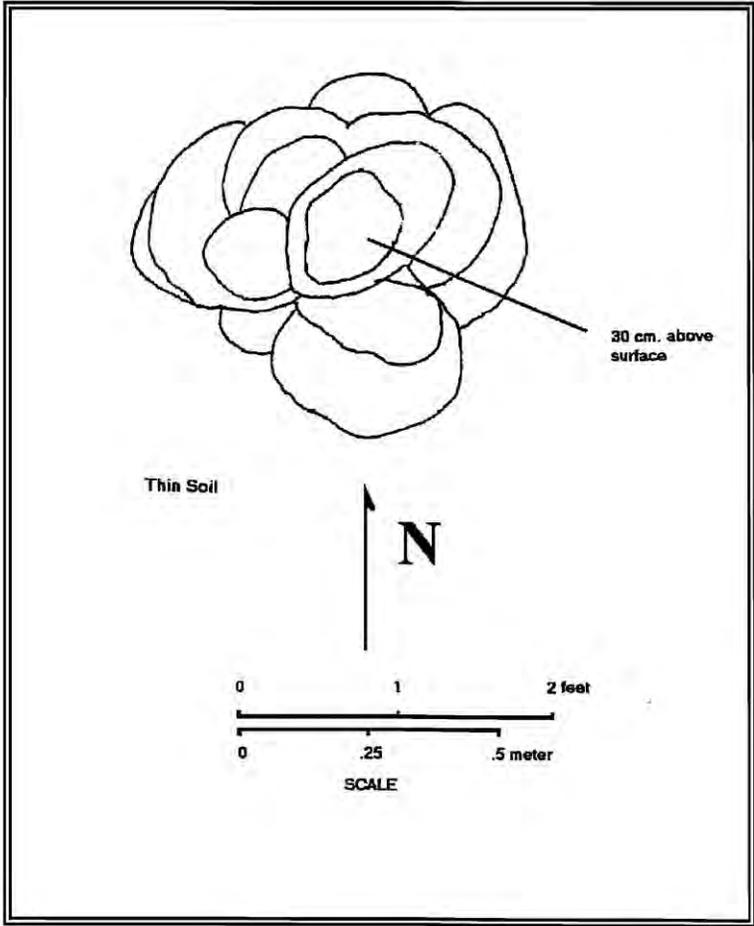


FIGURE 5 - Site 3729 - Profile: West face of Test Unit #1, including a portion of the stone cairn.

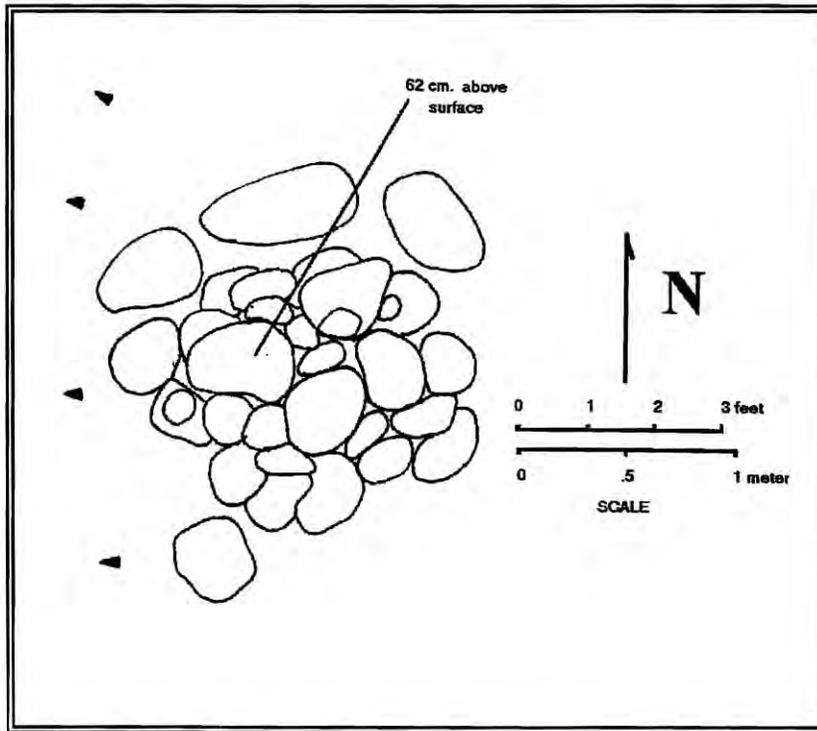




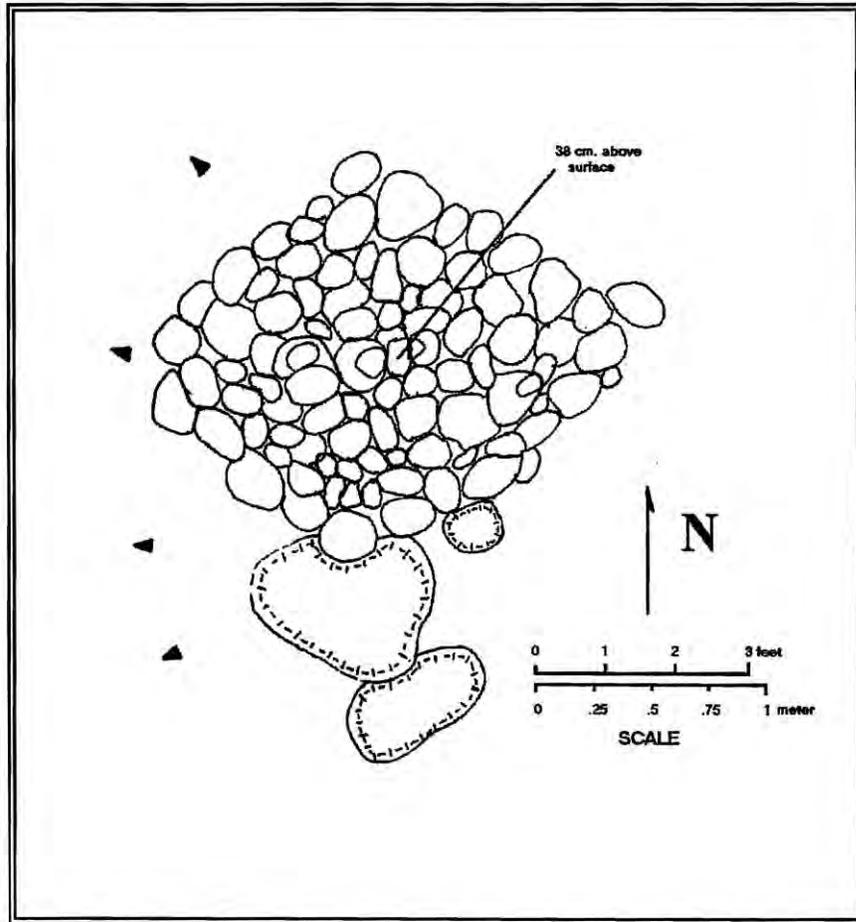
**FIGURE 7 - Site 3731 – Plan view: Stone Cairn.**



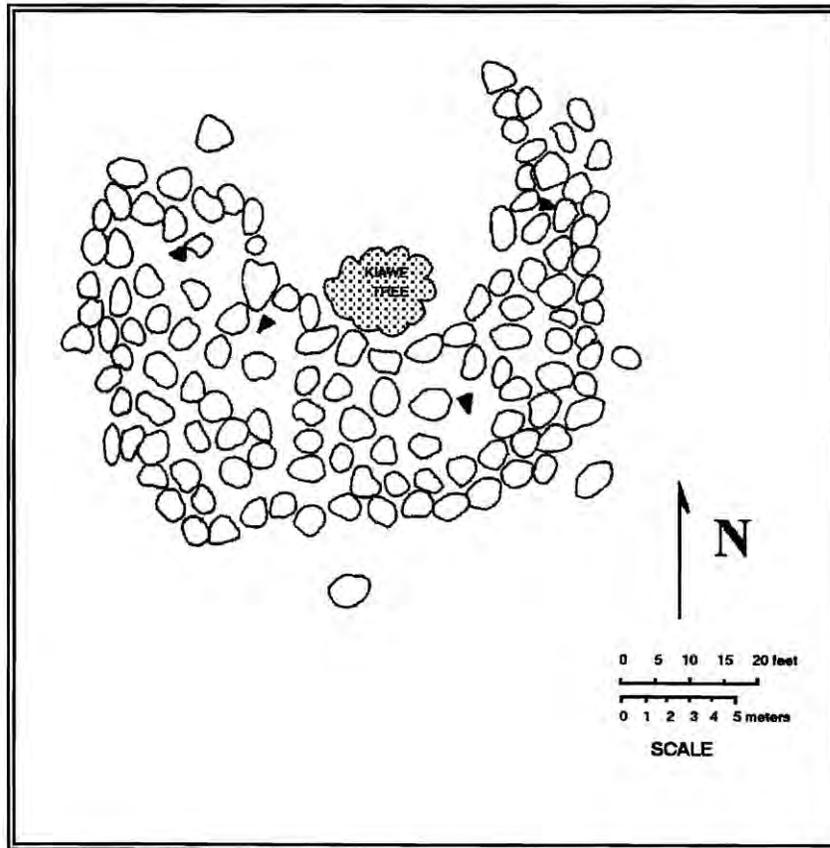
**FIGURE 8 - Site 3732 – Plan view: Stone Cairn.**



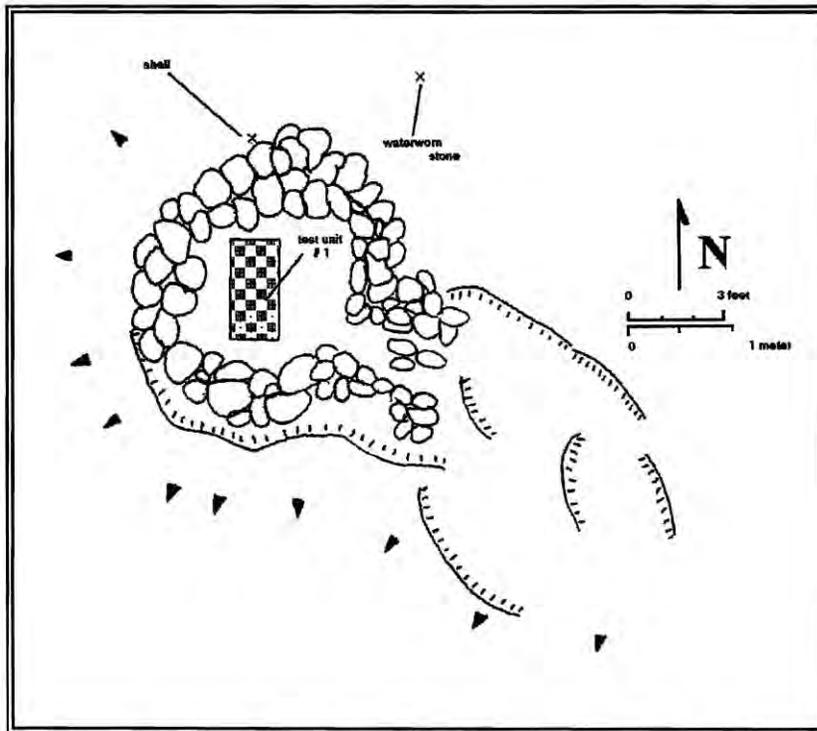
**FIGURE 9 - Site 3733 -- Plan view: Stone cairn.**



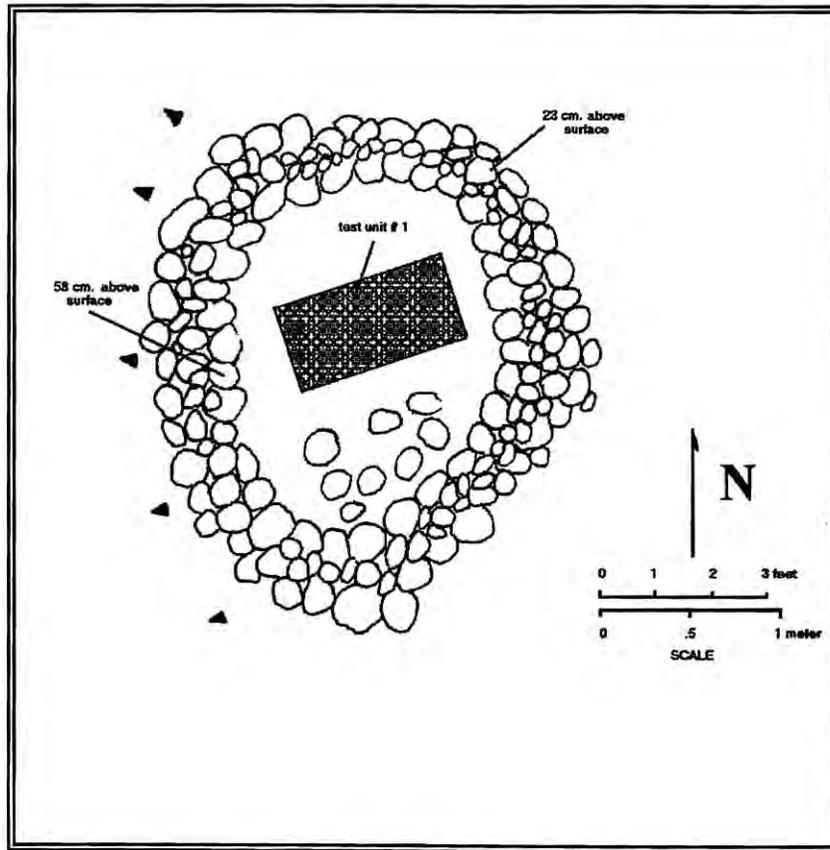
**FIGURE 10 - Site 3734 -- Plan view: Stone Pile.**



**FIGURE 11 - (no assigned number) -- Plan view of bulldozed terrace.**



**FIGURE 12 - Site 3735 – Plan view: Stone Enclosure #1.**



**FIGURE 13 - Site 3736 -- Plan view: Stone Enclosure #2.**

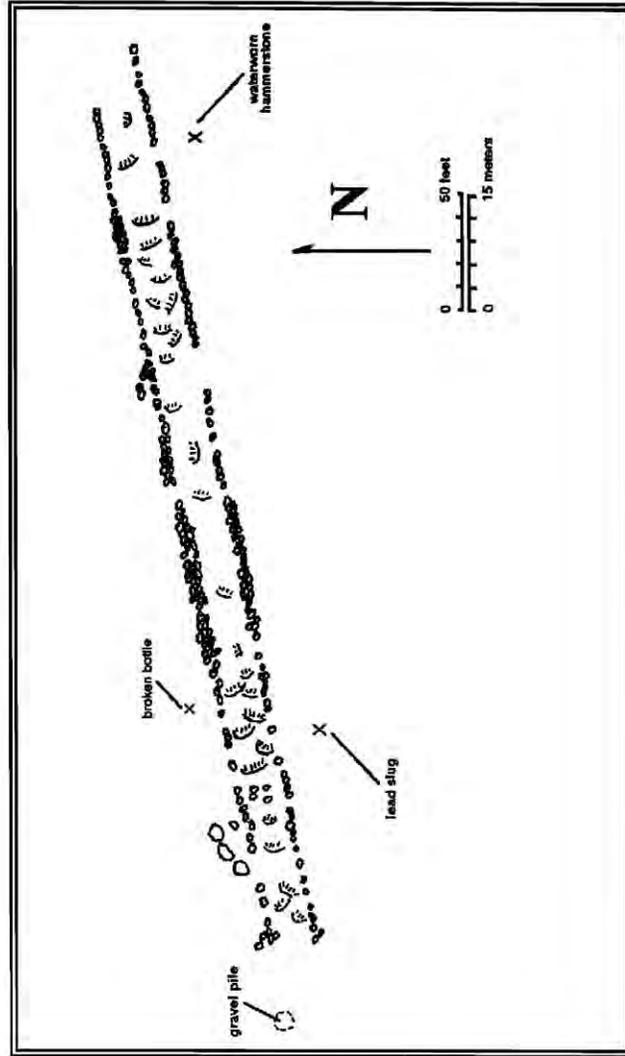


FIGURE 14 - Site 3737 -- Plan view: Stone Alignment #1.

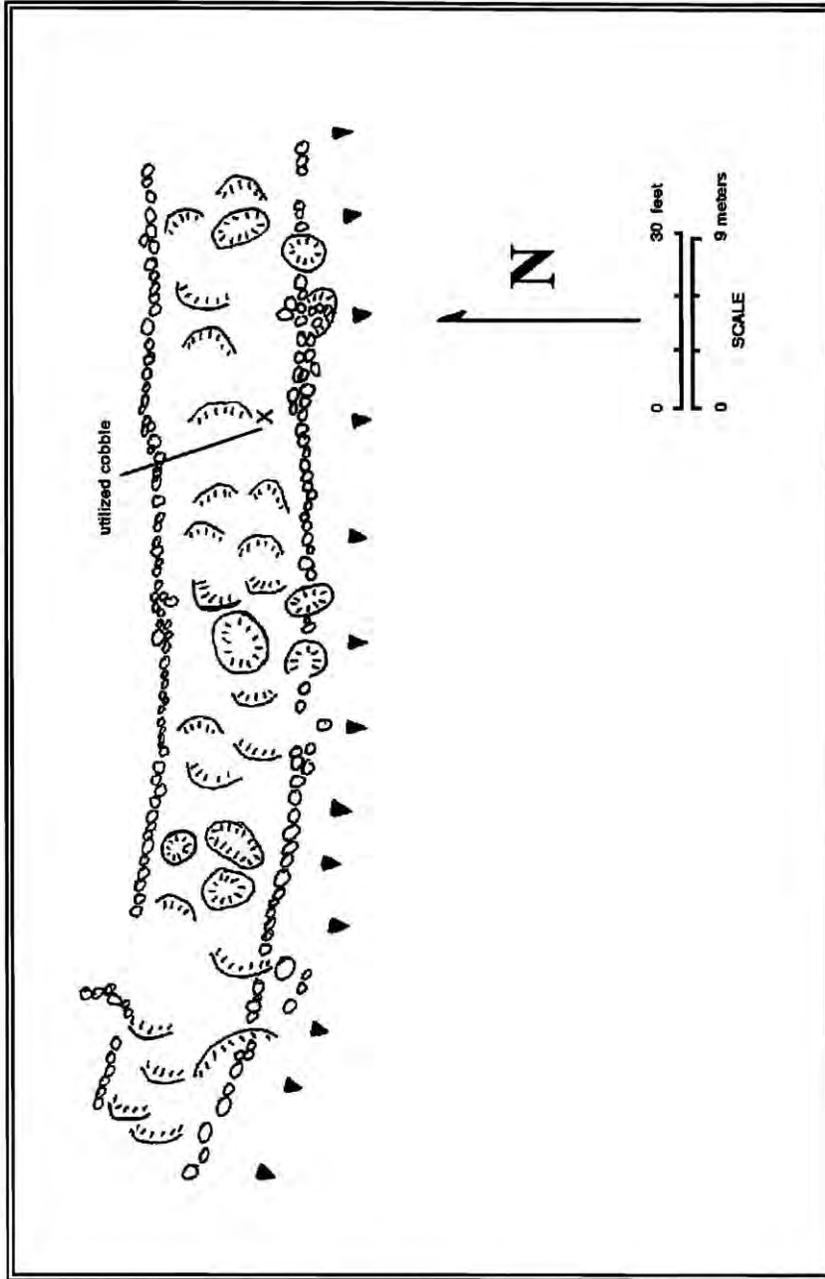
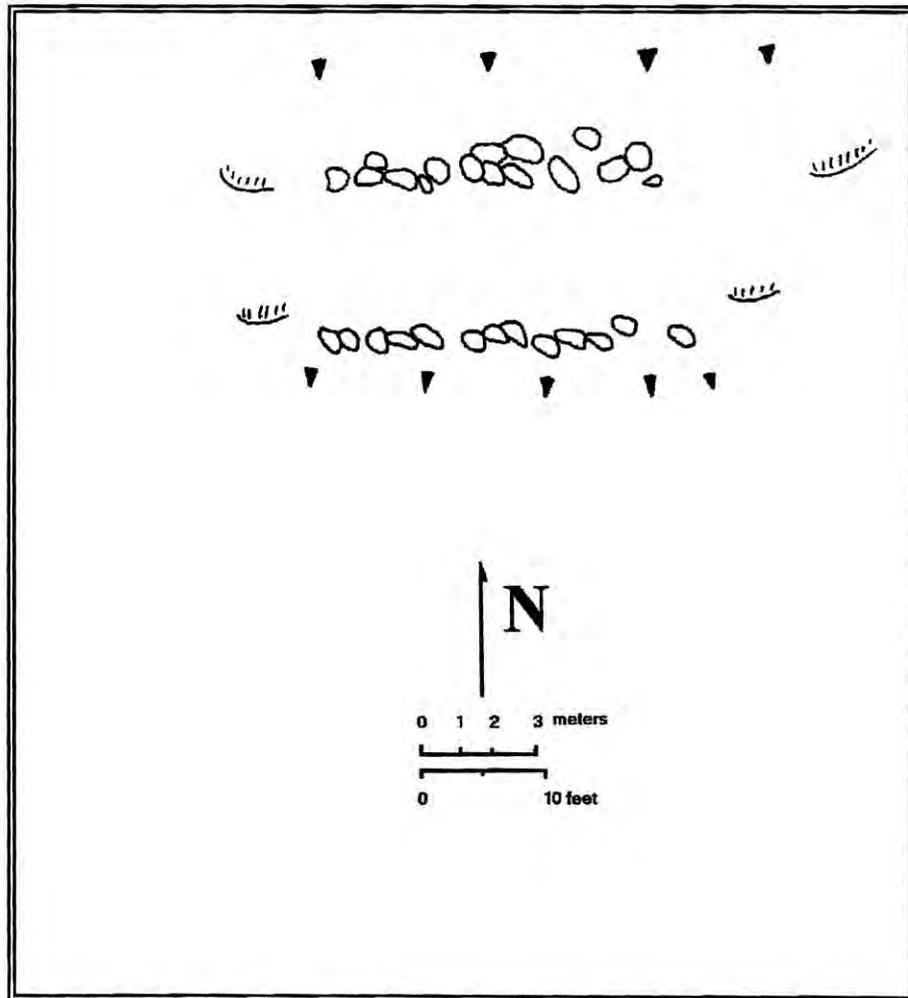
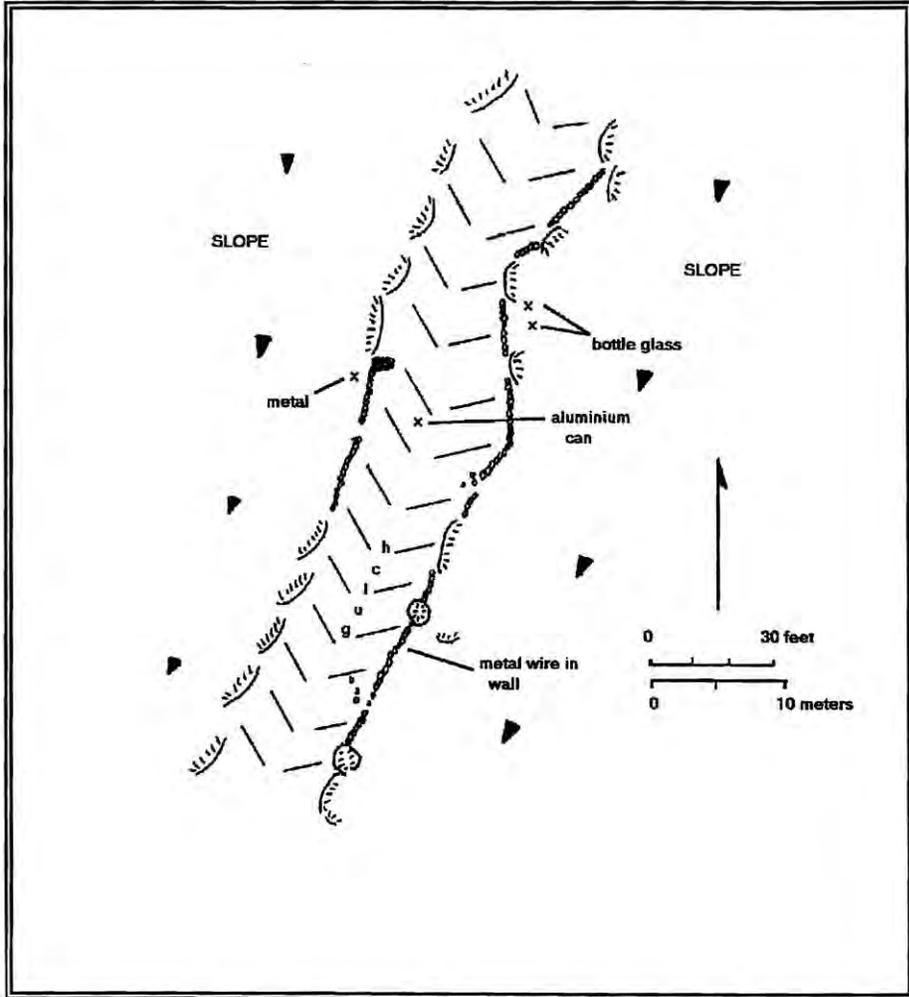


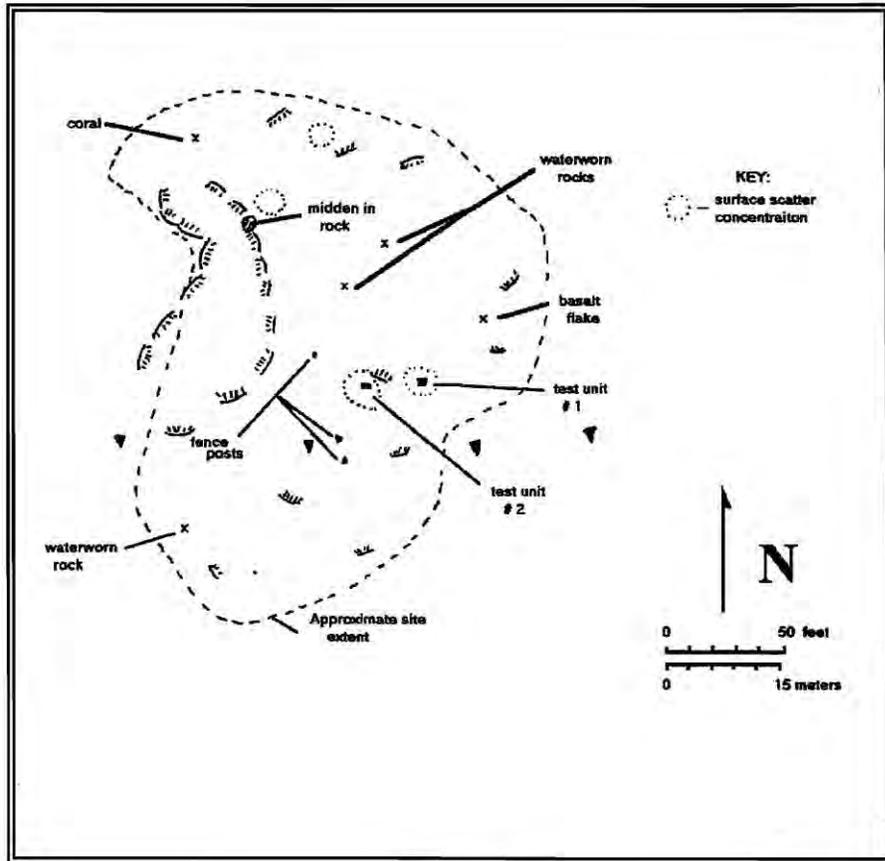
FIGURE 15 - Site 3738 - Plan view: Stone Alignment #2.



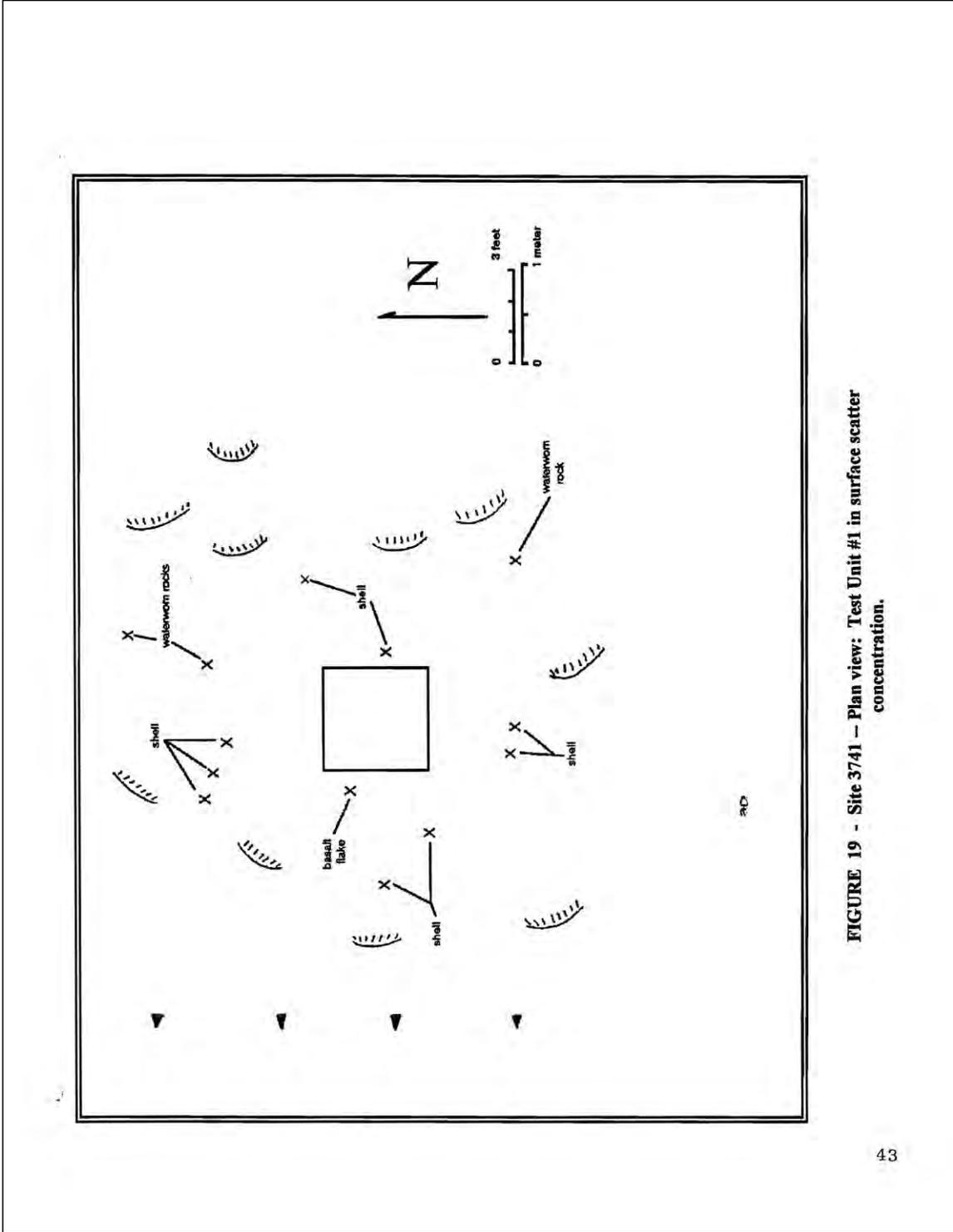
**FIGURE 16 - Site 3739 -- Plan view: Stone Alignment #3.**



**FIGURE 17 - Site 3740 – Plan view: Erosion containment wall system.**



**FIGURE 18 - Site 3741 – Plan view: Surface scatter #1.**



**FIGURE 19 - Site 3741 - Plan view: Test Unit #1 in surface scatter concentration.**

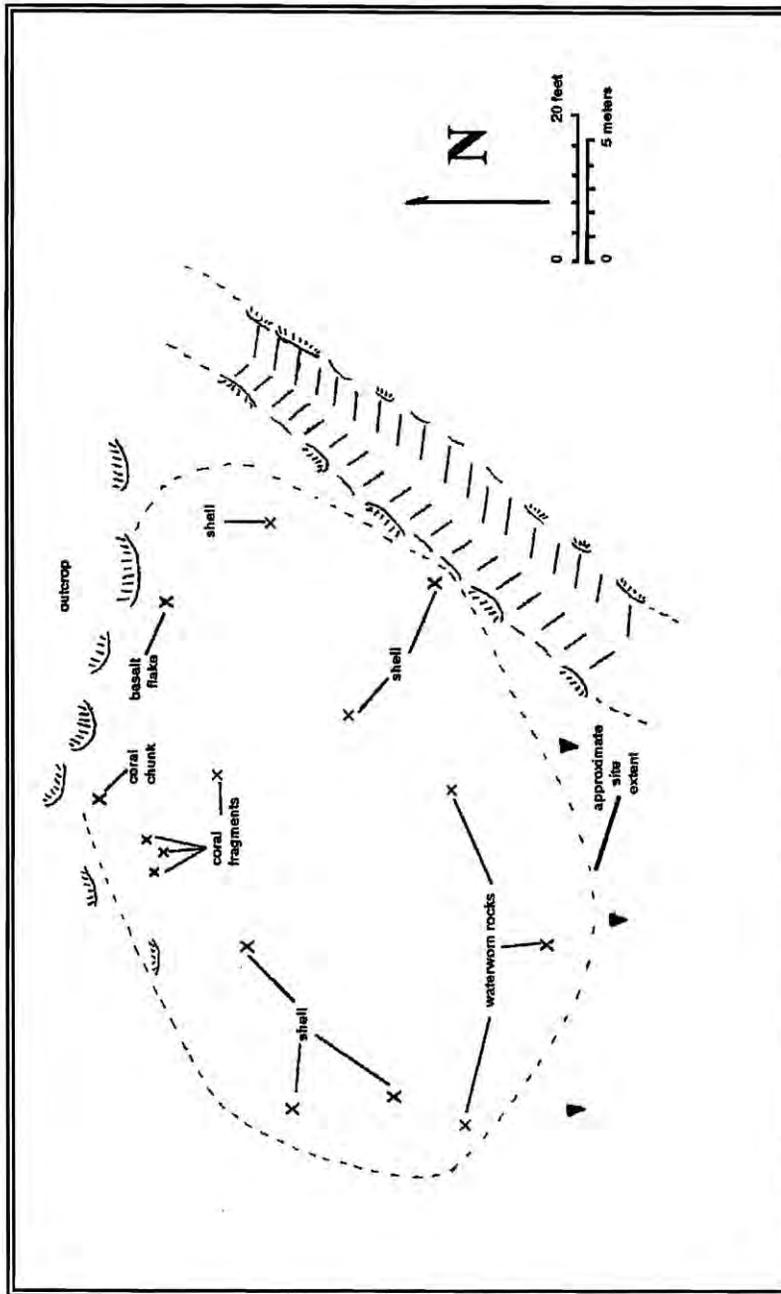


FIGURE 20 - Site 3742 - Plan view: Surface scatter #2.

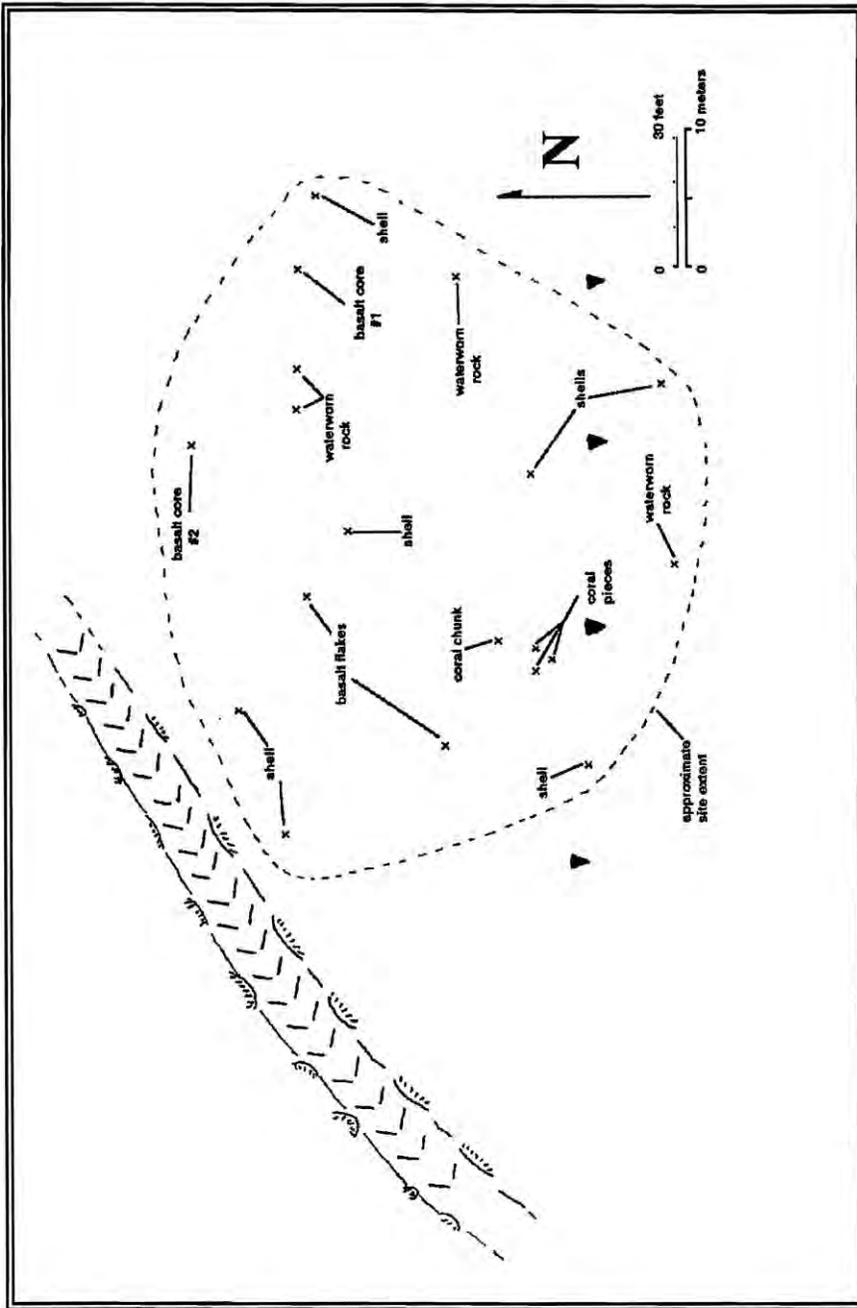


FIGURE 21 - Site 3743 -- Plan view: Surface scatter #3.

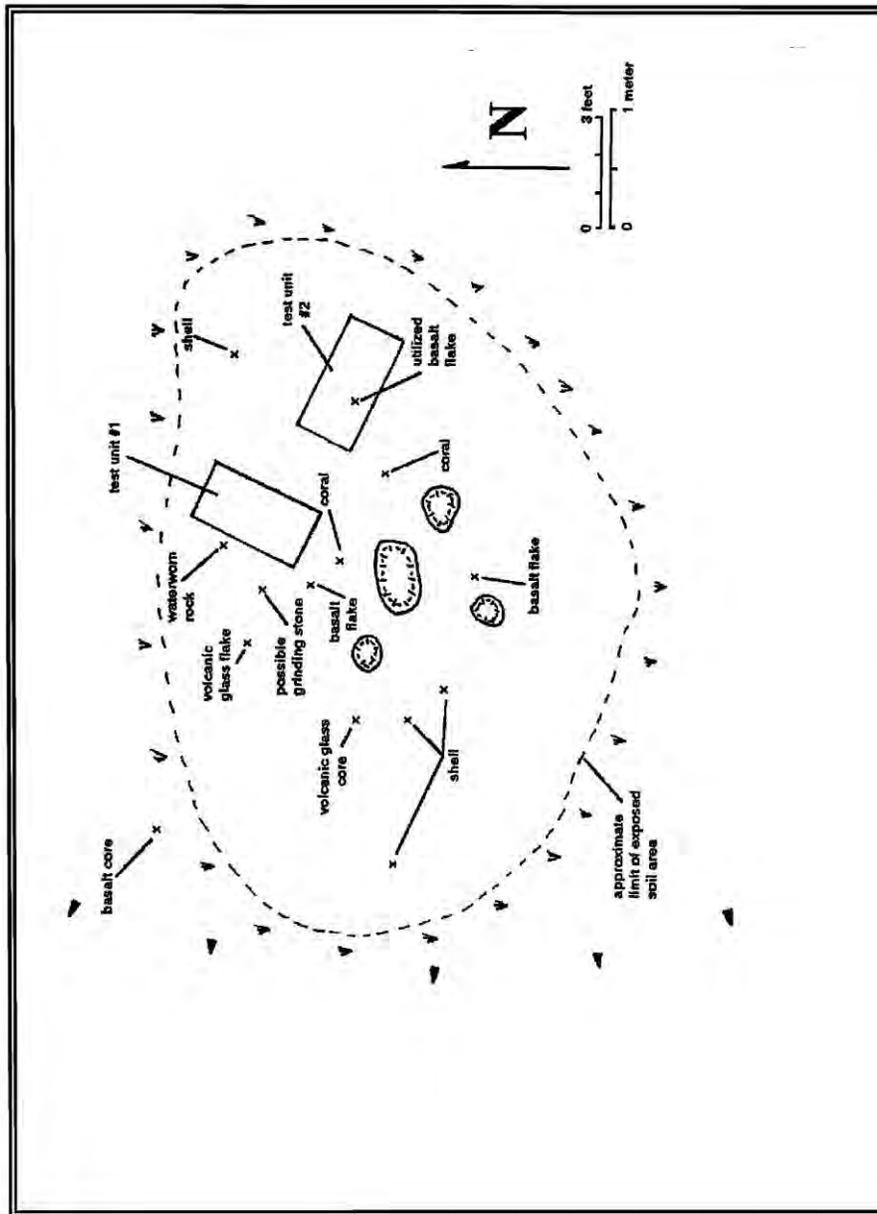


FIGURE 22 - Site 3744 -- Plan view: Surface scatter #4.

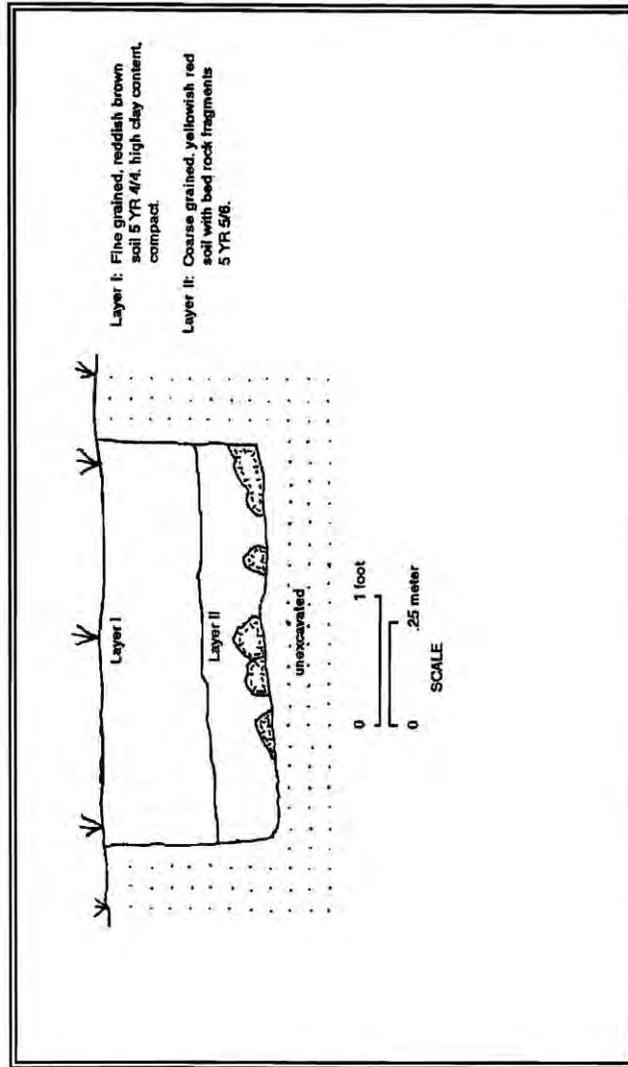


FIGURE 23 - Site 3744 -- Profile: West face of Test Unit #1.

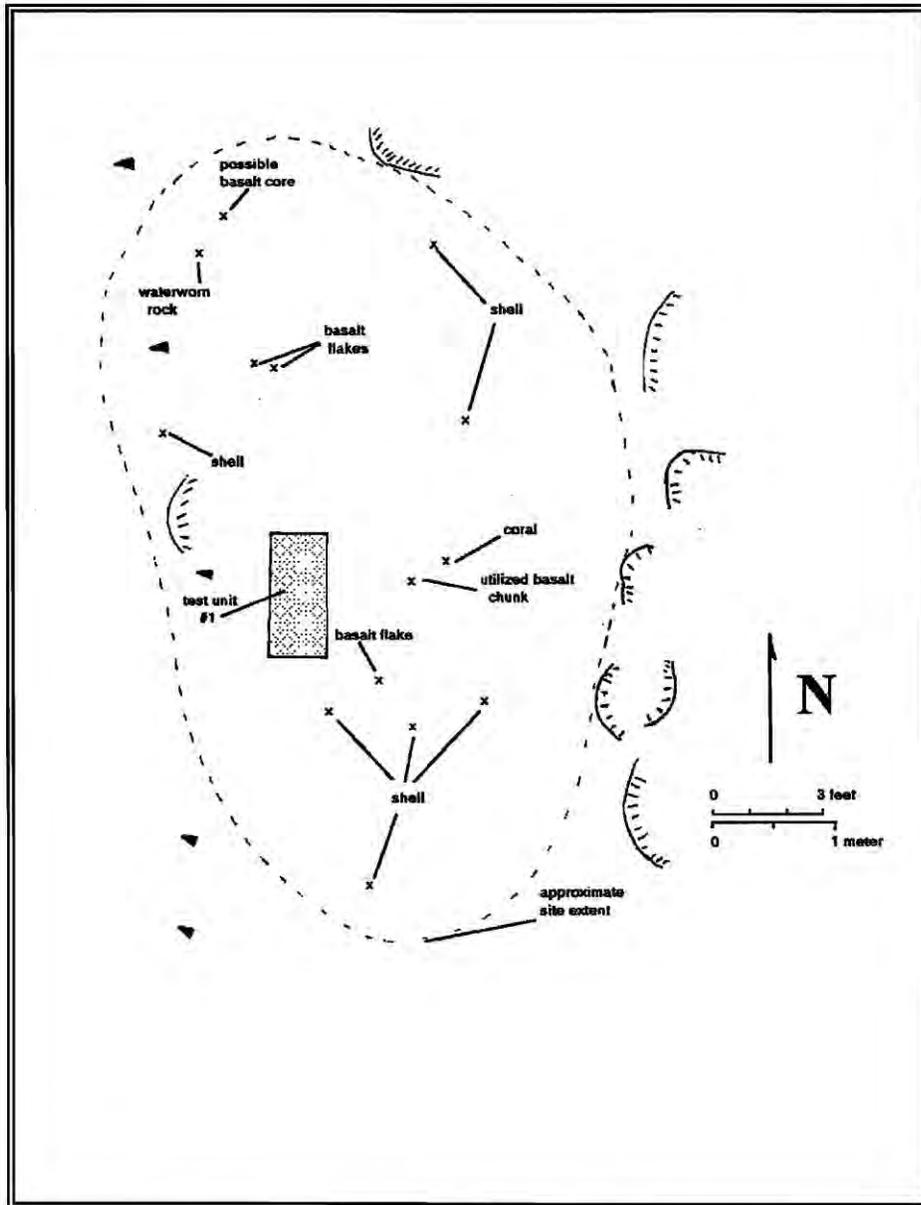
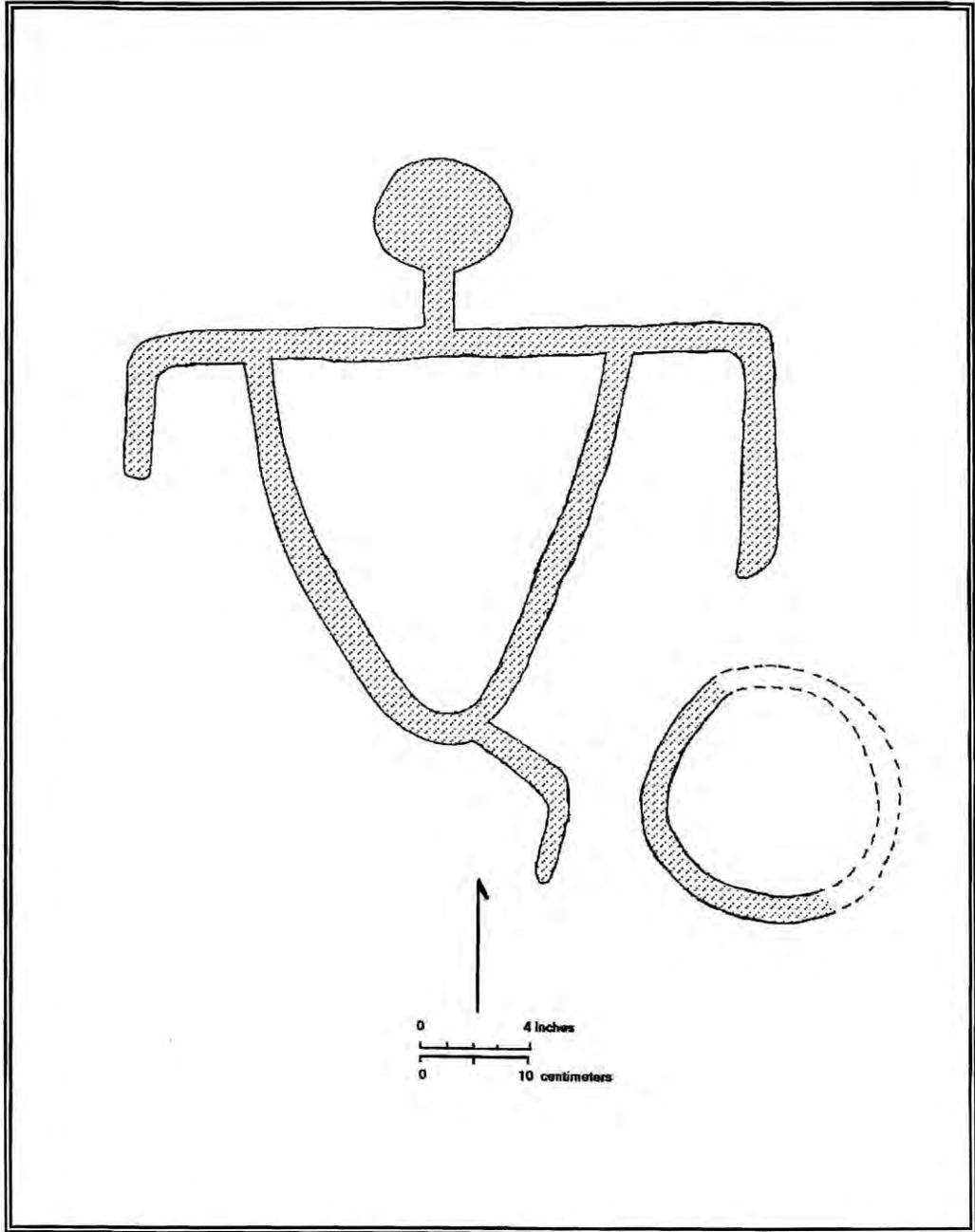
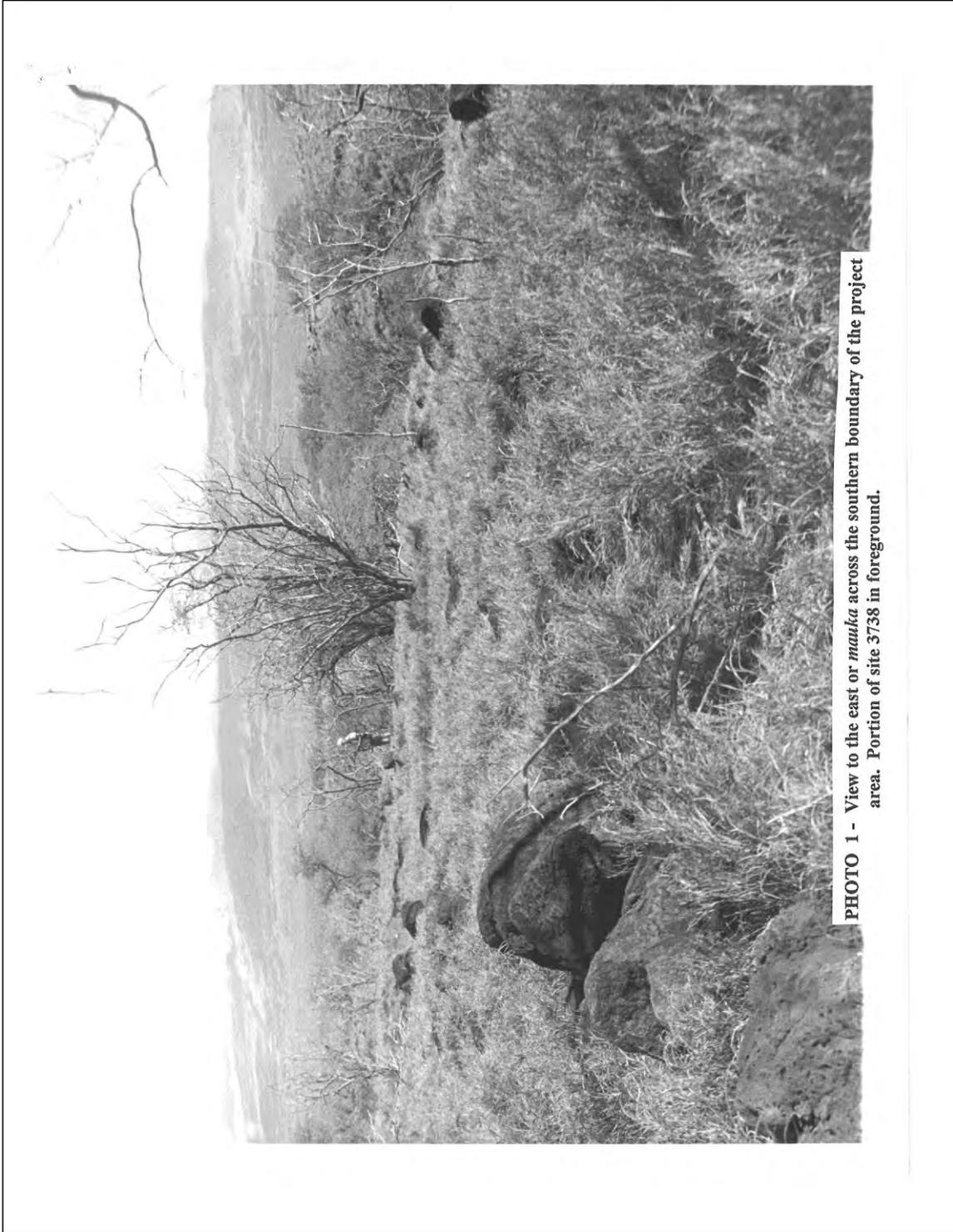


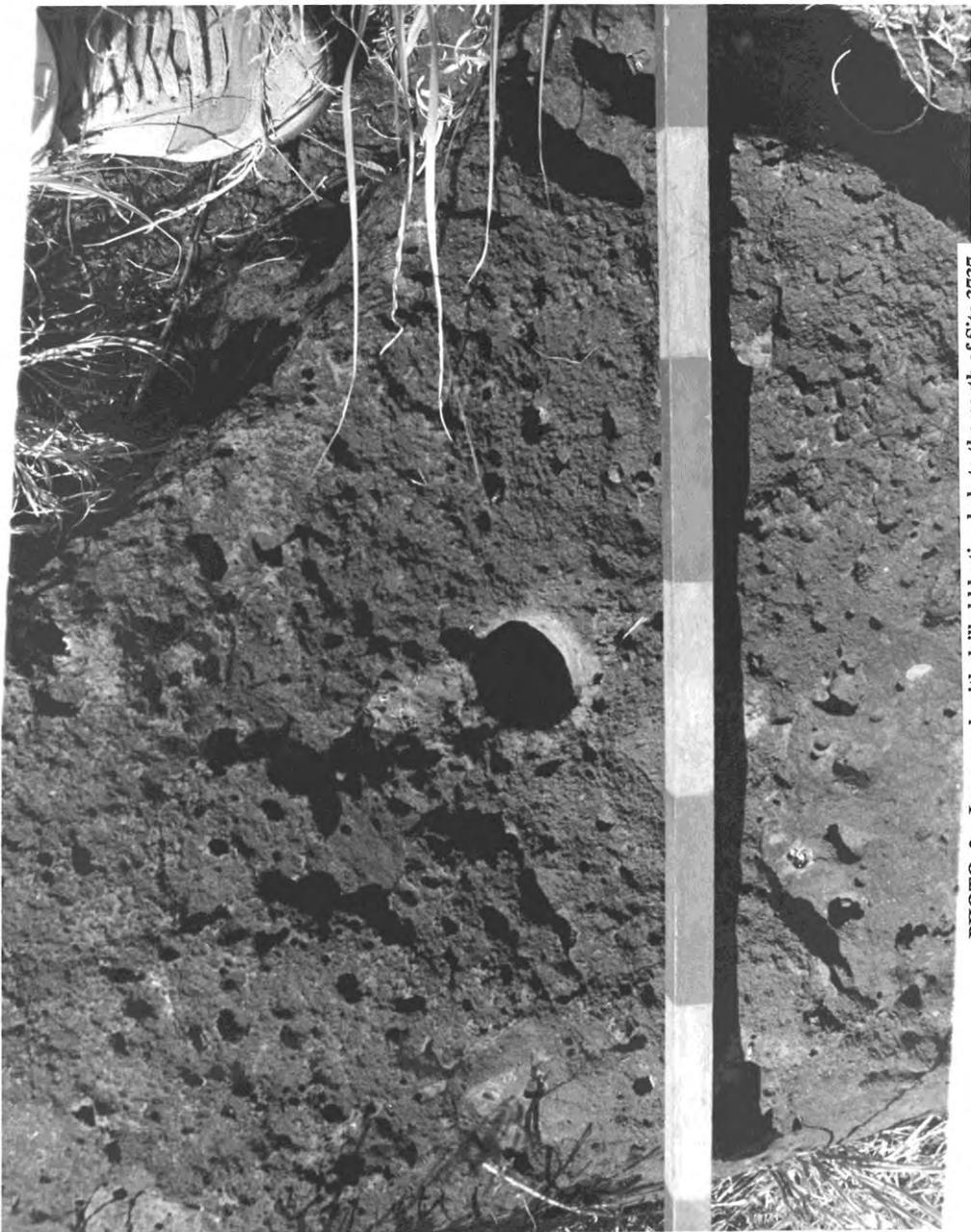
FIGURE 24 - Site 3745 - Plan view: Surface scatter #5.



**FIGURE 25 - Site 3746 – Petroglyph pecked into large boulder.**



**PHOTO 1 - View to the east or *mauka* across the southern boundary of the project area. Portion of site 3738 in foreground.**



**PHOTO 2 - Large rock with drilled blasting hole to the north of Site 3737.**



PHOTO 3 - Site 3727 (Feature A)--vegetation removed prior to excavation.  
View to the northeast.



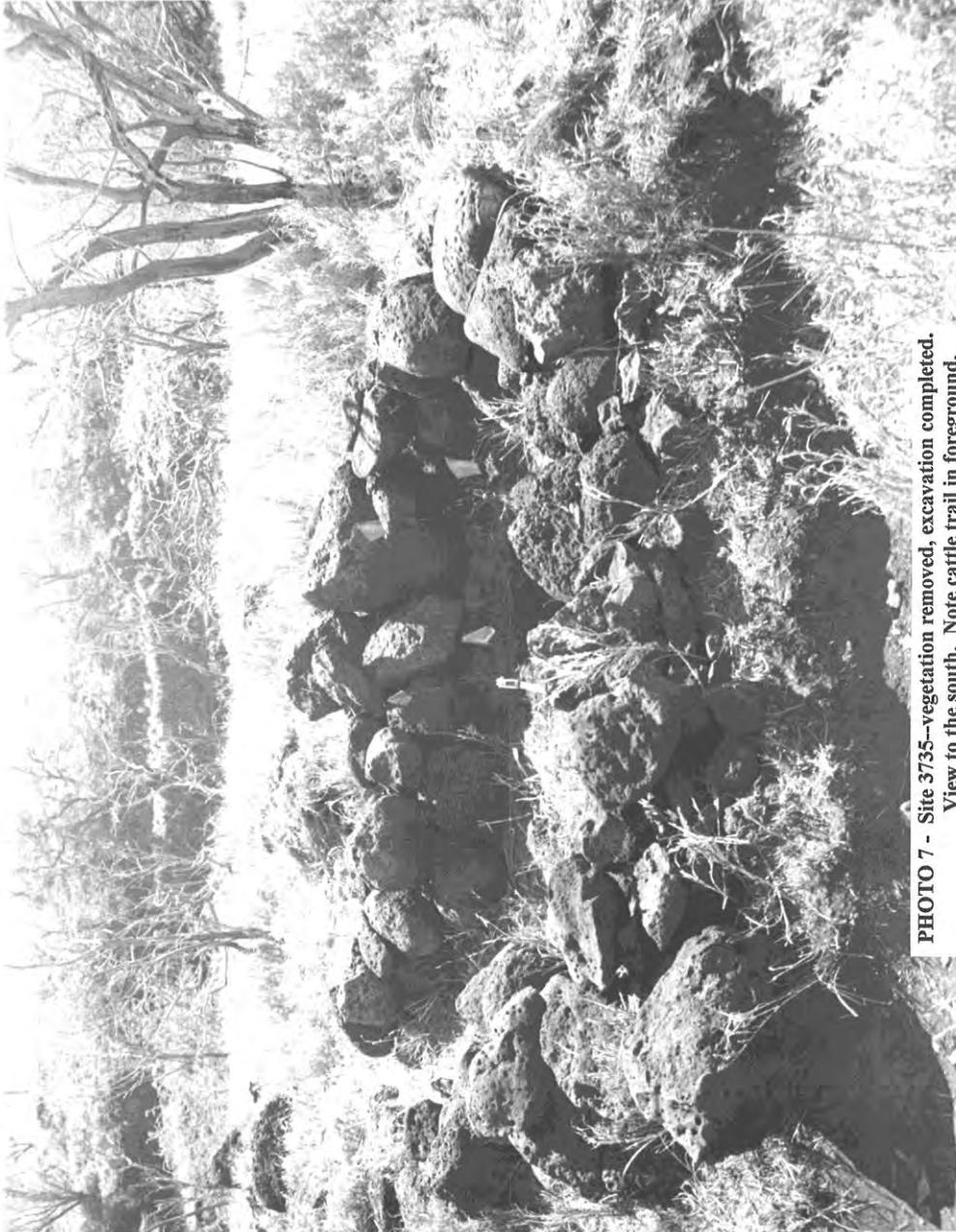
PHOTO 4 - Site 3728--vegetation removed, excavation completed.  
View to the northeast.



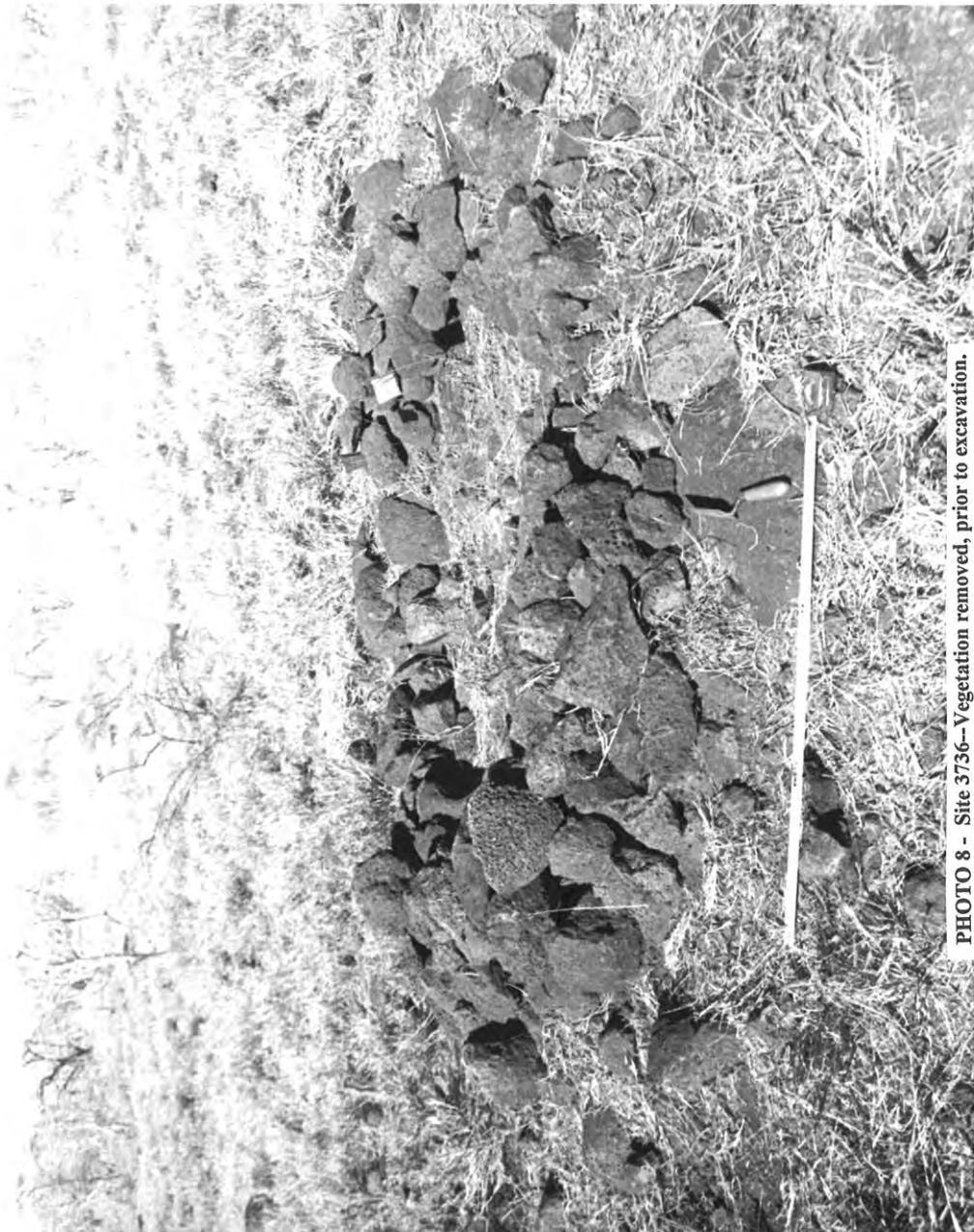
**PHOTO 5 - Site 3729--vegetation removed prior to excavation.  
View to the northwest.**



PHOTO 6 - Site 3729—vegetation removed, excavation completed.  
View to the east or *mauka*.



**PHOTO 7 - Site 3735--vegetation removed, excavation completed.  
View to the south. Note cattle trail in foreground.**



**PHOTO 8 - Site 3736--Vegetation removed, prior to excavation.  
View to the north.**



**PHOTO 9 - Site 3740--portion of Feature B. View to the east or *mauka*.**



PHOTO 10 - Site 3744--excavation in process. View to the east or *mauka*.



PHOTO 11 - Site 3746--general view of northern face of petroglyph.

## APPENDIX A

### SITE DESCRIPTIONS

#### Site 50-10-3727 (Figure 1)

**Type:** Complex (3 Features)

**Environmental Setting:** Located on a gently sloping portion of the study area, south of a small gulch. Area of erosion and exposed bedrock. Area dominated by buffelgrass, few *kiawe*. Elevation c. 60 to 62 ft. AMSL.

**Condition:** Fair

**Probable Age:** Indeterminate

**Function:** Possible agriculture

**Dimensions:** 10.0 m. N-S by 10.0 m. E-W

**Description:** The site is comprised of three low, stone features (A-C). This site is c. 30 m. north of the Central Maui Transmission Waterline Easement #1. Past bulldozing from construction activity has occurred relatively near the site and may have destroyed possible associated features.

**Feature A:** Stone pile

**Function:** Possible clear pile

**Dimensions:** 2.23 m. N-S by 3.58 m. E-W by 0.42 m. height

**Description:** Feature A is elongated and rests on soil. Exposed bedrock is to the east of the site. Generally, rounded basalt cobbles comprising Feature A range from c. 20 to 50 cm. in diameter.

A 0.5 x 1.0 m. test excavation (Test Unit #1) was placed into Feature A. Soil deposits under the feature were thin (c. 8 to 11 cm.). Layer I (5 YR 4-5/4) soil was relatively fine textured, reddish red in color, and had a high clay content. It was c. 3 to 8 cm. thick. Layer II (5 YR 5/6) was more yellowish brown in color, with a grainy texture and included pieces of decayed bedrock. Both soil layers in Test Unit #1 were sterile. Soil appeared to be undisturbed.

**Feature B:** Stone pile

**Function:** Possible clear pile

**Dimensions:** 2.20 m. long by 1.22 m. wide by 0.38 m. height

**Description:** Feature B is elongated, and partially rests on bedrock. It is c. 2.25 m. southwest of Feature A. Basalt cobbles used in its construction are c. 20 to 45 cm. in diameter, and generally rounded.

**Feature C:** Stone pile

**Function:** Possible clear pile

**Dimensions:** 2.34 m. long by 1.33 m. wide by 0.41 m. height

**Description:** Feature B is elongated, and rests on partly exposed bedrock. It is c. 0.67 m. southwest of Feature B. Basalt cobbles used in its construction are c. 20 to 45 cm. in diameter.

**Site 50-10-3728 (Figures 2 and 3)**

**Type:** Stone pile

**Environmental Setting:** Located c. 36 m. southwest of Site 3727 and c. 30 m. south of small gulch. The land slopes gently to the west. Area of erosion and exposed bedrock. Vegetation consists of moderate buffelgrass and sparse *kiawe* trees. Elevation c. 56 ft. AMSL.

**Condition:** Good

**Probable Age:** Indeterminate

**Function:** Possible clear pile

**Dimensions:** 2.54 m. length by 1.32 m. width by 0.52 m. height

**Description:** The site consists of one isolated feature. This component is a low tear-shaped rock pile resting on soil. Angular basalt cobble stones used in construction range from 15 to 35 cm. in diameter. It is c. 42 m. northwest of the Central Maui Transmission Waterline Easement #1. Past bulldozing from construction activity associated with the waterline may have destroyed possible associated features.

One test unit (1.0 x 1.0 m.) was placed into this stone pile. Stratigraphy similar to Site 3727 was encountered. However, soil deposits were deeper. Layer I (5 YR 4-5/4) soil was fine textured, reddish brown in color, and had a high clay content. It was c. 14 to 21 cm. thick. Layer II (5 YR 5/6) was more yellowish red in color, with a grainy texture and included pieces of decayed bedrock. Excavation was halted at c. 25 to 36 cm. below datum. Both soil layers in Test Unit #1 were sterile. Soil appeared to be undisturbed.

**Site 50-10-3729 (Figures 4 and 5)**

**Type:** Stone cairn

**Environmental Setting:** Located on a slight promontory on a relatively gently sloping area of Ranch land. Area of slight erosion and some exposed bedrock. Vegetation dominated by buffelgrass, several *kiawe* trees in vicinity. Elevation c. 78 ft. AMSL.

**Condition:** Good

**Probable Age:** Indeterminate

**Function:** Marker

**Dimensions:** 1.91 m. N-S by 1.45 m. E-W by 0.90 m. height

**Description:** The site consists of one isolated cairn. This component is well constructed and rests on soil. It is constructed with relatively round basalt cobbles ranging from 20 to 50 cm. in diameter. Larger basalt rocks were generally located at the base of this feature. This site is c. 76 m. southeast of the waterline easement, and c. 130 m. southwest of Site 3727.

One test unit (0.5 x 1.0 m.) was placed into this cairn. Much of the feature was dismantled for safety reasons, prior to excavation. Stratigraphy was similar to both Sites 3727 and 3728. Layer I (5 YR 4/4) soil was fine textured, reddish brown in color, with a high clay content. It was slightly more granular than Layer I at Sites 3727 and 3728. It was c. 18 to 23 cm. thick. Layer II (5 YR 4/6) was yellowish red in color, with a grainy texture and included pieces of decayed bedrock. Excavation was halted c. 30 to 36 cm. below surface. Soil appeared to be undisturbed. This excavation unit was sterile.

**Site 50-10-3730 (Figure 6)**

**Type:** Stone cairn

**Environmental Setting:** Located in an area somewhat impacted by erosion. Land slopes moderately to the west or *makai*. Exposed bedrock in several areas. Vegetation dominated by buffelgrass, scattered *kiawe* trees and klu in vicinity. Elevation c. 75 ft. AMSL.

**Condition:** Good

**Probable Age:** Indeterminate

**Function:** Marker

**Dimensions:** 1.35 m. N-S by 1.09 m. E-W by 0.84 m. height

**Description:** The site consists of a stack of c. 16 basalt stones and cobbles c. 15 to 25 cm. in diameter, placed on outcrop bedrock. While its overall height is 0.84 m. above ground surface, the cairn itself is c. 0.43 m. high. This site is c. 70 m. south of Site 3729.

**Site 50-10-3731 (Figure 7)**

**Type:** Stone cairn

**Environmental Setting:** Located on a moderate slope, near relatively large area of exposed bedrock. Vegetation dominated by thick buffelgrass and several *kiawe* trees. Elevation 95 ft. AMSL.

**Condition:** Good

**Probable Age:** Post-Contact

**Function:** Marker

**Dimensions:** 1.71 m. N-S by 1.84 m. E-W by 0.79 m. height

**Description:** The site consists of a stack of c. 25 basalt cobbles c. 20 to 35 cm. in diameter, placed on exposed bedrock. While its overall height is 0.79 m. above ground surface, the cairn itself is c. 0.48 m. high. It is c. 100 m. east of Site 3730 and c. 112 m. southeast of Site 3729. One cobble used in construction exhibits a heavy equipment scar.

**Site 50-10-3732 (Figure 8)**

**Type:** Stone cairn

**Environmental Setting:** Located on a promontory near the eastern border of the study area. Much of the promontory consists of exposed bedrock. Vegetation consists of moderate to sparse buffelgrass cover, scattered *kiawe* trees, and isolated *pili* grass. Elevation 115 ft. AMSL.

**Condition:** Good  
**Probable Age:** Indeterminate  
**Function:** Marker

**Dimensions:** 0.67 m. N-S by 0.78 m. E-W x 0.30 m. height

**Description:** The site consists of a small stack of c. 14 basalt cobbles resting on thin, eroded soil. The cobbles range in size from 20 to 30 cm. in diameter. It is c. 98 m. southeast of Site 3731, and is near the property's eastern boundary. This cairn is on the highest portion of the southern half of the study area. A large coral chunk (see Table 1) was located c. 24 m. south of the cairn (see Table 1).

#### Site 50-10-3733 (Figure 9)

**Type:** Stone cairn

**Environmental Setting:** Located on gentle sloping terrain near the eastern boundary of the project area. Erosion has exposed areas of bedrock. Vegetation consists of buffelgrass, and scattered *kiawe* trees. Elevation 108 ft. AMSL.

**Condition:** Good to fair

**Probable Age:** Post-Contact

**Function:** Marker

**Dimensions:** 1.24 m. N-S by 1.43 m. E-W by 0.62 m. high

**Description:** The site consists of a relatively low cairn resting on thin soil. An old survey stake appears to have been incorporated into the cairns construction. Basalt cobbles range in size from 20 to 45 cm. in diameter. It is c. 46 m. northeast of Site 3732.

#### Site 50-10-3734 (Figure 10)

**Type:** Stone pile

**Environmental Setting:** Located on a somewhat eroded slope near the southern boundary of the study area. Grubbing and, possibly, blasting has disturbed the land c. 10 m. to the west. Vegetation consists of relatively thick buffelgrass and isolated *klu* and *kiawe*. Elevation 51 ft. AMSL.

**Condition:** Poor to fair

**Probable Age:** Indeterminate

**Function:** Possible clear pile

**Dimensions:** 1.68 m. by 2.18 m. E-W by 0.38 m. high

**Description:** The site consists of a low rock pile resting on very thin soil and bedrock. Angular basalt stones and cobbles c. 10 to 35 cm. in diameter from the feature. Some stones and cobbles incorporated in the feature appear to have been broken in the past and exhibit only slight weathering. This feature is c. 38 m. from the nearest archaeological site (3736).

#### No Site Number Assigned (Figure 11)

**Type:** Bulldozed terrace

**Environmental Setting:** Located on the eastern side of the waterline easement on the southwestern quadrant of the study area. Terrain slopes moderately to the west. Area bulldozed. Vegetation comprised of moderate buffelgrass cover and scattered *kiawe* trees. Elevation 54 ft. AMSL.

**Condition:** N/A

**Probable Age:** Modern

**Function:** N/A

**Dimensions:** 20 m. N-S by 25 m. E-W

**Description:** This non-numbered site is the result of activities associated with the construction of the Central Maui Transmission Waterline Easement #1 in the 1960s. Large boulders c. 0.8 to 1.1 m. in diameter make up this modern feature.

#### Site 50-10-3735 (Figure 12)

**Type:** Enclosure

**Environmental Setting:** Located on a promontory. Terrain slopes moderately to the west. Kulanihako'i Gulch is directly to the south. Area of erosion and exposed bedrock. Some possible grubbing to the west and northeast. Cattle trail runs in a E-W direction, immediately north of enclosure. Vegetation comprised of thin buffelgrass cover and scattered *kiawe*.

**Condition:** Fair to good

**Probable Age:** World War II

**Function:** Military

**Dimensions:** 2.76 m. N-S by 3.14 M. E-W x 0.51 m. maximum height

**Description:** The site consists of a low stone enclosure resting on thin soil and bedrock. This mushroom-shaped feature is on a promontory and faces westward or *makai*. It is somewhat roughly constructed with basalt stones and cobbles ranging from 10 to 40 cm. in diameter. In addition, five larger cobbles (c. 50 to 70 cm. in diameter) are incorporated into portions of the feature. Many of the cobbles used in this enclosure exhibit few signs of weathering. There are also several rocks that appear to have been broken and/or scraped by heavy equipment prior to being incorporated into the structure.

The inside diameter of this enclosure is c. 1.5 m. in diameter. Its walls are c. 50 to 65 cm. thick and tend to be two courses high. The feature ranges in height from 35 to 51 cm. above ground surface. An entrance c. 40 to 55 cm. wide is located on the southeastern site of the enclosure.

A 0.5 x 1.0 m. test unit, oriented to the north, was placed inside the feature. Soil encountered in the interior tended to be relatively shallow. Stratigraphy was similar to other areas of the project. Layer I soil was reddish brown in color (5 YR 4-5/4), with a compact, fine-grained texture and a relatively high clay content. Layer I also contained some small angular gravel in it. Layer II soil was a coarse grained, yellowish red soil (5 YR 4/6), with small pieces of decayed bedrock. Layer I was c. 6 to 9 cm. thick, while Layer II was c. 3 to 5 cm. thick. No material culture remains were discovered.

**Site 50-10-3736 (Figure 13)**

**Type:** Enclosure

**Environmental Setting:** Located on a slight promontory. Terrain slopes moderately to the west. Some erosion in general area. Grubbing and, possibly blasting has occurred west of the site. Vegetation comprised of moderate buffelgrass cover and scattered *kiawe* trees and some klu. Elevation 59 ft. AMSL.

**Condition:** Fair

**Probable Age:** Pre-Contact (?)

**Function:** Possible shelter

**Dimensions:** 2.85 m. N-S by 2.56 m. E-W by 0.58 m. maximum height

**Description:** The site consists of a low stone enclosure resting on thin soil. It is c. 105 m. northwest from Site 3735. This oval-shaped enclosure is constructed with angular basalt cobbles ranging from 10 to 40 cm. in diameter. Some of the rocks used in this enclosure exhibit little weathering. Several of the cobbles appear to have been broken, possibly by blasting.

The inside diameter of this enclosure is c. 1.9 m. N-S by 1.5 m. E-W. Portions of the structure have been partly collapsed - possibly by cattle. The feature's wall is c. 40 to 55 cm. thick and ranges from a low of 23 cm. to a high of 58 cm. above ground surface.

A 0.5 x 1.0 m. test unit was placed inside the feature. Soil encountered in the interior was shallow. Stratigraphy was similar to other portions of the study area. Layer I was c. 8 to 10 cm. thick, while Layer II was 3 to 5 cm. thick. Bedrock was intrusive in portions of Test Unit #1. In addition, soil was generally rocky. No material culture remains were discovered. Layer I soil was reddish brown in color (5 YR 5/4), somewhat compact, fine grained in texture, with a high clay content. Layer II soil was coarse grained, yellowish red in color (5 YR 4/6), with small pieces of decayed bedrock.

**Site 50-10-3737 (Figure 14)**

**Type:** Parallel alignment

**Environmental Setting:** Located in an eroded area near southern boundary of Ranch property. Exposed bedrock present. Blasting has occurred north of feature and possible grubbing in general area. Vegetation comprised of sparse to moderate buffelgrass cover, *kiawe* trees, and scattered klu. Elevation 69 to 79 ft. AMSL.

**Condition:** Fair

**Probable Age:** c. World War II

**Function:** Military road

**Dimensions:** 8 m. N-S by 119 m. E-W

**Description:** The site consists of two parallel stone alignments c. 6 m. apart. The southern alignment is c. 122 m. long and the northern alignment is c. 114 m. long. Both alignments are primarily constructed with large basalt cobbles and boulders c. 0.6 to 1.0 m. in diameter. Several of the basalt boulders used in the feature exhibit weathered heavy equipment scars. In general, both alignments consist of single, large cobbles and boulders placed linearly along a bearing of 81 degrees. Much of the area between the two parallel

alignments consists of exposed bedrock. A c. 1.0 m. diameter gravel pile is located at the western end of this site. A few portable remains were found near the site (see Table 1).

**Site 50-10-3738 (Figure 15)**

**Type:** Parallel alignment

**Environmental Setting:** Located near the southern boundary of the study area at the edge of Kulanihakoi Gulch. Some exposed bedrock present. Area of erosion.

Vegetation composed of moderate to thick buffelgrass cover and *kiawe* trees. Elevation 67 ft. AMSL.

**Condition:** Fair

**Probable Age:** World War II

**Function:** Military road

**Dimensions:** 8 m. N-S by 58 m. E-W

**Description:** This site is c. 46 m. south of Site 3737. It also consists of two parallel stone alignments c. 6 m. apart. Both alignments consist primarily of a series of large (c. 0.6 to 1.0 m. diameter), single cobbles and boulders placed linearly and parallel to the curving edge of the Kulanihakoi Gulch. The southern alignment is c. 61 m. long, while the northern alignment is c. 46 m. in length. An additional alignment segment c. 8.8 m. long is some seven meters to the west of the northern alignment. This appears to have been severed from the longer alignment with a bulldozer. Some boulders utilized in the construction of Site 3738 exhibit heavy equipment scars. Much of the area between the parallel alignments is exposed bedrock. A utilized cobble was found near the eastern end of this site (see Table 1).

**Site 50-10-3739 (Figure 16)**

**Type:** Parallel alignment

**Environmental Setting:** Located near the base of a promontory on a moderate to gentle sloping bank of Kulanihakoi Gulch. Some exposed bedrock present. Area of bulldozing to the west. Vegetation comprised of moderate buffelgrass cover and scattered *kiawe* trees. Elevation c. 49 ft. AMSL.

**Condition:** Poor

**Probable Age:** World War II (?)

**Function:** Military road remnant (?)

**Dimensions:** 5.7 m. N-S by 9.8 m. E-W

**Description:** This site is c. 76 m. west of Site 3738 and c. 30 m. southwest of Site 3735. Site 3739 consists of two relatively short, parallel alignments c. 3 m. apart. Both alignments consist of relatively large basalt cobbles (c. 30 to 60 cm. diameter) placed in a linear manner. The northern alignment is c. 9 m. long, while the southern one is 9.8 m. long. Two of the feature's rocks have what appear to be heavy equipment scars. No portable remains were located in the vicinity.

**Site 50-10-3740 (Figure 17)**

**Type:** Erosion containment walls

**Environmental Setting:** Located near the northern boundary of the study area on either side of a relatively small gulch. Gulch is c. 4 m. deep by 20 m. wide. Exposed bedrock and "blue rock" in area. Extensive bulldozing to northwest of the gulch, grubbing and apparent blasting to the east of the site. Vegetation comprised of thick buffelgrass, relatively abundant *kiawe* trees and some klu. Elevation c. 96 to 105 ft. AMSL.

**Condition:** Fair to good

**Probable Age:** Post-Contact

**Function:** Ranching

**Dimensions:** West wall - 11.0 m. N-S by 0.5 to 1.1 m. E-W. East wall 44.0 m. N-S by 0.5 to 0.8 m. E-W

**Description:** This site is located along either side of the small gulch that crosses the study area. It is c. 130 m. south of the northern project boundary. The west retaining wall is generally well built, and ranges in height on the gulch side from 0.5 to 0.7 m. above ground surface. The wall on the eastern back of the gulch is tumbled down in places due to erosion and, possibly cattle activity. This wall generally does not extend onto exposed bedrock. It is c. 0.6 to 0.9 m. in height on the gulch side. Both walls are constructed with relatively dense "blue rock", some of which exhibits heavy equipment scars. Cobbles range in size from 20 to 45 cm. in diameter. Some wire was observed in one portion of the eastern wall. Historic material noted in the area included metal, bottle glass fragments, an aluminum can, and metal wire.

**Site 50-10-3741 (Figures 18 and 19)**

**Type:** Midden and Lithic Surface Scatter

**Environmental Setting:** Located near the middle of western boundary of property. At the base of a moderate slope, portions of which appear to have been bulldozed. Exposed bedrock and outcrop are in vicinity. Area of erosion and deposition from upslope. Vegetation comprised of sparse to moderate buffelgrass cover, scattered *kiawe* trees, and isolated clumps of *pili* grass. Elevation c. 59 to 63 ft. AMSL.

**Condition:** Fair, eroded

**Probable Age:** Pre-Contact

**Function:** Temporary habitation

**Dimensions:** c. 68 m. N-S by c. 48 m. E-W

**Description:** This large midden and lithic surface scatter is located c. 53 meters from the western boundary of the subject parcel. Three fence posts cross a portion of Site 3741 on a bearing of 164 degrees. Surface finds included three unworked basalt flakes, four waterworn rocks, and two pieces of coral (see Table 1). In general, marine shellfish remnants are sparsely scattered over the site. Species represented on the surface are the same as those found in Test Units #1 and #2 (see Table 2).

Test Unit #1 was 1.0 x 1.0 m. square. Excavation was halted at c. 18 to 23 cm. b.s. when decayed bedrock was encountered. Stratigraphy was similar to other subsurface tests. However, the top c. 10 cm. of Layer I had been churned by cattle crossing the site over time. Layer I (5 YR 4-5/4) soil was fine textured reddish brown in color, with a relatively high clay content. It was c. 13 to 16 cm. thick. In all, eight different marine shellfish species were found in the top 10 cm. of Layer I (see Table 2). In addition, a utilized basalt flake was recovered from this layer. Layer II was c. 5 to 7 cm. thick. It was yellowish red in color (5 YR 4/6), with a grainy texture, and included pieces of decayed bedrock. Layer II soil was sterile.

Test Unit #2 was 0.5 x 1.0 m. in size. Excavation was halted at c. 11 to 14 cm. b.s. Stratigraphy was similar to Test Unit #1. However, Layer I was only c. 7 to 9 cm. thick. Most of Layer I was disturbed by cattle activity. Layer II was relatively intact. Two species of shellfish, one dense waterworn rock, and one piece of coral were located in Level 1 (0 to 10 cm. b.s.) of Layer I (see Table 2).

#### **Site 50-10-3742 (Figure 20)**

**Type:** Midden and lithic surface scatter

**Environmental Setting:** Located directly north of small gulch, near western property boundary. Area of exposed outcrop, very thin soil. Gentle sloping terrain. Vegetation comprised of sparse buffelgrass, *kiawe* trees common next to gulch. Elevation c. 48 to 52 ft. AMSL.

**Condition:** Poor, eroded

**Probable Age:** Indeterminate

**Function:** Possible temporary habitation

**Dimensions:** 21 m. N-S by 26 m. E-W

**Description:** This midden and lithic surface scatter is located c. 54 m. south of Site 3741 and c. 52 m. from the western boundary of the survey area. This is a very sparse surface scatter with very shallow soil deposits. Only two types of shell were observed in the site area: Conidae and Cypraeidae. Approximately eight pieces of shell were observed. Other surface portable remains included and unworked basalt flake, three waterworn rocks, a coral chunk, and four pieces of coral (see Table 1).

#### **Site 50-10-3743 (Figure 21)**

**Type:** Midden and lithic surface scatter

**Environmental Setting:** Located to the south of small gulch, near western property boundary. Area eroded, exposed bedrock, thin soil. Gentle sloping terrain. Vegetation comprised of moderate buffelgrass cover, and isolated *kiawe* trees and *klu*.

**Condition:** Poor, eroded

**Probable Age:** Pre-Contact

**Function:** Possible temporary habitation

**Dimensions:** 42 m. N-S by 52 m. E-W

**Description:** Midden and lithic surface scatter which included c. 25 pieces of the shellfish Conidae, Cypraeidae and Neritidae, and lithic materials consisting of two basalt cores, two unworked basalt flakes, four waterworn rocks, one coral chunk and three pieces of coral (see Table 1).

**Site 50-10-3744 (Figures 22 and 23)**

**Type:** Midden and lithic surface scatter

**Environmental Setting:** Located on a promontory at the base of a partly eroded slope. Some exposed bedrock in vicinity. Drainage area c. 20 m. to the north. Some possible bulldozing to north and west. Vegetation comprised of moderate buffelgrass cover and scattered *kiawe* trees. Elevation 60 ft. AMSL.

**Condition:** Fair, eroded

**Probable Age:** Pre-Contact

**Function:** Temporary habitation

**Dimensions:** 4.20 m. N-S by 6.10 m. E-W

**Description:** This small midden and lithic surface scatter is located c. 168 m. southeast of Site 3743. It is c. 105 m. north of the southern boundary of Ranch land. This site is relatively free of vegetation. Shellfish including Conidae, Cypraeidae and Neritidae were present on the surface. There were c. 10 pieces of shell observed. Collected portable surface remains included one utilized basalt flake, two unworked basalt flakes, one basalt core, one possible grinding stone fragment, one waterworn rock, one waste flake of volcanic glass, one volcanic glass core, one coral chunk, and one coral piece (see Table 1). Two test units, each 0.5 by 1.0 m. were excavated at this site.

Test Unit #1 was excavated to c. 30 to 35 cm. b.s. and was halted when bedrock was encountered. Stratigraphy was similar to Site 3741. The top c. 10 cm. of Layer I had also been churned by cattle crossing the site over time. Layer I (5 YR 4/4) soil was relatively fine textured, reddish brown in color, with a high clay content. It was c. 18 to 22 cm. deep. Two different species of marine shellfish were located in Level I (0 to 10 cm. b.s.) of this test unit (see Table 2). In addition, a utilized basalt flake was also recovered from Level 1. Layer II was c. 8 to 12 cm. thick. It was yellowish red in color (5 YR 4/6), with a grainy texture, and included pieces of decayed bedrock. Layer II was sterile.

Test Unit #2 was excavated to c. 22 to 25 cm. b.s. Stratigraphy was similar to Test Unit #1. However, Layer I was slightly thinner (14 to 18 cm.). Level 1 (0 to 10 cm. b.s.) of Layer I had also been somewhat churned by cattle movement. Cultural material was only located in Level 1. Portable remains included three unworked basalt flakes, one waterworn rock, and five pieces of coral (see Table 2). Layer II (5 YR 4/6) was c. 4 to 7 cm. thick, and no cultural material was recovered from the Layer II soil.

**Site 50-10-3745 (Figure 24)**

**Type:** Midden and lithic surface scatter

**Environmental Setting:** Located at the base of a low, eroded promontory on gently sloping terrain. Area of erosion and exposed bedrock. Vegetation comprised of

moderate to dense buffelgrass cover, *kiawe* trees common. Elevation 102 ft. AMSL.

**Condition:** Poor, eroded

**Probable Age:** Pre-Contact

**Function:** Possible temporary habitation

**Dimensions:** 7.0 m. N-S by 3.5 m. E-W

**Description:** This midden and lithic surface scatter is located c. 68 m. west of the eastern boundary of the project area. It is the most eastward or *mauka* of the surface scatter sites. This surface scatter is sparse, with shallow, eroded soil deposits. Shellfish observed include Conidae and Cypraeidae. Other surface portable remains included three unworked basalt flakes, one possible basalt core, one waterworn rock, one utilized basalt chunk, and one coral piece (see Table 1). One test unit 0.5 by 1.0 meter was excavated c. 12 to 15 cm. to decayed bedrock.

Test Unit #1 was sterile. Stratigraphy was similar to the other test units. Layer I (5 YR 4-5/4) was 7 to 9 cm. thick. While Layer II (5 YR 4/6) was 5 to 6 cm. thick. Layer I appeared to have been churned by cattle.

#### Site 50-10-3746 (Figure 25)

**Type:** Petroglyph

**Environmental Setting:** Located on gently sloping terrain. Area of erosion, with thin soil and some exposed bedrock. Drainage area c. 30 m. north.

Vegetation comprised of moderate buffelgrass cover, *kiawe* trees common. Elevation 99 ft. AMSL.

**Condition:** Fair, weathered rock surface

**Probable Age:** Pre-Contact

**Function:** Marker (?)/ Art (?)

**Dimensions:** On basalt boulder c. 1.10 m. high by 0.91 m. wide by 0.85 m. thick

**Description:** This petroglyph is pecked into a large weathered, somewhat porous rounded basalt boulder. The figure of a man is displayed on this boulder. Part of the figure's right leg appears to be missing or has weathered. In addition, a portion of a rounded object is depicted below the figure's left arm.

**APPENDIX B:  
SHPD APPROVAL LETTERS**

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

WILLIAM J. AILA, JR.  
INTERIM CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

GUY KAULUKUKU  
INTERIM FISH OFFICER

WILLIAM M. TAM  
DEPUTY DIRECTOR - WATER

SOIL AND WATER RESOURCES  
BOARDING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
ENGINEERING

FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

March 7, 2011

Ty Fukuroku, Civil Engineer  
County of Maui, DPW-DSA  
Via fax to: (808) 270-7972

LOG NO: 2011.0536  
DOC NO: 1103MD05  
Archaeology

Dear Mr. Fukuroku:

**SUBJECT: Chapter 6E-42 Historic Preservation Review –  
Grading & Grubbing Permit Application G 2011/0014, Piilani Promenade  
Ka'ono'ulu Ahupua'a, Makawao & Wailuku Districts, Island of Maui  
TMK: (2) 3-9-001:016, 170 & 171**

Thank you for the opportunity to comment on the aforementioned project, which we received on February 23, 2011. Our review is based on reports, maps and aerial photographs kept on file at the State Historic Preservation Division.

A search of our records indicates that an archaeological inventory survey of this parcel was conducted during the subdivision process of what was originally a larger parcel 016 (Xamanek 1994). That report documented twenty historic properties. Nineteen of the identified sites were determined significant for information content and SHPD concurred that no further work was required. One site (petroglyph) was removed from the original location and preserved at TMK (2) 2-2-006:009. During an earlier review of the proposed Ka'ono'ulu Ranch Large Lot Subdivision No. 2 in 2006, SHPD determined that there would be no effect to historic properties by the proposed subdivision. This proposed permit will entail mass grading of 88 acres, including significant deep cuts into the subsurface.

Given the above information, we recommend that an archaeological monitor be present during all ground-altering activities. We request that an archaeological monitoring plan be submitted to SHPD for review and approval pursuant to HAR §13-279. If you have questions about this letter please contact Morgan Davis at (808) 243-5169 or via email to: [morgan.e.davis@hawaii.gov](mailto:morgan.e.davis@hawaii.gov).

Aloha,

Theresa K. Donham  
Acting Archaeology Branch Chief  
State Historic Preservation Division

cc: County of Maui, Department of Planning via fax to: (808) 270-7634  
Maui County CRC, Department of Planning, 250 S. High Street, Wailuku, Hawaii 96793

1204

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES**

STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

WILLIAM J. AILA, JR.  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
GUY KAULIKURUJ  
FIRST DEPUTY  
WILLIAM M. TAM  
DEPUTY DIRECTOR - WATER  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONTRACTS  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENFORCEMENT  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

August 10, 2011

Robert Spear, Ph.D.  
Scientific Consultant Services, Inc.  
711 Kapiolani Blvd., Suite 975  
Honolulu, Hawaii 96813

LOG NO: 2011.2060  
DOC NO: 1108MD12  
Archaeology

Dear Dr. Spear:

**SUBJECT: Chapter 6E-42 Historic Preservation Review –  
Archaeological Monitoring Plan for the Pi'ilani Promenade South Project  
Ka'ono'ulu Ahupua'a, Makawao District, Island of Maui  
TMK: (2) 2-5-002:015 (por.) and 3-9-001:016**

This letter summarizes our review of the aforementioned plan (Chaffee and Dega July 2011; *An Archaeological Monitoring Plan for the Kaonoulu Marketplace Project Located in Kihei, Ka'ono'ulu Ahupua'a, Makawao District, Maui Island, Hawai'i* [TMK: 3-9-01:16 and (2) 2-2-002:015 por.]/SCS Project Number 1224 AMP-1), which we received on July 29, 2011.

The proposed project will involve grubbing, grading and development of 88 acres. A search of our records indicates that an archaeological inventory survey of this location was conducted (Xamanek Researches 1994). SHPD previously determined that a similar proposed project would have no effect in 2006, and more recently we recommended archaeological monitoring during a grubbing and grading permit review from Maui County (*Log No. 2011.0536, Doc No. 1103MD05*).

This plan is accepted as final pursuant to HAR §13-279-4. Please notify the Maui and Oahu offices via fax at the start and completion of archaeological monitoring. Upon receipt of this letter please submit one paper copy of your report marked Final to our Kapolei office along with a CD containing a searchable pdf version of the final report and a copy of this approval letter, marked to the attention of the Kapolei Library. If you have questions about this letter please contact me at (808) 243-5169 or via email to: [morgan.e.davis@hawaii.gov](mailto:morgan.e.davis@hawaii.gov).

Aloha,

Morgan E. Davis  
Lead Archaeologist, Maui Island Section  
State Historic Preservation Division

**APPENDIX C**  
**COMMUNITY MEETING TRANSCRIPTS**  
**25 February 2014**

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Piilani Promenade Cultural Consultation Meeting  
February 25, 2014

Transcribed by: Jessica R. Perry, CSR, RPR

1 Sarofim Realty Investors, Inc. hosted a Cultural  
2 Consultation Meeting on February 25, 2014, from 6:00  
3 p.m. to 8:00 p.m. at the offices of Goodfellow Bros.,  
4 Inc., located at 1300 N. Holopono Street, Suite 201,  
5 Kihei, Maui, Hawaii. In attendance were:

6 Charlie Jencks  
7 Brett Davis  
8 Eric Fredrickson  
9 Kimokeo Kapahulehua  
10 Kelii Taua  
11 Mike Lee  
12 Levi Almeida  
13 Basil Oshiro  
14 Sally Ann Oshiro  
15 Clare Apana  
16 Brian Nae`ole  
17 Florence K. Lani  
18 Daniel Kanahale  
19 Jacob R. Mau  
20 Lucienne deNaie

21 A copy of the sign-in sheet is attached as Exhibit A.  
22  
23  
24  
25

1           MR. JENCKS: Hi, everybody. Are we ready  
2 to go, Mr. Audio/video?

3           MR. KINNIE: We're good to go.

4           MR. JENCKS: Good deal. Okay, thank you  
5 all for coming. My name is Charlie Jencks. I'm the  
6 owners representative for Piilani Promenade, which is  
7 a project that you can see the land with dust control  
8 fences in north Kihei. We are in the process of doing  
9 an environmental impact statement, which as you all  
10 probably know and understand involves a couple can of  
11 things. One of those is a complete archaeological  
12 inventory survey that we need to do for the project,  
13 for the EIS.

14           Way back when, when the land was owned by  
15 Mr. Henry Rice, he -- in the mid, early '90s, he hired  
16 Zemanek to go out and do the archaeological survey  
17 for the property. When we contracted with Chris Hart  
18 & Partners, and Brett Davis is here from Chris Hart &  
19 Partners, to do the AIS, I thought it would be best  
20 and most efficient to have Zemanek redo the work as  
21 an update from the AIS. So Eric's firm was hired and  
22 Eric has completed a draft AIS that contains two of  
23 the sheets that he's handing out right now.

24           The purpose of tonight's meeting is to,  
25 number one, get a presentation from Eric on what was

1 found way back when and what we know about it today  
2 and update it, because we have an updated AIS. And  
3 number two, to take what he's going to tell you and  
4 then have a discussion from a cultural perspective  
5 what this property means to you and what you know  
6 about the property, because what we'd like to do is  
7 include that information as a part of the file when  
8 they resubmit the AIS. The intent tonight is to  
9 record video and audio. That information then will be  
10 used to develop a transcript, which we will then  
11 append to the AIS at some point in the future so the  
12 file is complete.

13 You know, we've looked at the property  
14 multiple times. I think it's decorum to ask you what  
15 you think. I went to Lucienne and asked her who --  
16 who should be invited to this meeting, and she came  
17 up with a good list of people that I have (inaudible)  
18 before and I think this should be a good discussion  
19 and I look forward to it.

20 So without any further ado, may I present  
21 to you Mr. Eric Fredrickson. We are going to go from  
22 6:00 to 8:00, as is standard procedure here. If  
23 you're going to speak, your name, so we know who it is  
24 on the record so it's easy to transcribe. Remember  
25 that, your name and then you talk. I said my name,

1 Charlie Jencks, so everyone knows who I am.

2 So, Eric, please, take it away.

3 MR. FREDRICKSON: Thank you, Charlie.

4 And hi, everyone. Thank you for coming. As Charlie  
5 said, I'm Eric Fredrickson. I grew up on Maui and  
6 have been doing archaeology for a long time. Does  
7 everybody have a handout? There are a couple pages  
8 that came out. Okay. (Inaudible).

9 What I'll do is before we get started, if  
10 it's okay, if everybody would just say hi, I'm --  
11 (inaudible) -- just to say hi. So I probably won't  
12 remember everybody's name, but just at least so we can  
13 all kind of say.

14 MS. DeNAIE: Hi, I'm Lucienne deNaie.

15 MR. LEE: Aloha, I'm Michael Kumukauoha  
16 Lee.

17 MR. ALMEIDA: Aloha, Levi Almeida.

18 MR. OSHIRO: Basil Oshiro.

19 MR. KANAHELE: Daniel Kanahale.

20 MS. APANA: Clare Apana.

21 MS. OSHIRO: Aloha. Aunty Sally Oshiro.

22 MR. NAE`OLE: Aloha, Brian Nae`ole.

23 MS. LANI: Aloha, I'm Florence Kea`ala  
24 Lani.

25 MR. MAU: Aloha. My name is Jacob Mau.

1                   MR. KAPAHULEHUA: Aloha. Kimokeo  
2 Kapahulehua.

3                   MR. TAU`A: Aloha. Kumu Tau`a.

4                   MR. DAVIS: My name's Brett Davis.

5                   MR. JENCKS: Charlie Jencks.

6                   MR. FREDRICKSON: Again, thanks all for  
7 coming. The whole purpose of this is to -- for  
8 information and then of course to get input from you  
9 folks. As Charlie said, we originally carried out an  
10 inventory survey, an archaeological inventory survey  
11 of this parcel, which is this pink portion right here,  
12 it was 88 acres originally, and a portion of it now is  
13 going to be developed as housing that's not directly  
14 involved with this project, which is now known as  
15 Piilani Promenade. So I think the on the ground  
16 component is about 75 or so acres.

17                   In 1994 the archaeological inventory  
18 survey that we conducted -- and I was on the ground  
19 for all of that. We located 20 sites, ranged from  
20 rock piles, some which were indeterminate function and  
21 then some which were makers. Some really low, some  
22 were a bit higher. We also found some enclosures, and  
23 I'll discuss them in a bit, and we also found what we  
24 are called surface scatters, which basically is an  
25 area where folks in the past were doing something,

1 eating, maybe working on tools, whatever, because  
2 people were going mauka-makai, and this was an area --  
3 it was kind of a stop point. It wasn't a place where  
4 people were living permanently because it's too dry.  
5 We also found a petroglyph that was on a bolder, and  
6 it's a good-size boulder, three or so feet in  
7 diameter. It was out in the middle of basically a  
8 pasture area. It had all been -- it was owned  
9 previously by Honua`ula Ranch and they'd run cattle on  
10 it. That boulder was a (inaudible). It was actually  
11 removed during the project while we were working --  
12 the report was in draft form and the prior owner took  
13 away. It went Upcountry, and it's in the same  
14 ahupua`a, but it's not on the property.

15 It was somewhere in this area, kind of  
16 near where this proposed Kihei-Upcountry highway is,  
17 originally. And that -- if you folks look at that,  
18 that map that came out is site 3746, which is kind of  
19 right up in this area. And again, that one was --  
20 that was taken off site.

21 At the time of the 1994 survey, all of  
22 the sites that we did locate were found to be  
23 significant, further information content under  
24 criteria D. No additional work was recommended at  
25 that time. The petroglyph, because of its cultural

1       significance, also was designated important under  
2       criteria E. And there was a -- preservation was  
3       recommended for it, but didn't get to that point  
4       because it was removed. The recommendation probably  
5       at the time would have been preservation on site  
6       somewhere. It was in an area that was not very  
7       secure. I mean, it was just out in the middle of just  
8       an open field. So that's a synopsis of what happened  
9       in the 1994 work.

10                       Now here we are 2014. Happy new year, by  
11       the way, to all of you. There are some off site  
12       portions of this project that, you know, that wasn't  
13       even known in 1994 that anything was going to happen.  
14       So recently we came back, there's one -- there's an  
15       easement -- or, excuse me, there will be a road that  
16       comes from this project out to Ohukai, and then  
17       there's this -- it was titled a drainage easement, but  
18       now it's actually going to be used just to reroute the  
19       waterline. Right along the Wailuku-Makawao district  
20       line, which on that map that you folks have there's  
21       like an easement that's indicated, and that's the  
22       central Maui transmission waterline. It's a really  
23       big waterline. It's a 36-inch diameter waterline. It  
24       was completed, at least in this portion of Kihei, in  
25       1979, according to water department records. So that

1 comes across kind of the middle, diagonally across the  
2 property line -- or, excuse me, the project area, but  
3 that line is going to be diverted in this easement,  
4 and then it will be on the southern side in the  
5 project area, and then it connects down into the --  
6 into where it is down on the other side of Piilani  
7 Highway, which is down this direction.

8 And, I don't know, Charlie, maybe you can  
9 help. Is this -- is this going to be connecting in  
10 here?

11 MR. JENCKS: Yes, that's (inaudible).

12 MR. FREDRICKSON: So it will come in  
13 toward the south, southwest, in the southwest border  
14 and connect toward the system that's in place. That  
15 will be a major improvement and also action.

16 Other things that are proposed, all of  
17 this is required archaeological work to check out, is  
18 this access road here and then it comes up here and  
19 then this is -- is it a million gallon watertank?

20 MR. JENCKS: Yes.

21 MR. FREDRICKSON: A million gallon  
22 watertank is proposed. So we covered this area as  
23 well. This -- this area here is I believe leased by  
24 Monsanto for -- they're growing corn there. This  
25 whole area has been previously impacted by that

1 activity associated with land clearing.

2 There's another area -- so there's these  
3 three -- four areas, actually. There's this access  
4 road that goes out to Ohukai. Then you've got this  
5 access road that goes up to the watertank, then this  
6 easement, which was proposed for drainage formerly,  
7 but that's no longer going to be used for that. It's  
8 just the -- there will be a waterline kind of on the  
9 makai side of the western side of the new waterline  
10 will be diverted -- or not diverted, but excavated and  
11 then laid in place and go down there.

12 The additional area that's going to be --  
13 that was looked at, but, I mean, just basically, it's  
14 shoulder right-of-way, is this pink area over here.  
15 And that basically has to do with future improvements  
16 that this project is going to be required to do on the  
17 other side of the Piilani Highway.

18 So those areas we looked at this year,  
19 and no new sites were identified or anything in those  
20 areas. This area has been disturbed quite a bit. A  
21 lot of your sheet erosion, there's no more topsoil,  
22 it's down to bedrock. This part of Kihei, not  
23 everywhere, but in a lot of areas has gotten really  
24 shallow soil, and over 100 or so years of grazing and  
25 everything, the grass has been eaten down and then in

1 the summer, it's stressed, you get rain, soil -- soil  
2 has been washed away. So you get some pedestaling  
3 effect of rocks and stuff. If anybody here has been  
4 to Kahoolawe, not quite as severe because there's not  
5 as much soil as there is on Kahoolawe in a lot of  
6 areas, but you'll see like rocks and stuff that are  
7 just stuck up on little pedestals of soil.

8 So let's take a -- just a brief look at  
9 the sites that we actually located in the 1994 survey,  
10 and what we did -- because a lot of time elapsed,  
11 we've reevaluated sites, and in the prior survey there  
12 wasn't additional work recommended for the sites that  
13 were located. The preservation issue for the  
14 petroglyph is something that was set on the side,  
15 because it's not here. If it was here, I certainly  
16 would -- that would be recommended for preservation.  
17 There have been some discussions with the former  
18 landowner -- I don't know what's occurred yet -- about  
19 trying to have the petroglyph returned, but there's  
20 nothing that I've heard at this point.

21 These sites -- the sites started from  
22 3729, and there are 20 of them, so the petroglyph, the  
23 last one, is 3746. So sites 3729 through site 3746,  
24 those are the sites that were identified.

25 MS. DeNAIE: And did you take photos of

1 most of the sites?

2 MR. FREDRICKSON: Yeah, they're in --

3 MS. DeNAIE: They are --

4 MR. FREDRICKSON: In the appendix, in the  
5 back of the inventory survey from 2000 -- or 1994,  
6 they're in that, but not -- they may not be in this.

7 MS. DeNAIE: This was -- well, they were  
8 like sort of --

9 MR. FREDRICKSON: Yeah, they're black and  
10 white.

11 MS. DeNAIE: Yeah.

12 MR. FREDRICKSON: Which is -- that  
13 preserves the best.

14 MS. DeNAIE: Oh, I'm sorry, Lucienne,  
15 just asking about -- there's pictures of the sites.  
16 So you have these pictures in black and white --

17 MR. FREDRICKSON: Yes.

18 MS. DeNAIE: -- if anybody needed to see  
19 (inaudible)?

20 MR. FREDRICKSON: Yeah. So sites 3727  
21 through, let's see, okay, 3728, this is 3729. What  
22 are these, Charlie, I'm not quite --

23 MR. JENCKS: (Inaudible).

24 MR. FREDRICKSON: Oh, okay. Thank you.  
25 These are -- these were stone piles that were just --

1 and we actually tested a couple of them to see what,  
2 if anything, was underneath, just trying to get an  
3 approximate idea of the age, that sort of thing. Most  
4 of the piles appear to be placed on bedrock, on  
5 outcrop bedrock. We didn't locate anything in -- in  
6 the -- in the test phases. A couple of them had  
7 artifacts that were nearby, which isn't -- it's not a  
8 surprise. Hawaiians were transiting back and forth.

9           Some of the other sites -- so there's --  
10 let's see, 28 -- 3728, 3729, 3730, those are stone  
11 piles, (inaudible). An interesting one is -- what's  
12 this one, Charlie? I'm trying to --

13           MR. JENCKS: I don't see the number on  
14 it.

15           MR. FREDRICKSON: I think that one is --  
16 that's 37 I think 20 -- that's part of 3728, I  
17 believe. But that's a -- appeared to be a possible  
18 agricultural site, but we didn't find any evidence for  
19 it. I'm just going to get out my -- the other table.

20           MS. DeNAIE: Is that this one? Because  
21 that's 27.

22           MR. FREDRICKSON: 3727. Thanks. I've  
23 got my other table out. This has stone piles and  
24 there was some -- some -- the traditional --  
25 traditional cultural remains were -- was on the

1 surface. That was when we tested and weren't sure  
2 what it was, and our -- at that point the guests that  
3 we had was possible agricultural function. This is  
4 one that merits more study. So this one will have  
5 what's called data recovery work done on it in the  
6 future, once the State Historic Preservation Division  
7 reviews the report and once they concur, if that's --  
8 if that's reasonable. It was not recommendation in  
9 1994, views of things were a bit different, and the  
10 state said no, no further work was needed.

11 I spent -- just a quick thing about  
12 myself, just a brief -- I was on the Cultural  
13 Resources Commission for ten years, two separate  
14 five-year terms, and times have changed, so there does  
15 need to be some more work done to try to get  
16 additional information. That one, site 3727, is  
17 recommended for data recovery, and so is the 3728.  
18 There are other stone piles which we came across.  
19 Thanks, Charlie.

20 Again, these -- if you folks can see this  
21 bedrock around, there's bedrock in many of these  
22 areas, just more examples of stone -- of stone piles,  
23 some of them pretty high. 3731 was about -- you know,  
24 about like that tall, two and a half -- two and a half  
25 feet or so. Some were a bit lower. This one, 3734

1 was only about 35 centimeters, maybe a foot and a half  
2 high.

3 One thing, that one we probably will be  
4 doing some more -- some more work on. That's one that  
5 I'm still thinking about it. It said no further work,  
6 but there are a lot of -- a lot smaller rocks in that  
7 pile, so it may merit some additional work, and  
8 basically it would be just taking a section and seeing  
9 what's underneath it.

10 Again, bedrock is right there, and it's  
11 not a really big, you know, deep pile. Any time I see  
12 piles that are, you know, kind of good size, always  
13 there's a possibility there could be iwi there. When  
14 there's bedrock and stuff around, it's a little bit  
15 less, because it's not -- especially if it's not that  
16 deep, but still we -- that's why we probably are going  
17 to check to make sure, see if we can get any more  
18 information on it.

19 The area in the past was -- have been  
20 under ranching for quite a while, hundred plus years.  
21 The military was in there, in this part all over in  
22 Kihei during World War II and you see evidence of it  
23 all over the place. I worked on the Big Island a long  
24 time ago for Bishop Museum, and also on Maui, and  
25 you'll get these -- we found a couple of them

1 C-shapes, is what they're called, and it was basically  
2 a place where they would set up practice for machine  
3 gun -- have a machine gun there, and sometimes you'll  
4 find spent shell casings from practice and stuff. But  
5 the military had been in the area.

6 We looked at a couple of enclosures too,  
7 which I think they're -- yes, are over here. Site  
8 3735, 3736, we tested, didn't locate anything, but we  
9 probably will go back and do some more -- some more  
10 work on those. 3735 -- or, excuse me, 3736, this one.  
11 This one we think is probably military. We may go  
12 back and check that as well. Then we had some  
13 alignments. 3737, 3738 and 3739, two of them, 3737  
14 and 3738 were pretty long, especially 3737. I mean,  
15 60, 70 feet long, linear, parallel. Some of the rocks  
16 and the alignments had been -- I mean, it wasn't like  
17 really carefully stacked. It's like a bulldozer had  
18 gone through and the rocks were on the edge. There  
19 are some heavy equipment scars on some of the rocks  
20 and lots of like exposed -- like bedrock, flat, but  
21 it's like the -- there was hardly any rocks on the  
22 inside, so it's like it had been cleared of rocks. It  
23 looked like bulldozing, because there was metal --  
24 excuse me, heavy equipment scarring on the rock, on  
25 some of the rocks. Same with 3738. It wasn't as long

1 of a segment.

2           There is a possibility that because  
3 there's a lot of bulldozing that had happened on the  
4 parcel over the years in the past -- and some of it  
5 could have been related to like the fire department  
6 too, because sometimes Kihei has got the wild fires  
7 and they will take bulldozers out wherever need be  
8 just to try to -- for public safety.

9           Also, with the central -- central Maui  
10 transmission line was put in in the '70s, like I said,  
11 it's a three-foot diameter line. It's a big one, and  
12 they buried it pretty deep, and so when all of that  
13 work was going on, they had to have construction, you  
14 know, access roads and all that to get the equipment  
15 in and lay it, lay the pipe and everything, so that  
16 was a pretty big disturbance event that went through  
17 the middle of the property.

18           Yes, Lucienne.

19           MS. DeNAIE: Lucienne. Did you read in  
20 the report -- I guess it was Septric. They did a  
21 report for the parcel immediately mauka.

22           MR. FREDRICKSON: Mauka.

23           MS. DeNAIE: And they found an  
24 alignment -- I didn't see a picture of it, because I  
25 didn't see the actual report. I just saw it in

1 another report, the map, but it sounded like kind of a  
2 similar thing, an alignment of two things of stones  
3 that were, you know, so far apart. Did you ever  
4 encounter any pictures or anything to compare it, if  
5 it's the same?

6 MR. FREDRICKSON: We just have gotten  
7 that report. The state didn't have -- the SHPD didn't  
8 have --

9 MS. DeNAIE: Yeah, I tried to get it  
10 (inaudible).

11 MR. FREDRICKSON: Yeah, I will -- if you  
12 want to take a peek at it, I just got it in PDF.

13 MS. DeNAIE: I would love to.

14 MR. FREDRICKSON: And I will email it to  
15 you.

16 MS. DeNAIE: Oh, that would be great.

17 MR. FREDRICKSON: But what I was going to  
18 say is -- excuse me -- is near the watertank site, off  
19 the project, we just were -- just wanted to just take  
20 a look around the area. We did note a bulldozed -- an  
21 old bulldozed -- a road that had been bulldozed that  
22 had kind of some rough alignment, you know, like  
23 similar to these, but the -- there were smaller bits  
24 of rock as they dug down a little bit more and there  
25 was a little bit more soil, but again, it's probably

1 World War II era.

2 MS. DeNAIE: Be interesting just to even  
3 line them up and see just part of that history. I  
4 don't know if that's your job, but --

5 MR. FREDRICKSON: We found -- we found  
6 another one down -- it was off project, Piilani farm  
7 that Monsanto operates for their corn, near it, on  
8 another -- I think it was on Haleakala Ranch land, we  
9 saw another one of these. There was a World War II  
10 road that actually ran through that property that went  
11 off property and there was another one of these where  
12 a bulldozer had gone through relatively long ago, and  
13 you get this kind of a parallel alignment, and it's  
14 pretty -- you know, you've got basically a bulldozer  
15 blade width that goes through.

16 We found one more. There were three  
17 total. The other one was not as long, 3739 up here.  
18 Again, outcrop, bedrock, nothing in the interior  
19 portion of it. 3740, which is in the little gully  
20 that crosses the parcel -- a portion of the parcel,  
21 erosion containment walls, and it has like old fencing  
22 stuff in it and probably ranch (inaudible), so things  
23 didn't get washed -- washed out when that gully did  
24 flow, because when it rains, the water comes down  
25 pretty -- pretty fast.

1 MS. DeNAIE: And Lucienne here. We do  
2 have a former cowpoke here.

3 MR. FREDRICKSON: I'm looking forward  
4 to --

5 MS. DeNAIE: Brian Nae`ole, and he rode  
6 up and down here in his youth out of high school.

7 MR. NAE`OLE: 1979.

8 MS. DeNAIE: And so, you know -- and your  
9 ohana worked for the ranch too, yeah.

10 MR. NAE`OLE: Yes.

11 MS. DeNAIE: Yeah, so, and Aunty Florence  
12 too. So they might be able to answer some questions  
13 about ranching practices.

14 MR. FREDRICKSON: Oh, yeah, no, I would  
15 hope that -- I'm just talking, and, you know, feel  
16 free to interrupt me and then I'll shush and then I'd  
17 love to hear information from you folks, because  
18 you've seen an awful lot of interesting things over  
19 the years.

20 MS. DeNAIE: And we also have Jacob Mau,  
21 who worked for DOCARE, and so he -- he took his Jeep  
22 all over the place, so we're just hoping that, you  
23 know, some of the stuff, though, they'll know  
24 something about.

25 MR. FREDRICKSON: That's great. I

1 appreciate everybody, again, taking the time on what  
2 is a Tuesday at 6:00, whatever, beautiful day, but I  
3 know there's other things you could be doing, so I  
4 appreciate it.

5 The -- and then the sites 3741 to 3745,  
6 those are what are termed surface scatter, and those  
7 are definitely traditional Hawaiian sites. They had  
8 shell fish, like marine shell fish scattered around,  
9 not lots, but some. Somebody stopped there maybe a  
10 couple times, and some -- some artifacts, or like  
11 pieces of coral that people brought in. We did find  
12 on another project further Makena way, south from  
13 here, but on the mauka side of Piilani Highway,  
14 similar elevation, a place that had been -- it's kind  
15 of a stop -- a resting station, a rest station, kind  
16 of had an enclosure, not real -- a lot of effort put  
17 into it, but it's because it was just used not that  
18 often, but that actually ended up being a workshop, if  
19 you will, where folks were coming up from the ocean  
20 and reducing volcanic glass, taking the opala stuff  
21 off so they didn't have as much to pack up the -- up  
22 mauka. And that one -- that site also had food  
23 remains.

24 MS. DeNAIE: Excuse me. Lucienne. Was  
25 that the one that was preserve the sort of over near

1 the Monsanto area?

2 MR. FREDRICKSON: That's a different one.  
3 That one had a possible religious or ceremonial  
4 function, but yes, that was a different one.

5 MR. LEE: Hi. Michael Lee. When you get  
6 into the Hawaiian traditional practice, when you find  
7 a lot of coral on one of these mounds and stuff, that  
8 links to the Ku ceremony of au`au, when you go to the  
9 ocean and you cleanse and then you bring back a piece  
10 for -- usually it's a heiau or an offering site.

11 MR. FREDRICKSON: Yeah, these -- we  
12 didn't find much -- much -- it was small -- small  
13 pieces of coral, not like branch --

14 MR. LEE: Yeah, usually (inaudible) --

15 MR. FREDRICKSON: -- (inaudible) chunks  
16 of branch coral.

17 MR. LEE: Right, chunks (inaudible)  
18 normally.

19 MR. FREDRICKSON: That site that Lucienne  
20 brought up that's further south that was preserved did  
21 have some --

22 MR. LEE: (Inaudible).

23 MR. FREDRICKSON: -- excuse me, branch  
24 coral in it, and that was one of the rationale -- one  
25 of the rationales we used to say, hey, you know, it's

1 possible ceremonial function, preserve.

2 MR. LEE: Right.

3 MR. FREDRICKSON: But these four surface  
4 scatters, 3741 to 3745, the biggest one is 3741, which  
5 we did -- it's pretty substantial. It's about 50, 60  
6 feet, 60 feet in diameter, kind of, but it's not a  
7 clean circle or anything, but that's -- that one needs  
8 to have more work done, and so that would also be one  
9 that's going to be -- that we're going to recommend  
10 data recovery on. So we'll go back in and do some  
11 more testing. We didn't locate any subsurface  
12 component of it. It was only material on the top,  
13 and, again, shallow soil, a lot of erosion has  
14 occurred in the area, but that was certainly an area  
15 where people were stopping. There were some volcanic  
16 glass pieces that were there, but not good stuff,  
17 waste plates where it was just a place to lighten --  
18 lighten the load so you can take the good stuff up  
19 mauka.

20 3742 is another one, and that one will --  
21 it was just a few pieces of shell and a couple small  
22 pieces of coral and a water worn rock, and it's  
23 basically -- you know, somebody took it there, and  
24 it's called a manuport, if it's not something that was  
25 like an artifact or formal artifact. So that's

1 another one that we'll do some more excavation on --  
2 or excavation on. We didn't excavate that one.

3 3743 is another one of these surface  
4 scatters that we'll also do some excavation,  
5 excavation on. And 3744, that one we put in a couple  
6 test units. A good amount of food midden, not a ton,  
7 but more than the others, and it was in the top 10  
8 centimeters, which was about 6 1/2 -- 6 -- not even 6  
9 inches, 5 -- less than 5 inches of soil is for the --  
10 where the cultural material was and there wasn't  
11 anything deeper than that. It wasn't really deep soil  
12 deposited.

13 All of these areas have been traversed by  
14 cattle a lot. So it's possible the cattle just  
15 walking through might have pushed some of the shell  
16 down, but it's possible could have been covered by  
17 sheet erosion, water and dirt just going across, but  
18 it was certainly in the area where people were -- you  
19 know, they'd stop there, not on a regular basis, but  
20 they'd stop there at some point in the past. Again, a  
21 traditional site, though, it's not something that was  
22 very recent.

23 3745, another one, we tested that, same  
24 thing, got a little bit of shell midden in the soil  
25 deposit and -- but nothing below that. No charcoal or

1 anything. That was something we were looking for to  
2 try to -- so we could get a radiocarbon date -- sample  
3 so we could submit it to try to get an idea of about  
4 how old the site might be, but we didn't find any on  
5 all the testing that we did.

6 Yeah, Lucienne?

7 MS. DeNAIE: Lucienne. It looked like on  
8 your chart that the -- that last midden scatter was  
9 somewhat near where the petroglyph stone was --

10 MR. FREDRICKSON: Yeah, that one was  
11 about --

12 MS. DeNAIE: (Inaudible)?

13 MR. FREDRICKSON: It was -- I'm trying to  
14 remember how close it was. It was -- it wasn't right  
15 next to it. It was like -- just picture yourself out  
16 in the -- out in the field. It was probably 40 -- 30  
17 or 40 meters, 100 plus feet away, maybe a little bit  
18 farther, but it went -- comparatively speaking, it was  
19 close, certainly closer than anything -- any other of  
20 the sites on the project. And then the petroglyph  
21 itself was itself was, again, it was on a boulder  
22 about three feet in diameter and it was a real -- the  
23 rock was pretty porous, like if you rubbed up against  
24 it, really -- you know, you could get a pretty good  
25 sanding off of it and it was weathered, and it may

1 indicate that it was really, really old, or it may  
2 indicate that, you know, the rock is just more prone  
3 to getting weathered. But it's certainly interpreted  
4 as a traditional -- traditional site. Figure of a  
5 male, possibly with a basket or something, not sure,  
6 but, again, this is what got taken away.

7 Yes, Mike.

8 MR. LEE: Mike Lee. That circle on the  
9 bottom, was it like weather worn on one side that you  
10 could see it was a circle but it wore down or someone  
11 just completed what they thought should be the  
12 completed portion?

13 MR. FREDRICKSON: It -- really good  
14 question. This was our interpretation. It was kind  
15 of like -- it was discontinuous. It's like over here,  
16 we couldn't even -- you know, even see if the leg --  
17 I'm sure the leg had been there, but it was -- again,  
18 it was real weathered, but that was our -- it appeared  
19 that it was circular, but this -- the part that's  
20 dashed lines is -- that's what our interpretation was  
21 that that's what it appeared to do. There were a  
22 couple sections that were partial, partial  
23 (inaudible).

24 MS. DeNAIE: Showing (inaudible).

25 MR. FREDRICKSON: Oh, yeah, thank you.

1 And again, this boulder was transported off site.

2 MS. DeNAIE: Lucienne. Do you have like  
3 a fairly clear black and white picture of it that is  
4 in electronic form at all? It might be interesting  
5 (inaudible) cultural practitioners.

6 MR. FREDRICKSON: I could go back and  
7 look -- look in some of our old project photos, and  
8 I -- I'm sure it wouldn't be difficult to scan it or  
9 anything. It would -- and I'm happy to send -- to  
10 send it, to distribute that.

11 MS. DeNAIE: Yeah, we'd really appreciate  
12 it.

13 MR. FREDRICKSON: So that's -- that's the  
14 summary of the sites that were located and what is  
15 going to be the proposal for -- because some  
16 additional work does need to get done on some of  
17 the -- on some of the sites, the ones that I shared  
18 with you folks. And, excuse me, the data recovery  
19 will -- I mean, it's -- that we do as much work as we  
20 can, get as best information as possible, and  
21 sometimes you don't -- you don't get a lot more  
22 information, sometimes you do. It just -- it just  
23 depends. I'm not super optimistic, because of the  
24 real shallow soil. It would be great to get a couple  
25 carbon samples, but I don't know. All we can do is

1 try the best we can. Yeah.

2 MR. LEE: Mike Lee. Is there going to be  
3 a walkthrough for what these sites are, a consulting  
4 walkthrough?

5 MR. FREDRICKSON: Possibly later in  
6 the -- like when it's dry, prior to maybe data  
7 recovery.

8 UNIDENTIFIED MALE: Because it's like --  
9 you cannot see anything now.

10 MS. DeNAIE: It's (inaudible).

11 MR. FREDRICKSON: (Inaudible), but nobody  
12 else. Nothing else. Yeah, Daniel.

13 MR. KANAHELE: Daniel Kanahale. Eric,  
14 yeah, before I ask my questions, I just want to  
15 preface it by saying that this is part of a  
16 consultation process, according to HAR 13-7-276,  
17 where -- you know, where you're asked to seek the  
18 views of those who may have knowledge of the history  
19 of the area with regards to site significance and site  
20 function and site identification, so first of all, I  
21 wanted to ask the 2014 -- well, I did read the 1994  
22 archaeological inventory survey. I read it two years  
23 ago, so it's been awhile. My understanding, that was  
24 accepted --

25 MR. FREDRICKSON: Uh-huh.

1 MR. KANAHELE: -- by SHPD at the time.

2 MR. FREDRICKSON: Yeah.

3 MR. KANAHELE: So is this a supplement to  
4 that that you're undertaking? Is this something that  
5 you are going to be submitting for --

6 MR. FREDRICKSON: It will be submitted.

7 MR. KANAHELE: -- for review again and  
8 acceptance again?

9 MR. FREDRICKSON: Well, the 1994 --  
10 this -- the 88-acre project area, that's -- that part  
11 of it was accepted before. There was no monitoring  
12 recommendation or no further work recommended at the  
13 time in 1994. This project, like I said earlier,  
14 takes this -- this lot is a different land owner, but  
15 still it was part of the original survey in 1994, so  
16 that -- there weren't any sites located on this at the  
17 time, but that's still, in my mind, I'm considering it  
18 part of the -- of this overall project, so to speak.  
19 The -- so the sites that were found in 1994, that's  
20 the reevaluations, just see, you know, is the -- are  
21 they still significant, would they still be -- are the  
22 significance evaluations valid today.

23 The criterion D evaluations certainly --  
24 you know, certainly are. The petroglyph under -- is  
25 significant under criterion E for its cultural

1 importance. Again, it's in longer on the project;  
2 however, it's still -- doesn't mean its cultural  
3 significance goes away.

4 MR. KANAHELE: Just to -- just to follow  
5 up.

6 MR. FREDRICKSON: Yes.

7 MR. KANAHELE: So your recommendations --  
8 because I don't see the 1994 recommendations on --

9 MR. FREDRICKSON: Yeah, there -- at the  
10 time the views about criterion D sites were -- the  
11 amount of work were a little different that was  
12 figured, that was agreed upon, like, okay, well,  
13 there's enough information that's been collected. And  
14 the State Historic Preservation Division concurred,  
15 yeah, no additional work needed in -- at that time.  
16 In 2014, in my opinion, there should be some  
17 additional work done on the -- on close to half of the  
18 sites, to try to see if any additional information can  
19 be gathered. I mean, it's just -- just doing the best  
20 that can be done, and also, I mentioned a little  
21 earlier, in the 1994 inventory survey, no monitoring  
22 requirement was put in place. So there was no  
23 monitoring at all, and that was something that, again,  
24 that's 20 years ago. That has changed, and I  
25 completely agree that, yeah, I mean, even though it is

1 shallow soil and everything, there should be  
2 archaeologic -- precautionary archaeological  
3 monitoring carried out.

4 And the State -- the State Historic  
5 Preservation Division, actually in 2011, approved an  
6 archaeological monitoring plan that covers some of  
7 this property and some of the area mauka that -- of  
8 this property that Lucienne brought up that a 2008  
9 survey had looked at on the -- not in this area, but  
10 the area mauka. So there is an archaeological  
11 monitoring requirement that covers much of the  
12 property right now, and the plan has been accepted by  
13 the State Historic Preservation Division.

14 Because this -- you know, it's not a  
15 project-specific monitoring plan, though, and SHPD has  
16 already indicated that, hey, this project has changed,  
17 because originally it was 88 acres, but now -- well,  
18 it's less, this part of the original survey is a  
19 little less, but there's this off site improvement  
20 areas that they were never surveyed when we did the  
21 original work. This was just this one -- this one  
22 property. So these areas have been looked at.

23 The monitoring will also -- will  
24 extend -- it will be for this portion, the 88 acres,  
25 including the 13 acres or thereabouts, which is owned

1 by a separate entity, not part of the Piilani  
2 Promenade. It took me awhile to get my -- wrap my  
3 brain around this, but I finally do understand, so I  
4 know how frustrating it can be to not completely  
5 understand what a project is, because I saw this all  
6 the time on the Cultural Resources Commission, so I --  
7 Charlie was very patient with me, but I -- but I do  
8 understand what the scope of the project is, because  
9 this is the first time I've been involved with it  
10 since 1994.

11 I mean, I didn't do -- we didn't do any  
12 of the work in 2011 for the monitoring plan,  
13 preparation or anything. This was just kind of --  
14 Charlie called me last year about this and I was like,  
15 hmm, okay, I was always -- it was always difficult for  
16 me because of what had happened with the petroglyph,  
17 and I just -- it was something that just -- didn't  
18 have anything to do with them or anything. It was  
19 just one of those things that happened.

20 MR. LEE: Mike Lee. Was there an LCA for  
21 this whole property?

22 MR. FREDRICKSON: Yes, and I'm sorry, and  
23 I know someone here -- it was a very large one. It's  
24 5,000 plus acres to Heeiwa, and I don't have that --

25 MR. NAE`OLE: I have the apopuka. Brian

1 Nae`ole.

2 MR. FREDRICKSON: Oh, thank you.

3 MR. NAE`OLE: Land Commission Award,  
4 3237.

5 MR. FREDRICKSON: 3237.

6 MR. NAE`OLE: Mahalo.

7 MR. FREDRICKSON: Thank you.

8 MR. NAE`OLE: And I have an apopuka.

9 MR. KANAHELE: Was there a consultation  
10 process in 1994, somewhat like this, that occurred?

11 MR. FREDRICKSON: No, not -- not like  
12 this at all. It was, again, different -- different  
13 time. I'm trying -- we -- I think I brought -- who  
14 came out (inaudible).

15 MR. KANAHELE: I'm sorry, Daniel  
16 Kanahele.

17 MR. FREDRICKSON: I think -- and I'll  
18 double check, Daniel, but I believe Les Kuloloio came  
19 out to look at some of the -- like some of the surface  
20 scatters and stuff, because he's been involved with  
21 this for an awfully long time with -- you know, with  
22 being interested in what is found, and he came out and  
23 looked at -- looked at some of the sites, and I  
24 believe he saw the petroglyph, but we didn't have, I  
25 mean, as many folks -- and again, thank you for all,

1 you know, coming -- at the time who participated.

2 Yeah.

3 MR. KANAHELE: One other comment before  
4 I -- my understanding was in 1994 -- I don't know when  
5 the petroglyph was removed.

6 MR. FREDRICKSON: It was in 1994.

7 MR. KANAHELE: But it was removed without  
8 the permission of the state?

9 MR. FREDRICKSON: It was -- it was taken  
10 from the property before the inventory survey report  
11 had been finalized before the state had accepted it.

12 MR. KANAHELE: So still it was considered  
13 a historic property and removed from the site without  
14 permission of the state at that time?

15 MR. FREDRICKSON: As far as I know, there  
16 wasn't any permission, but I -- it was the land owner  
17 at the time, and they -- they -- they took it, I  
18 believe with good intentions, because it was -- it  
19 would be in a safer -- you know, safer area.

20 MR. KANAHELE: But you couldn't do that  
21 today, for example?

22 MR. FREDRICKSON: Oh, no. Well --

23 MR. KANAHELE: Do you remove a site  
24 before a preservation plan was put in place?

25 MR. FREDRICKSON: It's -- it's pretty

1 tricky. You -- the preservation plan needs to get put  
2 in place, and if it's not, it's kind of a gray area,  
3 and I don't really want to say that too much, just  
4 because there are landowner rights that can be kind  
5 of -- override some things. I don't want to go too  
6 much into.

7 MR. LEE: (Inaudible) tried to do some  
8 research --

9 MR. FREDRICKSON: Uh-huh.

10 MR. LEE: -- for Hawaiian cultural  
11 significance under Article 12, Section 7. Mike Lee.  
12 So -- thank you -- so we'll look at that, we'll look  
13 at survey notes and stuff like that.

14 MR. FREDRICKSON: It would be a lot -- if  
15 something like this were to happen now, it would be a  
16 lot different, I think, the result would be a lot  
17 different.

18 MR. LEE: This was in 19 --

19 MR. FREDRICKSON: 1994.

20 MR. LEE: 1994.

21 MR. JENCKS: Charlie Jencks. My  
22 understanding is that the state requested, subsequent  
23 to the relocation of the stone Upcountry, they  
24 requested that the land owner do the relocation --

25 MR. FREDRICKSON: There was some sort of

1 a relocation plan, but --

2 MR. JENCKS: Did you guys do that?

3 MR. FREDRICKSON: I don't think we did.

4 I don't remember, but that's --

5 MR. JENCKS: That was done --

6 MR. FREDRICKSON: That's something I will  
7 look at.

8 MR. JENCKS: That was done and accepted  
9 by the state.

10 MR. FREDRICKSON: Yeah, and there is  
11 reference to it, so --

12 MR. LEE: The relocation was to bring it  
13 back?

14 MR. FREDRICKSON: No, no, this was --

15 MR. JENCKS: To keep it up.

16 MR. FREDRICKSON: -- to -- (inaudible).  
17 It wouldn't be -- yeah, it would be a relocation,  
18 because from here Upcountry.

19 MR. JENCKS: Charlie Jencks. The point  
20 there is that the state knew about the relocation, the  
21 state had asked a land owner to do a study to  
22 formalize it, they blessed it --

23 MR. FREDRICKSON: Yeah, and --

24 MR. JENCKS: -- and closed it out.

25 MR. LEE: I see.

1                   MR. FREDRICKSON: And again, not the  
2 ideal -- not the ideal, but there were some -- there  
3 were actions that were taken to I guess make it  
4 official.

5                   MR. LEE: I see.

6                   MS. DeNAIE: Lucienne deNaie. I did come  
7 across sort of (inaudible) SHPD file, and I think the  
8 basic discussion was, well, Mr. Rice's intentions were  
9 good. (Inaudible) see it defaced or (inaudible).  
10 However, he didn't follow proper procedure, so our  
11 only choice here -- and they didn't -- they didn't  
12 really think that they might have a choice to contact  
13 lineal descendents of the land or anybody else and see  
14 if anyone else wanted to say anything. They felt  
15 their only choice was to provide a process to  
16 formalize what had already happened, because the  
17 intentions weren't bad.

18                   MR. FREDRICKSON: Yeah.

19                   MS. DeNAIE: You know, he didn't steal it  
20 to start his own museum.

21                   MR. FREDRICKSON: Right, to do some  
22 tourist attraction.

23                   MS. DeNAIE: He just said, well, you  
24 know, it's out here in the open and I don't know what  
25 I'm going to develop and, you know, to keep it from

1       harm, I'll just move it some place else.

2                   MR. FREDRICKSON:   Yeah, it wasn't done  
3       with malice or anything.   It was done with good  
4       intentions.   Again, it was 1994.   A lot different than  
5       2014.

6                   MR. LEE:   Article 12 -- Mike Lee, Article  
7       12, Section 7 was in 1978, so it -- it's still covered  
8       under the State Constitution, which because they did  
9       not contact the lineal descendents, they're  
10      technically in violation of the Constitution when it  
11      comes to our gathering rights and religious cultural  
12      practice rights were not considered.   State has made  
13      many mistakes while being -- this is not  
14      grandfathered.   It would have been grandfathered if it  
15      was '77, you know, under that action, but because it  
16      falls under that umbrella of we just have to find  
17      specifically what those cultural practices were, if we  
18      can find it as a findings of fact, that would be cause  
19      to bring it back when this property is secured for  
20      what it's supposed to do, to have a place back, you  
21      know, maybe as a pedestal and a cleaning to  
22      (inaudible) to have it back on the property because of  
23      that significance.   That's what I believe.

24                   MR. FREDRICKSON:   And the contact person  
25      (inaudible) anybody does have any questions at the

1 State Historic Preservation Division is Hinano  
2 Rodrigues. He's pretty knowledgeable about that  
3 stuff, so if anybody does have questions about it, I  
4 mean, certainly feel free to call him up. Thank you.  
5 Good questions and info.

6 So any other questions?

7 MS. DeNAIE: Sorry. I have so many  
8 questions. Lucienne deNaie. This project is  
9 immediately bordered by a gulch. I notice that when  
10 SCS did the high school site, right across the gulch  
11 from it, they did note that there were sites in the  
12 gulch.

13 MR. FREDRICKSON: Oh, I'm sure there's  
14 sites in the gulch.

15 MS. DeNAIE: And outside the project  
16 scope, but they noted them when they did some work on  
17 the parcel on the other side of Waipuiani Gulch.  
18 They also noted that there were some sites in that  
19 gulch, even though it was outside the project area of  
20 the Hi-Tech center area. So are the land owners  
21 willing to have the portion of the gulch that kind of  
22 surround here also surveyed, because it seems like it  
23 could inform us a little bit more about maybe what was  
24 going on here?

25 MR. FREDRICKSON: Yeah, good question.

1 The tricky part about that is it's a different -- this  
2 is -- I believe this is all Haleakala Ranch; is that  
3 correct?

4 MS. DeNAIE: (Inaudible).

5 MR. FREDRICKSON: Or, yeah, sorry,  
6 (inaudible) Ranch.

7 MS. DeNAIE: So it's the same people  
8 whose land you're surveying (inaudible).

9 MR. FREDRICKSON: At that time, yeah.  
10 And it would be -- it would be an owner -- land owner  
11 permission -- you'd have to have -- because you can't  
12 any more just kind of go on to somebody's property and  
13 go, oh, by the way, you have this site and this site  
14 and this site and you need to do X, Y and Z.

15 MS. DeNAIE: Well, it's interesting  
16 because, you know, they commissioned -- Honua`ula  
17 commissioned a study of the area up until the property  
18 line of this property, and yet recorded nothing in  
19 this gulch, and, you know, people have seen sites in  
20 that gulch, so it's sort of like a no man's land right  
21 now. I mean, I guess we could take it up with SHPD  
22 and ask that somehow, you know, it be included in the  
23 other review, but it just seems like there was no  
24 imaginary line between this gulch and this land. It's  
25 like they were functioning as --

1                   MR. FREDRICKSON: Sure. Well, and mauka  
2 and makai do.

3                   MS. DeNAIE: And you saw a (inaudible) or  
4 something around (inaudible) stone, it probably came  
5 from this gulch, because it's (inaudible). Also,  
6 Brian, what were you saying about the gulch had gone  
7 down like it was eight feet higher before or something  
8 like that?

9                   MR. NAE`OLE: Well, when I used to work  
10 on the ranch with my uncle, John Nauwau, we used to  
11 ride horses all down through there. I remember the  
12 gulch as very shallow, but as the years go by, it gets  
13 heavier and heavier, and you can see the way the  
14 action of the water coming down is like --

15                   MR. FREDRICKSON: (Inaudible) big flood  
16 events.

17                   MR. NAE`OLE: It's like tidal waves.  
18 Yes, exactly, you know, and it got really deeper, you  
19 know, from the time I saw it, because you couldn't  
20 get -- you couldn't go on these lands, only if you  
21 were to work on the lands.

22                   MR. FREDRICKSON: Uh-huh.

23                   MR. NAE`OLE: So that's the only way you  
24 could see them, but riding horse, you're practically  
25 right next to the gulches.

1 MR. FREDRICKSON: Oh, yeah.

2 MR. NAE`OLE: You're seeing all -- more  
3 vegetation, a lot of paninis, a lot of walls, a lot of  
4 lava -- man-made walls. So when you're looking at it,  
5 you just vision what it was back then. The waters  
6 from old-timers, they used to say it was very heavy.  
7 It was dangerous. In fact, couple times my uncle had  
8 to just sleep right there because (inaudible) was just  
9 running.

10 MR. FREDRICKSON: Too much, yeah.

11 MR. NAE`OLE: And you would have had to  
12 wait at least 12 hours, maybe more or maybe less.

13 MR. FREDRICKSON: I remember down by  
14 Kamaole I, before they, you know, raise the road, I  
15 mean, there were times where it's like, oh, not going  
16 any further south --

17 MR. NAE`OLE: You know, it looks rainy up  
18 on the top and nice and sunny down here, but then when  
19 nature comes --

20 MR. FREDRICKSON: Just look out.

21 MR. NAE`OLE: -- wait 45 minutes. That's  
22 why the ground is -- you can see it. You can vision.  
23 It's getting -- you know, it's corroding, and how it's  
24 corroding, it's getting heavier and heavier, so...

25 MR. FREDRICKSON: So you think in your --

1 in your lifetime, like -- how long did you work for  
2 the ranch?

3 MR. NAE`OLE: I worked for the ranch five  
4 months. I went to high school, Baldwin High School,  
5 so I had the opportunity to go on a work furlough.

6 MR. FREDRICKSON: Oh, neat.

7 MR. NAE`OLE: With the job.

8 MS. DeNAIE: And what year was that,  
9 Brian?

10 MR. NAE`OLE: This is back in --

11 MR. JENCKS: Let's be careful about our  
12 names so we can keep track of what's going on.

13 MR. NAE`OLE: So Brian Nae`ole,  
14 (inaudible). Back in 1979 I had that opportunity,  
15 because uncle and in fact my grandfather used to do  
16 all the roads back then. They had many, many stories.  
17 They told us certain places not to go, certain places  
18 to go to. So we were pretty much, you know, all word  
19 of mouth, but does the experience, by looking at it  
20 today, you can see a lot of devastation, you know, in  
21 this area. So how can we make it safe, you know? And  
22 a lot of these gulches, like this gulch or this --  
23 that is coming across the property, it wasn't there.  
24 So you see the overload of water transferring to  
25 different areas. So we're diverting water that we

1 wasn't supposed to, because back in the old days the  
2 water just flowed naturally. So you see the  
3 difference.

4           And I know some of you guys in here, you  
5 know, by experience we see this all the time. Every  
6 year, every ten cycle, every twenty cycle, you know,  
7 it changes. So we don't know if we're coming to our  
8 catastrophic findings of disaster or is it naturally  
9 made that way. Because back in the old days they had,  
10 you know, the kupunas to -- the konahikis, the anuis  
11 had it all studied down, because they knew how to  
12 divert. Today we're just figuring out by word of  
13 mouth so we're not really pressing it by natural.  
14 We're just diverting it. So if you look by  
15 construction, I think that's where the problem is.  
16 So --

17           MS. LANI: Florence Lani. I was born in  
18 Ulupalakua and my dad -- all my families were all  
19 cowboys. My brothers, I have two brothers that worked  
20 the ranch and one of my brothers, he works with -- my  
21 dad was a heavy equipment operator for Ulupalakua  
22 Ranch.

23           UNIDENTIFIED MALE: (Inaudible).

24           MS. LANI: Yeah. And then in about --  
25 when I was about almost ten years old we moved to

1 Kula. That's where the (inaudible) Rice arena is now.  
2 That's where my dad worked for Harold Rice. He was  
3 the only operator that Harold Rice would have knocking  
4 all the kiawe trees. My sister and I, he used to take  
5 us on his bulldozer and go to red hill, and my mom --  
6 he would pack us, and my dad used to find these big  
7 bombs.

8 MR. FREDRICKSON: Oh, yeah?

9 MS. LANI: And he would bring it home and  
10 he would put it by the door. Yeah, he don't even know  
11 it's alive, and we didn't know, and, you know, my mom  
12 always told him to take away that big thing, it's so  
13 heavy, and he told (inaudible). He puts the bomb  
14 right there and they don't know anything, but my dad  
15 had so much trouble with the ranch, and he would let  
16 my dad do anything. Harold Rice, my dad was one  
17 (inaudible) best purpose, and only he would get brand  
18 new trucks every year. He loves my dad so much,  
19 that's why he would take care. We always have  
20 presents every year, you know, from Harold Rice, and  
21 then came Aske, all of his family, we raised with his  
22 two boys, you know, Freddie and Henry. So, you know,  
23 we just like family, but he used to come from Kula all  
24 the way down here to behind Maui Lou because he had  
25 all --

1 MR. FREDRICKSON: Oh, the road.

2 MS. LANI: The area, yes, and we always  
3 going back and forth. And like Brian, they're the  
4 boys, so all of them was just riding on the trucks and  
5 everything with my dad, and we seen see many things,  
6 you know, through our years, you know, as we were  
7 growing up, but then after when they past down, then,  
8 you know, my brothers started working, and one past on  
9 and that's how our life was always. You know, so I'm  
10 still (inaudible) in the place where I was born and  
11 raised. So I know a lot, and our lineal descendents  
12 is all grave back there in Lahaina.

13 MR. FREDRICKSON: Oh, in Lahaina?

14 MS. LANI: Yes.

15 MR. FREDRICKSON: Now, did you -- this is  
16 Eric Fredrickson. I'll try to say my name too so  
17 whoever is transcribing this doesn't get too upset.  
18 When you folks used to come from Ulupalakua down --  
19 did he come to Kihei area a lot?

20 MS. LANI: We would use that top road  
21 from the highway in the back road coming all down to  
22 Makena.

23 MR. FREDRICKSON: Uh-huh.

24 MS. LANI: That's our road every day  
25 going La Perouse, all the way to Kihei, we'll never

1 forget the areas, how (inaudible). Only (inaudible)  
2 kiawe trees, so we can park anyplace, you know.

3 MS. DeNAIE: Lucienne. Aunty Florence,  
4 what years were these?

5 MR. FREDRICKSON: Yes, thank you.

6 MS. LANI: This is back like in the '70s,  
7 I mean in the '50s, you know, because I was born in  
8 1939 here in Ulupalakua, and by the time five, six  
9 years old he took us to Kula and Makawao, and from  
10 then on my dad worked ranch all the time from then on.

11 MR. FREDRICKSON: So all for -- go ahead,  
12 I'm sorry.

13 MS. LANI: And, you know, when he brought  
14 us -- that is about like '52, '53. My dad always had  
15 to drive the bulldozer, because he knocks every tree  
16 down, you know, the kiawe tree. Red hill is his  
17 favorite spot. Always go there and camp up here  
18 (inaudible).

19 MR. MAU: Get all the fire wood.

20 MS. LANI: Yes, yes. And the bulls. Oh,  
21 my mom and dad, I remember they used to trick a lot,  
22 and they would sleep on the roadside, and my sister  
23 and I just running around and (inaudible) bulls, ho,  
24 just fighting and fighting, and they were just  
25 sleeping because they were all drunk (inaudible). But

1 I remember these days, you know, like before, so --  
2 and I never thought I gonna see that and remember  
3 those things, but I -- we always used to come out, and  
4 there was mean stories about that point, all the rain  
5 used to come from behind (inaudible), comes down a lot  
6 of times, you know, my mom said they know about these  
7 wheelbarrow. When this wheelbarrow is making noise,  
8 they hear the noise from up there coming down, you  
9 better make room, because it's -- before they have all  
10 this kind of stories and the wheelbarrow would just  
11 come from up there, going full speed, and you -- they  
12 know, and they just move on the side. (Inaudible),  
13 you know, they use these kind of words. We tell them,  
14 we don't know what they telling us. Why you moving  
15 over there, daddy? We supposed to be on the road, but  
16 no, he tells no, you wait, wait. Wait and keep quiet,  
17 no say nothing, just respect, okay. Yeah, and big  
18 wheelbarrow just come swishing right down, right down  
19 to the ocean.

20 And my dad travels all the way down from  
21 Makena going to La Perouse, he says he's going  
22 (inaudible) nighttime by himself. He going with the  
23 car and he see this cow walking in the middle road and  
24 he telling the cow, go blowing the horn, telling him  
25 to the move, the cow, the cow's going, he's taking his

1 time, taking his time, and he said when the bull --  
2 the cow turned around and look at him, had mad face.  
3 (Inaudible) those kind of stories they tell us, and oh  
4 (inaudible) my mom and dad (inaudible) never taught us  
5 to -- you know, don't -- you know, this is only to  
6 respect. They have things that way, but respect those  
7 things and we were taught that, you know. Don't  
8 damage or don't go -- do anything talk back and say  
9 anything, just respect that, and that's how we were  
10 raised today to respect. Know who you come from, you  
11 know, that's how we have to teach our children, our  
12 grandchildren, the generations going down, and I'm so  
13 happy that I (inaudible), I continue to learn what my  
14 tutu, because we used to -- we was raised with the  
15 olden tutu ways, yeah, so we know how to survive. No  
16 lights, no water, wash hands.

17 MR. FREDRICKSON: You remember -- you  
18 remember that. Kids now --

19 MS. LANI: I went through hell.

20 MR. LEE: Mike Lee. Aunty, how did you  
21 guys find springs, since you needed water, or did you  
22 pack water?

23 MS. LANI: Yes.

24 MR. LEE: Pack water?

25 MS. LANI: Yes. We had a lot of water

1 catchment, and (inaudible) big property we had, tutu  
2 to used to make us early in the morning, we have to  
3 get up, learn how to work, and no more this kind  
4 toilet you have today. It's outhouse, you know, and  
5 it's not near and in the house. You have to walk.

6 MR. MAU: (Inaudible).

7 MS. LANI: We still have that today,  
8 because where I'm staying now, I living like that. My  
9 kids didn't want that, but today they're used to that.  
10 Just not (inaudible). They know, and they love it.  
11 They (inaudible) they look up to going to the country,  
12 do what you want, you know, in the country.

13 MS. DeNAIE: Lucienne. Aunty Florence,  
14 so have you ever like hiked down the gulch that runs  
15 down, you know --

16 MS. LANI: Oh, yeah.

17 MS. DeNAIE: -- all the way --

18 MS. LANI: With my dad sometimes.

19 MS. DeNAIE: (Inaudible).

20 MS. LANI: Yes, and that's very true what  
21 Brian is saying, because sometimes we can't cross  
22 over. We have to, you know, stay -- stay there, but  
23 (inaudible) --

24 MS. DeNAIE: (Inaudible) along the side?  
25 How did you folks (inaudible) --

1 MS. LANI: Walk, and there's horse to --  
2 you know, he packs us on the horse, or sometimes he  
3 can use the bulldozers to come down and follow.  
4 That's why sometimes it blocks up and he has to be the  
5 one to knock the kahawai, you know.

6 UNIDENTIFIED MALE: So there's like big  
7 trees or stuff --

8 MS. LANI: Yeah, sometimes.

9 UNIDENTIFIED MALE: -- flood came, yeah.

10 MS. LANI: Yeah, and he has to go, yeah,  
11 to go and clean it, yeah. And if he can't pass, we  
12 have to just find an area. My dad knew where to go  
13 and, you know, make sure that we are, you know,  
14 safety, yeah, yeah. So we knew how to live life the  
15 hard way, but, you know --

16 MR. FREDRICKSON: When you were -- this  
17 is Eric again. Aunty, when you folks -- you know,  
18 when you were a kid like walking in some of the  
19 gulches or, you know, like Lucienne just said, the  
20 Kulanihakoi Gulch, do you remember seeing anything  
21 anywhere like coming down the gulch from anyplace  
22 anywhere, like caves, anything like that?

23 MS. LANI: Well, before it wasn't like  
24 that. Once in a big while we used to have a lot of,  
25 you know, rain, rain day -- then that's the only time

1 we see big boulders come down, then, yeah, it will hit  
2 the side, so, you know, on the side sometimes you just  
3 hits the side, and that's where the bank gets soft,  
4 yeah, hits the bank and the water hits it again and it  
5 will just fall, and it gets wider. Yeah, it's when he  
6 has to go in and clean it out, make room again so the  
7 water can, you know, go down.

8 MR. FREDRICKSON: Go down the channel.

9 MS. LANI: Yes. Yeah. So he always  
10 taught us about being careful to go, where to go in  
11 the -- you know, when you see water, don't go  
12 (inaudible).

13 MR. FREDRICKSON: It comes fast. It's  
14 scary.

15 MR. LEE: Aunty Florence, did your father  
16 ever talk about pahoehoe lava tubes on this property  
17 or that came from the side gulch or something that  
18 went around this property or through this property,  
19 like lava tube for a cave?

20 MS. LANI: Oh, no, but -- no, he was  
21 all -- no, we never did enter, you know, through --  
22 always following the -- either the roadside or making  
23 roads. You know, sometimes the roads get all block  
24 up, and he -- damaged by rain and everything, stones  
25 cover 'em up, so he has to (inaudible). (Inaudible),

1       yeah.  And sometimes he goes to the kahawai too, but  
2       then, you know, he has to go look all the way --  
3       that's why from up there to down here he has to look  
4       the safest place to make the (inaudible).

5                       UNIDENTIFIED MALE:  (Inaudible).

6                       MS. LANI:  Yeah, (inaudible), yeah.

7                       MS. DeNAIE:  Lucienne here.  Now, I know  
8       both of you folks used to go down to the shoreline  
9       here too.

10                      MS. LANI:  Yes.

11                      MS. DeNAIE:  Over where like Menehune  
12       Shores is, like that.  What was that like?  What did  
13       (inaudible) --

14                      MS. LANI:  (Inaudible).  Yes, yeah, a  
15       lot, we could go hukilau down the beaches, you know.  
16       That was when nothing was (inaudible), just kiawe  
17       trees (inaudible).

18                      MS. DeNAIE:  And what kinds of stuff --  
19       Lucienne again.  What kind of stuff did you find down  
20       there?

21                      MS. LANI:  Used to pick up limu and all  
22       kind of limu, all the Hawaiian limus that you could  
23       get, that's our area, just enough for us to take home  
24       to eat, you know.  It was -- and the water wasn't  
25       liked to.  Today there's slimy, the limu is slimy.

1 When you eat it, you can taste the (inaudible), the  
2 taste of the lotion, yeah. So that's why I hardly --  
3 hardly get it now. There's laws you can only take so  
4 much, so, you know, everything's changed today.

5 MR. FREDRICKSON: It's Eric here. A  
6 question actually for both of you folks. You know  
7 when you folks were let's say small kid times going  
8 like down to the -- to the shore, like Lucienne and  
9 Mike were talking about, compared to like then to more  
10 recent, what's your impressions of like how much limu  
11 is there now compared to like when you were -- you  
12 know when you were younger and -- because, you know,  
13 you folks --

14 MS. LANI: A lot. A lot.

15 MR. FREDRICKSON: -- a resource, just  
16 because -- to see the changes, you know. So, I'm  
17 sorry, I interrupted you.

18 MS. LANI: Yes, my uncles were all  
19 fishermens too. We'd go down Makena, La Perouse and  
20 they would put a building there and that's what did  
21 their job every day, and they would gather -- when  
22 they gather, they pull the nets and they get fish,  
23 limu, they always would share for all the families,  
24 you know, because before we didn't have the kind that  
25 you can go paddle or sell, you know, we would trade

1 our goods that we have, but there's rare, not today,  
2 you don't see that kind of limu hardly, huh-uh.

3 MR. LEE: Aunty Florence, are we talking  
4 about like lipoa, palahalaha, aalaula, lipeepee?

5 MS. LANI: Lipoa, lipeepee, all those,  
6 yeah, huluhuluwaena.

7 MR. LEE: (Inaudible).

8 MS. LANI: Yeah, tutu taught us how to,  
9 you know, make all the -- and it was not liked to.  
10 Today you don't hardly see all those. It's all -- the  
11 rocks -- every rock when you take, you know how to  
12 take it out, there's always -- next time there's  
13 always more, but today you don't -- you scrape the  
14 rock, so that's why hardly.

15 MR. NAE`OLE: Brian Nae`ole. Back in the  
16 '70s when we used to go pick up limu, remember we used  
17 to go down there all the time, we were told numerous  
18 times not to go in certain areas. We used to always  
19 stay in like more towards the makai -- well, more  
20 Makena side, because there were certain things that  
21 you couldn't go more by the fishpond, but I remember  
22 the limu that was so plentiful before. The fishes  
23 was -- they were like right there. Not liked to,  
24 they're pretty much disappearing.

25 But I remember when we go gathering, we

1 lay nets, and the limus was like lipeepee, wawae`iole,  
2 ogo, you know, you never had to go too far, because  
3 everything was right in the area. Now you have to go  
4 like further down to St. Theresa's. Even St.  
5 Theresa's is pretty much getting, you know, wiped out.  
6 I guess corrosion. But by experience, the fish was  
7 like -- you didn't have to go far. Now it's -- you  
8 walk -- or you go in the water, everything is just  
9 dead, more sand, everything is all covered up. Back  
10 in the days, you can see the difference from that  
11 times to what it is today. So we're pretty much  
12 destroying things right in front of our eyes, and how  
13 to do it, I think it takes the whole community to  
14 really save it. Because this place has food,  
15 resources, and I think that's part of our culture of  
16 living, because that was what we used to cut up  
17 tomatoes, you know, just basic stuff that we grow and  
18 we add to the limu, because that was part of our --  
19 like rice, you know. So now you look at it now, we  
20 don't go there, because we know it's -- there's no  
21 gain, you know, and even the -- you know, things are  
22 just different now, compared to what it was back then.

23 So like aunty was saying, you know, all  
24 that years, you know, we only hear from our ohana what  
25 they tell us to do and what not to do. So I don't

1 know if anyone here ever went there lately or ever  
2 tried to go and see if it came back alive.

3 MS. DeNAIE: Kimoqueo?

4 MR. LEE: Yeah, we've been doing for the  
5 last four years around that place, where Kimo is  
6 (inaudible) -- oh, Mike Lee -- for the good work that  
7 they're doing, you know, with the young people and  
8 trying to teach them to bring it back. Like we went  
9 down there on the lauo o Pele is coming out, the  
10 pakapaka is there. This is not the season for the  
11 palahalaha, usually April, May or August or October,  
12 because water has to be warm for that one, but that  
13 one loves freshwater. On the northern side of the  
14 fishpond is where you have the spring coming down and  
15 it feeds all the limu.

16 Limu and freshwater are one and one. You  
17 know, certainly limu like limu kala and also your limu  
18 koko needs the Jacuzzi of the ocean crashing, not just  
19 the water, and sand going over crashing, like the  
20 wawae`iole. They live off the sand inside their  
21 little pods. And the aalaula, because you've gotta  
22 clean, hard time cleaning that limu because the sand  
23 inside.

24 MR. MAU: Plenty rubbish.

25 MR. LEE: Plenty rubbish inside. So

1 unless you know how to clean it properly, you don't  
2 want to, you know, handle, a lot of work to clean that  
3 one. So -- and lipoa needs plenty, plenty freshwater,  
4 and that's like December that the (inaudible) moon  
5 cuts that -- that limu to replant.

6 So we've been down there. We've taken  
7 films of where you guys have been working, and  
8 palahalaha was there profusely, which we use for  
9 medicine and stuff for the lungs, yeah, and the lauo o  
10 Pele we use for cultural practice. That one you have  
11 to lawala and imu because like (inaudible), tough, but  
12 it can be eaten when you put it in the hot water and  
13 blanch it and it gets soft. But manawaea needs plenty  
14 Jacuzzi action and freshwater, and you got six  
15 different kinds from the very purple purple to the  
16 rice type, you know, the green one, kane wahine one,  
17 so all of this stuff, the health of the ocean depends  
18 on two things, the estuary -- see, used to have pili  
19 grass that used to grow, hold everything in place so  
20 when the water comes down, you don't tear off the  
21 sides of the gulches, yeah, so, dig, dig, dig, dig, if  
22 it's all pili grass. The invasive have come in so the  
23 tearing takes place. That's one of the reasons.

24 And then when you get to the estuary --  
25 they kind of made it narrow, so instead of having the

1 natural plants so when the water does flow down from  
2 up mauka -- that water is supposed to be crystal clean  
3 coming into the ocean. That doesn't destroy anything.  
4 It actually adds, yeah. But because it's coming down  
5 muddy, because you don't have pili grass to bend over  
6 and deep roots that go like this like limu in the  
7 water, holding everything together so the water does  
8 pilau, it doesn't turn red, so by the time you get to  
9 the ocean, you also had your grasses down makai and  
10 big so it spreads out, so when hits the energy doesn't  
11 (indicating) and all the rubbish and everything and  
12 red water going in and then getting inside.

13 So, you know, a project like this,  
14 because the gulches are so important for the  
15 drainage -- you cannot do -- you know, the arrogant  
16 thing in the state, they said you have to have  
17 drainage for this project. The drainage was natural.  
18 The mauka takes care of the drainage, but you have to  
19 make sure that the right kind of grasses -- it was  
20 known that pili grass grew inside, but you now have to  
21 plant it because the invasive -- the birds kukai and  
22 then they take over and so you literally have to  
23 replant that and take out the invasives, so that when  
24 this happens --

25 And concretizing isn't good.

1 Concretizing is when, you know, they did that in New  
2 Orleans, and they don't do that any more, and they did  
3 it at Iao. Think don't do that. I mean, nowadays you  
4 don't do it, because it has to percolate down, because  
5 there's an underwater natural channel freshwater  
6 that's going into the ocean.

7 So all of these protocol for safety, when  
8 you get -- as you said, Brian, when this builds up and  
9 it let's loose, those big boulders will crack all the  
10 concrete stuff, you know, and you cannot house water  
11 underneath to settle in. It's going to have a  
12 devastating effect, because you're going against the  
13 flow. And when you go against the flow on a -- say, a  
14 one-week straight rain, it's going to bust over the  
15 banks and just go like this.

16 I mean, we see that in Manoa, we see that  
17 down when you go to Waikiki when it -- those big  
18 ditches were flooding over, and it's those events  
19 health and safety, not the regular small event, but  
20 the fishery is dying. That's a native cultural  
21 resource that ties into this property and this  
22 project, and that's Article 12, Section 7. Article  
23 7 -- Article 11, Section 7, the natural flow is  
24 supposed to be protected, surface and subsurface.

25 So there are -- there are a win-win for

1 everybody. It's a doable, is what I'm saying, if the  
2 proper things are put into place. It's a doable. I  
3 mean, we're not here to be in the middle ages, but so  
4 long as we can keep the ocean clean and that water  
5 coming down fresh, this is a plus for everybody, you  
6 know, if that is part of the mitigation plan. Because  
7 Army Corps of Engineers will do a 10 million dollar  
8 grant, you know, not out of the pocket of the  
9 developers but to make sure that the Clean Water Act  
10 and all of that stuff, the protocols are kept,  
11 something to really keep in mind, you know.

12 MR. KAPAHULEHUA: Kimokeo Kapahulehua.  
13 Another good example is Malama Maunaloa in Oahu, where  
14 they have taken mauka-makai and remove all the  
15 invasive seaweed and now they're moving back in the  
16 land and going up and taking care, like (inaudible)  
17 field in Maunaloa.

18 MR. LEE: Exactly.

19 MR. KAPAHULEHUA: So you talking exactly  
20 that kind of idea.

21 MR. LEE: Because I live -- Mike Lee. I  
22 lived on Summer Street from '62 to '79, so when we  
23 went out Paiku lagoon, palahalaha all over. It was  
24 one of the most known places, besides Ewa, for ogo,  
25 okay. People took bags, big bags of ogo out there, I

1 mean huge bags. This is before any, you know,  
2 (inaudible), and the octopus, the he`e, pulling he`e,  
3 you know, like crazy, but that ended when they busted  
4 into the springs and for the (inaudible) and they were  
5 literally not letting the springs (inaudible) ocean.  
6 And so then we see a big turn over and change and all  
7 the palahalaha disappeared, the ogo started -- the  
8 invasive started coming in and the problem.

9 And then the governor, when he was a  
10 congressman, put this bill in and they really brought  
11 it back. It can be brought back is the good news, is  
12 what you're saying. We can bring all of this back, if  
13 we do proper management plans for it.

14 MR. ALMEIDA: Levi Almeida, and to  
15 further speak, to touching, you know, the (inaudible).  
16 I'm actually kama`aina of Iao and (inaudible) near the  
17 ocean, so is my family, and, you know, concretizing  
18 and tampering with the natural flow of -- you know,  
19 the natural waterways has been extremely detrimental  
20 to the ocean resources in that area.

21 What it's akin to, you know, you have an  
22 ordinary garden hose, yeah. You can water your  
23 plants, you can -- you know, it's gentle, yeah, but  
24 when you start concretizing and tampering with it,  
25 what happens is you no longer have a garden hose.

1 You now have a fire hose, and we turn it on and it  
2 blasts everything, you know, causing further erosion.

3 So I think with the gulches, it's  
4 important for us to, you know, really be precise and  
5 to have a really, really deep and clear understanding  
6 of what the effects is going to have from, you know,  
7 touching these waterways.

8 UNIDENTIFIED MALE: Go ahead, Basil.

9 MR. OSHIRO: Basil Oshiro. From what  
10 I've been hearing from everybody is we've got to be in  
11 spirit with the land. We've got to know what the land  
12 is telling us. We with cannot create -- actually, we  
13 are creating pollution by industrialization, but  
14 there's solutions to it. We've got to look at -- like  
15 Kihei, the deep floods we having. Somebody's not in  
16 spirit with the land. (Inaudible) ranch was one of  
17 the faults of that. I can say that much because they  
18 just -- they forest the whole area over there, and  
19 what came down here, all the (inaudible) from up there  
20 came out down here. Yeah.

21 And we just overdeveloping our wetland.  
22 We putting concrete where the water supposed to  
23 settle. Because you can look up mauka, the Hawaiian  
24 homes are there, those gulches are huge. So you know  
25 water comes down through there in -- you know, you can

1 say catastrophic amounts. And where it's gonna end up  
2 if you have concrete? It cannot flow in the land. It  
3 comes out to a certain amount, it disperses itself and  
4 settles and creates a water table, because we on  
5 volcanic islands, and the dirt is only so thick. It  
6 will settle on the bedrock and that's our water table.  
7 And that's a common sense kind of thing.

8 We've gotta listen what the land is  
9 telling us, and industrialization is going to happen,  
10 whether we like it or not, but we gotta be in spirit.  
11 If the land tells us something, listen. We cannot  
12 just develop. Listen to the land and find solution to  
13 that, what's happening. Otherwise, we're not gonna  
14 have Hawaii. We're only -- we're so limited on our  
15 land space. You look mauka, you think, oh, we get a  
16 whole bunch of land. We don't. We just a needle in a  
17 haystack right now looking at it.

18 Look at our rain forest. It's moving  
19 farther and farther up the mountain. Yeah, you go up  
20 to Polepole, oh, it's a big area, because we one speck  
21 of dust in that area, but look down from there, you  
22 see the vast area, it's actually all wetlands. Yeah,  
23 you look at where Aunty Florence guys, they talking  
24 about right here, that's part of our wetland. The  
25 water comes down, disperses and goes down to our

1 bedrock, but that water table is being depleted. They  
2 think we have a lot of water, west Maui, east Maui,  
3 Kula, but (inaudible) Haleakala, I'm quite sure  
4 there's just maybe at the most two water tables that  
5 we keep drawing. Water from Mokuauia coming to Kihei.  
6 They want to pump it (inaudible) Kula because Kula  
7 don't have enough water. Farmers starving out there.

8           So we better listen to the land instead  
9 of growing homes and making industrializations. Let's  
10 grow farm land and food so we can be self-sustainable,  
11 because within my lifetime I hope to see something  
12 happen, that the -- we will be self-sustainable, in a  
13 way that we don't have to depend on the outside so  
14 much.

15           I come from -- I the only one from my  
16 family as a commercial fisherman, and a lot to do with  
17 the -- what we have on land, up mauka, makai, gonna  
18 affect our waters. And everybody's talking about the  
19 same -- same thing, and if we not in spirit with what  
20 we have here, we all gonna suffer. Our future  
21 generations are gonna suffer. So whenever you folks  
22 decide -- we not trying to stop all developments, but  
23 to be in spirit with what our kupuna had, how they did  
24 it, and listen and be in spirit. It's the main thing  
25 I'm talking about.

1                   Right now I see Kihei, the land is  
2 fighting back with the flooding, you know. Can see  
3 enough already, slow it down. Study. Do studies or  
4 research before you go ahead and do things, and right  
5 now that promenade, I live right up mauka of that, and  
6 the grass, the forest is the one that containing the  
7 water. If it rains -- you have to have real big  
8 rains. If it's concrete, the jungle over there, we're  
9 gonna lose it, yeah.

10                   Like (inaudible) Kula gulch, (inaudible)  
11 Kula gulch, you don't see it flow too often. When it  
12 comes, it's crazy, and if you're gonna concrete around  
13 that and divert the gulches, what's gonna happen?  
14 Like Mike said, it's gonna overflow. You cannot fool  
15 nature. You gotta build in spirit with nature and  
16 it's part of our land. So I think I talk enough  
17 already. Thanks.

18                   MR. KANAHELE: Yeah, getting -- you know,  
19 speaking of.

20                   UNIDENTIFIED MALE: Your name.

21                   MR. KANAHELE: Oh, Daniel Kanahele.  
22 Sorry. Speaking of the archaeological inventory  
23 survey, really to understand site significance of any  
24 individual cultural feature, you have to understand  
25 the cultural landscape that surrounds it. And so

1 often, you know, we look at just a small slice of a  
2 pie. We look at it through, you know, sort of tunnel  
3 vision. We can't do that, because we know as  
4 Hawaiians that it's a much bigger picture, and we're  
5 talking about a cultural landscape.

6 And so we're talking about the gulches,  
7 Kulanihakoi and Kaonoulu, which Basil says doesn't  
8 flow very often, but when it flows, it's crazy. It  
9 means a lot of water comes down. We have to look at  
10 our cultural landscape, and the gulches are cultural  
11 resources, and it's part of the reason why you have  
12 traditional sites there.

13 MR. FREDRICKSON: Sure.

14 MR. KANAHELE: Because of the water,  
15 because of the access (inaudible) ocean. And we know  
16 there was a lot of activity going down near the ocean,  
17 you know, this makai -- you had Kalepalepo  
18 (inaudible). You have a lot of people down there. So  
19 I have hiked Kulanihakoi gulch many times. I know for  
20 a fact that if you go along the southern boundary of  
21 the project area and the gulch and as you make that  
22 (inaudible) left turn in the gulch, gulch (inaudible)  
23 and it turns north. There are sites, there are walls  
24 along the gulch there, which is, you know, adjacent to  
25 the property.

1           So I think it's important to -- in order  
2 to understand the sites that you're looking at, to  
3 understand the sites that are adjacent to it, what's  
4 next to it, especially the sites in the gulch, because  
5 it's apparent that that was used a lot. So who is --  
6 who is going to cover that? Who is going to look at  
7 those sites that are just right, right next to this  
8 project area right along the gulch? Because the  
9 project area will impact the gulch, Kulanihakoi. It  
10 will impact Kaonoulu Gulch.

11           So who is going to look at those sites?  
12 Will it be -- will it be part of this reassessment  
13 that, you know, the survey is undergoing?

14           MR. FREDRICKSON: Really the question --  
15 Eric here, Fredrickson. Again, the gulch area per se,  
16 though, is -- it's not the same landowner, and trying  
17 to look at that -- one has to absolutely have  
18 permission, one, and -- because landowners tend to  
19 be -- especially large landowners, tend to be somewhat  
20 sensitive about having sites identified on their  
21 property that they're not necessarily wanting to do  
22 anything with or know about really.

23           Having said that, some landowners are --  
24 you know, they have like land managers, et cetera that  
25 they do have a level of interest about it -- if they

1 do know of something, making sure that they don't  
2 inadvertently bulldoze through a site complex or  
3 something, but actually looking at sites that are off  
4 the project area that have not been surveyed before,  
5 trying to do that is something that -- I mean, it  
6 sounds -- it would be neat to do, but that can't --  
7 that can't be done with this project. It's a -- I  
8 mean, it would be neat from an archaeological point to  
9 do that.

10 MR. KANAHELE: Is that a potential area  
11 of impact for the proposed -- proposed --

12 MR. FREDRICKSON: I'll let Charlie answer  
13 that, because that's -- I'm looking at the  
14 archaeology. My understanding -- I will say one  
15 thing, Daniel, that this easement -- excuse me, here,  
16 that's on the mauka, the eastern side, this originally  
17 was classified as a drainage easement, which would  
18 have brought drain and from up slope and just emptied  
19 it into the gulch. That -- that has been taken --  
20 that potential use is no longer something that's  
21 proposed. It's just going to be used for this  
22 waterline, the central Maui transmission waterline  
23 that will go around -- more around the property.

24 MR. KANAHELE: Okay. Close to the fence?

25 MR. FREDRICKSON: It will be -- it will

1 be next -- it will be mauka of the fence and then it  
2 will be on the southern part of -- in the property  
3 itself.

4 MR. KANAHELE: Okay.

5 MR. FREDRICKSON: But Charlie can  
6 speak -- Charlie Jencks can speak to your question  
7 about, you know, are actions of the project -- I mean,  
8 like development actions going to potentially do  
9 something to the gulch.

10 MR. JENCKS: Charlie Jencks. I would  
11 just say, Daniel, that, you know, we -- Eric described  
12 fairly accurately how the engineering plans for the  
13 project changed because I learned very quickly I  
14 didn't want to divert water and put it in Kulanihakoi  
15 gulch for a lot of reasons. Number one, I didn't to  
16 mess with the gulch in any fashion. And number two, I  
17 didn't want to be influencing stream flows down stream  
18 from the property, because that affects other people  
19 unfairly.

20 So for those reasons, we backed  
21 completely out of that approach to the stream,  
22 diverting any water to the Kulanihakoi Gulch, and  
23 we've -- we had a conscious effort to make sure that  
24 we were not doing any work close to the (inaudible).  
25 With that said, however, I'll take under advisement

1 your request and look at that in the context of the  
2 plans we have today and we'll fiddle with that.

3 MR. KANAHELE: So -- Daniel Kanahale.  
4 So, Charlie, your plans aren't to divert Kaonoulu  
5 Gulch to the east side of the project area into  
6 Kulanihakoi Gulch? There's no plans to divert  
7 Kaonoulu Gulch?

8 MR. JENCKS: That stream -- that  
9 intermittent stream bed is not being diverted to  
10 Kulanihakoi Gulch, that's correct.

11 MR. KANAHELE: Is it being changed in any  
12 way, shape or form?

13 MR. JENCKS: What it does, it comes  
14 down -- it comes down here. It's going to be diverted  
15 in a culvert over here, then down with the exact same  
16 spot that it crosses under Piilani Highway.

17 MR. KANAHELE: I see. You are diverting  
18 it.

19 MR. JENCKS: So there is no increase in  
20 flow or velocity as a result of that diversion.

21 MR. KANAHELE: On the map there is drawn  
22 the actual gulch, Kaonoulu Gulch, are you changing  
23 that, that's what I'm asking?

24 MR. JENCKS: It's going over from here,  
25 over here, then down here.

1 MR. KANAHELE: So you're diverting?

2 MR. JENCKS: Yeah, but not in -- not into  
3 Kulanihakoi Gulch. It was at one time. Henry's  
4 original proposal was to take it over to here and put  
5 it in the gulch over here.

6 MS. DeNAIE: Lucienne deNaie. I think it  
7 might be interesting, just from an archaeological  
8 perspective, to look at this project in terms of what  
9 the land might have looked like 400 years ago or so.  
10 And I'm really intrigued by what Brian and aunty are  
11 saying about Kulanihakoi Gulch being so much more  
12 shallower, because imagine if this is kind of a piece  
13 of land between two gulches. Because if you look at  
14 the 1922 topo map, Kaonoulu Gulch is pretty prominent  
15 on that. It's a little dotted blue line. It's not  
16 just, you know, some little checkered marks saying  
17 there's sort of a gully. It -- it had a life of some  
18 sort. It joined in to Kulanihakoi Gulch down below  
19 what is now Piilani Highway. There probably was sort  
20 of a wetlands or something there, because two water  
21 places coming together, because it's very low lying  
22 (inaudible).

23 UNIDENTIFIED MALE: (Inaudible).

24 MS. DeNAIE: And if you look at the 1930s  
25 maps you see as then the conjoined flow goes

1 through -- now it's Kaonoulu Estates and down near  
2 that place where it always floods near the whale  
3 sanctuary, where, you know, this gulch, Kulanihakoi  
4 Gulch comes out at that point there. There was a big  
5 (inaudible), and it's on the map. So in other words,  
6 it was a big, open lagoon swampy area. Now there's  
7 like a little channel, like Michael referred to  
8 earlier, Michael Lee noted this.

9           So in essence what you have was land that  
10 might have been between two areas that had maybe some  
11 spring feeding and certainly intermittent flow and  
12 certainly not intermittent flow like 15, 20 feet  
13 below, maybe 5 feet down or 6 feet down. And so I  
14 heard you say earlier, well, nobody lived here because  
15 there was no water, but 400 years ago it could have  
16 been --

17           UNIDENTIFIED MALE: Down closer to the  
18 coast there certainly would have -- were people living  
19 there, yeah.

20           MS. DeNAIE: Right. And I just wonder,  
21 because, you know, when you look at the archaeological  
22 surveys for a number of other places that are at this  
23 same elevation, a lot of times they're fairly empty.  
24 They've been pretty smashed up by military -- the  
25 activities or by ranching activities. It's

1 interesting that this one had all these mitten  
2 scatters and other, you know, the petroglyph, that  
3 there's more petroglyphs further up the gulch that  
4 were found in Socheck's report.

5 You know, I'm with whoever said we  
6 need -- I think it was Daniel. You need to look at  
7 the cultural landscape. And I realize you can't go  
8 out and do other people's work, but I'm really happy  
9 that we're looking at this report, because I know  
10 you're a hard working archaeologist. I've read so  
11 many of your reports and I really respect your work  
12 and I really respect the fact that you like to dig.  
13 You're personally curious about this.

14 So I would just say that let's take a  
15 look at this land. It may be that the reason that we  
16 have these mitten scatters is that so much soil that  
17 used to be there was washed away earlier simply  
18 because the same erosion effect that has cut down that  
19 gulch, Kulanihakoi Gulch, and sort of (inaudible) in  
20 Kaonoulu Gulch, has kind of, you know, impacted the  
21 flatter part of the land. Because there's sheet flow  
22 that comes across it too.

23 UNIDENTIFIED MALE: Oh, yeah, definitely.

24 MS. DeNAIE: Plenty of sheet (inaudible).

25 That's why we had that big cement thing there. It's

1 not just for the gulch. It's for all the sheet flow  
2 too. So in terms of the significance, I mean, I hope  
3 that, you know, your investigations shed more light on  
4 what's there, but even if they don't, I think we may  
5 have to assume that some of it may have been washed  
6 away, but if there's a way to design this project as  
7 (inaudible) parking lots, just so there's a sense of  
8 history left here, so there's a couple plaques that  
9 say, oh, here's a little -- here's a little -- I  
10 notice there was an enclosure that was near one of the  
11 mitten scatters, and it seemed like that mitten  
12 scatter, number 3744 had two layers, had kind of a  
13 larger selection artifacts, maybe a grinding stone,  
14 this and that, maybe there's a little bit going on  
15 there. I mean, if that can be preserved in a parking  
16 lot somewhere and you give up like four parking  
17 spaces, but you have a sense of -- Kaonoulu is not a  
18 very wide ahupua`a. I mean, I bet you wouldn't oppose  
19 that if that could be arranged, but just throwing this  
20 out, that there may be a whole other landscape view of  
21 this as we put the pieces together of what conditions  
22 were like 400 years back when people were using these  
23 kind of implements, what things were like further up  
24 the gulch, and what was happening down at the ocean,  
25 which was pretty busy. So end of rant.

1 MR. MAU: Jacob Mau. You know, I started  
2 working for the state Department of Land and Natural  
3 Resources in 1961, and part of my responsibility was  
4 once a week I would read the rain gauges from Cosner  
5 Grove, I go down Puluau, Puniiu, I come out Waikamoi,  
6 and I go inside the reservoir, read the rain gauge. I  
7 come out, I go inside Waiahole spring, which is  
8 Olinda. I come back down, I go up Pulipuli. I take  
9 the sky road, I come down on the skyland ridge, come  
10 down Pulipuli, go read the rain gauge. And there were  
11 times, especially in the winter months when you get  
12 the Kona wind or the Kona rain, there's a river. I  
13 don't know if you guys been up Pulipuli, get one  
14 concrete crossing (inaudible).

15 UNIDENTIFIED FEMALE: Yeah, yeah.

16 MR. MAU: Sometime I cannot even come  
17 home until the water go down. And I stand up there, I  
18 sit down, I look. You see the water going all the way  
19 down to Kihei and all the dirt and mud and everything  
20 down there. I go, wow, I wish I had a video camera,  
21 you know, just to show the devastation.

22 Another thing, I was fortunate in 1963 or  
23 '64, I worked on Kahoolawe. We did a first  
24 reforestation -- first we did eradication, get rid of  
25 all the sheep and the goats that were -- I think

1 Kaonoulu Ranch, yeah, the Rice family had use of --

2 MS. DeNAIE: They had some use, yeah.

3 MR. MAU: Kahoolawe, so we had to get rid  
4 of all of the goats and the sheep, and you like see  
5 the damage, you know, over there, the erosion, the  
6 damage. I look at that, you know, and (inaudible) no  
7 more money for camera, but you look at the damage, the  
8 erosion, you know, all over that island, the  
9 devastation to all the native (inaudible), the kiawe  
10 tree, the goats get so hungry, they climb the kiawe  
11 tree and they go up on the limb, eat as much as they  
12 can on the trees, because that's all they can eat. On  
13 the ground no more nothing, you know, all gone.

14 So things like that can happen again,  
15 yeah, but today (inaudible) we did all the  
16 reforestation on Kahoolawe, so now get plenty rain,  
17 plenty rain. Everything stay pono now, I hope. Okay,  
18 that's it.

19 MR. NAE`OLE: Brian Nae`ole real fast.  
20 Talking about what Lucienne was saying about 400 years  
21 ago, does anybody in here knows Hewahewahapakuka, who  
22 he was back then?

23 MS. DeNAIE: Eldon Liu does, but he  
24 couldn't come tonight.

25 MR. NAE`OLE: Hewahewa was a kahu for

1 Kamehameha the Great, and he had some kind of  
2 significant thing back in here, because back then over  
3 here was green. Now we're like vacant, you know, we  
4 cannot go on the land, but back in the old days they  
5 used to work the lands before, so maintenance was  
6 pretty well organized. So had a significant life here  
7 in Kaonoulu, because Kamehameha the Great trusted  
8 Hewahewa, because Hewahewa was his high priest at the  
9 time.

10 So what was significant was vegetation,  
11 food, resources, fishpond was all in one area, and  
12 that land mass is so magnificent, it's high and it's  
13 low, you know, and it makes sense, because we're just  
14 trying to find --

15 MS. DeNAIE: Pili grass too. Lucienne.  
16 Pili grass was on this site. It was in your report.  
17 It's still there.

18 MR. LEE: Mike Lee. Hewahewanui was my  
19 8th great grandfather. His granddaughter Kapele, was  
20 mother of Neole, who married Kawaha, who had Julia  
21 Alapa`i, who is my grandmother, who when she was with  
22 Nahili or Nahele, the child that she had in the Maui  
23 genealogy's keiki na miki, Captain Meek's daughter,  
24 Liza Meek, alii haole, who is my 4th great  
25 grandmother. The secret was that so long as you keep

1 the natural forest going, okay, the (inaudible) keep  
2 double rain, okay.

3 So what happens is the water from the  
4 ocean condenses and then it goes down in dew from the  
5 morning time all the way to 1:00 and then you get the  
6 secondary rain that takes place. The cloud forms.  
7 This is the neck for the area. It's the neck. It  
8 comes down and shoots over to -- this is the naulu.

9 UNIDENTIFIED MALE: Naulu.

10 MR. LEE: Naulu for the uaulu rain that  
11 comes down. So long as you keep -- now, what happened  
12 was Kahona set this on fire, burned this, stopped  
13 this. This is the neck, and it's related to the mo`o  
14 that goes through here, which everything is made for  
15 the mo`o from east to west to clear everything from  
16 the mountain to the sea, but if you keep this in check  
17 up here, the neck run, the naulu rain will take -- the  
18 cloud will form, and that's part of Puumahoi's job  
19 over here.

20 So this takes the moisture. In October  
21 the moisture that comes off of the south -- the  
22 southeast and south, what happens is there's plankton  
23 inside that moisture from the surf. It gets very cold  
24 in mauka, but it comes cold down below and it  
25 condenses all of that. And what happens is it

1 fertilizing everything. It's more fertile than weeks  
2 and weeks of rain of the so you never see one drop of  
3 rain come, and everything turn green. And it's  
4 like --

5 MS. DeNAIE: From the fog?

6 MR. LEE: From the mist that comes down.  
7 That's the secret in the family structure of doing  
8 that. So when you keep that in check, then nauulu  
9 comes and the uaulu rain takes place. You wipe that  
10 out here, it stops it here, and then this no longer --  
11 the fishery no longer proliferates because the  
12 underground pahoehoe lava tube and the mo`o is used to  
13 clear all of that stuff, so that the fishery is going  
14 to be impacted in a positive way, and that's why the  
15 nakoas are set up here, here, here, it intersects with  
16 the fishery and in December, through the right moon,  
17 (inaudible) can go right across. Just suck you right  
18 across.

19 So if it's kept in check, then everything  
20 goes. Keokea Lani, which on the earth is part of  
21 Puumahoi and her breast and Keokea Lani in the sky  
22 match up together, and everything flows. Break that  
23 cycle, you choke it all off, right down the whole  
24 thing.

25 MR. KANAHELE: Question. Eric, yeah, I

1 know our time is running short, the cultural impact  
2 assessment for this project area was done in 1994? I  
3 know there was a CIA done -- no, I think it was  
4 2000 -- (inaudible).

5 MR. FREDRICKSON: We didn't do the CIA --  
6 there was no requirement in '94 and we didn't do  
7 the -- I believe there was one done, but we didn't do  
8 one on this project.

9 MR. KANAHELE: Okay. (Inaudible) 2004,  
10 because I read a CIA for the project.

11 UNIDENTIFIED MALE: Yeah.

12 MR. KANAHELE: (Inaudible) did that? I  
13 think around 2004, something like that. And it was  
14 very short, because there was actually no one  
15 interviewed. There was no one found to interview,  
16 but, I mean, I'm just wondering if that should be  
17 redone, if there should be a CIA, because there's like  
18 two people here.

19 The other quick question -- oh, I see  
20 (inaudible). Another -- the other quick question is,  
21 you know, can we set a date for a site visit at green  
22 dry season, Charlie?

23 MR. JENCKS: Charlie Jencks. Yes, you  
24 can. We will. And number two -- that's with regard  
25 to the site visit. And number two with regard to the

1 cultural impact assessment, it has been redone by  
2 Hanapono as a part of this project application. It  
3 will be in the AIS.

4 MR. KANAHELE: It's done or it's going to  
5 be done?

6 MR. JENCKS: It has been done. It will  
7 be included in the draft AIS when it's published for  
8 review.

9 MR. KANAHELE: I wasn't aware that it was  
10 underway.

11 MR. JENCKS: Done.

12 UNIDENTIFIED MALE: Did you hear,  
13 (inaudible)?

14 UNIDENTIFIED MALE: No, I just heard  
15 about it now.

16 MR. LEE: Mike Lee. Can you do a  
17 supplemental for aunty and uncle over there for the  
18 CIA? Because they are cultural resources that are  
19 valuable and lineal descendents of the --

20 MR. JENCKS: What I would suggest you do  
21 or they do is comment, as a part of the draft comment,  
22 and then we have to address that.

23 MR. LEE: Okay. Good.

24 MR. JENCKS: That's basically the purpose  
25 of that document is to put out a draft document. You

1 have a chance to comment on every aspects of the  
2 document, and then we have to address those comments.

3 MR. LEE: Okay. Fair.

4 MR. JENCKS: Okay, it is literally  
5 straight up 8:00. I want to thank every -- hold on.  
6 I want to thank everybody for coming. Clare, you  
7 didn't say a word.

8 MS. APANA: (Inaudible). I just have a  
9 question. So everyone has given such great input, I  
10 mean, it's a record meeting. Seems like all the  
11 kanaka are pretty much in agreement about the flow of  
12 water and preserving the coastline, keeping the water  
13 clean, flowing down and keeping it flowing, but -- so  
14 how does -- where do you take this? Where do you take  
15 this, Charlie, these comments and --

16 MR. JENCKS: Well, like I said when I  
17 started the meeting, we have an audio man here. We'll  
18 take this audio recording, it will be put into a  
19 transcript. That transcript will then be attached to  
20 the AIS, which is part of the EIS for the project.  
21 Okay. And you will then have a chance to comment on  
22 the transcript, if you wish, and also comment on the  
23 AIS as a part of the project and the cultural impact  
24 assessment.

25 MS. APANA: Does this comments get to

1 be -- does it have a chance to be seen as an impact,  
2 as a cultural impact?

3 MR. JENCKS: You'll see it in context in  
4 the document and you'll be able to read that and you  
5 can comment on that. Okay?

6 UNIDENTIFIED MALE: (Inaudible).

7 MR. JENCKS: As I understand your  
8 question, that's a yes. Okay, thank you for coming.

9 UNIDENTIFIED MALE: Thank you, Charlie.

10 MR. JENCKS: Have a good evening.

11 (End of audio-recorded proceedings.)

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C E R T I F I C A T E

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I, Jessica R. Perry, Certified Shorthand Reporter for the State of Hawaii, hereby certify that the audio-recorded proceedings were transcribed by me in machine shorthand and thereafter reduced to typewritten form; that the foregoing represents to the best of my ability, a true and correct transcript of the audio-recorded proceedings had in the foregoing matter.

I further certify that I am not attorney for any of the parties hereto, nor in any way concerned with the cause.

DATED this 21st day of March, 2014, in Honolulu, Hawaii.



-----  
Jessica R. Perry, CSR, RPR  
Hawaii CSR# 404

**Piilani Promenade Cultural Consultation Meeting  
February 25, 2014**

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Daniel Kanohole	POB 648 Kihikihi 96753	hooke49@2004agehawaii.com	879-2239

**Piilani Promenade Cultural Consultation Meeting  
February 25, 2014**

Print Name	Address	E-mail Address	Phone Number(s)
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**APPENDIX D: Memo to the SHPD regarding project  
APE and current TMK information**



June 29, 2015

Ms. Morgan E. Davis, Lead Archaeologist, Maui Section  
State of Hawaii  
Department of Land and Natural Resources  
State Historic Preservation Division  
601 Kamokila Boulevard, Room 555  
Kapolei, HI 96707

Dear Ms. Davis,

RE: Comments on the Draft Environmental Impact Statement (DEIS)  
for the Piilani Promenade, located in Kihei, Maui, Hawaii at  
TMK's: (2) 3-9-001:016,170-174.  
LOG NO: 2014.03806  
DOC NO: 1409MD41

Thank you for your review of the Archaeological Inventory Survey (AIS) and for meeting with Chris Hart and Partners, Inc. and the project Archaeologist, Mr. Erik Frederickson on Thursday June 18, 2015 to discuss the proposed Piilani Promenade project. A summary of our meeting is provided below.

**Area of Potential Effect**

The proposed **on-site** development of the Piilani Promenade includes 3 developable parcels, a MECO electrical substation, relocation of the Department of Water Supply waterline and construction of the initial increment of the Kihei/Upcountry Highway through the project area.

In addition, the **off-site** project improvements will include the construction of a 1.0 Million gallon water tank with transmission line, a roadway and utility easement to Ohukai Road and several roadway widening parcels along Piilani Highway in order to improve the intersection of Kaonoulu Street and Piilani Highway.

The 1994 AIS prepared for this property included TMK's 3-9-01:16 and 2-2-02:15 (por.) for a total of 88 acres. Since 1994 the property has been sold and purchased by a new

owner who subdivided the land and new TMK's were assigned to the newly subdivided parcels.

The March 2014 revised AIS report includes the following TMK's for a total of 101.658 acres of total land evaluated for the AIS. **The 101.658 acres includes on and off-site parcels of land that could be affected by the proposed development.** A numbered list of the project components with Tax Map Key is provided below. In addition a site plan with corresponding numbers is attached (See: Exhibit 1 "Site Plan").

	TMK	OWNERSHIP	Description	Acreage
<b>Land owned by PPN/PPS</b>				
<b>Development Parcels</b>				
1	(2) 3-9-01:016	PPN/PPS	Development Parcel Phase 1	30.132
2	(2) 3-9-01:170	PPN/PPS	Development Parcel Phase 2	18.519
3	(2) 3-9-01:171	PPN/PPS	Development Parcel Phase 2	19.539
<b>Kihei-Upcountry Highway lot</b>				
4	(2) 3-9-01:172	PPN/PPS	Roadway Widening Lot	4.898
<b>Piilani Highway Widening Lots</b>				
5	(2) 3-9-01:173	PPN/PPS	Piilani HWY widening lot	0.924
6	(2) 3-9-01:174	PPN/PPS	Piilani HWY widening lot	0.859
			<b>subtotal</b>	<b>74.871</b>
<b>Onsite Easements</b>				
7	no TMK	-	MECO substation	
8	no TMK	-	County waterline relocation	
<b>Land Not owned by PPN/PPS</b>				
<b>Piilani Highway Widening Lots</b>				
9	(2) 3-9-048:122	KENRANES	Piilani HWY widening lot	0.332
10	(2) 3-9-001:148	PACIFIC WEST COMMUNITIES Inc.	Piilani HWY widening lot	0.407
			<b>subtotal</b>	<b>0.739</b>
<b>Offsite Easements</b>				
11	(2) 2-2-02:016 (portion)	Haleakala Ranch Company	Roadway and utility easement	1.119
12	(2) 2-2-02:082 (portion)	Kaonoulu Ranch LLLP	1.0 MG Water Tank transmission line easement	10.646
			<b>subtotal</b>	<b>11.765</b>
<b>Offsite Water Tank</b>				
13	(2) 2-2-02:077 (portion)	Kaonoulu Ranch LLLP	1.0 MG Water Tank site	1.154
			<b>subtotal</b>	<b>1.154</b>
<b>Off site land reviewed for EIS purposes</b>				
<b>Offsite Multi-family</b>				
14	(2) 3-9-01:169	Honuauia Partners	Future affordable Multi-family development	13.129
			<b>subtotal</b>	<b>13.129</b>
				<b>101.658 acres</b>

**Kulanihakoi Gulch**

The proposed project will not divert water into Kulanihakoi Gulch and therefore no impacts to the gulch are anticipated. A previous project on the same property had been designed to outlet storm water runoff into the Gulch, that plan has been abandoned and the new project proposes to route the same stormwater through the project.

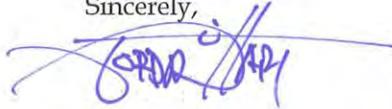
Ms. Morgan Davis, Lead Archaeologist  
SHPD Response Letter  
Piilani Promenade DEIS  
June 29, 2015  
Page 3 of 3

**Relocation of the County waterline**

The relocation of the County's existing 36-inch waterline is also part of the proposed project. The waterline currently bisects the properties diagonally, and the proposed realignment will move the 36-inch waterline underneath the proposed East Kaonoulu Street extension, also known as the first segment of the proposed Kihei Upcountry Highway. (See: Exhibit 3 "Waterline Relocation Plan")

Thank you for participating in the environmental review process and taking the time to meet with us. Please feel free to call me or Mr. Brett Davis at (808) 242-1955 or e-mail Brett at [bdavis@chpmaui.com](mailto:bdavis@chpmaui.com) should you have any questions.

Sincerely,

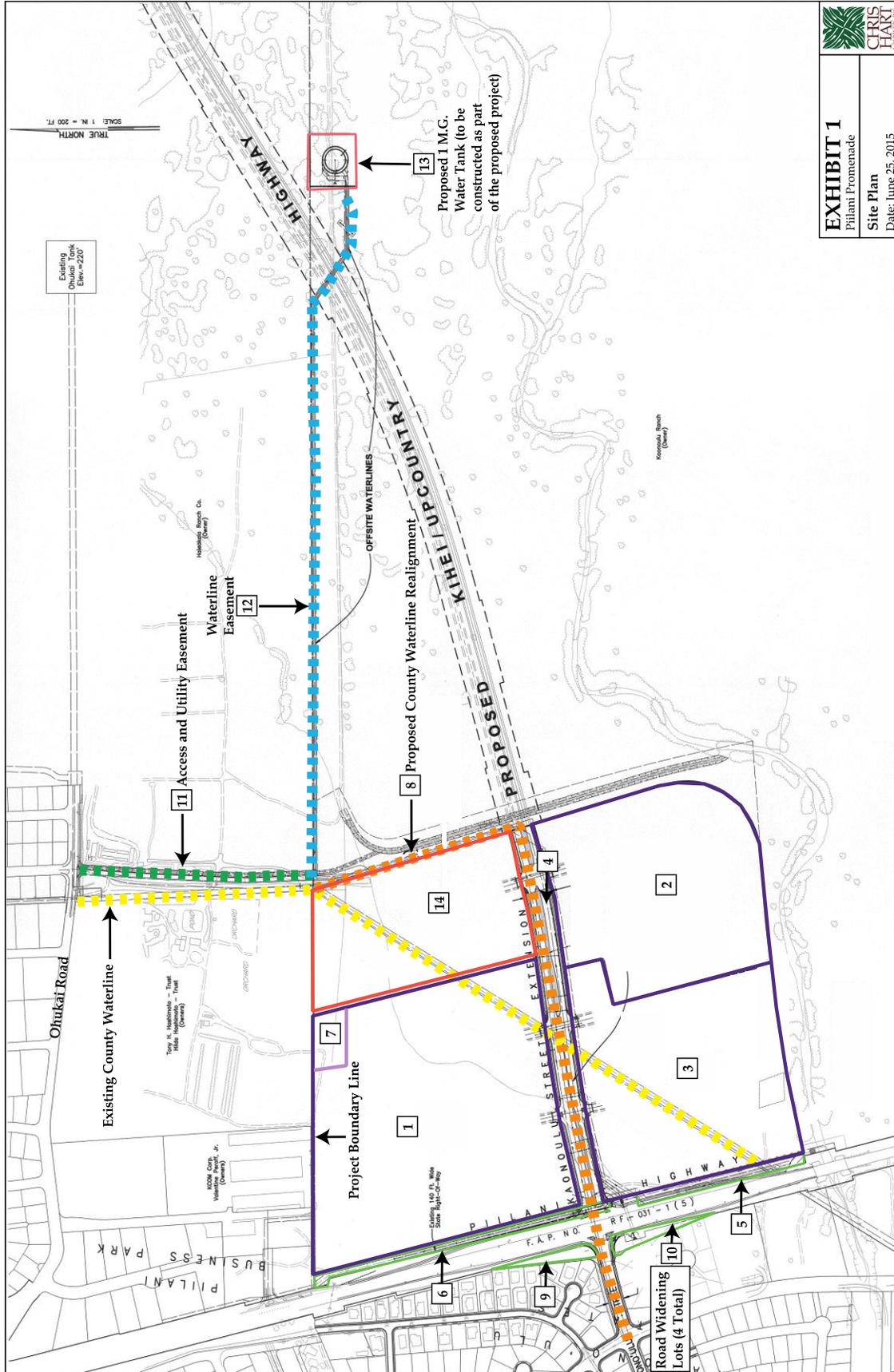


Jordan E. Hart, President

ENCLOSURES (3)

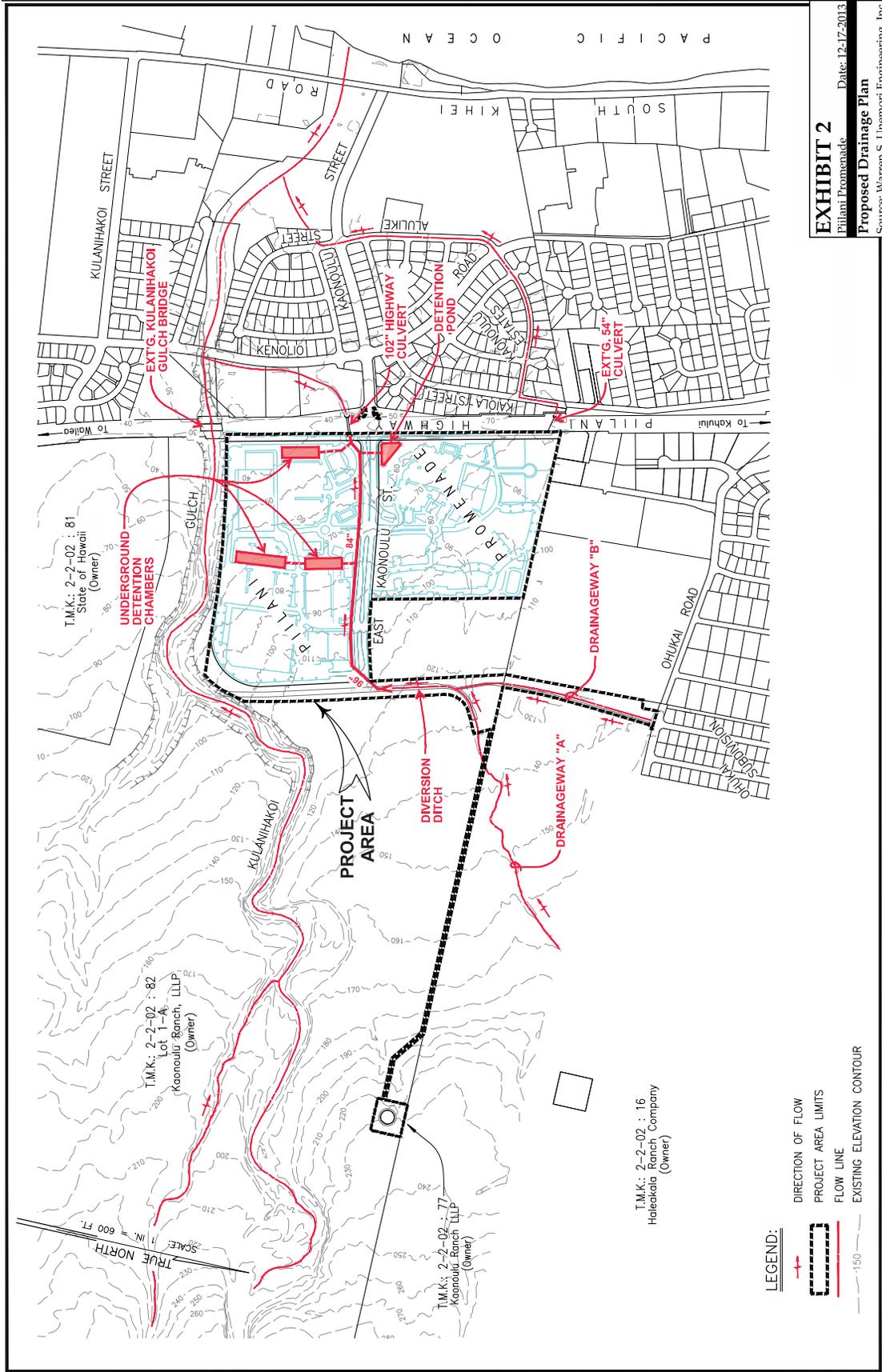
1. Exhibit 1 "Site Plan"
2. Exhibit 2 "Proposed Drainage Plan"
3. Exhibit 3 "Waterline Relocation Plan"

CC: Mr. Charles Jencks, Ownership Representative  
Mr. Erik Fredericksen, Archaeologist  
Mr. Daniel E. Orodener, DBEDT-LUC  
Project File 13-029

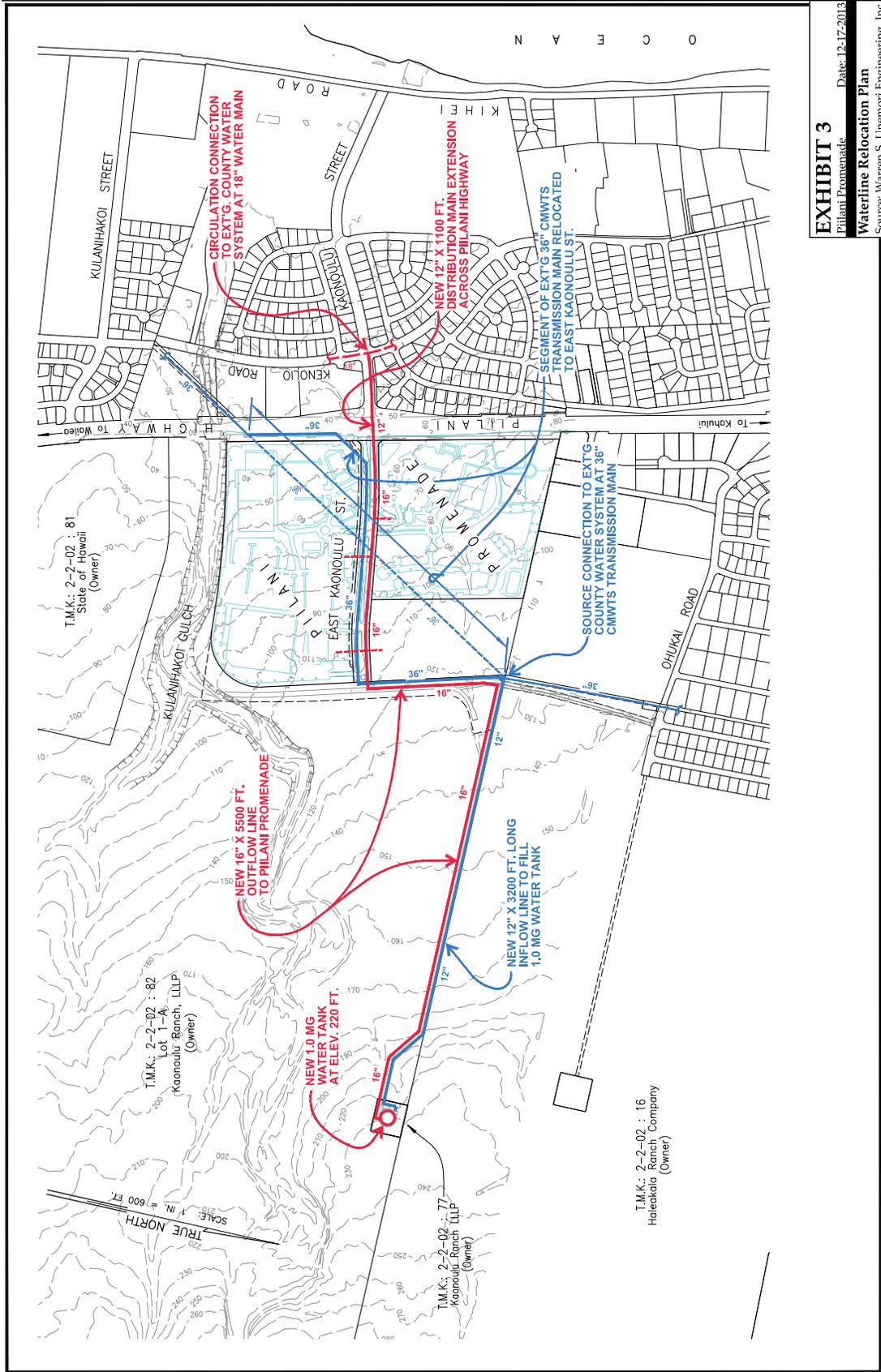


**CHRIS HART**  
LANDSCAPE ARCHITECTS

**EXHIBIT 1**  
Pilihi Promenade  
Site Plan  
Date: June 25, 2015



**EXHIBIT 2**  
 Bilihi Promenade  
 Proposed Drainage Plan  
 Date: 12-17-2013  
 Source: Warren S. Umemori Engineering, Inc.



**EXHIBIT 3**  
 Piilani Promenade  
**Waterline Relocation Plan**  
 Date: 12-17-2013  
 Source: Warren S. Umemori Engineering, Inc.

**APPENDIX E: Maui Cultural Lands memo to the  
SHPD**

From Maui Cultural Lands, Inc

July 7, 2015

To: State Historic Preservation Division, Maui Office

Re: An Archaeological Inventory Survey for Off-Site Improvements Associated with the Proposed Pillani Promenade Project, and Updated Recommendations for Sites Identified in Prior 1994 AIS, Ka'ono'ulu Ahuapua'a TMK 3-9-001: 16, 169, 170 - 174) (AND VARIOUS OFF-SITE TMKS)

Aloha Morgan and SHPD Maui 'Ohana:

We would like to share with you some considerations regarding the updated review of the AIS for this project area. First of all, we believe the Xamanek Research staff made an honest effort in their field work and we appreciate that they have affixed permanent site markers to the sites they did re-document, and are proposing additional test units.

We do not however agree that these test units should only be viewed in the context of "data recovery" for sites cleared for eventual destruction. We feel that additional information is available that should be included in the revised AIS and trigger a re-evaluation of some site significances.

The project area was resurveyed during a rainy period in early 2014, when plant cover was dense and we believe that this led to a high number (nine of twenty sites) being unlocated and considered "destroyed," and lack of further features being observed. There is also other new information available that is needed to make the AIS complete and acceptable.

This project area should have a site visit for SHPD and interested parties as soon as possible. Mr. Fredricksen was very supportive of this idea when we met with him and Mr. Jencks in February 2014 and Mr. Jencks also agreed to it. The idea was to wait until the foliage had died down and viewing conditions were better. This summer would be an excellent time. We ask that you support this idea in your future comments

Mahalo for this opportunity to offer our comments on the AIS during your review process.

We also ask SHPD to consider the information below in its comments.

**1. "UNLOCATED STES" ON THE LAND MAY NOT BE DESTROYED AND NEW SITES COULD BE FOUND.**

"Sites that were not relocated in relatively recently disturbed areas include Sites 3729-3734, 3737, 3738, and 3739." from 2014 Draft Pi'ilani Promenade AIS.

Several Cultural accesses by MCL volunteers and others (after the 2014 AIS was issued), have relocated at least one previously recorded site, (which we believe to be SIHP 3732) not relocated in the 2014 AIS, and thought to be "destroyed." MCL volunteers also found another potential cultural site nearby, partially covered in high grass and piled with branches. This potential site was not described in either the 1994 or 2014 AIS.

Unrecorded midden and other potential unrecorded historic properties and cultural sites were also observed on various areas of the project property where NO sites were recorded. Other sites that were listed as destroyed in the Draft AIS may very well be more visible now. **A short slide show is included to illustrate these points.** We urge SHPD to require more field work to be done under better site conditions, since nearly 50% of previously recorded sites were not relocated, and were assumed destroyed.

## **2. ADDITIONAL UNRECORDED SITES ARE FOUND ON ADJACENT LAND.**

Additional unrecorded sites are located between the Pi'ilani Promenade parcel and Kulanihako'i Gulch. These were not recorded in the Shefcheck et al report done in 2008 for adjoining landowner Kaonoulu Ranch. There were potential flood control improvement impacts to this general area proposed in the original Pi'ilani Promenade plan. We would ask that one of the landowners be held responsible for recording these sites. **Pictures of sites and a location map are provided in our slideshow**

## **3. CULTURAL PRACTITIONERS WANT TO CONTRIBUTE TO SITE SIGNIFICANCE**

**EVALUATION.** It is our understanding that the land and the vicinity has cultural use and cultural importance that should be recognized and respected. Cultural practitioners ascribe a broader use and significance to a number of the recorded sites, as well as several unrecorded features and request that this traditional knowledge be considered alongside western archaeological investigations. Some sites should be preserved and incorporated into the project design. The slide show will illustrate this more specifically.

## **4. MORE INFORMATION IS AVAILABLE ABOUT SITES FIRST DOCUMENTED IN 1994.**

Archaeological studies done in 1997 and 2000 as part of the proposed Kihei-Upcountry Highway corridor EIS (CSH, 2000) indicate the presence of additional aspects of what would appear to be one of the sites recorded in 1994 on this property (SIHP 3727). We would request, in the interests of public knowledge, that information from these AIS documents be included in the final accepted Pi'ilani Promenade AIS and that verified and updated information about site 3727 be included in any final AIS SHPD would accept. (Documents from the Upcountry Highway AIS are included in the slideshow.)

We appreciate your consideration of our comments and are happy to answer any questions you may have and go over the slide show with you.

Mahalo for your dedicated work

South Maui Committee of Maui Cultural Lands  
Daniel Kanahele  
Lucienne de Naie  
Clare Apana

# Pi'ilani Promenade Summary

Provided by Maui Cultural Lands

- 88-acre PP site in Ka'onoulu has more recorded archaeological sites (20) than any other south Maui property in the same elevation (30 to 150 ft AMSL). 80% of the sites were thought to be pre-contact
  - Half of the recorded sites have associated pre-contact surface midden or portable remains, also very uncommon in this South Maui elevation. Two of the 8 sites tested had pre-contact subsurface deposits. We support more subsurface testing.
    - several of the 20 sites will be completely impacted by the proposed Upcountry Highway's current alignment: **sites 3727 & 3742**, while others will be nearby, but not in the 300 ft corridor: 3728, 3729, 3741, 3743, 3745.
  - More unrecorded midden and portable remains are found throughout the PP parcel as well as what practitioners believe to be unrecorded sites.
  - Most culturally significant recorded feature (site 3746 petroglyph stone) was illegally removed from the site in 1998 (an after the fact permit was later completed.) No other open field site at this elevation in South Maui has any reported petroglyphs. Practitioners believe the petroglyph indicated a water source was near by and likely indicated a trail in the area.
  - Currently, not one site on the parcel is recommended for any preservation, although project design could accommodate sites in greenways and landscape spaces.
- MCL and others asked for a site visit in Feb 2014 to offer cultural consultation, but no visit has yet been arranged.
- The revised AIS and data recovery plan should not be approved until further fieldwork is completed and consultation with cultural practitioners is included in that field work.

**Mahalo for your Consideration of a Cultural Perspective**

# PI'ILANI PROMENADE AIS COMMENTS



Based on investigations by



**BACKGROUND MAP:** based on 1994 AIS of lands mauka of Pi'ilani Hwy just N. of Kulanihako'i Gulch, Ka'ono'ulu, Kula, south Maui (proposed Piilani Promenade shopping mall)

**TWENTY SITES DOCUMENTED: 80% pre-contact**

Five artifact and midden scatters (pink dots) show possible habitation areas mauka of Pi'ilani Hwy.

Proposed Kihei-Upcountry Road bisects the property

blue line = Ka'ono'ulu gulch



**AIS COMMENT 1. "UNLOCATED SITES" FROM 1994 AIS MAY NOT BE DESTROYED.  
SITE VISIT AND MORE FIELDWORK NEEDED**



## SITE 3732 FOUND!

Site 3732 and every other site around it was “not relocated” in the 2014 AIS update.



### Site 3732 (from 1994 AIS)

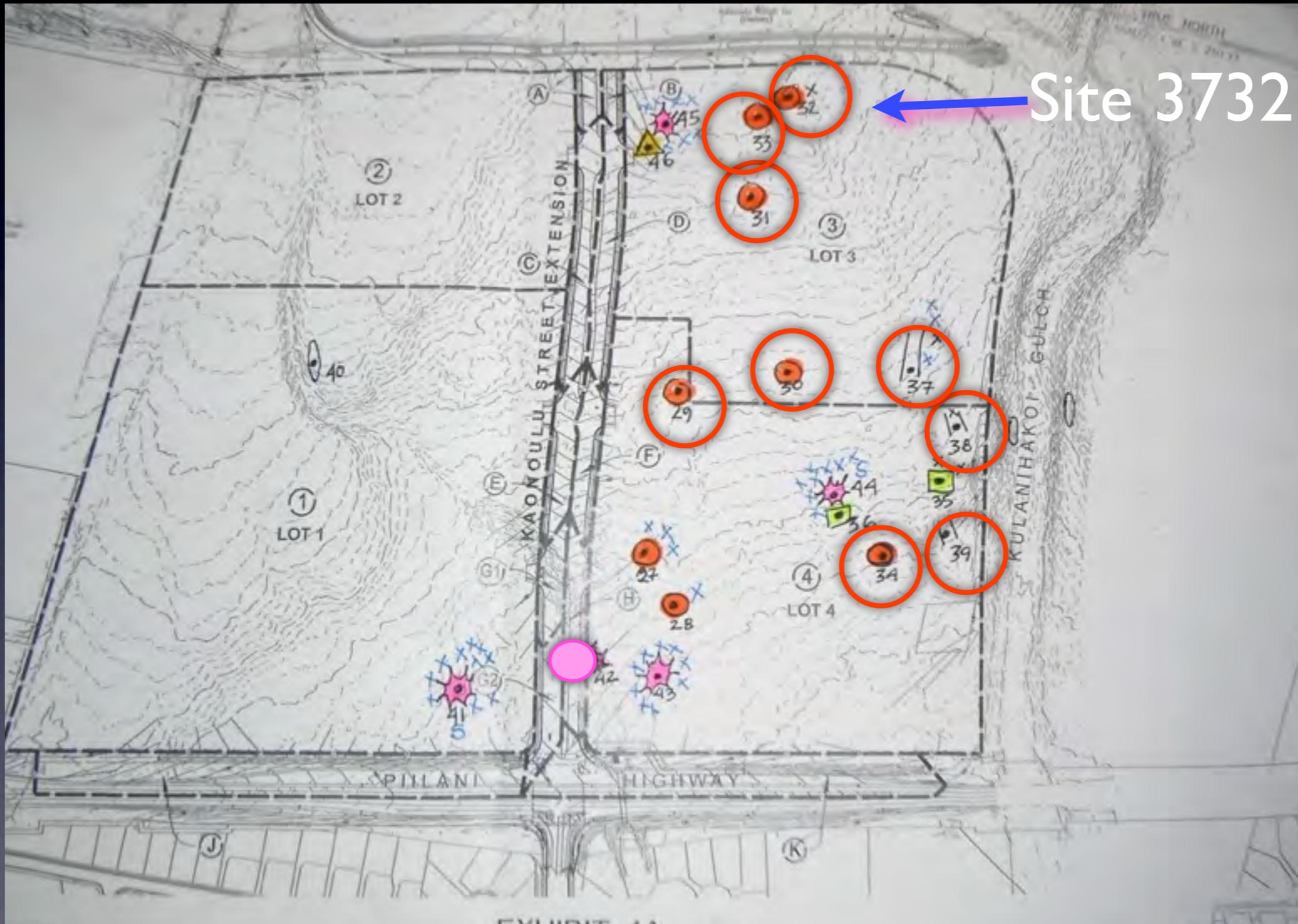
“stone cairn located on a promontory near the eastern border of the study area at el. of 115 ft AMSL. A large coral chunk was located 24 m. south of the cairn.”

The elevation and location of this cairn site, pictured here in Sept. 2014, matched the AIS description. A faded site flag was found under one of the rocks of the cairn, and several branch coral chunks (not likely the original one) found near the base of promontory.

More undocumented coral fragments seen near rocky base of promontory  
where site 3732 is located



Location of 20 original sites from 1994 AIS shown on a topo map.  
2014 AIS had NINE “unlocated sites,” (here circled in red.)  
Were all really destroyed? Site 3732 location is noted.



Are there other “UNLOCATED sites” that were obscured by heavy foliage DURING 2014 SURVEY?



Rock Alignment: possible “unlocated site”  
Is this rock alignment  
part of site 3737, 3738 or 3739?

site 3737, 3738 and 3739 are described  
in 1994 AIS as “Parallel Alignments”  
from former military use along the  
southern project boundary  
on the edge of Kulanihako’i Gulch.

Cultural practitioners believe  
site 3737 was the remains of  
a heiau connected with the god Ku,  
overlooking the gulch

Sites 3737-39 are listed in 2014 AIS  
as unlocated and destroyed. Are they?

AIS Comment 1 (continued): **New Sites Could be Found.**  
Does project location have additional Unrecorded Sites?

Portion of unrecorded site on base of promontory where site 3732 is located. Site was covered with large kiawe branches and high grass

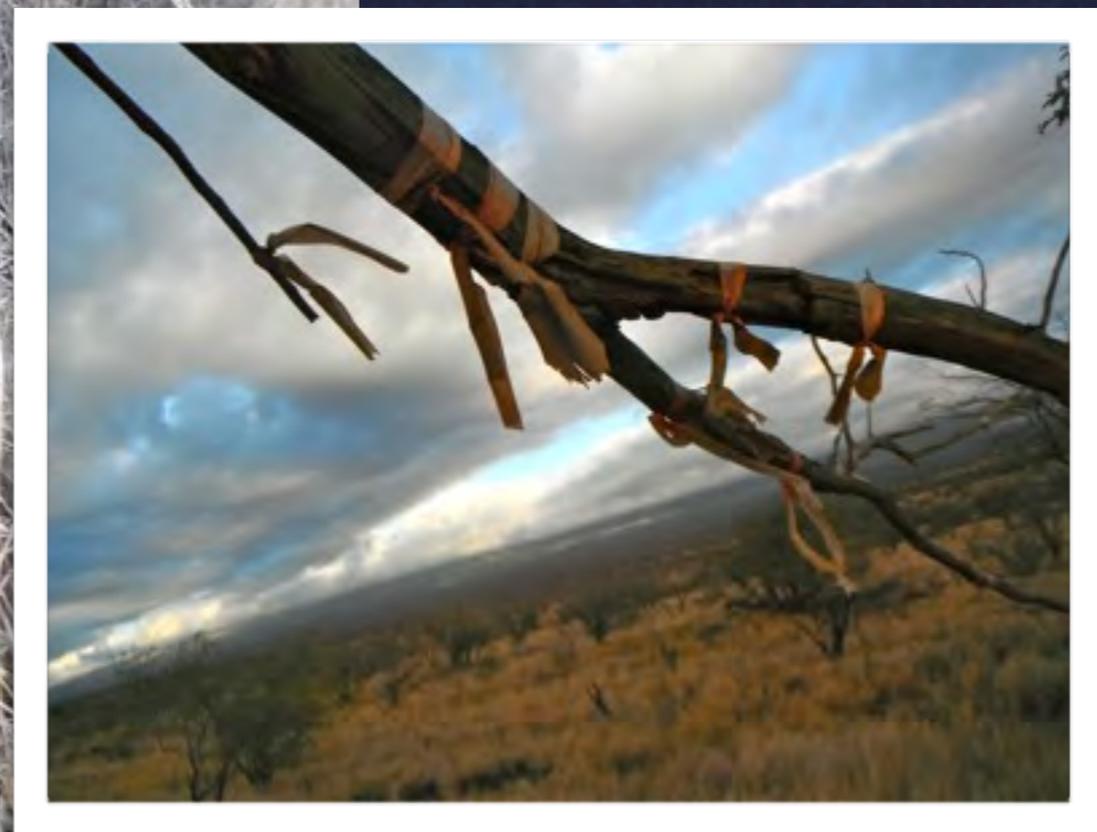


arrow indicates  
Undocumented Site location:  
on map of 1994 sites

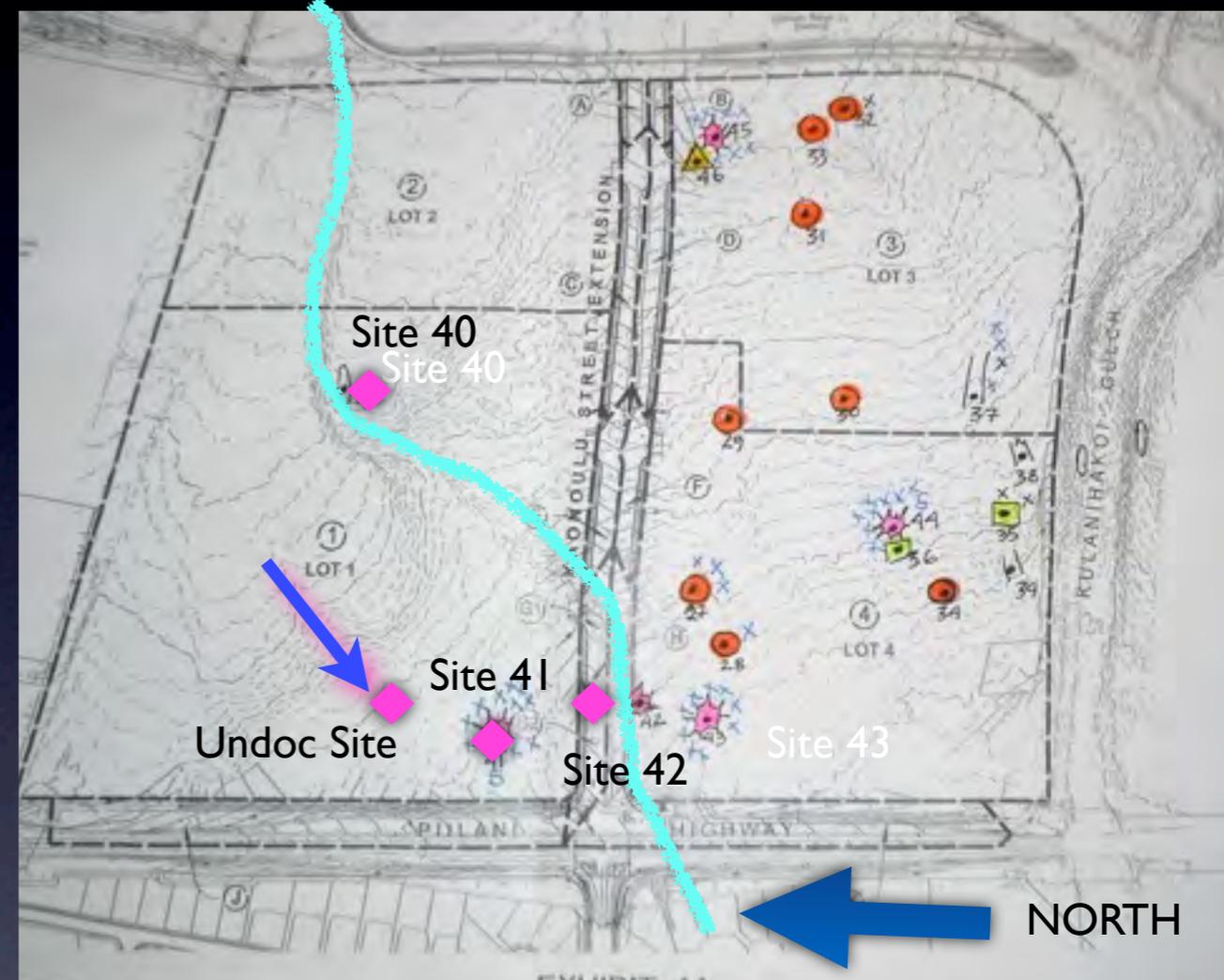


east-west view of southern wall of same site, which appears to be part of an U-shaped structure

below: a kiawe tree above this site has marking tape remnants. There is no mention of this site being evaluated in 1994 or 2014 AIS



# Undocumented stone alignment north of site 3741 (“Site 41”)



Undocumented Site location indicated by arrow.  
Note: only three sites (shown by pink diamonds) were recorded in 1994 Survey, as located north of proposed Upcountry Hwy corridor that divides the lot.  
Are other sites likely to exist there?



examples of unrecorded shell midden and small portable remains of coral and rounded stones documented by volunteers, north of site 3741, where no sites are recorded...

## AIS Comment 2: ADDITIONAL UNRECORDED SITES ARE FOUND ON ADJACENT LAND.

Sites in the section that follows are in an area where the adjoining Shefcheck et al AIS (2008) for Ka'ono'ulu Ranch shows NO SITES



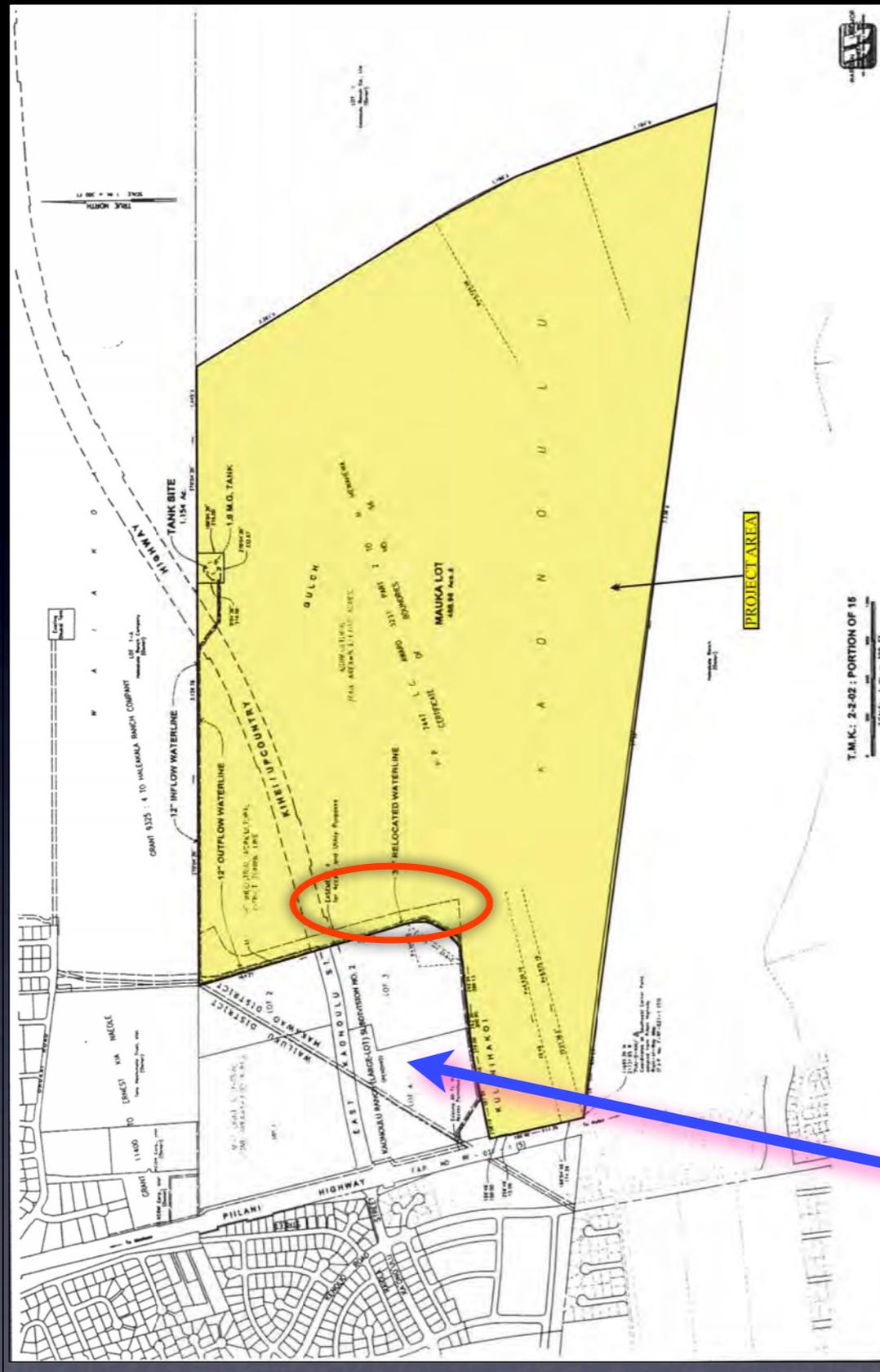


Figure 3: Tax Map Key [TMK] Showing the Project Area in Detail.

Site location map from Shefcheck et al AIS (2008) Yellow shows Ka'ono'ulu Ranch's 515-acre "project area."

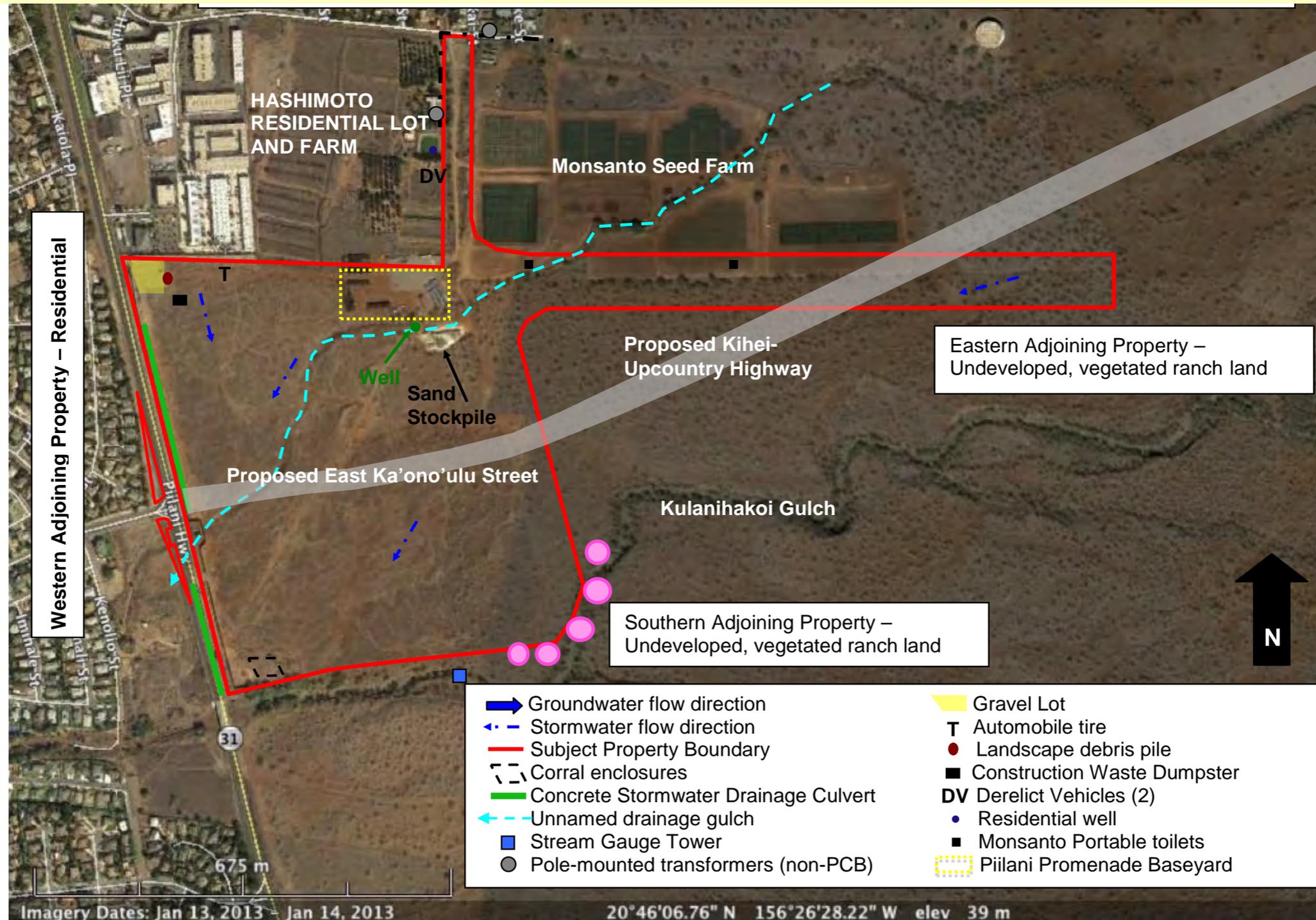
This 2008 study claimed to cover all the lands along the south and east boundary fence of the Pi'ilani Promenade ("PP") 88-acres. Red ellipse shows area of unrecorded sites in pix to follow

A portion of PP drainage and utility structures are located on the Ka'ono'ulu parcel and were included in 2014 PP AIS, but no survey of the gulch slope was done.

PP 88-acre parcel



Undocumented Ka'ono'ulu sites are located in area of "pink dots" above Kulanihako'i Gulch. PP project area and associated offsite utilities are outlined in red. Diagram Source: PP DEIS



Undocumented areas near Kulanihako'i gulch on Ka'ono'ulu Ranch land appear modified to permit possible habitation or planting structures. Pili grass, used for thatch grew plentifully in the area



# Undocumented site: well built terrace on slope above Kulanihako'i gulch



Undocumented site: other modified areas on slope above (west of) Kulanihako'i gulch





Closeup of previous  
undocumented site

Undocumented sites: small mounds and other structures on slope above  
Kulanihako'i gulch just to south and East of PP fence line



closeup of same structure on slope above Kulanihako'i gulch

PP Parcel



Sites outside the 88-acres and along Kulanihako‘i Gulch:  
rocks formed into terraces and low walls



Undocumented site: possible petroglyph area/shelter in Kulanihako'i gulch  
immediately east of PP project site





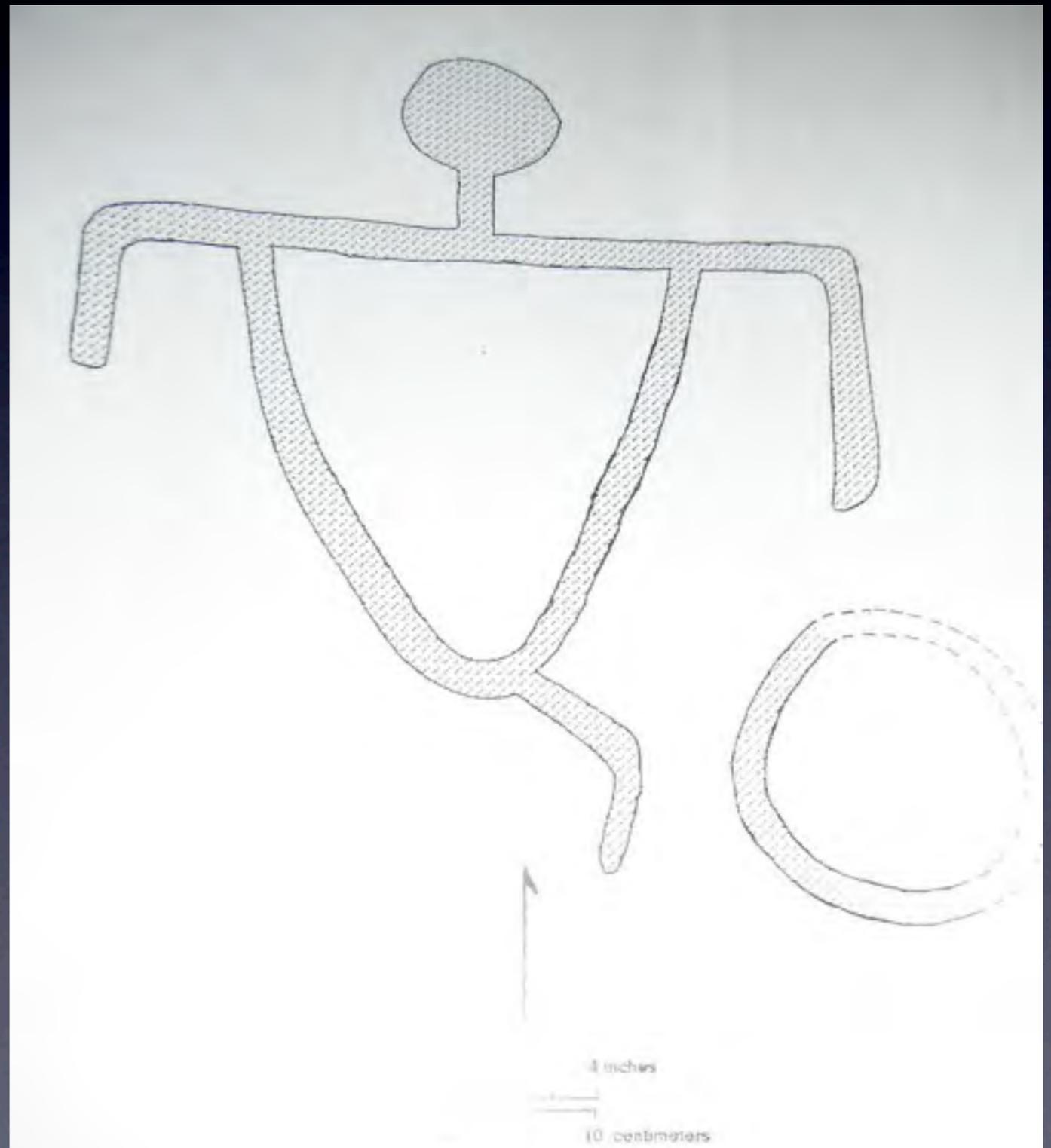


Gulch site petroglyphs may relate to site 3746 recorded on the PP site. There, a large rock near a midden scatter had a petroglyph carved into it (representational drawing below from project's 1994 AIS)

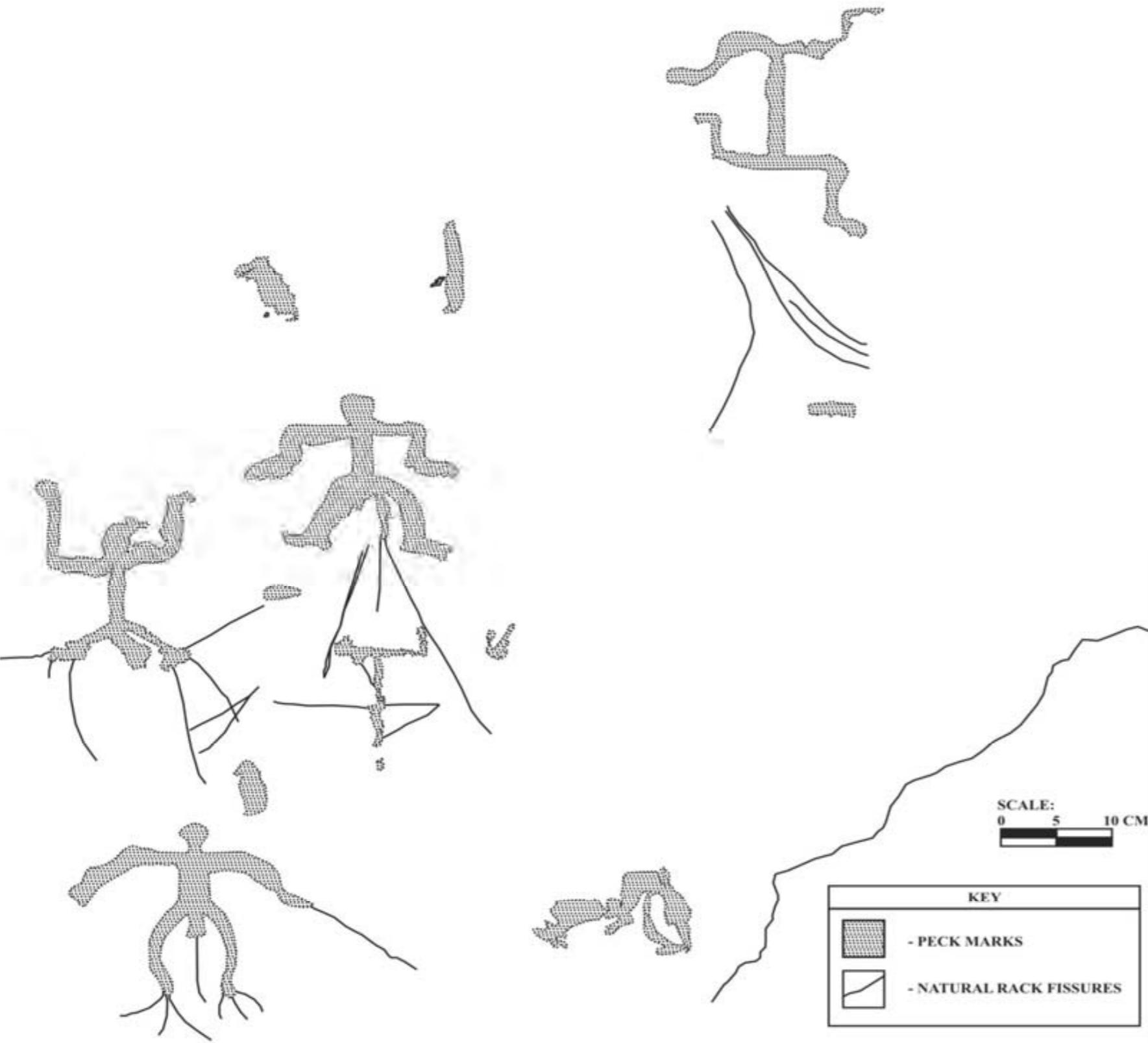
This site was near the eastern boundary of what is now PP's 88-acres on the way to Kulanihako'i Gulch

practitioners believe it indicated a fresh water source nearby

It is now removed from the site

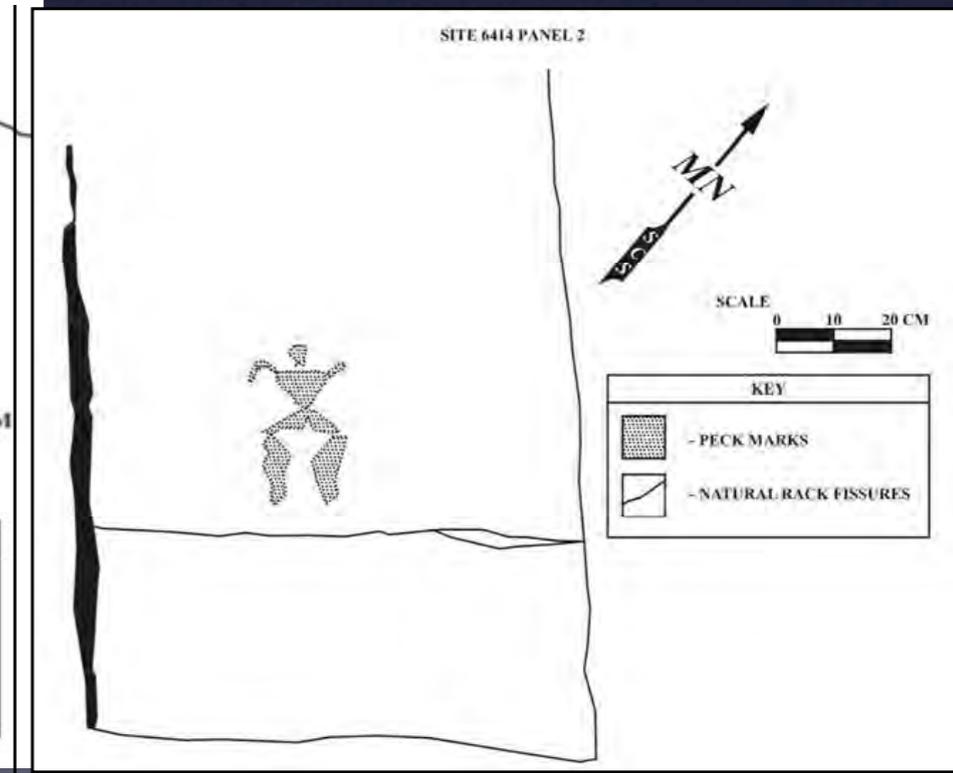


SITE 6413 PETROGLYPH PANEL 3



More petroglyphs were documented by Shefchecks 2008 study of Ka'ono'ulu lands immediately mauka of the PP site (Site 6413). These petroglyphs were also located in Kulanihako'i Gulch above a rock shelter....

SITE 6414 PANEL 2



**COMMENT 3: CULTURAL PRACTITIONERS WANT TO CONTRIBUTE TO SITE SIGNIFICANCE EVALUATION.**



Kumu Mike Lee believes site 3732 and others oriented East-West were associated with seasonal observations and celebrations of sun, moon and stars to aid in planting and fishing cycles.

He invited fellow practitioners to the site for the autumn Equinox sunrise



# Cultural access September 2014: Site 3732



# Eastern view, site 3732 mound, sunrise, Autumn Equinox

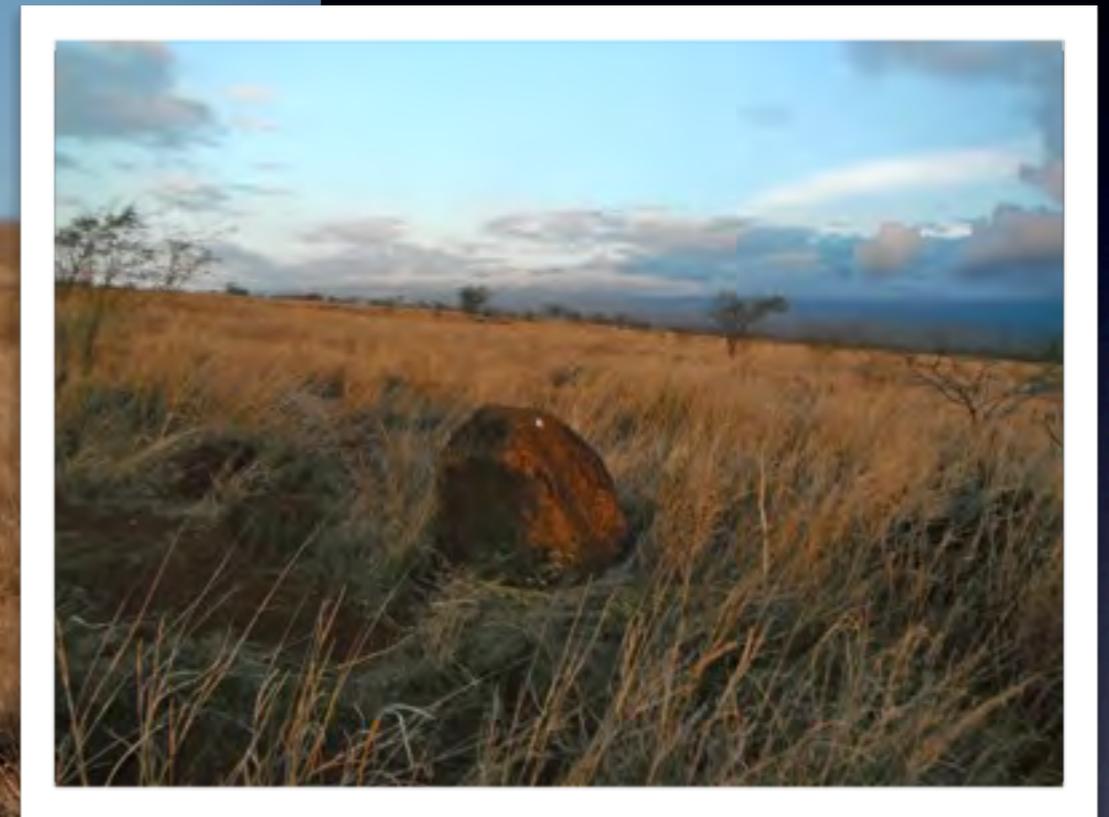


As noted in the 1994 AIS, site 3732 is located on the highest point in the southern portion of the PP parcel, near Kulanihako'i Gulch.

The presence of coral nearby also speaks to the need for more consultation on significance evaluation of this site



Kumu Lee also led practitioners to a natural feature he believes is associated with viewing of eclipses. It serves as a location marker for eclipse viewing by use of the waiaka or traditional “water mirror”



Practitioners viewing an October 2014 lunar eclipse at the site in a waiaka.  
Natural stone marker is in foreground.



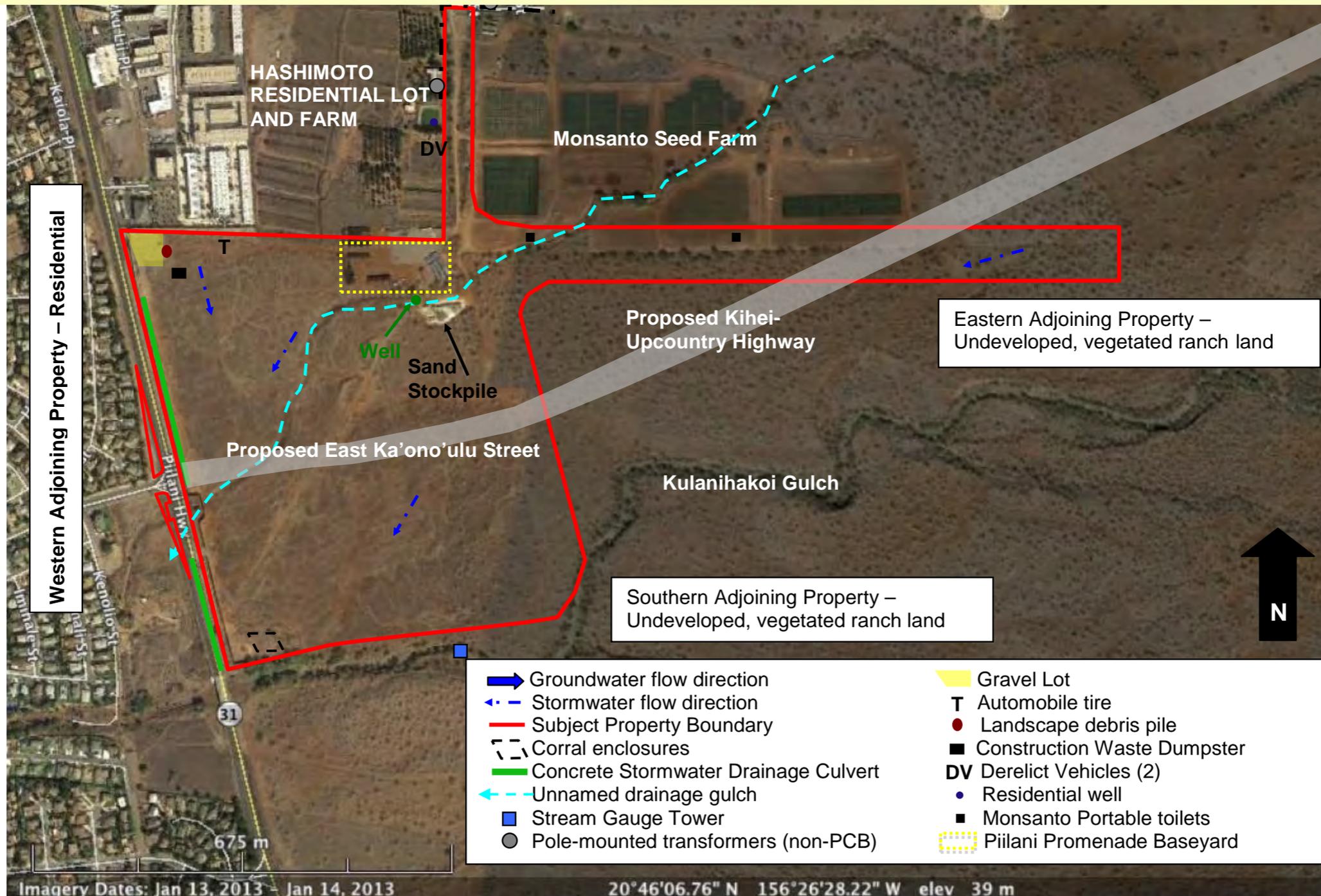
**COMMENT 4: MORE INFORMATION IS AVAILABLE ABOUT SITES FIRST DOCUMENTED IN 1994**  
but this information is not included in the draft AIS



Site 3727 (three mounds) may have been re-documented in 1997 with additional features during the Kihei-Upcountry Highway AIS



The future proposed Highway corridor bisects the PP project site and is the southern terminus of the highway. The Highway AIS surveyed the PP site along the Hwy corridor in 1997 and 2000, after Fredricksen completed his AIS in 1994. The Highway corridor AIS recorded additional features and portable remains at “site 4776” in Ka’ono’ulu on the PP parcel. This should be discussed in the 2014 AIS.



**Site 4776** description in the Upcountry Highway AIS, notes “lithic tools” with hammerstone and basalt flakes. Site 4776 was first recorded in 1997 Highway Reconnaissance Survey at a similar elevation (65 ft.AMSL) in Ka’ono’ulu as Fredricksen’s Site 3727 (60 to 62 ft AMSL.)

Site 4776 was described in the Highway corridor AIS (CSH: 2000) as “midden and lithic scatter” that included a “low mound of cobbles” with a previously dug archaeological test pit (possibly the test unit Fredricksen did in 1997 at site 3727?)

State Site #:	50-50-10-4776	CSH #20
Site Type:	Midden and lithic scatter/ mound	
Function:	Habitation, recurrent/agriculture	
Corridor:	Alternate K1	
Features (#):	1	

Description: State site #50-50-10-4776 is a surface scatter of marine shell midden, coral, and lithic tools and detritus including a hammer-stone. A low mound of cobbles and small boulders is also included within the bounds of the site. The site is located between centerline stakes 3000 and 3001 along the east side of Kūlanihākoʻi Gulch at Piʻilani Highway. The area in which the mound, scattered cultural middens, and artifacts were observed measures approximately 37 m. (about 120 ft.) in diameter. A previously dug pit within the mound at the site appears to be one meter square, as would be expected for archaeological test excavation units. This probability is augmented by the presence, nearby the mound, of two back-dirt piles from the mound excavation - one of sifted dirt and the other of neatly stacked rocks. Nevertheless, a search of previous archaeological studies conducted in the area and consultation with the Department of Land and Natural Resources, Historic Preservation Division staff did not determine the origin of the excavations. Intact archaeological deposits at the site appear unlikely. Deflation of a former soil deposit may have created the site as we see it today, or the site may have originally been only a surface scatter. Flora at the site is consistent with most of the low land survey area - open savannah, the predominant tree is *kiawe*.

SIHP Site 3727: three mound features, with basalt core and flakes found in 1994 at an el. 60-62 ft AMSL  
Site 3727 and Site 4776 are shown in the Upcountry Hwy corridor in the Highway project's AIS Map.



**Arch Site Map  
Kihei-Upcountry  
Highway AIS  
(CSH: 2000)**

**Site 3727 and 4776  
appear to be side  
by side..or perhaps  
are really one site**

Map shows relative  
locations given  
for  
Fredricksen's site  
3727 and CSH's site  
4776.  
Both are shown on  
the Pi'ilani  
Promenade site  
along the Upcountry  
Highway corridor. Is  
there one site or two?  
if there are TWO sites,  
4776 should be listed  
in the new PP AIS  
update.

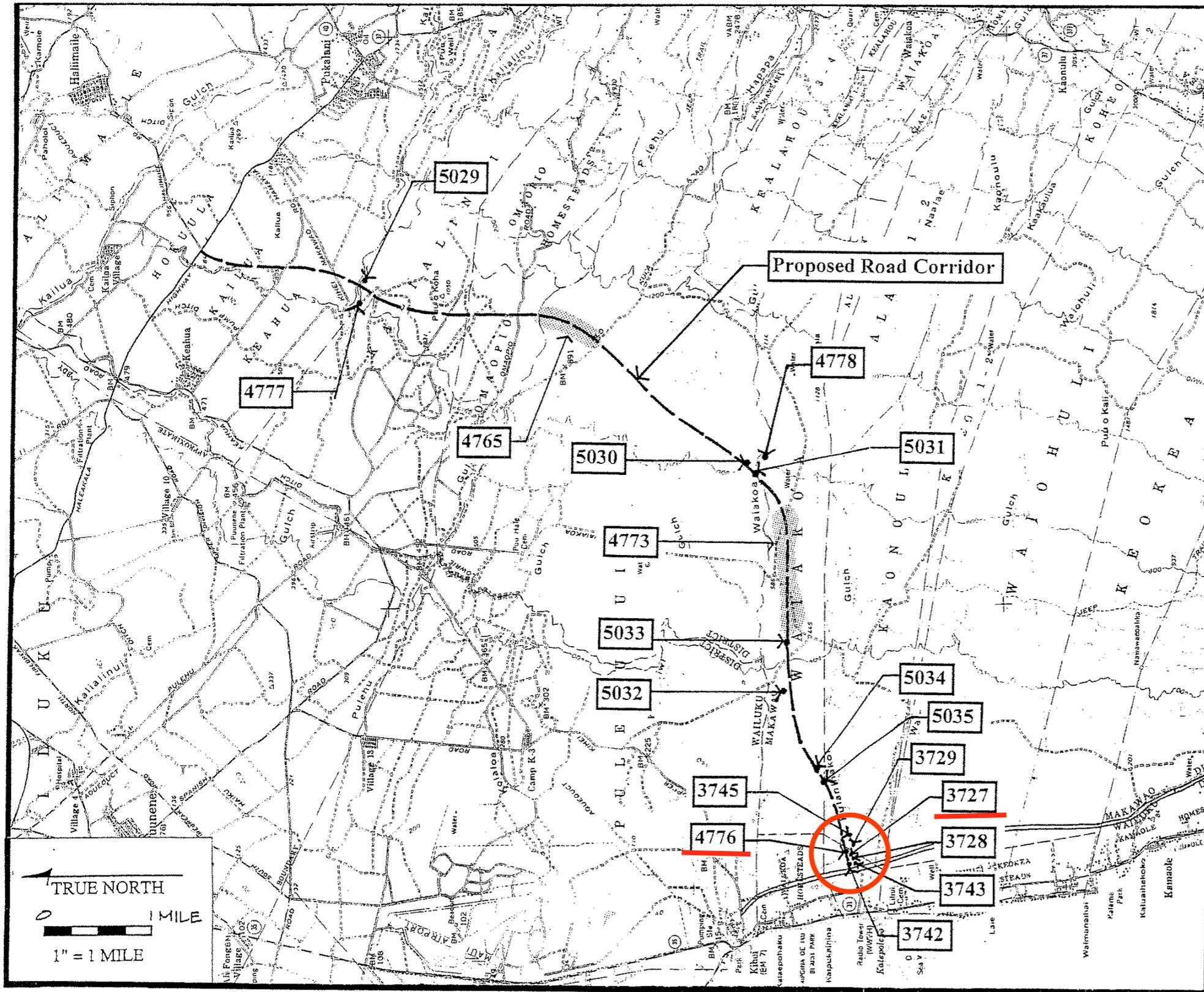


Figure 9 Project area map based on USGS 7.5 minute series topographical maps of the Pu'u O Kali and Paia quadrangles, showing the corridor and location of historic properties.

The Kihei-Upcountry Highway 2000 AIS lists all of the Ka'ono'ulu sites in the Highway road corridor that are found in the PP property, including Site 3727 (see below), and lists Site 4776 separately.

Conversely, the updated PP AIS has no mention of the Kihei-Upcountry Highway AIS and its work in the area. This should be corrected.

We are grateful that Site 3727 is recommended for Data Recovery in the Draft 2014 PP AIS. If it is also the location of Site 4776, this is a good time to clarify things.

#### VII. SITE DESCRIPTIONS

**State Site #:** 50-50-10-3727  
**Site Type:** Series of Mounds  
**Site Function:** Agriculture  
**Features:** 3

**Description:** State site 50-50-10-3727 is comprised of three irregular shaped mounds (designated features A-C) (Figure 10) with a previously excavated 1.0 m by 0.5 m test unit. The site was initially documented by Xamanek Researches (Fredericksen, et. al. 1994c:61). The site is located approximately 50 ft to the south of the study corridor centerline. The mounds are roughly in a straight line which is oriented at roughly 225°T.

**Feature A** the northernmost mound was partially excavated during the 1994 Xamanek study. A 1 m by 50 cm test unit was excavated into the northern portion of the mound. Feature A presently measures 1.5 m in diameter. It is constructed of a rough stacking of basalt cobbles to medium boulders with a maximum height of 35 cm in the center of the structure. There is a small mound located approximately 1.2 m to the east of the northern mound is a small mound, approximately 70 cm in diameter, which appears to be the byproduct of the excavation.

**Feature B**, located in the center of Feature A and Feature C, is constructed in a similar style to Feature A. Feature B is located approximately 2.5 m from the Feature A. The mound measures 1.9 m NE/SW by 1.1 m NW/SE. The maximum height of the mound, near its center, is 50 cm.

**Feature C**, the southern most mound, is located approximately 1.0 m from the southern end of Feature B. It is irregular in shape and is also constructed of stacked basalt cobbles to medium boulders. Heights of the mound range from 20-50 cm. A few fragments of cowrie shell were observed just to the south of Feature C. The site was relocated.

## In Summary

- 88-acre PP site in Ka'onoulu has more recorded archaeological sites (20) than any other south Maui property in the same elevation (30 to 150 ft AMSL). 80% of the sites were thought to be pre-contact
  - Half of the recorded sites have associated pre-contact surface midden or portable remains, also very uncommon in this South Maui elevation. Two of the 8 sites tested had subsurface deposits. We support more subsurface testing.
- several of the 20 sites will be completely impacted by the proposed Upcountry Highway's currently proposed alignment and are discussed in the Highway project's 2000 AIS but this information, and additional features found, is not included in Fredricksen's 2014 Draft AIS. Impacted sites are 3727 & 3742, while others will be nearby, but not in the 300 ft corridor: 3728, 3729, 3741, 3743, 3745.
  - More unrecorded midden and portable remains are found throughout the PP parcel as well as what practitioners believe to be unrecorded sites, including sites listed as "unlocated" in the 2014 Draft AIS.
  - Most culturally significant recorded feature on this site (SIHP Site 3746 petroglyph stone) was illegally removed from the site in 1998 (an after the fact permit was later completed.) No other open field site at this elevation in South Maui has any reported petroglyphs. Practitioners believe the petroglyph indicated a water source was near by and likely indicated a trail in the area.
  - Currently, not one site on the parcel is recommended for any preservation, although project design could accommodate sites in greenways and landscape spaces.
- MCL and others asked for a site visit in Feb 2014 to offer cultural consultation on site significance, but no visit has yet been arranged.
  - The revised AIS and data recovery plan should not be approved until further fieldwork is completed and consultation with cultural practitioners is included in that field work.

The land of Ka'ono'ulu has a long history  
Does it remain to be told or simply vanish?  
Mahalo for your consideration





**APPENDIX F-1**  
**SHPD Acceptance Letter dated January 6, 2016**

DAVID Y. IGE  
GOVERNOR OF HAWAII



**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**

STATE HISTORIC PRESERVATION DIVISION  
KAKUHIHEWA BUILDING  
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SUZANNE D. CASE  
CHAIRPERSON  
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KEKOA KALUHIWA  
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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  
STATE PARKS

January 6, 2016

Jordan E. Hart, President  
Chris Hart & Partners, Inc.  
115 N. Market Street  
Wailuku, Hawaii 96793  
Via email to: [JHart@chpmaui.com](mailto:JHart@chpmaui.com)

Log No: 2015.03310  
Doc No: 1601MD08  
Archaeology

Aloha Mr. Hart:

**SUBJECT: Chapter 6E-42 Historic Preservation Review – Maui County  
Draft Archaeological Inventory Survey for the Piilani Promenade Project  
Ka‘ono‘ulu Ahupua‘a, Wailuku and Makawao Districts, Island of Maui  
TMK (2) 2-2-002:016, 077 and 082 and 3-9-001:016, 148, 169-174 and 3-9-048:122**

Thank you for the opportunity to review the draft report titled *An Archaeological Inventory Survey for On- and Off-Site Improvements Associated with the Proposed Piilani Promenade Project, and Updated Recommendations for Sites Identified in a 1994 Archaeological Inventory Survey, Ka‘ono‘ulu Ahupua‘a, Wailuku and Makawao Districts, Island of Maui (On-site TMK (2) 3-9-001: 16, 169-174, and off-site TMK (2) 2-2-002: 016, 077 and 082, (2) 3-9-001: 148, (2) 3-9-048: 122)* by Fredericksen (Revised August 2015). We received the draft plan submittal on September 2, 2015 and apologize for the delayed review. We requested revisions to an earlier draft of this report on May 2015 (*Log No. 2014.04433, Doc No. 1505MD54*).

This report was prepared for Mr. Robert Poynor of Sarofim Realty Advisors in advance of planned construction of commercial development of 74.871 acres (including off-site effected areas the total acreage for this survey was 101.658 acres) located *mauka* of Piilani Highway in North Kihei on Maui Island. An archaeological inventory survey (AIS) was originally conducted for this project in the early 1990s; however, following changes both to the land and to the project's anticipated area of potential effect a revised survey report has been prepared as part of the environmental impact statement pursuant to the Hawai'i Revised Statutes § 343 requirements following the recommendation of SHPD.

Fieldwork for the subject AIS was initially conducted in January and February of 2014 by three archaeologists with Erik M. Fredericksen, M.A. as the principal investigator. Three shovel-test pits were manually excavated. Twenty historic properties were identified in the earlier 1994 AIS associated with this project; all were re-identified during the current survey following a second period of fieldwork in July and August 2015. Results of consultation and information previously requested by SHPD regarding required changes to County utilities have been included as Appendices.

One new site was identified, State Inventory of Historic Places (SIHP) 50-50-10-8266. SIHP 8266 has been identified as a pre-Contact temporary habitation area, significant under criterion "d" for its information content. We concur with that assessment. Data recovery has been recommended as mitigation and we concur with that recommendation.

The original 1994 AIS identified 20 SIHPs; two of those, SIHP 3734 and 3739, have since been destroyed/lost. For the remaining SIHPs 3727-3733, 3735-3738 and 3740-3745 were all previously determined eligible for their information content under criterion "d." Of these 18 sites, one was removed in late 1994 (SIHP 3746); seven (7) are recommended for no further work (SIHPs 3730, 3731, 3733, 3737, 3738 and 3740); while the remaining 12 (SIHPs 3727-3729, 3732, 3735, 3736 and 3741-3745) have been recommended for data recovery. We concur with these recommendations and look forward to reviewing an archaeological data recovery plan which will also include the newly-identified SIHP 8266 for a total of thirteen (13) historic properties.

Revisions we previously requested, including results from additional fieldwork recommended in consultation with concerned citizen groups, have been adequately addressed. The draft AIS meets the requirements specified in Hawai'i Administrative Rule §13-276 and is accepted as final. 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 me at (808) 243-4641 or [Morgan.E.Davis@hawaii.gov](mailto:Morgan.E.Davis@hawaii.gov) if you have any questions or concerns about this letter.

Mahalo,



Morgan E. Davis  
Lead Archaeologist, Maui Section

cc: County of Maui Department of Planning [Planning@co.maui.hi.us](mailto:Planning@co.maui.hi.us)  
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**APPENDIX G**  
**Archaeological Impact Survey of Kulanihakoi Gulch**  
**dated August 2008**

**AN ARCHAEOLOGICAL INVENTORY SURVEY  
ON A 516.32-ACRE PARCEL LOCATED IN  
KĪHEI, KA`ONO`ULU AHUPUA`A, MAKAWAO DISTRICT,  
MAUI ISLAND, HAWAĪI  
[TMK (2) 2-2-002:015 por.]**

Prepared By:  
**Donna Shefcheck, B.A.,  
Shayna Cordle, B.A.**  
and  
**Michael Dega, Ph.D.**  
Revised August 2008

Prepared For:  
**Mr. Henry Rice  
Ka`ono`ulu Ranch  
Kula, Hawaii 96790**

## **ABSTRACT**

From January to April, 2007, Scientific Consultant Services, Inc. (SCS) conducted an Archaeological Inventory Survey on a large parcel of open land located in Kīhei, Kaʻonoʻulu Ahupuaʻa, Makawao District, Maui Island, Hawaiʻi [TMK: 2-2-02: 015 por.]. Forty new archaeological sites were identified and recorded during this work. Of the forty sites recorded during this work, eight are associated with pre-Contact activities. These pre-Contact sites consisted of temporary rock shelters with petroglyph components, enclosures, platforms, a mound and a wall. Historic sites found during this work pertained to agriculture and military training activities.

Data Recovery is recommended for Sites 6405 and 6412. These sites consist of mixed pre-Contact and historic military components, representing adaptive re-use of pre-existing sites in the area.

Preservation is recommended for Sites 6390, 6413, 6414, 6415, 6416, 6419, and 6420. These sites represent Hawaiian traditional structures in the barren zone, where habitation is understood to have been limited and extremely temporary.

Under the circumstances owing to the nature and intended preservation of these sites, Archeological Monitoring is recommended during any ground altering work planned for the parcel. With the exception of Monitoring, no further work is recommended for any of the agricultural mounds or miscellaneous historic sites, as these have very little potential for providing further data.

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## **INTRODUCTION**

At the request of Mr. Henry Rice of Ka`ono`ulu Ranch, Scientific Consultant Services, Inc. (SCS) conducted an Archaeological Inventory Survey, on a large parcel of open land located in Kīhei, Ka`ono`ulu Ahupua`a, Makawao District, Maui Island, Hawai`i [TMK: 2-2-02: 015 por.] (Figures 1, 2 and 3). Proposed development on this lot consists of a master planned project district with an integrated concept, whereby land use will be organized around a commercial and mixed-use village center to serve these planned neighborhoods. A combination of commercial, light industrial, residential, recreational and public/quasi-public uses is anticipated as part of the project area's land use.

SCS personnel Tomasi Patolo, B.A., Dea Funka, B.A., and Bryan Armstrong, B.A. conducted this work between January 24 and April 6, 2007 under the general supervision of Michael Dega, Ph.D. The Archaeological Inventory Survey was conducted to investigate the presence or absence of cultural remains in the form of archaeological structures and/or subsurface deposits.

This Archaeological Inventory Survey consisted of 100 percent systematic survey of the project area, site recording, and limited subsurface testing. The total area subject to this assessment was composed of over 516 acres of open land most recently used for cattle ranching. The results of this work were extensive. Forty new archaeological sites have been identified and recorded (Figure 4). These range in age from the late pre-Contact period to the modern era.

## **PROJECT AREA DESCRIPTION**

The project area is located in Ka`ono`ulu Ahupua`a, east of the Wailuku-Makawao boundary that cuts across the *ahupua`a*. It is bordered on the north by Waiakoa Ahupua`a and to the south by Kōheo Ahupua`a. The southwestern boundary abuts Pi`ilani Highway for some distance and then jogs inland ending with its northwest corner on the Wailuku-Makawao boundary (see Figure 2). The entire parcel was part of the Kaonoulu Ranch lands and spans from a half mile to approximately two miles inland of the coastline within an area archaeologically known as the "barren zone".

The project area soils are dominated by Waiakoa Extremely Stony Silty Clay Loam (WID2). This soil type is generally associated with highly eroded landscapes with shallow, 3 to 25 percent slopes and low precipitation (Foote *et al.* 1972: 126). Kīhei gets less than ten inches of rainfall per year (Armstrong 1983). The elevation ranges from 40 to 600 feet above mean sea

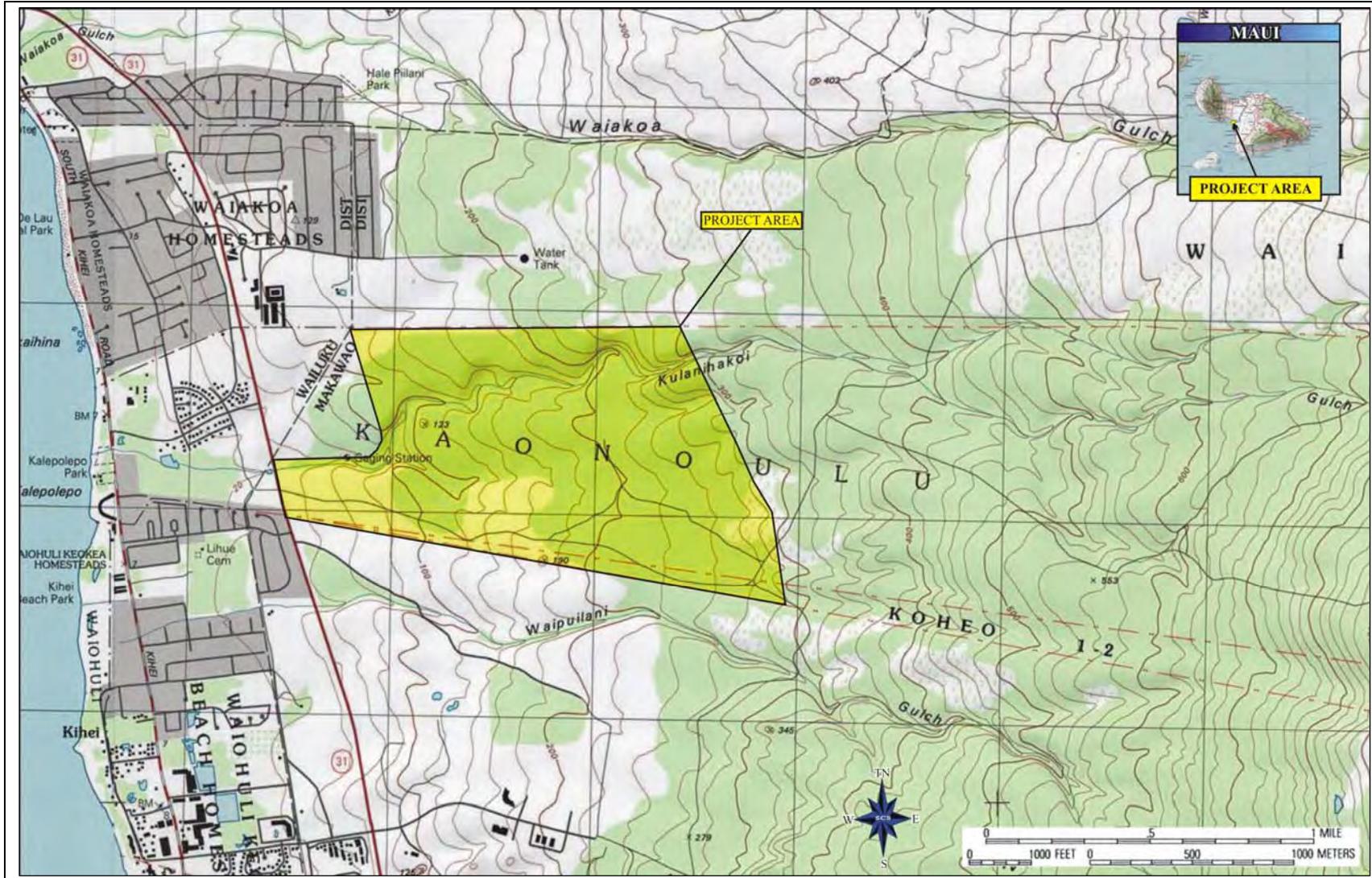


Figure 1: USGS Pu'u O Kali Quadrangle Showing the Project Area.





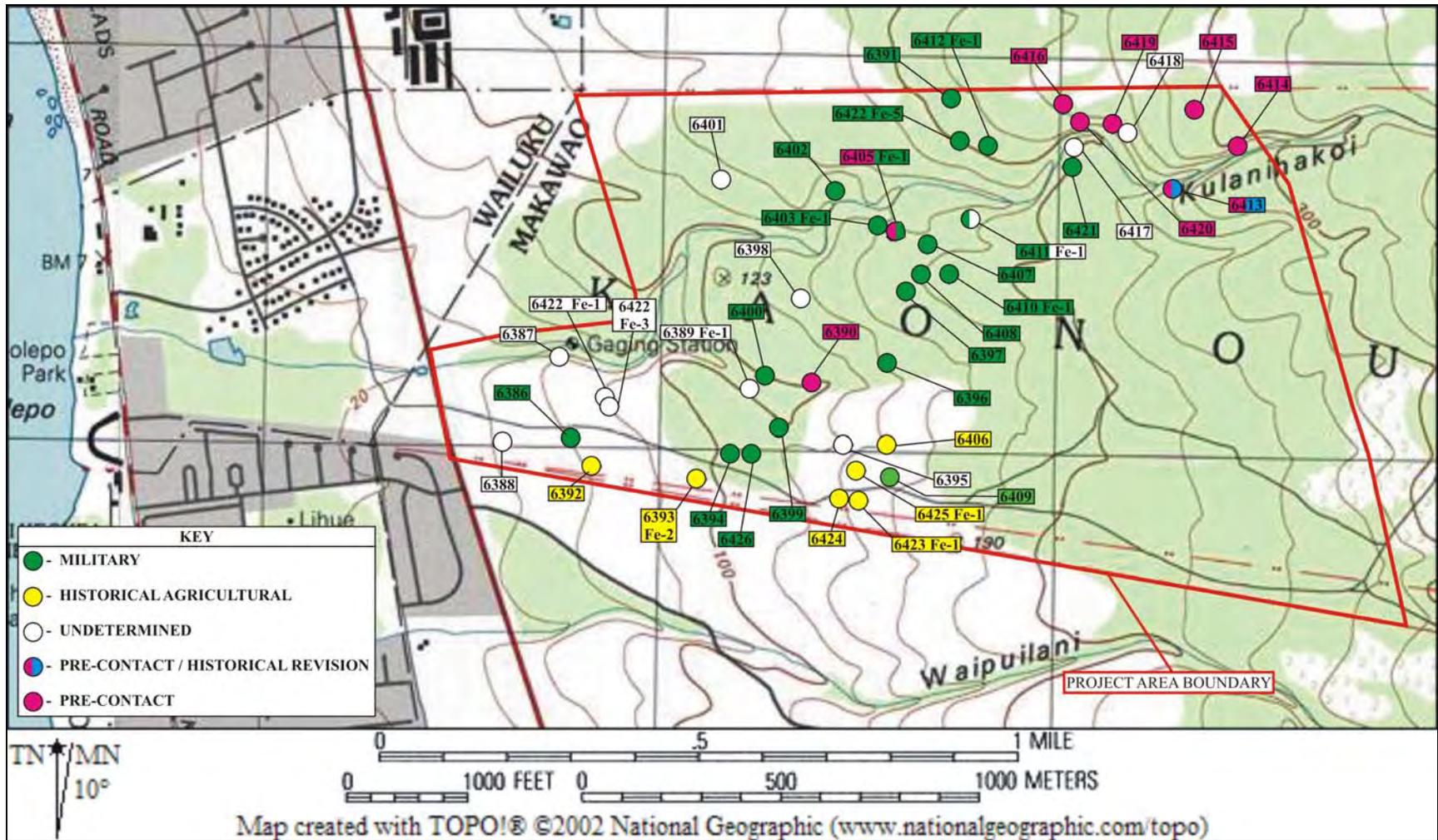


Figure 4: Plan View Map of the Project Area Showing GPS Points for the Sites Identified During Inventory Survey

level (amsl). The northeastern flank of the project area is marked with a steep natural gulch, called Kulanihakoi. While there is a general absence of perennial streams throughout the project area environs, Kulanihakoi Gulch does support a perennial stream during seasons of particularly heavy rainfall.

## **BARREN ZONE**

In geographical and physiographical terms, the barren zone is an intermediary zone between direct coastline and back beach areas to upland forests and more montane environments. The barren zone is a medial zone that appears to have been almost exclusively transitory, or at best, intermittently occupied through time. Intermittent habitation loci, as defined by surface midden scatters or small architectural features (i.e., C-shapes, alignments) dominate the few documented traditional-period site types (pre-Contact) in the area through time. Post-Contact features are generally limited to walls and small alignments, respectively associated with ranching and military training in the area.

The barren zone was an intermediary region between verdant upland regions and the coastline. Apparently, agricultural endeavors were practically non-existent in the barren zone and tool procurement materials (basalt, wood) were selected from other locales as well. Sediment regimes in the area are shallow, most often overlying bedrock, and perennial water sources are virtually non-existent.

Cordy (1977) divided the Kīhei (inclusive of Kaonoulu) area into three environmental zones (or subzones when one considers the entire *ahupua`a*): coastal, transitional/barren, and inland. The current project location occurs in the transitional or barren zone: the slopes back of the coast with less than 30 inches of rainfall annually (Cordy 1977:4).

This barren zone is perceived as dry and antagonistic to permanent habitation. Use of the area would primarily have been intermittent or transitory, particularly as the zone could have contained coastal-inland trails and would have marked an intermediary point between the two more profitable ecozones. The region remains hostile to permanent habitation, only having been “conquered” in recent times through much modern adaptation (i.e., air conditioning, water feed systems, etc.).

Based on general archaeological and historic research, the barren zone was not subject to permanent or expansive population until recent times. This intimates that population pressure along the coast was minimal or non-existent in the Kīhei coastal area through time. As such, architectural structures associated with permanent habitation sites and/or ceremonial sites are not

often identified in the area. The prevailing model that temporary habitation-temporary use sites predominate in the barren zone has been authenticated further by recent research.

### **CULTURAL HISTORICAL CONTEXT**

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. The island was formed by two volcanoes, Mount Kukui in the west and Haleakalā in the east. The younger of the two volcanoes, Haleakalā, soars 2,727 m (10,023 feet) above sea level and embodies the largest section of the island. Unlike the amphitheater valleys of West Maui, the flanks of Haleakalā are distinguished by gentle slopes. Although it receives more rain than its counterpart in the east, the permeable lava flows of the Honomanū and Kula Volcanic Series prevent the formation of rain-fed perennial streams. The few perennial streams found on the windward side of Haleakalā originate from springs located at low elevations. Valleys and gulches were formed by intermittent water run-off. The environment factors and resource availability heavily influenced pre-Contact settlement patterns. Although an extensive population was found occupying the uplands above the 30-inch rainfall line where crops could easily be grown, coastal settlement was also common (Kolb *et al.* 1997). The existence of three fishponds at Kalepolepo, north of the project area, and at least two *heiau* (shrine, temple, place of worship) identified near the shore confirm the presence of a stable population relying mainly on coastal and marine resources.

Agriculture may have been practiced behind the dune berms in low-lying marshland or in the vicinity of Keālia pond. It is suggested that permanent habitation and their associated activities occurred from A.D. 1200 to the present in both the uplands and coastal region (*Ibid.*).

### **PAST POLITICAL BOUNDARIES**

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha`ōhia, during the time of the *ali`i* Kaka`alaneo (Beckwith 1979:383; Fornander places Kaka`alaneo at the end of the fifteenth century or the beginning of the sixteenth century [Fornander 1919-20, Vol. 6:248]). Land was considered the property of the king or *ali`i`ai moku* (the *ali`i* who eats the island/district), which he held in trust for the gods. The title of *ali`i`ai moku* ensured rights and responsibilities to the land, but did not confer absolute ownership. The king kept the parcels he wanted; his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka`āinana* (commoners) worked the individual plots of land.

In general, several terms were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua`a*), which customarily continued inland from the ocean

and upland into the mountains. Extended household groups living within the *ahupua`a* were able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *`ili`āina* or *`ili* were smaller land divisions next to importance to the *ahupua`a* and were administered by the chief who controlled the *ahupua`a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo`o`āina* were narrow strips of land within an *`ili*. The land holding of a tenant or *hoa`āina* residing in an *ahupua`a* was called a *kuleana* (Lucas 1995:61). The project area is located in the *ahupua`a* of Ka`ono`ulu, which translated means literally “the desire for breadfruit” (Pukui *et al.*:86).

### **TRADITIONAL SETTLEMENT PATTERNS**

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua`a*. Within the *ahupua`a*, residents were able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111).

During pre-Contact times, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugarcane, *Saccharum officinarum*), *mai`a* (banana, *Musa* sp.), and *`uala* (sweet potato, *Ipomoea batatas*) were also grown. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on the leeward side of Maui was likely to have begun early in what is known as the Expansion Period (AD 1200–1400, Kirch 1985). According to Handy (1940: 159), there was “continuous cultivation on the coastal region along the northwest coast” of Maui . He writes:

On the south side of western Maui the flat coastal plain all the way from Kihei and Ma`alaea to Honokahua, in old Hawaiian times, must have supported many fishing settlements and isolated fishermen’s houses, where sweet potatoes were grown in the sandy soil or red lepo [soil] near the shore. For fishing, this coast is the most favorable on Maui, and, although a considerable amount of taro was grown, I think it is reasonable to suppose that the large fishing population, which presumably inhabited this leeward coast, ate more sweet potatoes than taro with their fish.... [*ibid*]

There is little specific information pertaining directly to Kīhei, which was originally a small area adjacent to a landing built in the 1890s (Clark 1980). Presently, Kīhei consists of a six-mile section along the coast from the town of Kīhei to Keawakapu. Scattered amongst the agricultural and habitation sites were places of cultural significance to the *kama`āina* of the district including at least two *heiau*. In ancient times, there was a small village at Kalepolepo based primarily on marine resources. It was recorded that occasionally the blustery Kaumuku Winds would arrive with amazing intensity along the coast (Wilcox 1921).

There were several fishponds in the vicinity of Kīhei; Waiohuli, Ka`ono`ulu-kai, and Kalepolepo Pond (Site 50-50-09-1288), which is also known by the ancient name of Kō`ie`ie Pond (Kolb *et al.* 1997). Constructed on the boundary between Ka`ono`ulu and Waiohuli Ahupua`a, these three ponds were some of the most important royal fishponds on Maui. The builder of Kalepolepo and two other ponds (Waiohuli and Ka`ono`ulu-kai) has been lost in antiquity, but they were reportedly rebuilt at least three times through history, beginning during the reign of Pi`ilani (1500s) (*ibid*; Cordy 2000).

Oral tradition recounts the repairing of the fishponds during the reign of Kiha-Pi`ilani, the son of the great chief Pi`ilani, who had bequeathed the ponds to Umi, ruler of Hawai`i Island. Umi's *konohiki* (land manager) ordered all the people from Maui to help repair the walls of Kalepolepo's fishponds. A man named Kikau protested that the repairs couldn't be done without the assistance of the *menehune* who were master builders (Wilcox 1921:66-67). The *konohiki* was furious and Kikau was told he would die once the repairs had been made. Ka`ono`ulu-kai was the first to be repaired. When the capstone was carried on a litter to the site, the *konohiki* rode proudly on top of the rock as it was being placed in the northeast corner of the pond. When it was time for repairs on Waiohuli-kai, the *konohiki* did the same. As the last pond, then known as Ka`ono`ulu-kai, was completed, the *konohiki* once again rode the capstone to its resting place. Before it could be put into position, the capstone broke throwing both the rock and *konohiki* into the dirt. The workers reportedly said “*Ua konohiki Kalepolepo, ua eku i ka lepo,*” or, “the manager of Kalepolepo, one who roots in the dirt” (*ibid*:66). That night a tremendous storm threw down the walls of the fishponds. The *konohiki* implored Kikau to help him repair the damage. Kikau called the *menehune* who rebuilt the walls in one night. Umi sent for Kikau who lived in the court of Waipi`o Valley from then on. The region of Ka`ono`ulu-kai and Ka`ono`ulu-kai fishpond became known as Kalepolepo fishpond (*ibid*).

The Kalepolepo fishponds were rebuilt by Kekaulike, chief of Maui in the 1700s, at which time it supplied `ama`ama (mullet) to Kahekili II. Again, it was restored by Kamehameha I when he ruled as governing chief over Maui, and for the last time in the 1840s, when prisoners

from Kaho`olawe penal colony were sent to do repairs (Kamakau 1961; Wilcox 1921). At this time, stones were taken from Waiohuli-kai pond for the reconstruction of Kalepolepo. It was here at Kalepolepo that Kamehameha I reportedly beached his victorious canoes after subduing the Maui chiefs. The stream draining into Keālia pond (north of the project area) became sacred to royalty and *kapu* to commoners (Stoddard 1894).

Trails extended from the coast to the mountains, linking the two for both economic and social reasons. A trail known as the *alanui* or “King’s trail” built by Kihapi`ilani, extended along the coast passing through all the major communities between Lāhainā and Mākena, including Kīhei. Kolb noted that two traditional trails extended through Ka`ono`ulu. One trail, named “*Kekuawaha`ula`ula*” or the “red-mouthed god”, went from Kīhei inland to Ka`ono`ulu. Another, the Kalepolepo trail, began at the Kalepolepo fishpond and continued to upland Waiohuli. These trails were not only used in the pre-Contact era, but were expanded to accommodate wagons bringing produce to the coast in the 1850s (Kolb *et al.* 1997:61).

## **WESTERN CONTACT**

Early records, such as journals kept by explorers, travelers and missionaries, Hawaiian traditions that survived long enough to be written down, and archaeological investigations, have assisted in the understanding of past cultural activities. Unfortunately, early descriptions of this portion of the Maui coast are brief and infrequent. Captain King, Second Lieutenant on the *Revolution* during Cook’s third voyage briefly described what he saw from a vantage point of “eight or ten leagues” (approximately 24 miles) out to sea as his ship departed the islands in 1779 (Beaglehole 1967). He mentions Pu`u Ōla`i, south of Kīhei, and enumerates the observed animals, thriving groves of breadfruit, the excellence of the *taro*, and describes the sugarcane as being of an unusual height. Seen from this distance and the mention of breadfruit suggest the uplands of Kīpahulu-Kaupo and `Ulupalakua were his focus.

In the ensuing years, LaPérouse (1786), Nathaniel Portlock and George Dixon, (also in 1786), sailed along the western coast, but added little to our direct knowledge of Kīhei. During the second visit of Vancouver in 1793, his expedition becalmed in the Ma`alaea Bay close to the project area. (A marker commemorating this visit is located across from the Maui Lu Hotel). He reported:

The appearance of this side of Mowee was scarcely less forbidding than that of its southern parts, which we had passed the preceding day. The shores, however, were not so steep and rocky, and were mostly composed of a sandy beach; the land did not rise so very abruptly from the sea towards the mountains, nor was its surface so

much broken with hills and deep chasms; yet the soil had little appearance of fertility, and no cultivation was to be seen. A few habitations were promiscuously scattered near the waterside, and the inhabitants who came off to us, like those seen the day before, had little to dispose of. [Vancouver 1984:852]

Archibald Menzies, a naturalist accompanying Vancouver stated, "...we had some canoes off from the latter island [Maui], but they brought no refreshments. Indeed, this part of the island appeared to be very barren and thinly inhabited" (Menzies 1920:102). According to Kahekili, then chief of Maui, the extreme poverty in the area was the result of the continuous wars between Maui and Hawai'i Island causing the land to be neglected and human resources wasted (Vancouver 1984:856).

### **THE MĀHELE**

In the 1840s a drastic change in traditional land tenure resulted in a division, or Māhele, of island lands. This system of private ownership was based on western law. While a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III (Kamehameha III) was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kuykendall Vol. I, 1938:145 footnote 47, 152, 165–6, 170; Daws 1968:111; Kelly 1983:45; Kame`eleihiwa 1992:169–70, 176).

Among other thing, foreigners demanded private ownership of land to insure their investments (Kuykendall Vol. I, 1938:138, 145, 178, 184, 202, 206, 271; Kame`eleihiwa 1992:178; Kelly 1998:4). Once lands were made available and private ownership was instituted the *maka`āinana* (commoners) were able to claim the plots on which they had been cultivating and living, if they had been made aware of the foreign procedures (*kuleana* lands, Land Commission Awards, LCA). These claims could not include any previously cultivated or presently fallow land, *`okipū* (on O`ahu), stream fisheries or many other resources necessary for traditional survival (Kelly 1983; Kame`eleihiwa 1992:295; Kirch and Sahlins 1992). The awarded parcels were called Land Commission Awards. If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA, issued a Royal Patent number, and could then take possession of the property (Chinen 1961: 16). Fifty-five LCA claims were made for land in Ka`ono`ulu.

As western influence grew, Kalepolepo, west of the project area became the important provisioning area. Europeans were now living or frequently visiting the coast and several churches and missionary stations were established. A Mr. Halstead left medical school on the East coast of the continent to become a whaler and after marrying the granddaughter of Issac

Davis, settled in Kalepolepo on land given him by Kamehameha III (Kolb *et al.* 1997). His residence and store situated at Kalepolepo landing was known as the Koa House having been constructed of *koa* logs brought from the uplands of Kula. The store flourished due to the whaling and potato industry and provided an accessible port for exported produce. Several of Hawai`i's ruling monarchs stayed at the Koa House, including Kauikeaouli (Kamehameha III), Kamehameha the IV, Lot Kamehameha (V), and Lunalilo. After viewing the surroundings, Wilcox stated, "...Kalepolepo was not so barren looking a place. Coconut trees grew beside pools of clear warm water along the banks of which grew taro and ape..." (1921:67). However, by 1887 this had changed. Wilcox continues:

...the Kula mountains had become denuded of their forests, torrential winter rains were washing down earth from the uplands, filling with silt the ponds at Kalepolepo...ruins of grass huts [were] partly covered by drifting sand, and a few weather-beaten houses perched on the broad top of the old fish pond wall at the edge of the sea, with the Halstead house looming over them dim and shadowy in the daily swirl of dust and flying sand..." [*ibid*]

As early as 1828, sugar cane was being grown commercially on Maui (Speakman 1981:114). Sugar was established in the Makawao area in the late 1800s and by 1899, the Kihei Plantation Company (KPC) was growing cane in the plains above Kīhei. In 1908, the Kihei Plantation was absorbed by the Hawaiian Commercial and Sugar Company (HC&SC); the new-formed company continued cultivating what had been the KPC fields into the 1960s. A 200-foot-long wharf was constructed in Kīhei at the request of Maui plantation owners and farmers and served inter-island boats for landing freight and shipping produce to Honolulu (Clark 1980). In 1927, Alexander and Baldwin became the agents for the plantation (Condé and Best 1973). A landing was built at Kīhei around 1890.

Kaonoulu Ranch lands have been in the Rice family since 1916. Previously, both the Haleakalā and Kaonoulu Ranches leased the then Crown lands for pasture and other ranching activities. The introduction of a dependable water supply in 1952 set a foundation for overseas investment and development, which has thrived along the coastal region of Kīhei.

## **PREVIOUS ARCHAEOLOGY**

Archaeological studies in the greater Kīhei area began in the early twentieth century with T. Thrum (1909), J. Stokes (1909–1916), and W. M. Walker (1931). These surveys included areas of leeward Maui and inventoried both upland of the Kula District and coastal sites (Figure 5).

The barren zone areas of this study have recently been subject to a proliferation of archaeological studies as residential and business endeavors expand from the coastline into other reaches of the Kīhei area. Concomitant with modern expansion involves necessary historic preservation work. The following section provides a general overview of archaeological studies in the general Kīhei area, focused on the barren zone.

As noted by Hammatt and Shideler (1992:10), “what is particularly striking in the many archaeological reports on Kīhei is the general paucity of sites within the transitional or barren zone.” Cordy (1977) and Cox (1976) all conducted large-scale survey in this zone that led to the recordation of only small, temporary habitation or temporary use sites. Several other studies in this zone of Kama`ole Ahupua`a, including those conducted by Mayberry and Haun (1988) and Hammatt and Shideler (1990), also only revealed the presence of temporary habitation and temporary use loci.

McDermott (2001:100) states that site densities are typically quite low within the “barren zone” with multiple studies having been conducted on large parcels (Kennedy 1986, Watanabe 1987, Hammatt and Shideler 2000, Kikiloi *et al.* 2000) that did not lead to the identification any pre-Contact sites. However, military sites related to World War II (WWII) training exercises have been previously documented in the area (McGerty *et al.* 2000), these sites often consisting of low, short alignments or walls. The few radiocarbon dates acquired from the area indicate definitive use of the landscape in later prehistory c. A.D. 1500 to 1600+.

SCS, and others, have more recently conducted numerous projects in the vicinity of the present project area. Several studies have been conducted in association with development of the Maui Research and Technology Park and the Elleair Maui Golf Club (Kennedy 1986; Hibbard 1994; Chaffee *et al.* 1997; McGerty *et al.* 2000; Sinoto *et al.* 2001; Tome and Dega 2002; Monahan 2003).

Kennedy (1986) conducted an archaeological reconnaissance of the entire 150.032 acres of the then-proposed Maui Research and Technology Park (TMK:2-2-02, since changed to 2-2-24). Kennedy’s study, which did not include subsurface testing (excavation), concluded that no archaeological sites or features were located within the project area.



Chaffee *et al.* (1997) conducted an Archaeological Inventory Survey, including subsurface testing, of a portion of the Maui Research and Technology Park, within the area investigated by Kennedy (1986). Three sites consisting of ten archaeological features were identified. The features included remnant terraces, stone alignments, a mound, and a modified outcrop. All of the sites were interpreted as agricultural in function with the exception of a rock mound that may have functioned as a religious feature.

Monahan (2003) conducted an Archaeological Inventory Survey, including subsurface testing, of a 28.737-acre portion of the Maui Research and Technology Park, within the area investigated by Kennedy (1986). Other than one surface feature, a small arrangement of stacked boulders interpreted as a 'push pile,' this survey yielded no evidence of historic or prehistoric significance.

Theresa Donham conducted an Archaeological Reconnaissance Survey of the Haleakalā Greens Subdivision area (Hibbard 1994). She identified a low, circular rock mound, a historical site with multiple features on the crest of a prominent ridge, a linear rock mound or wall remnant, a rock-filled terrace outlined with a low, rock wall, and other modifications along a rock outcrop. Shell midden was observed on the surface inside an enclosure.

McGerty *et al.* (2000) surveyed 15 selected areas within the Elleair Maui Golf Club, and identified five archaeological sites (State Site Nos. 50-50-10-5043, -5044, -5045, -5046, and -5047) containing a total of seven surface features. The surface features were interpreted as agricultural terraces, perhaps dating from the pre-Contact period, and C-shaped rock formations (fighting positions) built during World War II training. Ten excavation units placed within these features yielded no cultural material.

Sinoto *et al.* (2001) conducted an Archaeological Inventory Survey of a parcel adjacent to the subject property. No archaeological or historical sites or features were identified.

Tome and Dega (2002) conducted an Archaeological Inventory Survey along the northeastern flank of the Elleair Maui Golf Club property. They identified a historical ranching corral and a short agricultural wall, collectively designated State Site No. 50-50-10-5233. No other structures or subsurface deposits were identified. No traditional Native Hawaiian sites or features were identified. Another Inventory Survey along the southern flank of the Elleair Maui Golf Course (Dega 2003) failed to yield any archaeological or historical features.

Scientific Consultant Services (SCS), Inc. conducted Archaeological Inventory Survey (Monahan 2004) on two undeveloped lots totaling approximately 56.647 acres near the Elleair Golf Course in Kīhei, Waiohuli and Ka`ono`ulu Ahupua`a, Wailuku (Kula) District, Kīhei, Maui Island, Hawai`i [TMK: 2-2-24: Portion 12 and 13]. A pedestrian survey and subsurface testing was performed in advance of a proposed residential project near the Elleair Golf Course. Four surface features consisting of stacked basalt stones were located within the project area; each was assigned a separate state site number. Test excavations yielded buried cultural material consistent with traditional Native Hawaiian activities at three of the four sites (Sites 50-50-10-5506, -5507, and -5509). Excavation at the fourth site (-5508)—a C-shaped rock pile consistent with a World War II military training feature—did not yield any subsurface evidence. The discovery of three traditional Native Hawaiian sites in this area is significant, as previous studies have generally failed to document any such activity. One of these sites (-5509) yielded a modern radiocarbon date ( $0 \pm 50$  BP), but its context is questionable and it may not be associated with the buried artifacts. Two other sites (-5506 and -5507) did not yield charcoal, although both contained buried traditional artifacts and midden. No additional archaeological work was recommended in the project area (Monahan 2004).

As may be gleaned from this praxis of archaeological studies for the barren zone, site expectation and site density is low for the area. Even large-scale surveys at times have failed to document sites of any time period in this dry area. A majority of the pre-Contact population of Kīhei was settled along the coastline, nearer resources, while lands above 2,000 ft. amsl. were also heavily occupied from the c. A.D. 1400s. Thus, the ‘barren zone’ became a medial zone between a coastal and inland population. Coupling the lack of major water resources and the shallow depths of the soils, the barren zone became an infrequent occupation area. Given the paucity of significant sites in the barren zone, however, the sites that are identified in this zone become much more significant.

### **PROJECT AREA EXPECTATIONS**

The current project area falls into the barren zone. Archaeological reconnaissance and inventory survey work in the barren zone have yielded only a modest amount of evidence for traditional and historic-period activity. Documented sites in the general area primarily include agricultural terraces and short walls, C-shaped structures (military period), and historic ranching features (walls, corrals).

As this project area is located within the barren zone, it was not expected to yield many, if any, traditional-type sites. Previous archaeology in the area (McGerty *et al.* 2000) attests to the likelihood for encountering numerous sites relating to military activity on the parcel. Historic agricultural sites, such as rock mounds, roads, and berms were also anticipated for this site, as it has long been a working ranch.

## **METHODOLOGY**

This Inventory Survey consisted of full systematic pedestrian survey of the project area, thorough recordation of all sites and component features and limited test excavations. Survey was conducted in 10 to 15 meter transects throughout the project area. Site recordation consisted of thorough site description and assessment, GPS location and plan view mapping of most sites (see Results for exceptions), and site photography. Excavations were conducted in five sites. These excavations consisted of 0.5 by 0.5 m test units. These excavations were plotted on the plan view map for each corresponding site, and recorded in level-by-level subsurface documentation. Any recovered artifacts selected from this site were sent to the SCS Laboratory in Honolulu for analysis and curation. A single radiocarbon sample was collected and analyzed by Beta Analytic, Inc (Appendix A). The results of this work are described below.

## **RESULTS**

A full, systematic pedestrian survey was conducted from January 24<sup>th</sup> to April 6<sup>th</sup>, 2007. This phase of the Inventory Survey yielded 40 previously undocumented archaeological sites pertaining to all phases of occupation of the subject parcel: pre-Contact, Historic, Military and Modern. These sites were thoroughly documented as they were discovered.

The following site descriptions are presented in numeric order and include site significance assessments according to the criteria established for the State Register of Historic Places, and details of corresponding excavations within each site section (details regarding the criteria established for SHIP follows in the DISCUSSION AND RECOMMENDATIONS section below).

### **50-50-10-6386**

Site 6386 is a circular rock mound measuring approximately 1.6 m in diameter (Figure 6). Located in the western end of the project area, this single-feature site was a military structure. Unlike agricultural mounds, which are typically very close together and loosely stacked and piled, this feature displays orderly construction in which the boulders, though

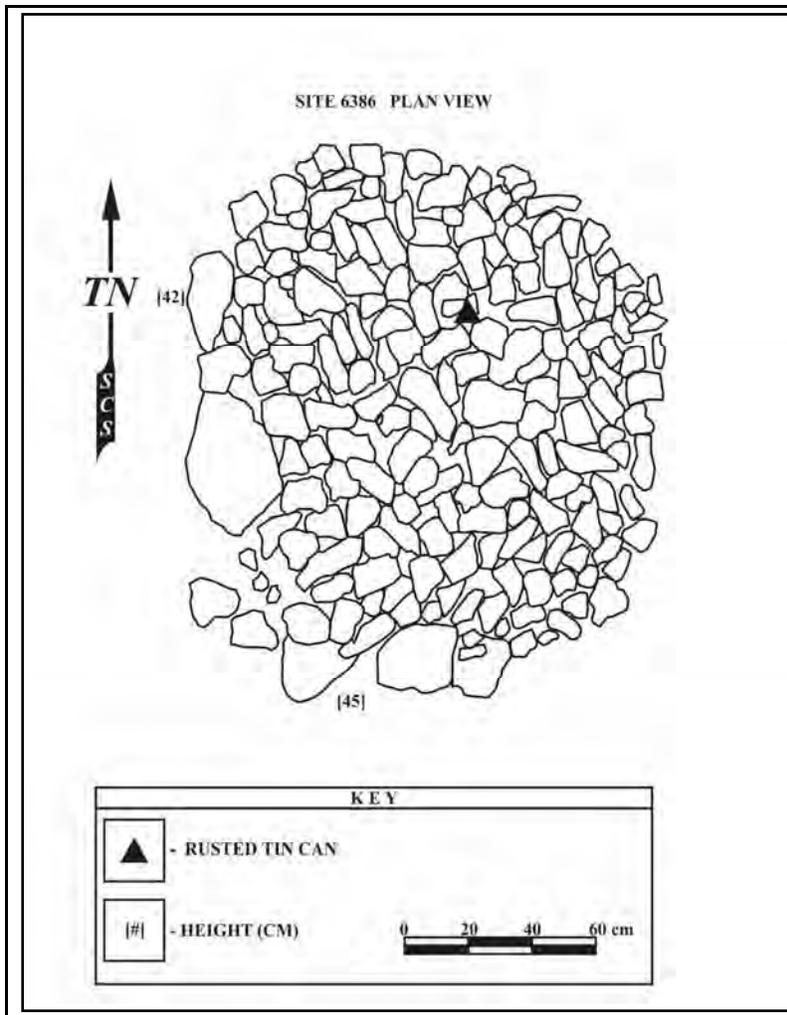


Figure 6: Plan View of Site 6386.

roughly broken and angular, are neatly stacked and faced up to two courses high (approximately 45 cm). Many single-feature sites similar to this one have been documented in this project area, though they are diffuse and distributed widely throughout the lot. Site 6386 is typical of the many other rock mounds found in the project area. Some boulders have bulldozer scars and the area around the site displays exposed bedrock, indicating that this feature was built with a machine. This site, as a possible World War II military training feature, is considered significant under Criterion D, which highlights its potential to yield information pertaining to the history and prehistory of the island of Maui, as well as the state of Hawai`i as a whole.

#### **50-50-10-6387**

Site 6387 is a dirt road following the southern edge of Kulanihakoi Gulch (Figure 7). The road, over 130.0 m long bears northwest-southeast with a neatly stacked retention terrace

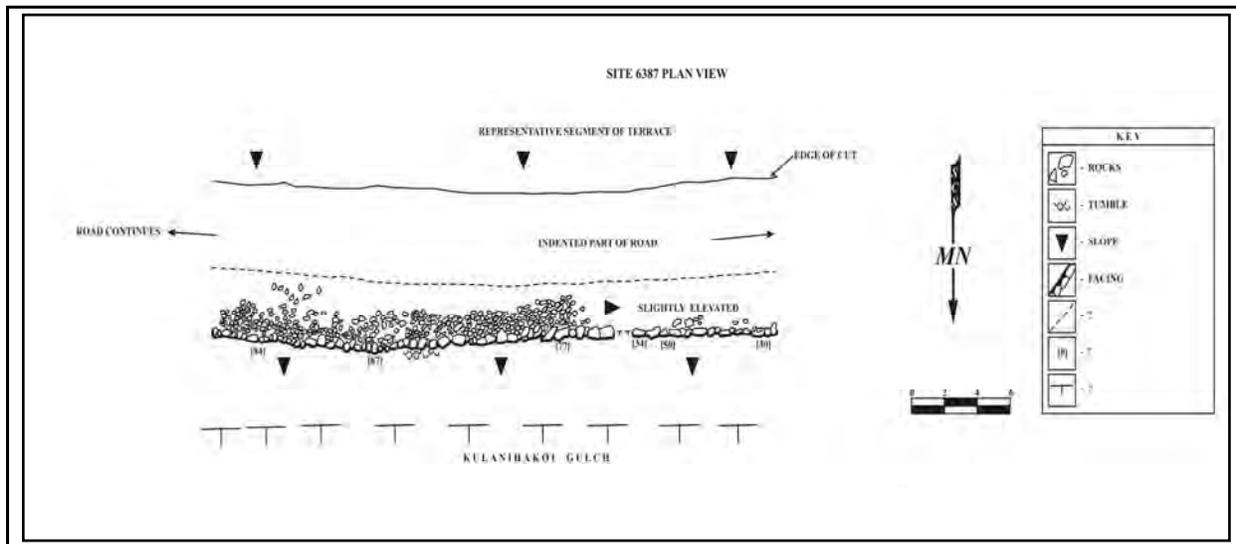


Figure 7: Plan View of Site 6387.

along its north side, facing the gulch. The terrace lines the gulch and is constructed of small- to medium-sized basalt boulders neatly stacked in three to eight courses. Intermittent, naturally occurring boulders are integrated into the construction as well. The road is Historic, though there is no evidence that further associates it with military or ranching activities this site has been evaluated as significant under criterion D for its potential to yield information pertaining to the history of Maui and the State of Hawai`i.

#### 50-50-10-6388

Site 6388 is a single rock mound located in the southwest corner of the project area (Figure 8). Site 6388 is likely a remnant of the extensive bulldozing activities that once occurred in this part of the project area. The mound is oval-shaped, measuring 1.5 by 1.1 m, and consists of loosely piled stones of varying sizes. The cortex on the surface of these stones is discolored, indicating that they were once buried, giving evidence to the conclusion that the mound is related to bulldozing activities that once occurred extensively in this project area. There is also a notable portion of modern debris, especially plastic bags, intermingled in the stones that make up this feature. This site is considered significant under criterion D for its potential to yield information pertaining to the history of Maui and the state of Hawai`i.

#### 50-50-10-6389

Site 6389 consists of four Historic features, all rock mounds, located on the south side of Kulanihakoi Gulch, in the center of the project area (Figure 9). These features are each

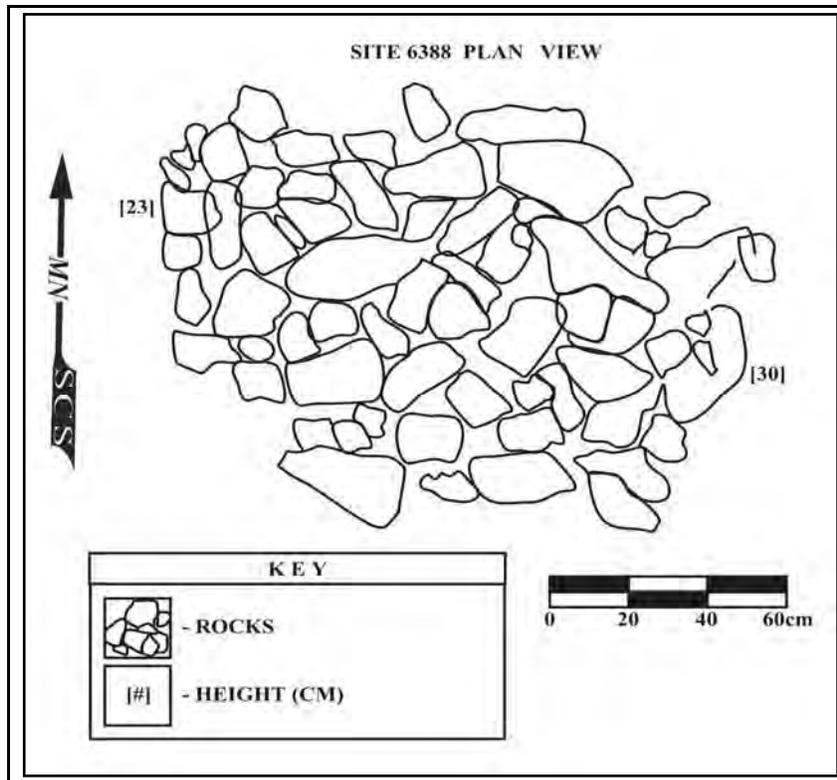


Figure 8: Plan View of Site 6388.

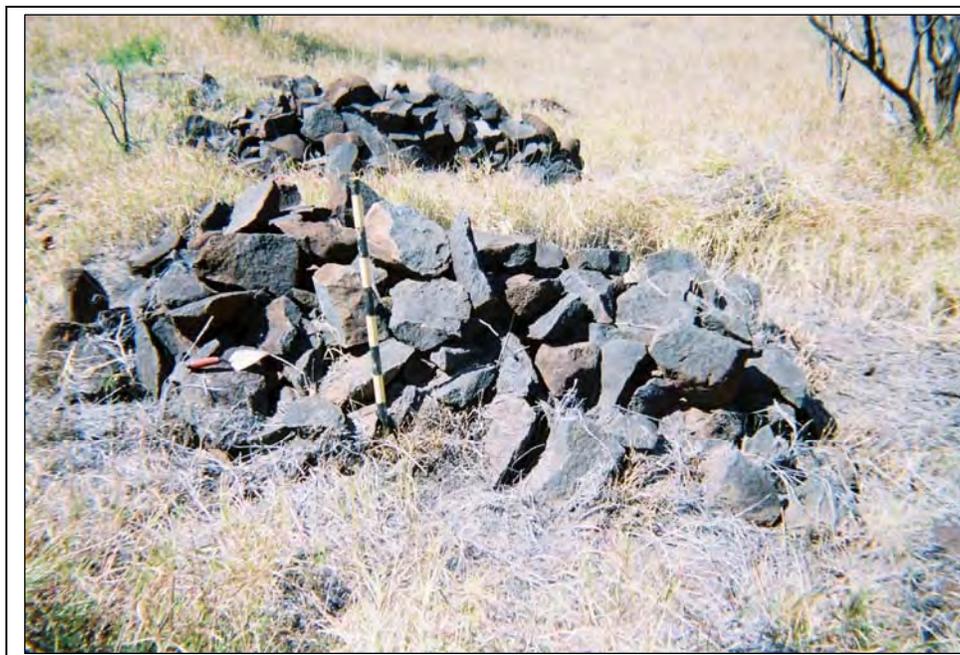


Figure 9: Photographic Overview of Site 6389.

constructed of angular, broken up basalt cobbles and boulders, indicating that these features were built using heavy equipment. Features 1 through 3 are clearing mounds, while Feature 4 is associated with road retention. Features 1 through 3 vary in size from 3.0 by 2.0 m to 5.0 by 1.6 m in diameter and up to 0.9 m high. Feature 4, which lies approximately 10.0 m to the northwest, measures 6.9 by 1.3 m and up to 0.8 m high. This feature is on a moderate slope and was likely constructed for erosion control. This Site is significant under criterion D due to its potential to yield information pertaining to the history and/or pre-history of the island of Maui and the state of Hawai`i.

#### **50-50-10-6390**

Site 6390 is a rock mound that differs from those previously discussed in morphology and construction material (Figure 10). This single-feature site, located approximately 150.0 m west of 6389, has been neatly stacked atop bedrock and measures 2.0 by 1.5 m. Unlike the mounds previously discussed, the basalt boulders and cobbles are unaltered, with sedimentary deposits visible in between the stones within the feature. This deposit indicates the feature's antiquity, as erosive processes have filled in the open-spaces in this feature, as opposed to others discussed herein. While there is no artifactual evidence to indicate the feature's function, it is safe to say that it predates the mechanically constructed sites, such as 6386, 6388, and 6389. It is associated with the pre-Contact period. As such, this site has potential to yield information pertaining to the pre-history of Maui and the state of Hawai`i and is therefore significant under criterion D.

#### **50-50-10-6391**

Site 6391 is a C-shaped structure that is located approximately 11.0 m from the north boundary of the project area along a segment of dirt road that is "curbed" on both sides by linear boulder piles (this road is described in 6401). The C-shape is constructed of small- to medium-sized subangular and subrounded boulders which measured 5.0 by 4.1 m, and also integrates naturally deposited rock (Figure 11). No facing is present, though the materials are neatly piled to form the architecture of the feature. The C-shape opens to the southwest, delineated by a semi-circular natural rock outcropping. The morphology of this site, particularly the lack of stacking and facing, implies that it was not for Traditional cultural use, but may have been constructed as part of a military training exercise. It's proximity to the uniquely "curbed" road (6401) further supports this conclusion. This site is as a possible military training structure and use as temporary habitation is considered significant under criterion D for its potential to yield information pertaining to the history and/or pre-history of Maui and the state of Hawai`i.

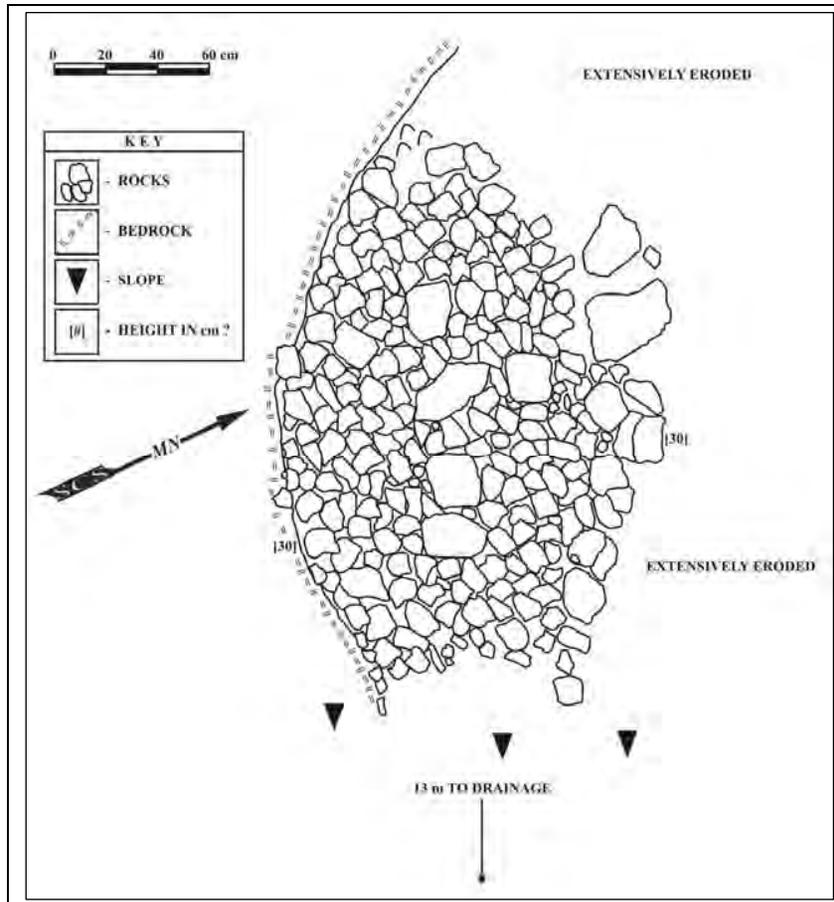


Figure 10: Plan View of Site 6390.

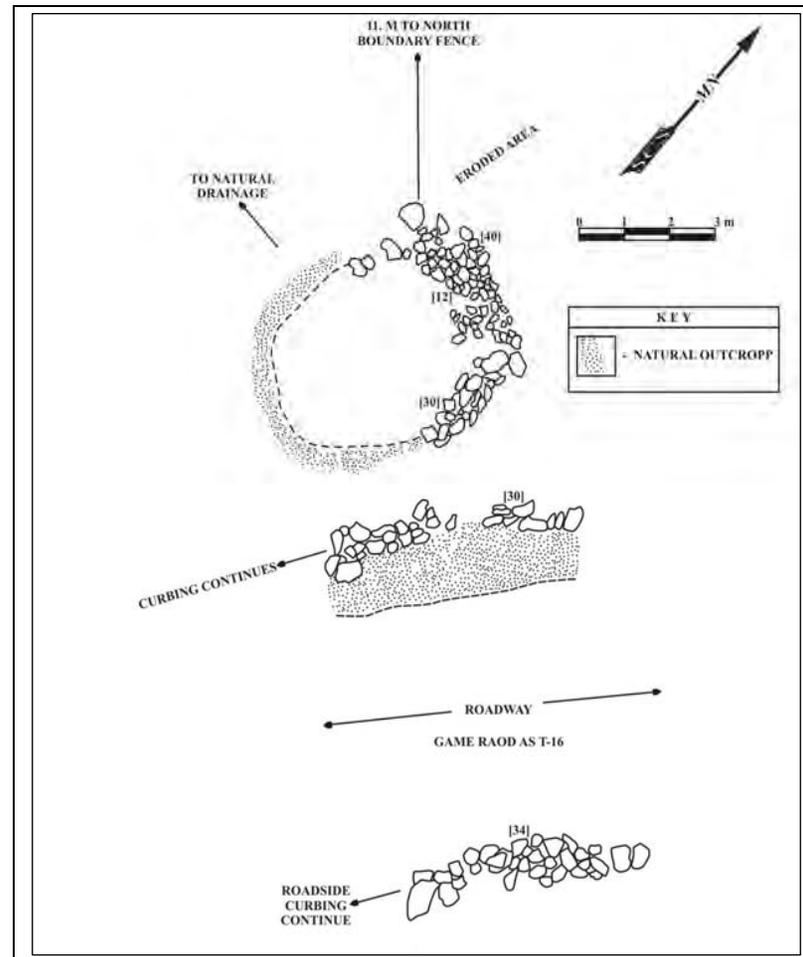


Figure 11: Plan View of Site 6391.

### **50-50-10-6392**

Located approximately 50.0 m southeast of 6386, Site 6392 is a neatly stacked, oval-shaped rock mound that was likely built during the Historic Period using heavy equipment (Figure 12). Similar to 6386, the area around Site 6392 has been grubbed and bedrock is exposed in numerous places around the site. The site is constructed with angular, broken up cobbles and small boulders, though these are neatly stacked so that the top of the feature is relatively flat. The mound measures 1.7 by 1.3 m. Site 6392 is significant under criterion D for its potential to yield information pertinent to the history of Maui and the state of Hawai`i.



Figure 12: Photographic Overview of Site 6392.

### **50-50-10-6393**

Site 6393 consists of three features, all of which are rock mounds that were likely constructed during bulldozer activities on the lot, due to the angular, broken up condition of stones in the features and the presence of a bulldozed area (possibly an old road) just north of Feature 3 (Figure 13). The site is situated along the southern border of the project area, approximately 250.0 m east of 6392. There is a linear area of exposed bedrock just north of Feature 1. The feature dimensions are as follows: Feature 1 measures 2.6 by 1.6 m and 0.55 m



Figure 13: Photographic Overview of Site 6393.

high; Feature 2 measures 3.5 by 2.0 m and up to 0.8 m high; and Feature 3 measures 2.3 by 2.0 m and 0.46 high. These features are similar in construction style. Each is built with similarly angular and broken up basalt boulders and cobbles piled haphazardly onto the mounds. The exception is some evidence of facing on the southwest side of Feature 2, where coursing appears to be up to four levels high. This is significant under criterion D for its potential to yield information important to the history of Maui and the state of Hawai`i.

#### **50-50-10-6394**

Site 6394 is a single-feature site, located approximately 100.0 m northeast of 6393, consisting of a somewhat scattered boulder terrace or C-shaped structure (Figure 14). This feature has been heavily disturbed by grubbing activities to its north, south, east and west, with exposed bedrock immediately to the south and west sides of the feature. This site is constructed of small- to large-sized basalt boulders piled in a semi-circle or half-moon shape, measuring approximately four meters long on its long axis (northwest-southeast). Although this feature is heavily disturbed, its morphology relates it to military C-shapes on the project area. This site is

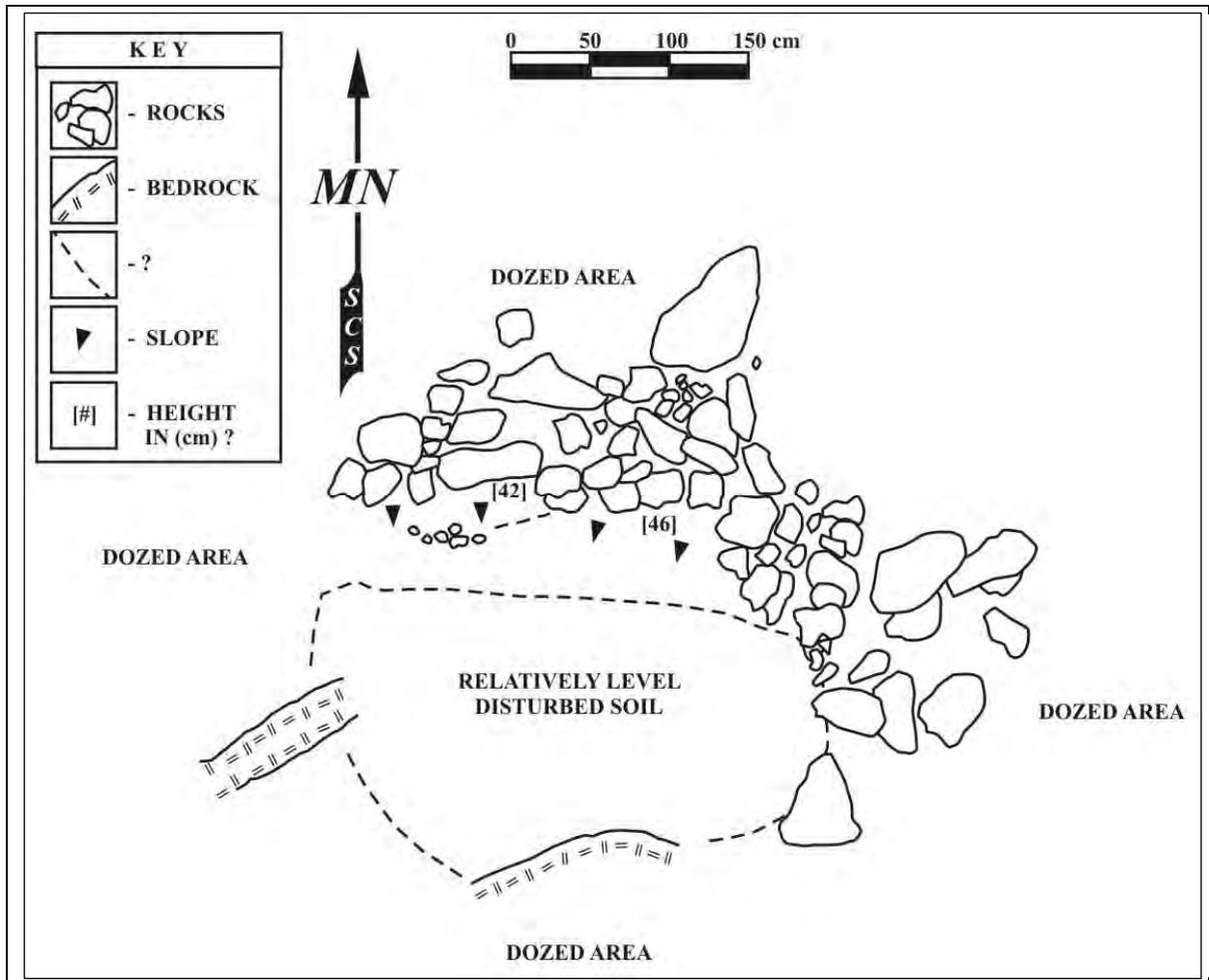


Figure 14: Plan View of Site 6394.

significant under criterion D for its potential to yield information important to the history of Maui and the state of Hawai'i.

**50-50-10-6395**

Site 6395 is a unique, single-feature site that lies on a steep escarpment along the south edge of an existing road in the south-central portion of the project area). This feature is a Historic terrace that measured 11.0 by 1.4 m and stood 0.67 to 1.47 m in height, but it comprises several components, including a stacked and faced basalt wall of three to four courses, a segment of soil and gravel fill, and a segment of cement fill (Figure 15, Figure 16). The stacked wall stands approximately 1.5 m tall, incorporating small basalt boulders in the exterior facing with cement mortar, and crushed (quarried) basalt cobble and soil fill on the western half of the terrace fill. The eastern half, conversely, is a cement paddock that is level with the top of the

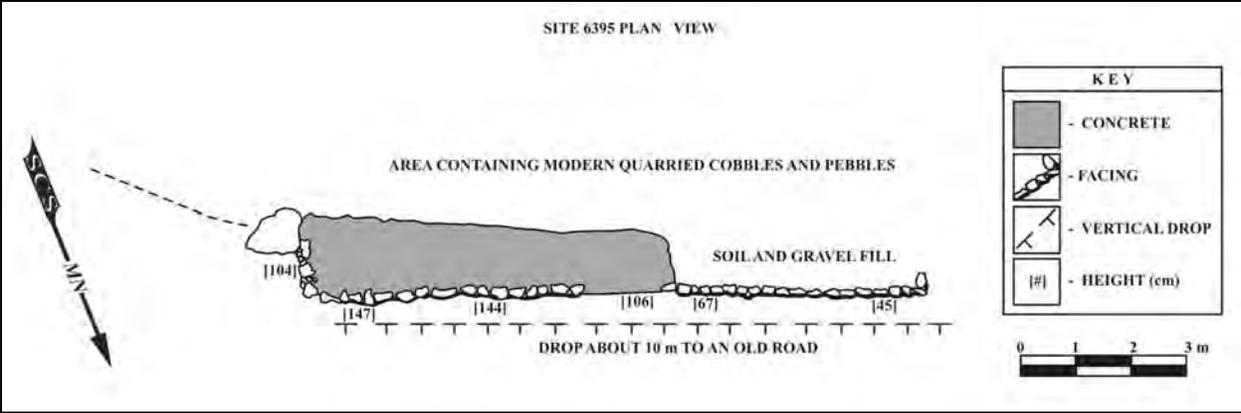


Figure 15: Plan View of Site 6395.

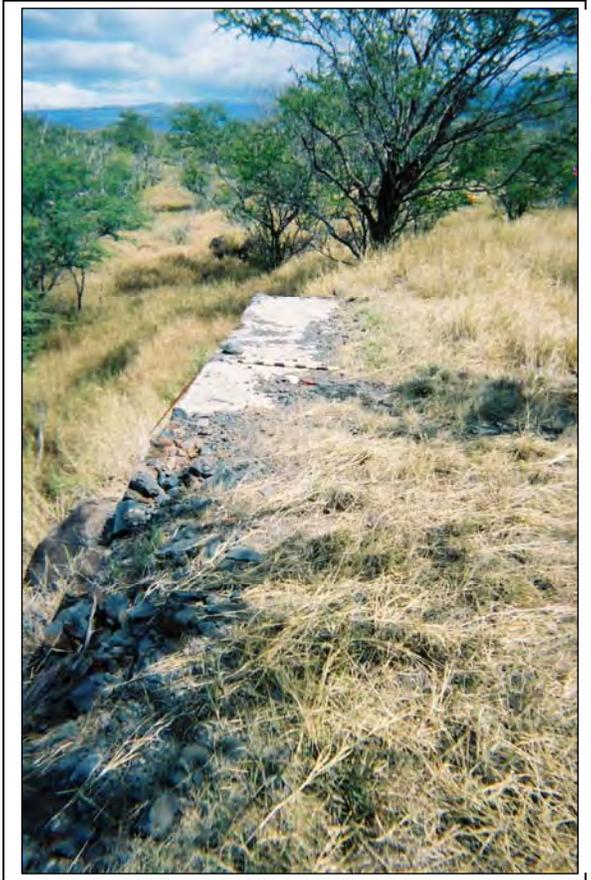


Figure 16: Photographic Overview of Site 6395.

terrace wall. This structure may have been the platform for a tank or a staging/storage area during the ranching or military periods of occupation. The site is significant under criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.

#### 50-50-10-6396

Located near the center of the subject parcel, Site 6396 is a U-shaped terrace constructed of large, angular basalt boulders and cobbles, and measured 1.69 by 1.54 m (Figure 17). The site consists of a single course of stones that are loosely aligned (some stacking in the south corner) in a rectangular shape with a level soil area in the center. The morphology of this single-feature site suggests military use, rather than Traditional. The site is significant under criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.

#### 50-50-10-6397

Site 6397, a low rock terrace, lies approximately 200.0 m north of Site 6396 (Figure 18). This single-feature site consists of a loosely stacked, angular basalt boulders and cobbles. The feature is semi-circular in shape, measuring approximately 2.2 m along its long axis (northeast-southwest) with walls ranging in thickness from 0.4 to 0.6 m and in height from 0.16 to 0.3 m. The interior of the feature is slightly depressed, with a lot of loose stones on the surface. This terrace is associated with military training activities and thus considered significant under criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.

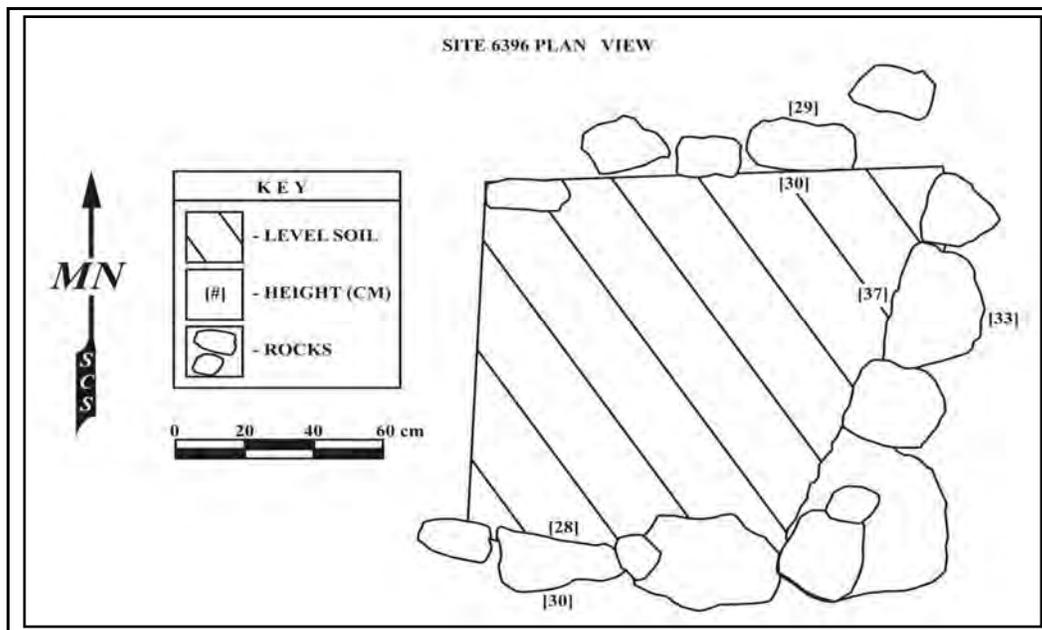


Figure 17: Plan View of Site 6396.

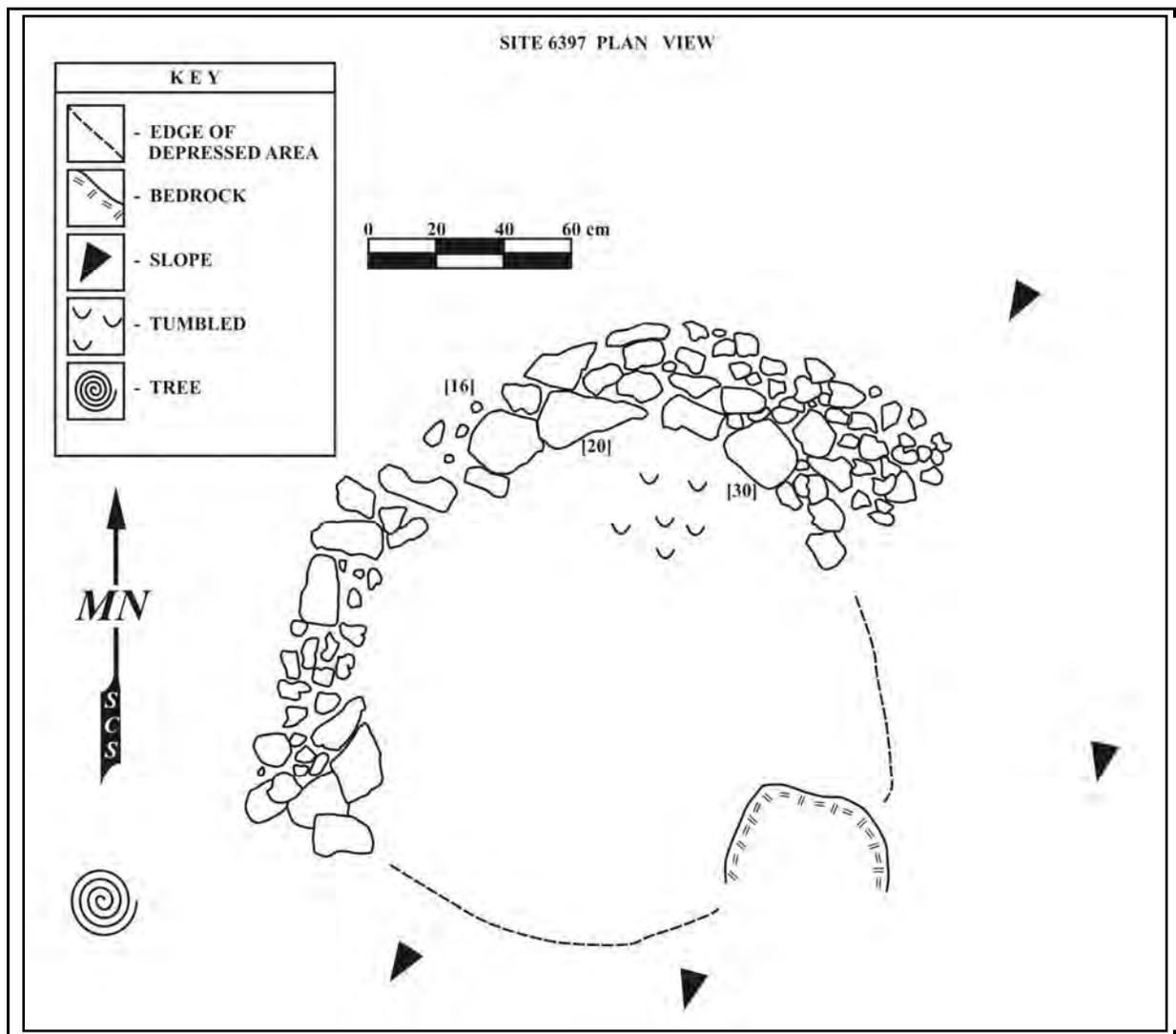


Figure 18: Plan View of Site 6397.

#### 50-50-10-6398

Uniquely, site 6398 appears to be a modern pet burial. The single-feature site, a rectangular rock mound measuring 2.0 by 1.6m, is located in the center of the project area, approximately 300 m west of Site 6397. There is a small depression in the center of the feature, indicating a pit that has recently sunken in (as would be expected when a corpse collapses from decay) and an engraved marker made of treated wood at the southeast end of the feature. The word engraved on this marker is indiscernible. Due to the size and shape of the feature, the size of the depression and the modern grave marker, the site is most likely a modern pet burial. The site is considered significant under criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.

**50-50-10-6399**

Site 6399, a single-feature site located approximately 150.0 m northeast of Site 6394, is a linear mound consisting of angular, broken up basalt boulders and cobbles piled indiscriminately in a rectangular shape measuring 2.9 by 0.56 m and up to 0.32 m high (Figure 19). Angular broken rocks are included in the construction of this site, indicating that this mound is Historic in age, though its specific function is indeterminate. This site is significant under criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.



Figure 19: Photographic Overview of Site 6399.

**50-50-10-6400**

Site 6400 is a single-feature site consisting of a U-shaped alignment, similar in construction style to 6396; site dimensions measured 2.3 by 2.1 m (see Figure 17). The site is located just northeast of Site 6389 on the northern edge of Kulanihakoi Gulch. The feature is constructed with small- and medium-sized subrounded, basalt boulders stacked up to three courses high, with a deep excavated depression in the center of the feature, reaching 0.3 m below the base of the architecture. The feature, morphologically similar to 6396, is associated with military activities on the parcel. The site is significant under criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.

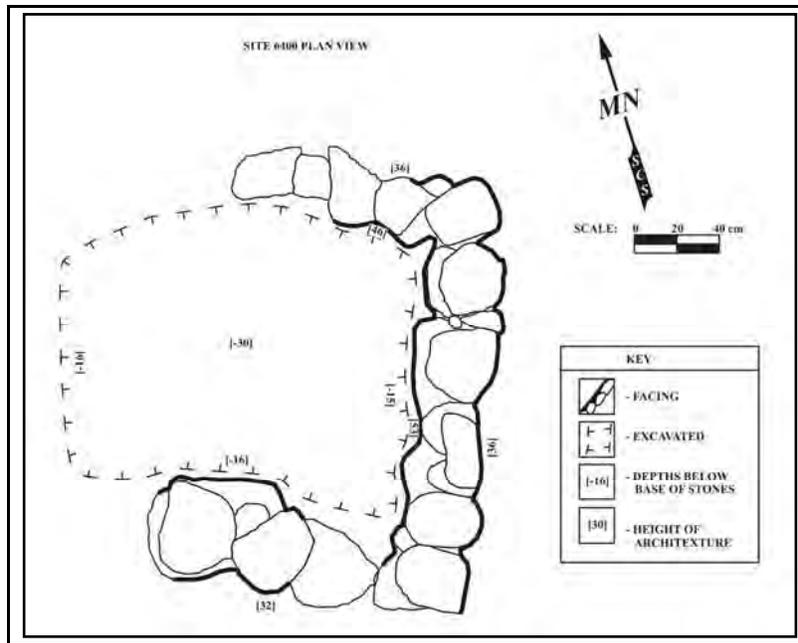


Figure 20: Plan View of Site 6400.

#### 50-50-10-6401

Site 6401 is a road flanked on both sides by basalt boulder and cobble alignments and piles (Figure 21). These basalt rock “curbs” extend continuously along the road on both sides for its entire length as it bears northeast-southwest through the project area. Figure 4 shows the location of the GPS point for this road. The age and function of this site are undetermined. The length of the road is undetermined, though this it does extend at least as far as Site 6391, some 600.0 m northeast of the GPS location for this site. Erosion has heavily impacted this site; thus boundaries and exact dimensions were indiscernible in some areas. The mapped portion of 6401 shows a deposit of gravel and small cobbles that may represent the original road surface. The site is significant under criterion D.

#### 50-50-10-6402

Site 6402 consists of a single, low, crude wall that extends along the northern rim of Kulanihakoi Gulch for approximately 20.0 m; site dimensions were measured at 20.2 by 0.2 by 0.8 m (Figure 22). The wall is constructed of subangular and subrounded cobbles and boulders. The feature is in poor condition, with entire sections of the wall missing, likely due to erosion. The construction of this wall is very rough and is likely related to military training activities. Unlike ranch walls, which are thick and sturdily constructed, this wall is primarily piled and stacked, with some portions being merely boulder alignments. This site is significant under

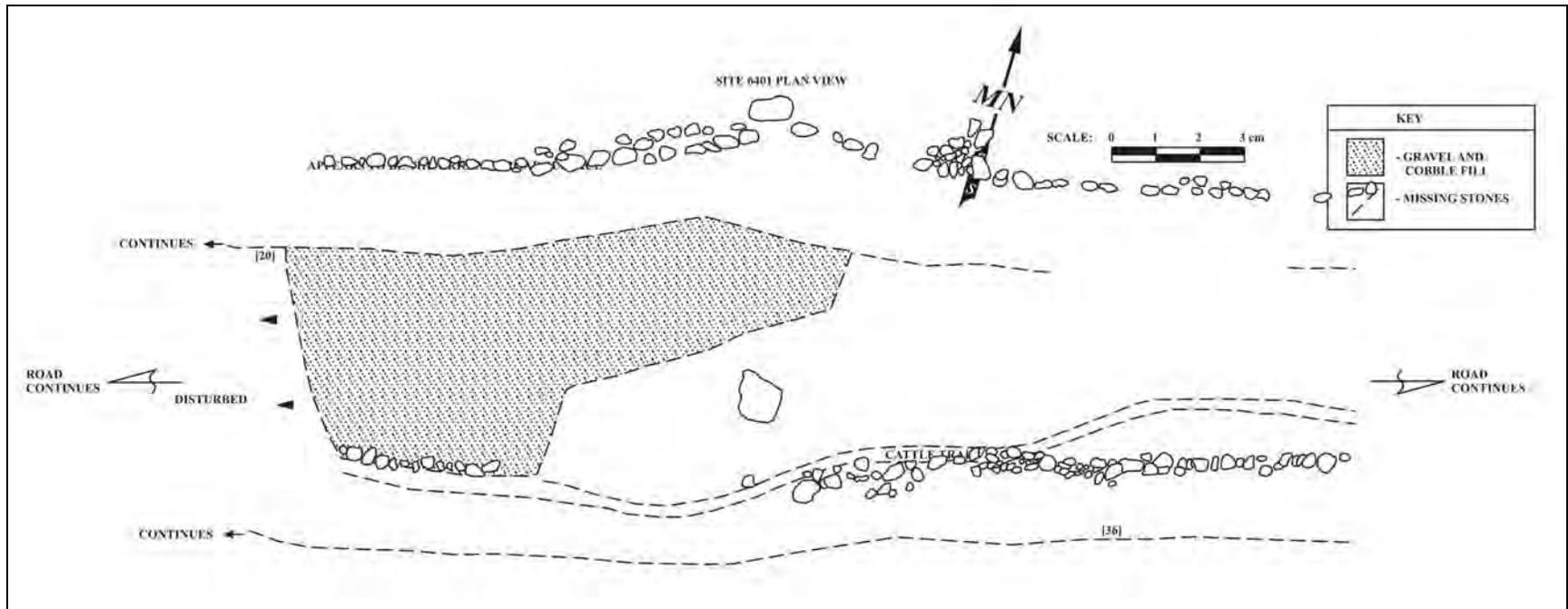


Figure 21: Plan View of Site 6401.

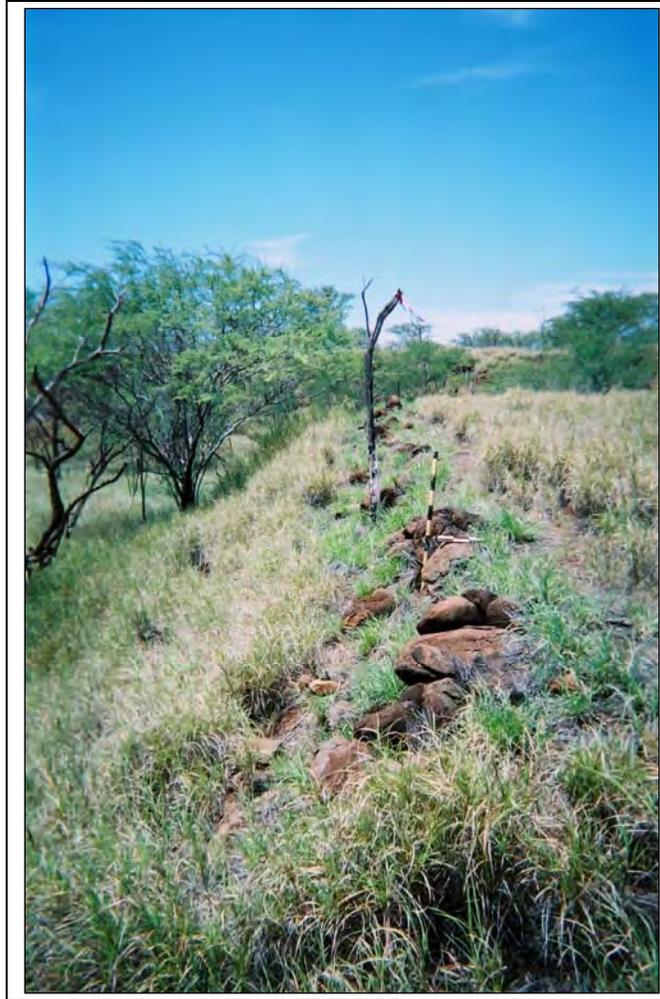


Figure 22: Photographic Overview of Site 6402.

criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.

#### **50-50-10-6403**

Site 6403 consists of four features: three C-shapes and a linear mound (Figure 23). These features are interpreted as being related to military activities in the area, as evidenced by the informal architectural construction. Each feature consists of piled basalt boulders and cobbles, though some areas show evidence of stacking. The terrain around these features exhibits extensive exposure of basalt bedrock, and each feature lies on a bedrock outcrop. Some scattered basalt flakes were observed on the ground surface between these features, implying that this site may predate military use, having been modified during the military period; the site is significant under criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.

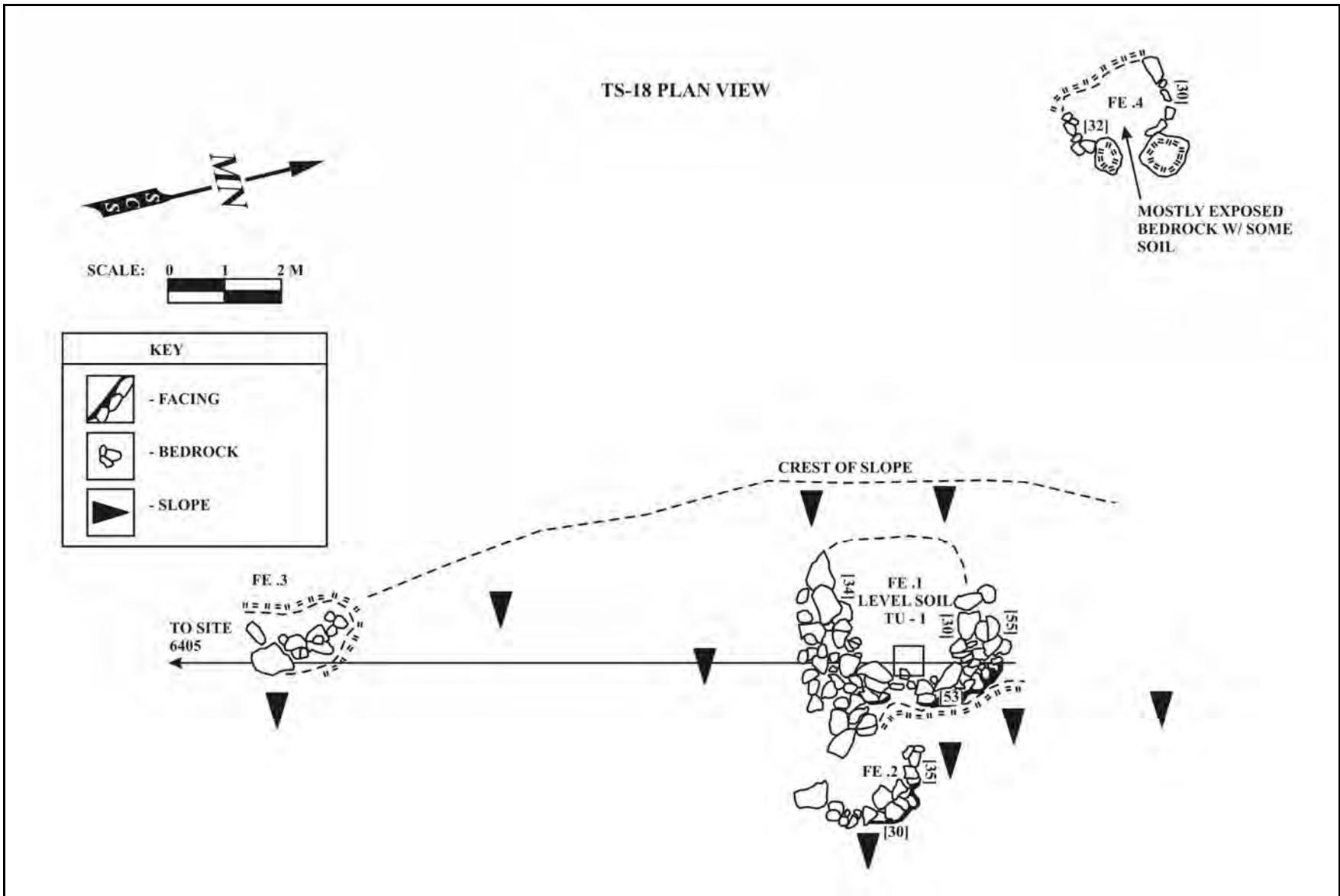


Figure 23: Plan View of Site 6403.

Feature 1, the largest of the three C-shapes, measures 3.8 by 3.2 m on the exterior, and 2.0 by 2.4 m on the interior; the wall stands up to 0.55 m high. This feature displays some stacking on its north (downslope) side, up to four courses high. This feature received the first excavation of the project

TU-1 was a 0.5 by 0.5 m unit excavated against the central interior architecture of Feature 1. The datum for this unit was set at 5 cm above ground level in the southeast corner of the unit. The unit yielded three stratigraphic layers (Figure 24). Layer I (5–19 cmbd) consisted of hard-packed, brown (10 YR 3/4 to 4/4) silt. Layer II (17–36 cmbd) was made up of loose, dark brown (10 YR 3/3 to 3/4) silt. Layer III (22–42 cmbd) consisted of grayish brown (10 YR 5/2) compacted silt. No cultural materials were observed in this unit.

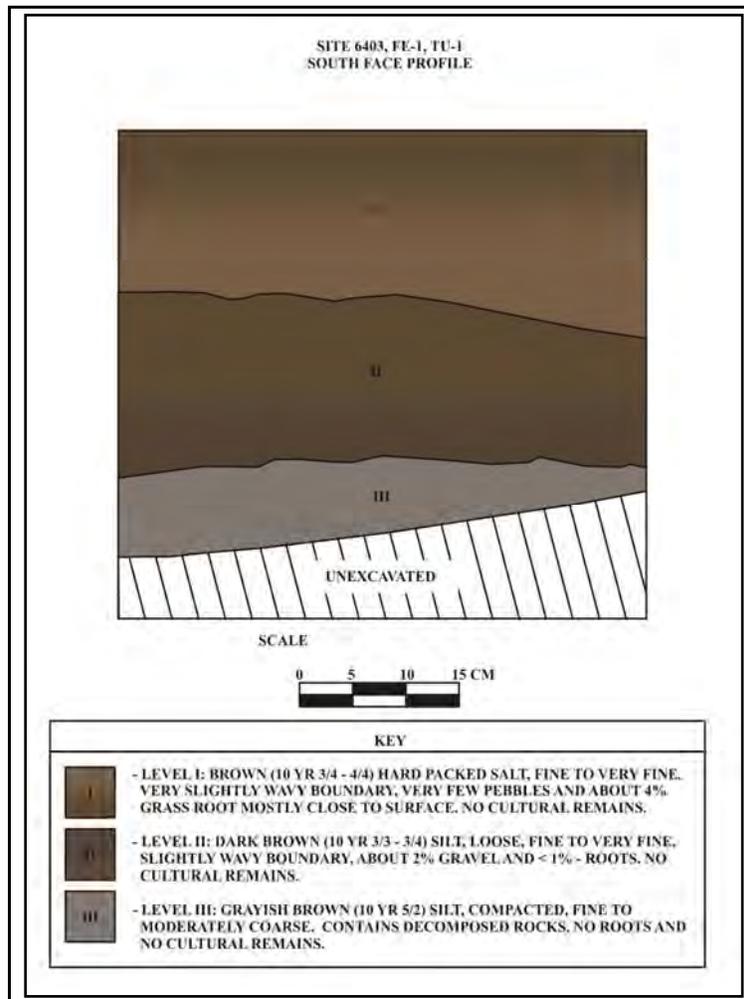


Figure 24: South Profile of Site 6403, TU-1.

Feature 2, lying immediately north of Feature 1, is a second, smaller C-shape, measuring 1.8 by 1.8 m on the exterior, 1.3 by 1.3 m on the interior, with the wall height measuring up to 0.35 m. The feature, though smaller, is constructed similarly to Feature 1.

Feature 3 is a linear mound measuring 1.6 by 0.8 m and up to 0.34 m high. This feature, resting atop a bedrock outcrop, lies approximately 16.0 m to the east of Feature 1.

Feature 4, located 12.0 m southwest of Feature 1, consists of several bedrock outcrops modified with basalt cobbles forming the third, and final C-shape of this site. The feature measures 2.0 by 1.4 m on the exterior, and 1.5 by 1.2 m on the interior, with a wall height of up to 0.3 m.

#### **50-50-10-6405**

Site 6405, which lies directly east of and adjacent to Site 6403 on the northern edge of the Kulanihakoi Gulch, displays characteristics of pre-Contact and military occupation. Features in this site may have been constructed during the pre-Contact Period and modified during military occupation in the Historic Period. The site consists of four features including a C-shape, two enclosures and a severely eroded wall (Figure 25). This site, with its temporal duality, is significant under criterion D due to its potential to yield information pertinent to the history and prehistory of Maui and the state of Hawaii. Excavation at this site consisted of two 0.5 by 0.5 m test units excavated within Features 2 and 3.

Feature 1 is a C-shaped structure located on the eastern extremity of the site. This feature is constructed of large, subangular and subrounded basalt boulders and cobbles crudely piled around a large boulder forming an informal curved wall. The feature measures 3.5 m long by 3.0 m wide and up to 0.25 m in height. This feature is interpreted as relating to military activities, due to its proximity to other Historic military features, and its similarity in construction to other, crudely constructed features. A large area to the northwest of the feature may have been modified in stone pavement. This modification, if cultural, was highly informal (unlike traditional Hawaiian pavements) and is likely related to military activities as well.

Feature 2 is a large boulder and cobble enclosure in the shape of an irregular rectangle. This enclosure, measuring 4.3 by 3.5 m with walls up to 0.3 m high, is located approximately 11.0 m west of Feature 1 along the northern edge of Kulanihakoi Gulch. While stacking is not evident in this feature, the alignment of boulders and cobbles, surrounded by displaced rocks of a

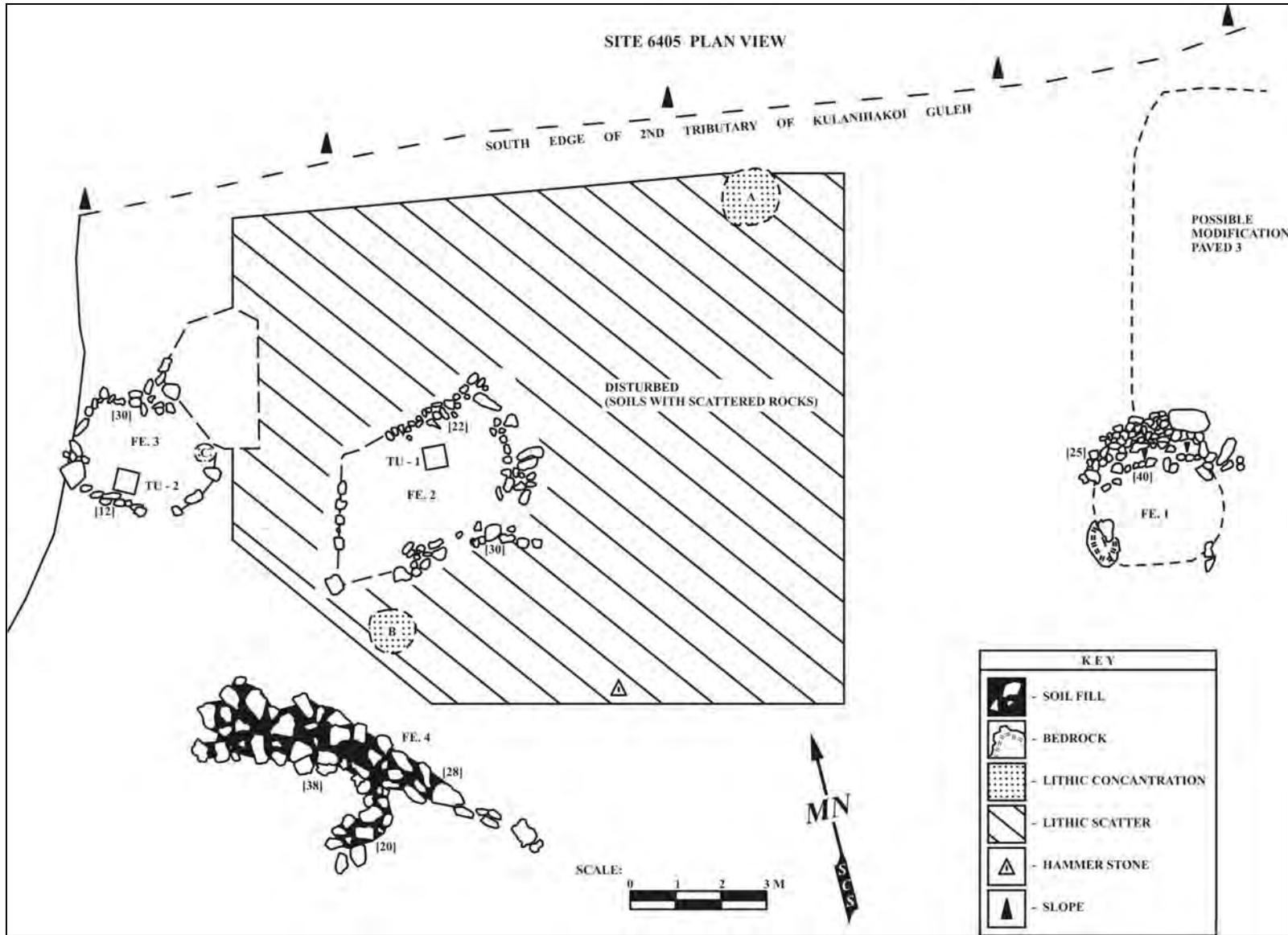


Figure 25: Plan View of Site 6405.

similar size and shape, suggest that this feature was once more heavily constructed, and that it has been severely impacted by time, erosion, animal and military activity. Artifactual evidence

TU-1, a single, 0.5 by 0.5 m test unit, was excavated within Feature 2 in order to determine whether the feature is associated functionally and chronologically with the lithic scatter in which it sits. The unit was placed on the northern central interior of Feature 2, adjacent to, but not abutting, the northern interior wall. The unit yielded two stratigraphic layers (Figure 26). Layer I (0–6 cmbs) consisted of dark brown (7.5 YR 3/4) silt. Some basalt debitage was observed in this layer. While it was evident that erosion has washed away much of the soil in the area, the presence of lithic materials in the subsurface matrix indicates that this feature is temporally and functionally associated with the lithic scatter in which it rests. Layer II (6–8 cmbs) consisted of brown (7.5 YR 4/4) silt loam. This layer contained no cultural material and terminated on bedrock.

Feature 3 is a circular enclosure, similar in construction style to Feature 2. Based on the shape and close proximity to Feature 2, Feature 3 is also probably related to pre-Contact times. Feature 3, measuring 3.5 by 3.0 m on the exterior, consists of aligned and piled basalt boulders and cobbles showing severe damage due to time, erosion and animal activity. It lies on the western extremity of the site, approximately 3.0 m west of Feature 2.

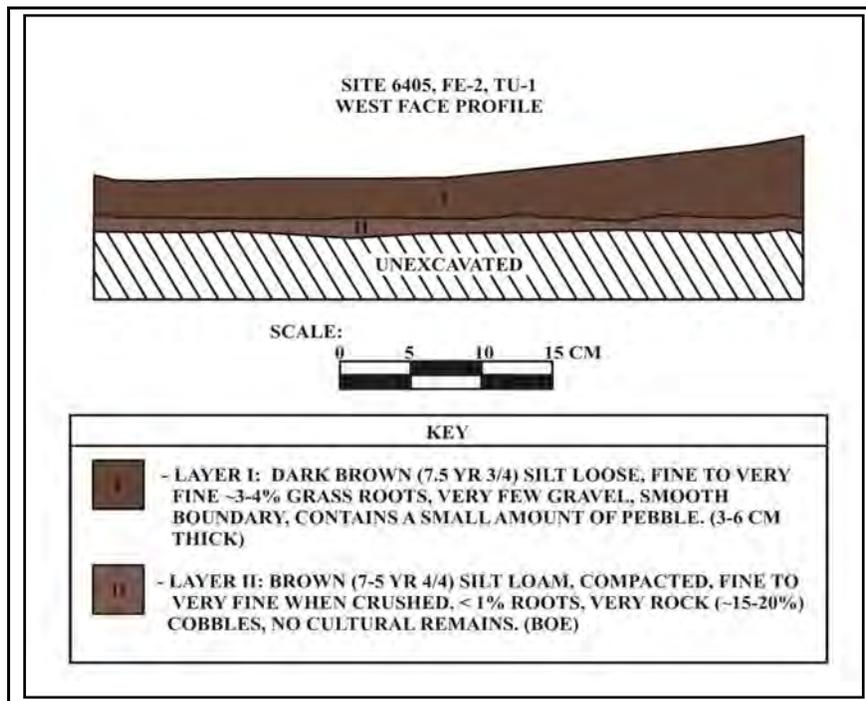


Figure 26: West Profile, Site 6405, TU-1.

TU-2 is a single, 0.5 by 0.5 m test unit that was excavated on the southern interior side of Feature 3, abutting the enclosure wall. The purpose of this unit was to recover cultural materials useful in identifying the feature's function and age. The unit yielded four stratigraphic layers (Figure 27). Layer I (0–3 cmbs) consisted of brown (10 YR 4/3) silt. Layer II (3–8 cmbs) was strong brown (7.5 YR 4/6) silt. Layer III (8–25 cmbs) was made up of loose, brown (7.5 YR 5/4) silt. Layer IV (25–32 cmbs) consisted of brown (7.5 YR 4/4) silt loam similar to that found at the bottom of TU-1. No cultural material was covered from this excavation. As shown in Figure 27, the soil deposit was much deeper in TU-2 than that of TU-1, indicating that erosion has not been as active in this area as in the area of Feature 2.

The fourth and final feature of Site 6405 is an irregular basalt boulder and cobble wall that, at an earlier time, may have been part of a larger, more complex feature. Feature 4 stands at the site's southwestern corner, approximately 2.0 m south of Feature 2. The wall is extensively disturbed, with dimensions of 7.4 by 3.0 m and standing up to 0.38 m high and collapse evident throughout. A short section of wall extends to the south from the main construction, forming what may be a second wall of a more complex feature. However, the original shape of this feature is difficult to ascertain due to the nature of disturbance at this site. Feature 4 may be related to pre-Contact habitation activities.

#### **50-50-10-6406**

Site 6406 consists of two features located less than 100 m east of 6395. These features are both rock mounds relating to Historic Period agriculture. These features are constructed of machine-fractured basalt boulders and cobbles piled loosely in two amorphous mounds located on the south side of an unnamed drainage. Feature 1, which is located closest to the unnamed drainage, measures approximately 5.5 by 2.5 m and up to 0.7 m in height. Feature 2, located just south of Feature 1, measures 1.5 by 2.0 m and up to 0.5 m in height. The site is considered significant under criterion D due to its potential to yield information pertinent to the history of Maui and the state of Hawaii.

#### **50-50-10-6407**

Site 6407 consists of a single, historic, linear rock mound constructed with subangular cobbles and small- to medium-sized boulders (Figure 28). This single-feature site is associated with military activities in the area. No stacking is evident in this site. The site measures 9.0 by 0.3 to 0.8 m and up to 0.5 m in height. The eastern half of this feature is on top of bedrock. Land alterations are apparent throughout the area adjacent to the site. The site is located approximately 75.0 m southeast of Site 6405. The site is significant under criterion D for its potential to yield information pertinent to the history of Maui and the state of Hawaii.

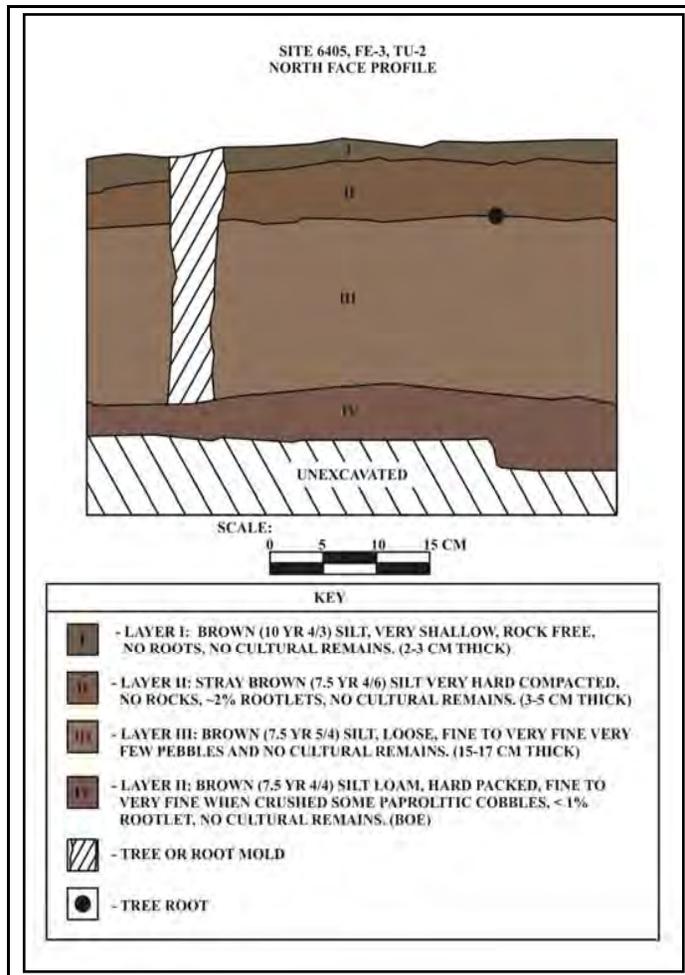


Figure 27: North Profile, Site 6405, TU-2.

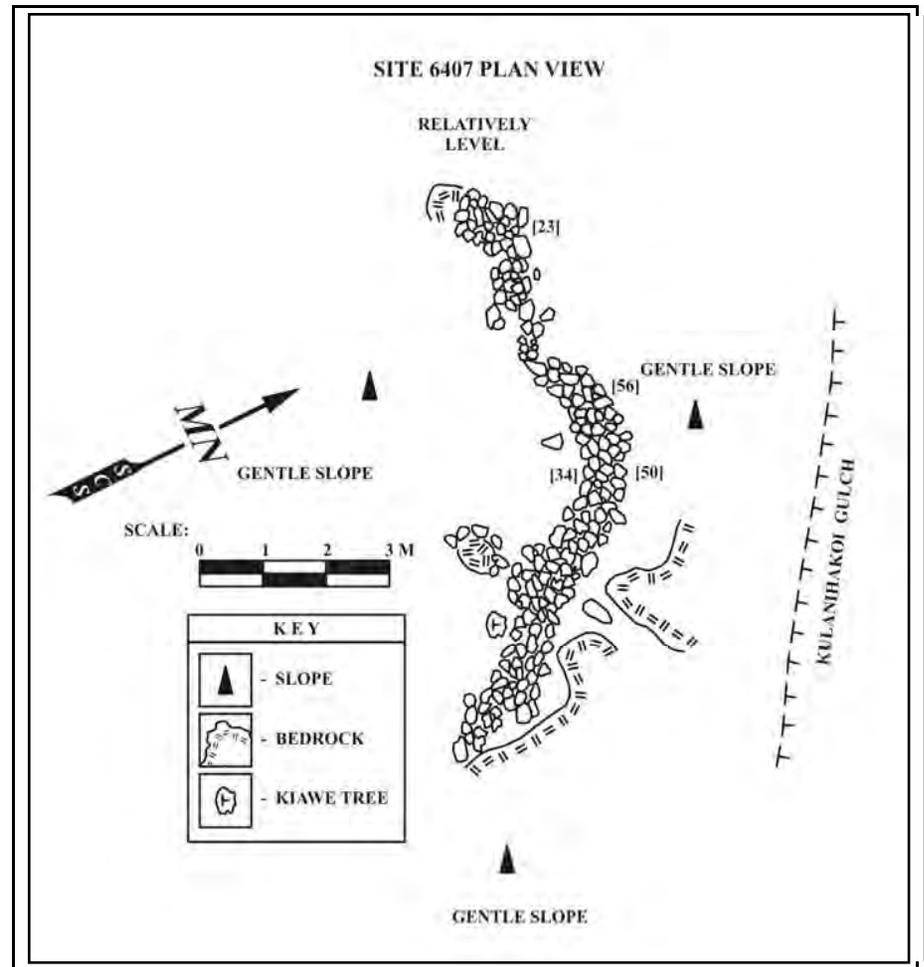


Figure 28: Plan View of Site 6407.

**50-50-10-6408**

Site 6408 consists of five features relating to military activity in the Historic Period (Figure 29). The site is located approximately 100.0 m west of 6395, in the south-central portion of the project area. Excavation at this site was limited to a single 0.5 by 0.5 m test unit in Feature 1. The site is significant under criterion D for its potential to yield information pertinent to the history of Maui and the state of Hawaii.

Feature 1 is a small enclosure, measuring 3.0 by 3.0 m and up to 0.3 m high. The feature walls show some stacking on the northeast and southeast sides (up to 3 courses high), but the majority of the feature is constructed of crudely piled basalt boulders and cobbles. The crude construction of the feature indicates that it was built for military purposes.

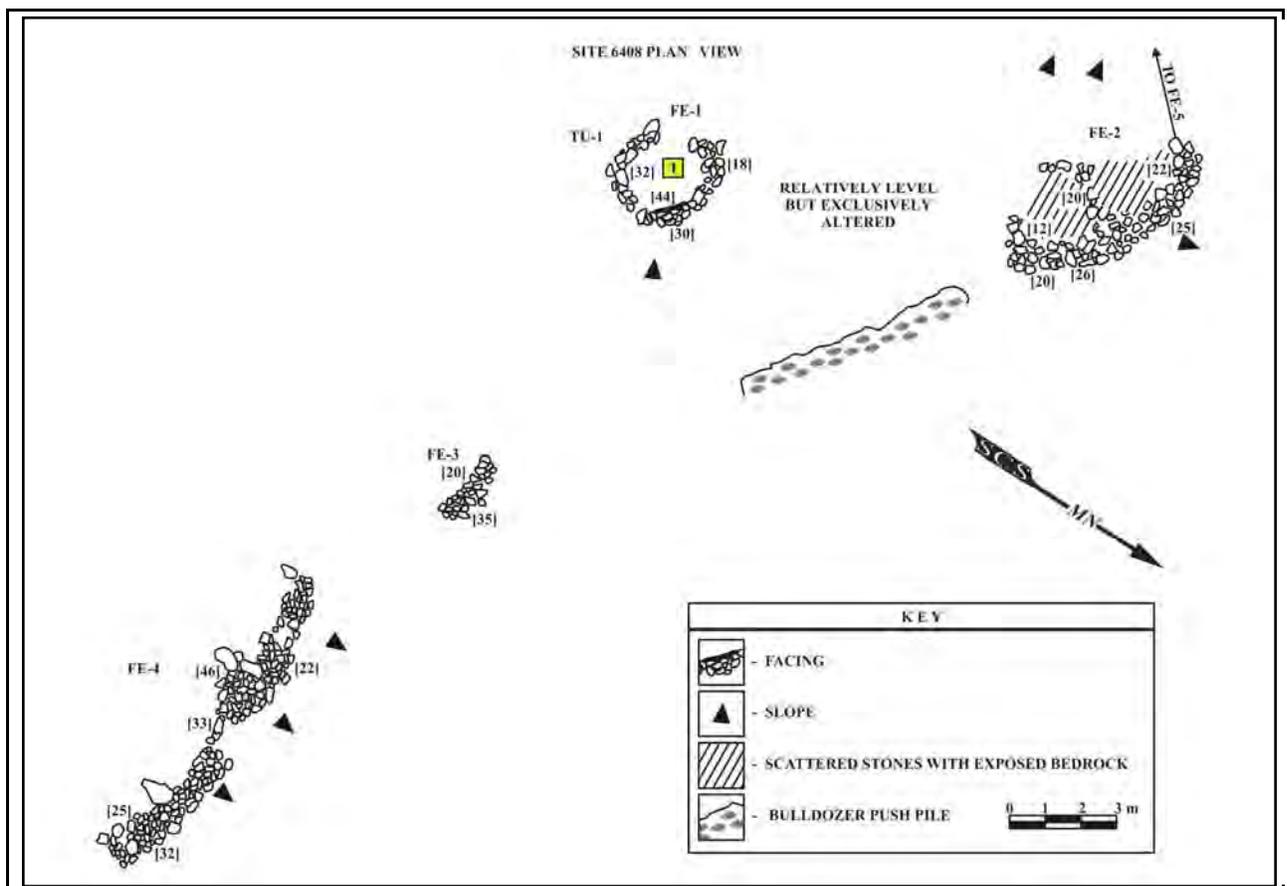


Figure 29: Plan View of Site 6408.

TU-1 was excavated in the center of Feature 1. This unit, measuring 0.5 by 0.5 m, was excavated to bedrock, at a total depth of 18 cmbs. The unit yielded two stratigraphic layers (Figure 30). Layer I (0–12 cmbs) consisted of dark brown (7.5 YR 3/4) silt. Layer II (12–18 cmbs) was made up of slightly compacted, brown (7.5 YR 4/4) silt. No cultural material was observed or collected from this unit.

Feature 2 is a unique feature consisting of two adjoining C-shaped structures. The feature, located approximately 8.0 m to the northwest of Feature 1, measures 6.0 m long by 3.2 m wide on the exterior. The interior of each C-shape is approximately 1.5 m long. This is unique to the project area and is related to military activity on the lot, due to the construction style, which consists of subangular and subrounded basalt boulders and cobbles crudely piled to form walls, rather than neatly stacked.

Feature 3 is a small linear mound located approximately 7.0 m northeast of Feature 1. The feature is constructed of piled boulders and cobbles, measuring 2.0 m long by 0.6 m wide and up to 0.35 m high. This feature has been interpreted as relating to Historic military activity due to its geographical association with other military features in the site and general area.

Feature 4 is a second, larger mound located approximately 4.0 m northeast of Feature 3. This feature measures 9.5 by 1.6 m and up to 0.46 m in height. This feature has been interpreted as relating to Historic military activity due to its geographical association with other military features in the site and general area.

Feature 5 is a C-shaped structure that is located on the gentle slope just west of Feature 1 (Feature not shown in Figure 29). The feature consists of neatly piled, subrounded basalt boulders and cobbles forming a C-shape that measures 3.6 by 2.6 m on the exterior, with wall thickness at approximately 1.0 m, standing approximately 0.3 m in height.

#### **50-50-10-6409**

Site 6409 is an L-shaped alignment with a rectangular depression extending northeast from the alignment (Figure 31). The location of this site was recorded as being south of site 6406. The feature is constructed of large basalt cobbles and small boulders, with more piling on the eastern end. This single-feature site measures approximately 1.6 by 1.8 m and up to 27 cm in height. The depression is approximately 0.15 m below the base of construction of the alignment. This type of feature is typologically similar to 6396 and 6400. Such features are associated with

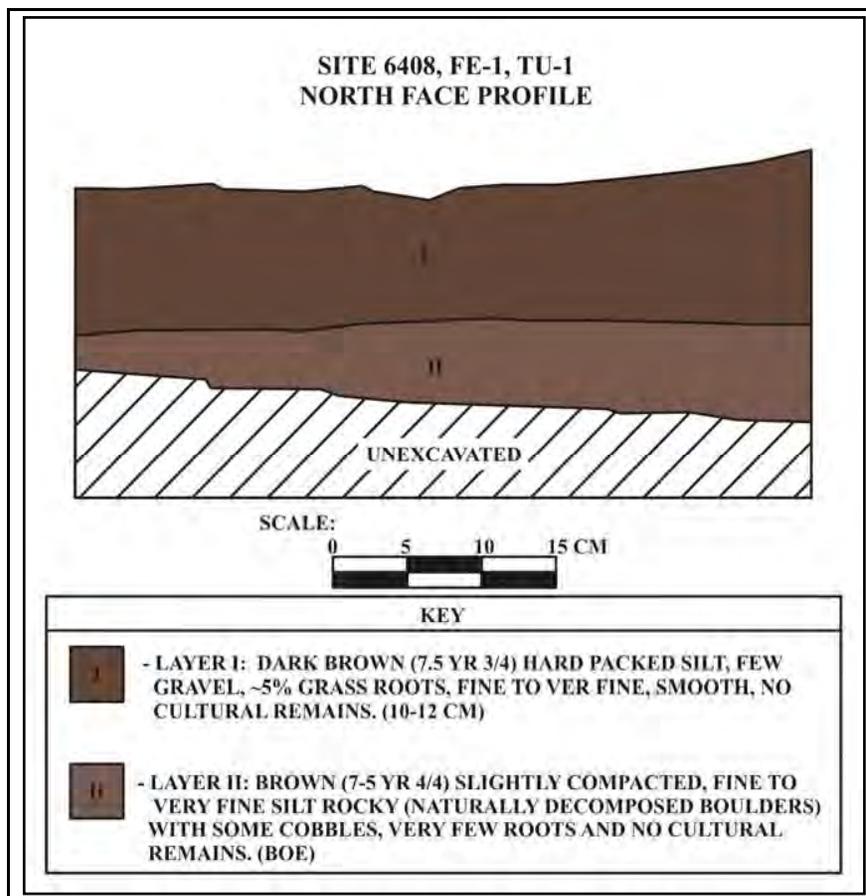


Figure 30: North Profile, Site 6408, TU-1.

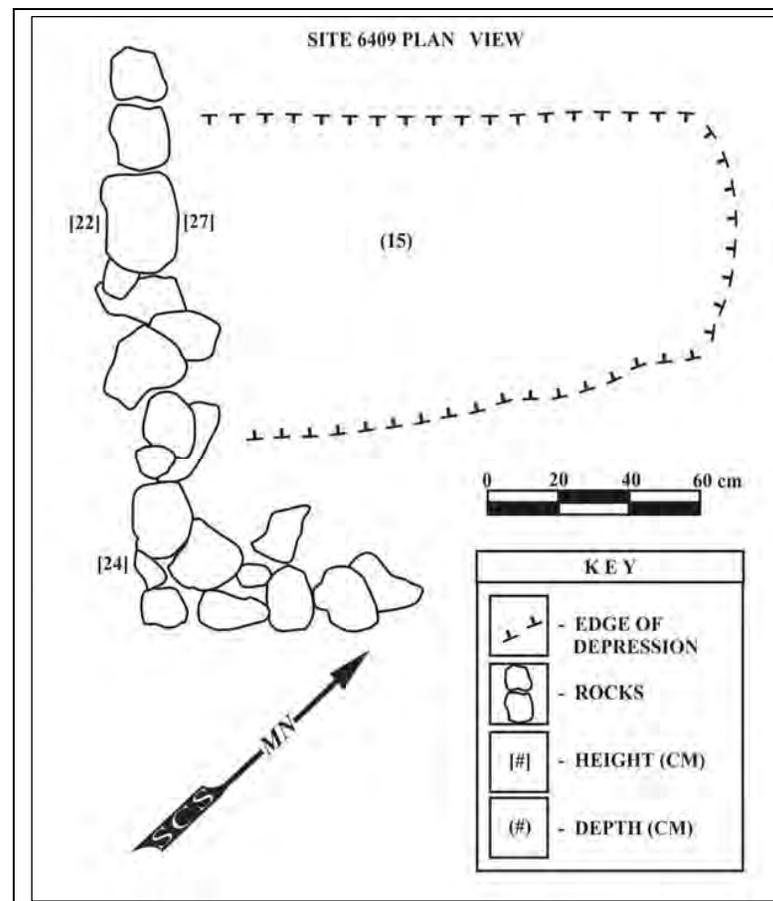


Figure 31: Plan View of Site 6409.

military training activities. The site is significant under criterion D for its potential to yield information pertinent to the history of Maui and the state of Hawai`i.

### 50-50-10-6410

Site 6410, which is located approximately 75.0 m southeast of Site 6407, consists of two basalt cobble and boulder C-shaped structure related to military activities (Figure 32). Features 1 and 2 are located in a mechanically altered area where the ground is nearly level and bedrock is exposed in most of the surrounding area. Both features are constructed with angular and subangular basalt cobbles and boulders that are neatly piled forming low, C-shaped structures. Feature 1 measures 3.8 m long, up to 2.0 m wide and 0.24 m high on the exterior. The interior of this feature, a relatively smooth, level area, measures approximately 2.0 by 1.0 m. Feature 2 measures 4.0 m long, up to 2.6 m wide and 0.3 m high. The interior measures approximately 2.1 by 1.6 m and consists primarily of exposed bedrock, producing a very rough, rugged surface. The site is significant under criterion D for its potential to yield information pertinent to the history of Maui and the state of Hawaii.

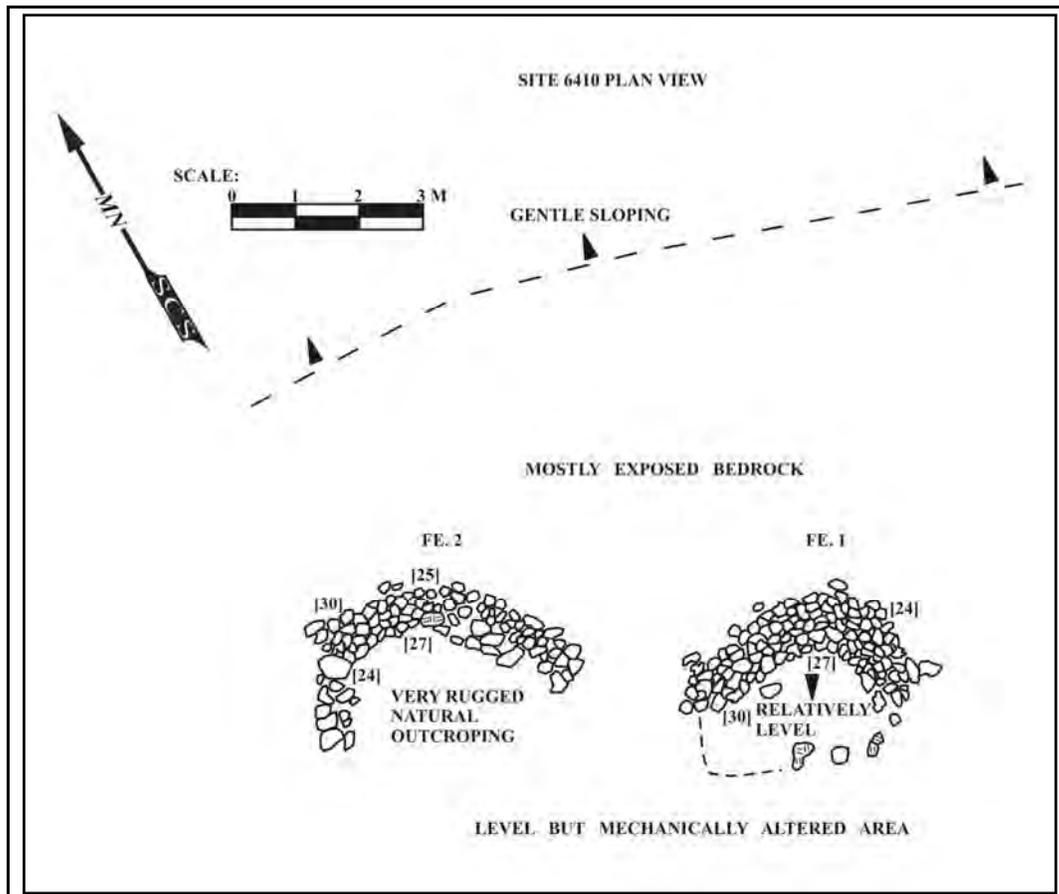


Figure 32: Plan View of Site 6410.

### **50-50-10-6411**

Located on the northern ridge of Kulanihakoi Gulch toward the center of the project area, Site 6411 consists of two features that date to the Historic Period (Figure 33). These features, a mound and a wall, are located on the south ridge of Kulanihakoi Gulch. The site is significant under criterion D for its potential to yield information important to the history and prehistory of Maui and the state of Hawai`i.

Feature 1 is an indiscriminately piled mound of subangular to subrounded cobbles and medium-sized boulders that sits on the top of a west-facing crest, between the existing waterway in Kulanihakoi Gulch and the second tributary to the south. This feature measures 2.1 by 2.0 m and up to 0.34 m in height. While the similarity of this structure to others found on the parcel imply that it is Historic in age, a more precise temporal affiliation is impossible to determine with a dearth of artifactual evidence.

Feature 2 is a wall that extends from the same ridge (approximately 20.0 m east of Feature 1), northward, down the gulch slope for a distance of 35.0 m. Feature 2 measured 35.0 by 0.2 by 0.58 m and is constructed of subangular and subrounded basalt boulders and cobbles. This wall is roughly stacked and piled, with very little evidence of facing. Portions of the wall resemble nothing more than an alignment of boulders; intermittently, there are entire sections of the wall missing. Due to its morphological similarity to Site 6402, the wall has been interpreted as related to military activity.

### **50-50-10-6412**

Site 6412 is a multi-feature site located on a gentle slope on the north side of Kulanihakoi Gulch, approximately 150.0 m south of the northern boundary of the project area. The site consists of seven features in total: 3 C-shapes, 2 L-shapes, an alignment, and an enclosure (Figure 34). These features are spread over an area of approximately 1,000 square meters. A lack of artifactual evidence coupled with similarity between features here and at other sites, suggests that this site is related to military use during the Historic Period. However, Feature 7 is most likely related to the pre-Contact period, later being re-used by military personnel in the Historic period. Two test units were excavated in this site: TU-1 at Feature 5 and TU-2 at Feature 7. This site, with its several components and dual nature in time and function, is significant under criterion D for its potential to yield information important to the history and prehistory of Maui and the state of Hawai`i.

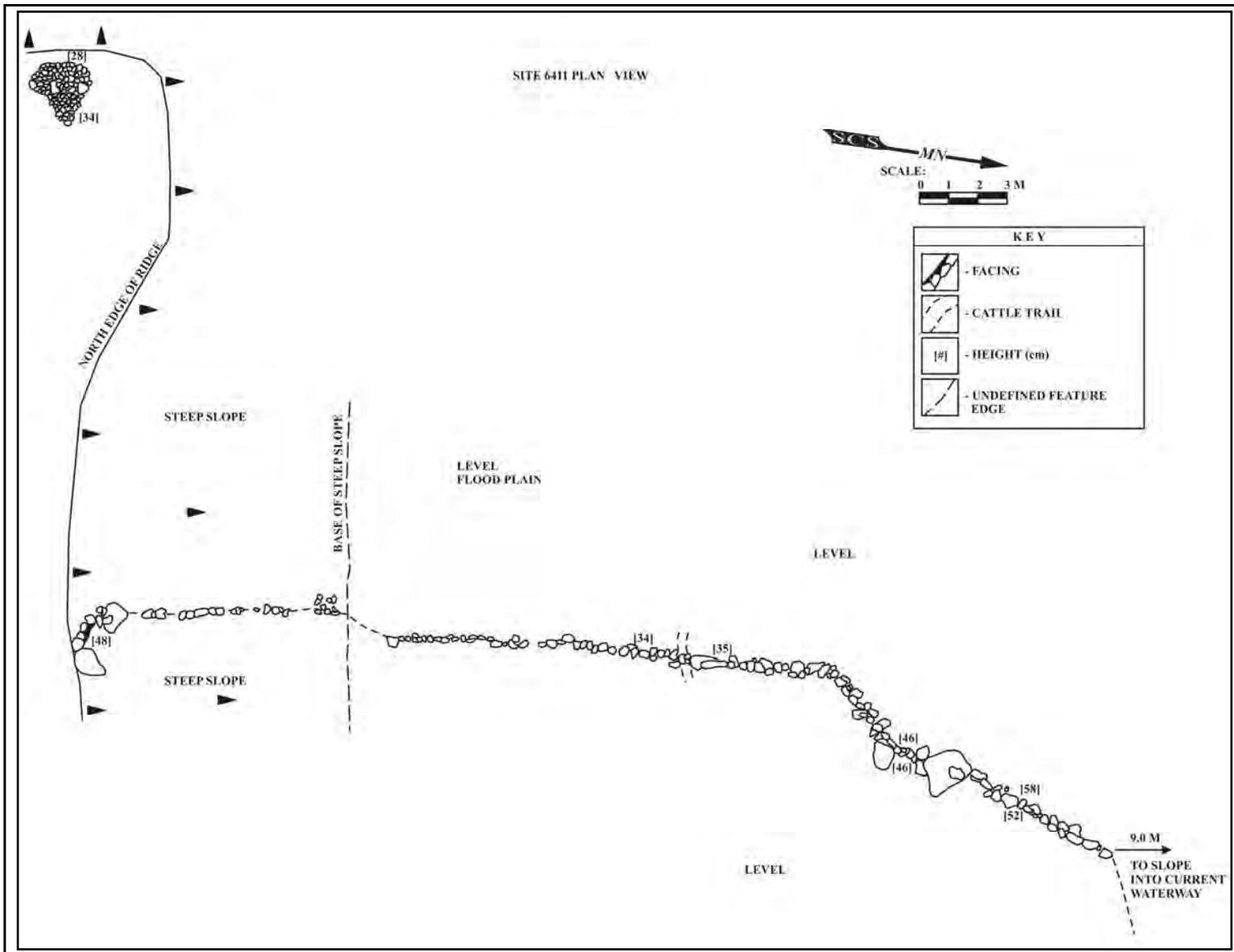


Figure 33: Plan View of Site 6411.

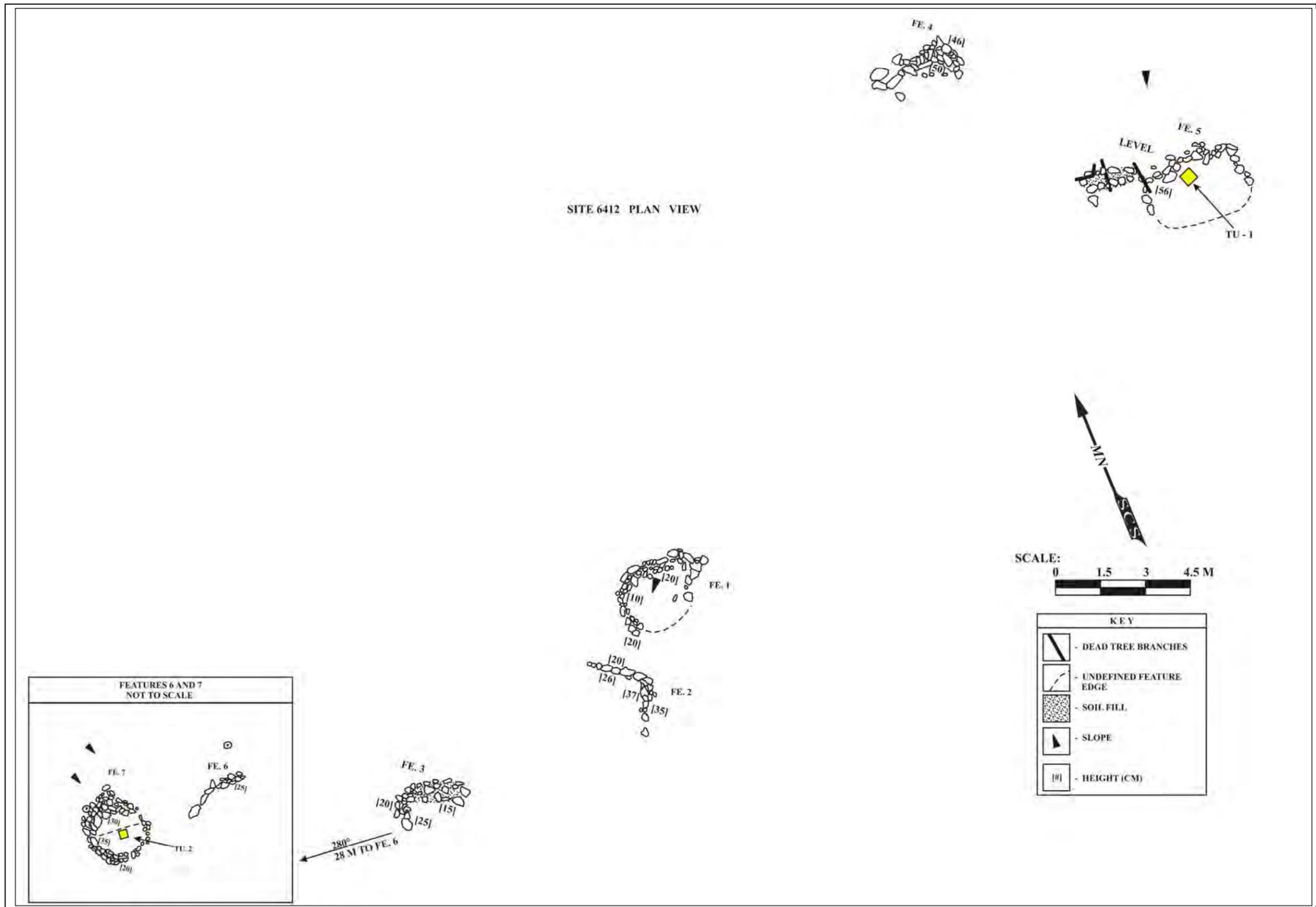


Figure 34: Plan View of Site 6412.

Feature 1 is a C-shape measuring 3.7 by 3.0 m on the exterior, with the wall measuring 0.5 to 1.0 m thick and up to 0.2 m in height. The feature is constructed of small to medium basalt boulders and cobbles aligned, but not stacked, in a semi-circular pattern.

Located just southwest of Feature 1, Feature 2 is an L-shaped structure measuring 3.2 by 2.3 m with walls 0.26 to 0.37 m thick and up to 0.2 m in height. Similar to Feature 1, the subrounded boulders used to form this feature are aligned, not stacked, on the ground to form an L-shape. Soil around this feature is severely eroded, exposing the vertical axis of the feature, making it unclear whether or not the feature had buried architecture.

Feature 3, the second of three C-shapes in this site, measures 3.0 by 1.7 m on the exterior, with walls standing up to 0.2 m in height. It is located approximately 6.0 m west of Feature 2. This feature is similar in construction style and condition to Feature 1, with small- to medium-sized basalt boulders and cobbles piled to form the feature shape. The interior of the feature is severely eroded.

Feature 4 is the second of two L-shaped structures. This feature, located approximately 20.0 m northwest of Feature 1, is a heavily constructed feature that consists of piled subrounded basalt cobbles and small boulders. Feature 4 measures 3.5 by 1.5 m and has a maximum height of 0.5 m. The interior of the feature is relatively level, but there is some exposed bedrock on the surface, suggesting a strong impact of erosion at this site.

Feature 5 measured 6.5 by 3.0 by 0.56 m and consists of subangular small and medium basalt boulders piled to form a linear structure that extends approximately east-west for 6.5 m. From this central component, three arms of aligned boulders extend southward creating two adjoining C-shapes. The interior of this double-C-shape is relatively level; however, erosion and extensive disturbance is evident, especially due to the presence of several fallen tree branches in the site that may have obscured the feature.

TU-1, a single, 0.5 by 0.5 m test unit, was excavated in the center of the eastern-most C-shape in Feature 5. This unit yielded two stratigraphic layers (Figure 35). Layer I (0–26 cmbs) consisted of brown (10 YR 4/3) silty loam. Layer II (26–36 cmbs) was brown (7.5 YR 4/4) compacted silt. No cultural materials were, observed or collected, in this unit.

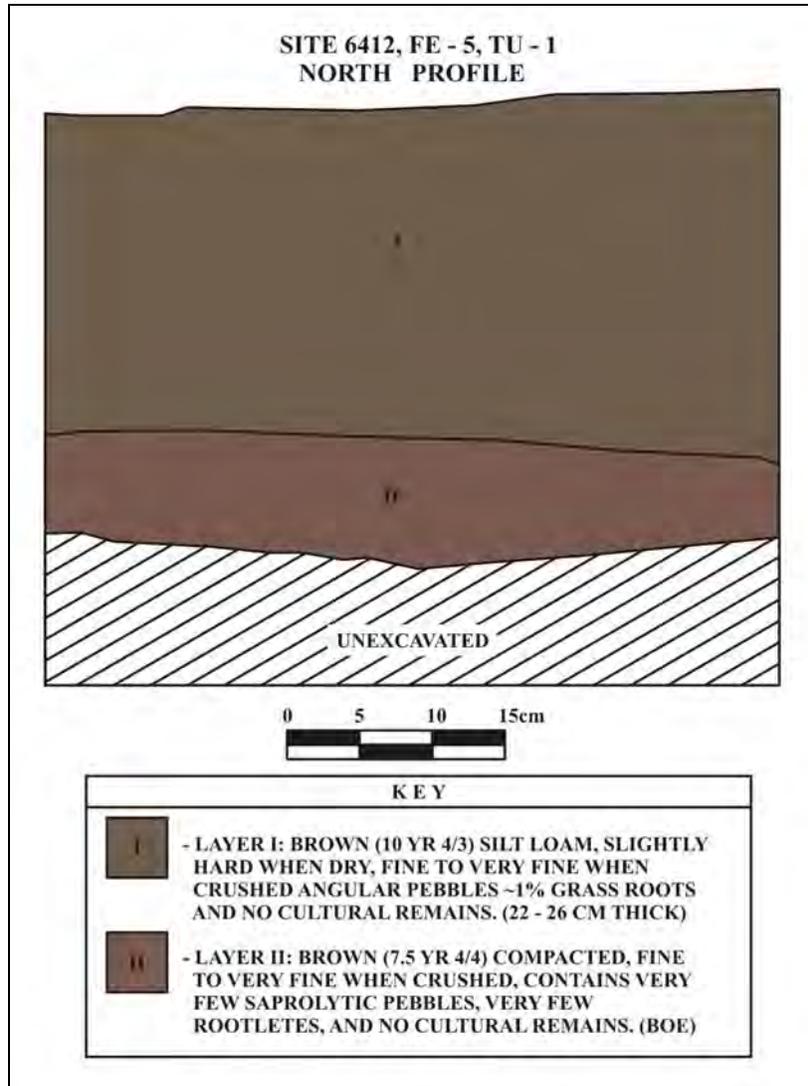


Figure 35: North Profile, 6412, TU-1.

Feature 6 is a boulder alignment located 28.0 m west of Feature 3. This crudely constructed feature measures 4.0 m long and up to 0.25 m high. The function of this feature is undetermined

Feature 7 is a small, circular enclosure lying 3.0 m west of feature 6. This feature measures 2.5 by 3.7 m, with walls ranging from 0.5 to 1.2 m in thickness and up to 0.2 m in height. This feature is slightly more formal in construction than the previous features described in this site, implying that it may have been a structure that predated military occupation at the site and has been modified in the historic period. Feature 7 is constructed of subangular basalt boulders and cobbles piled on the north and west sides, with double-alignments (two stones

wide) on the south and east sides of the feature. Feature 7 is severely collapsed, especially on its north side, suggesting that the walls of this feature were once quite tall.

Tu-2 was excavated at the center of feature 7. This 0.5 by 0.5 m unit yielded three stratigraphic layers (figure 36). Layer i (0–11 cmbs) consisted of dark brown (7.5 yr 3/4) silt loam. Layer II (11–20 cmbs) consisted of brown (7.5 yr 4/4) silt. Layer iii (20–26 cmbs) consisted of moderately compacted, fine brown (7.5 yr 4/4) loam. The unit yielded some basalt flakes in layer ii, supporting the idea that this feature predates the historic period.50-50-10-6413

**50-50-10-6413**

A pre-Contact rock shelter with four petroglyphs on a cliff face at the bottom of Kulanihakoi Gulch comprises Site -6413(Figure 37). The site is located approximately 100.0 m west of Site 6414, on the south side of the Kulanihakoi drainage, abutting a high basalt escarpment. This site is considered significant under criterion D.

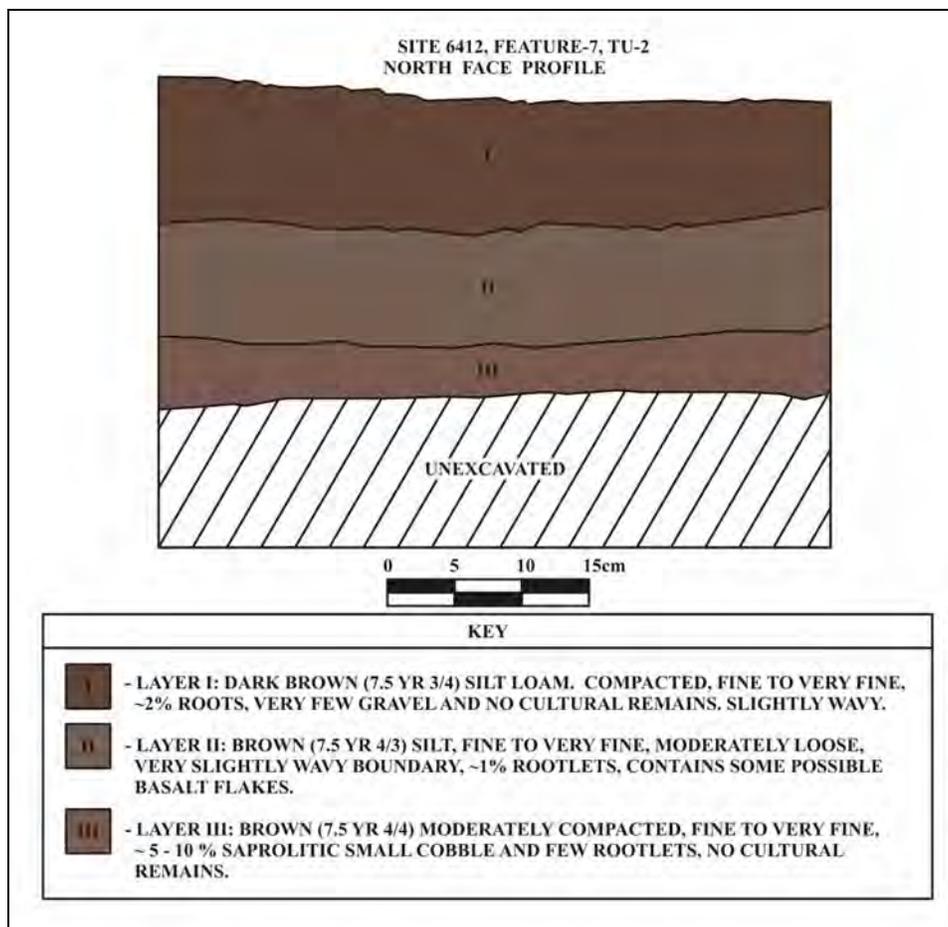


Figure 36: North Profile, 6412, TU-2.

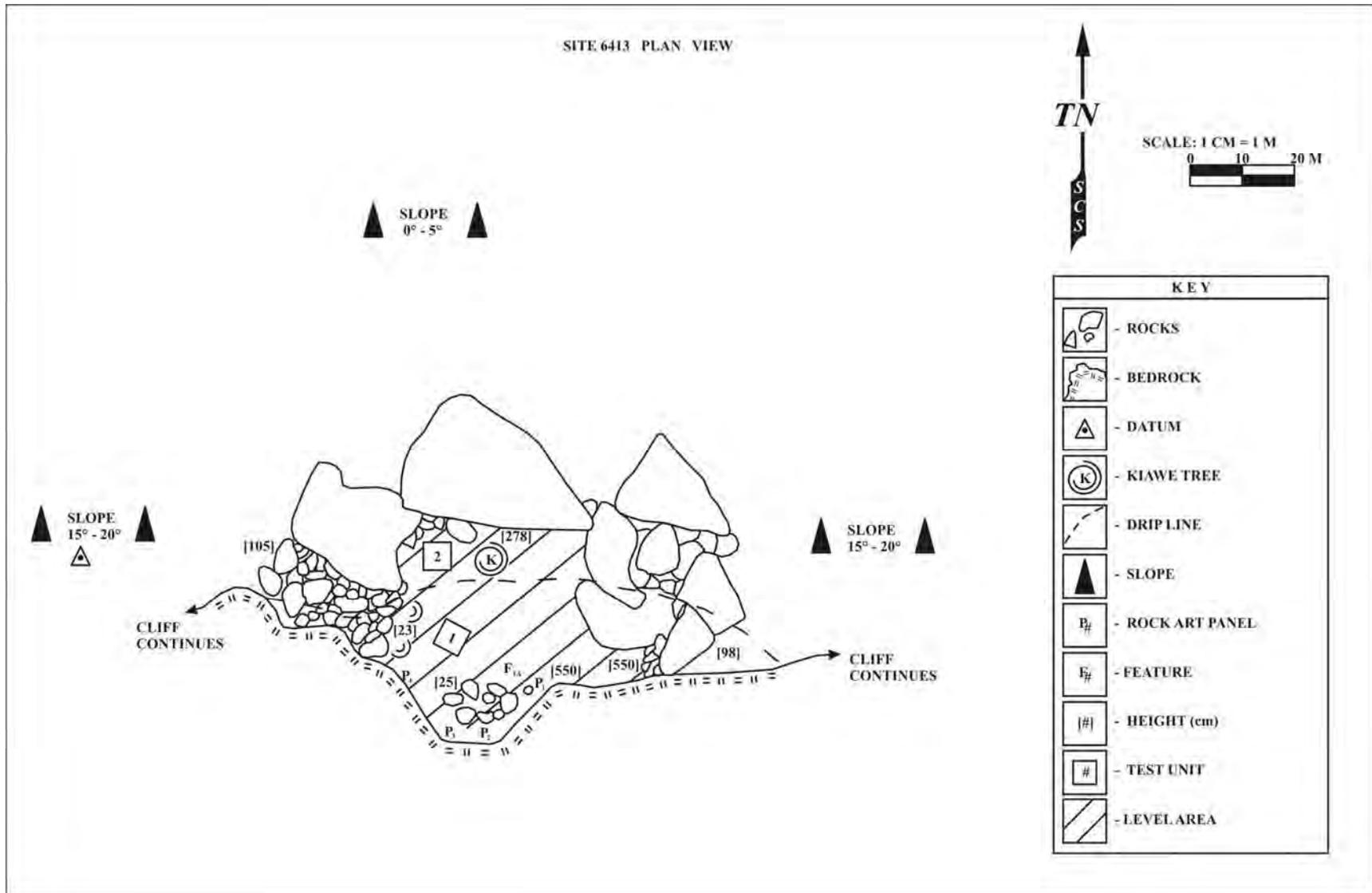


Figure 37: Plan View of Site 6413.

Feature 1 is a rock shelter measuring approximately 9.0 m long by 4.0 m wide, with the interior height up to 0.98 m. At the center of this rock shelter, just under the drip-line, Feature 1a is a ring of boulders resembling a hearth; however there was no sign of charring on the ground surface within the feature. Two 0.5 by 0.5 m test units were excavated on the interior of this rock shelter.

TU-1 was excavated in the central-western portion of the rock shelter, adjacent to Feature 1. The excavation yielded two stratigraphic layers (Figure 38). Layer I (0–15 cmbs) consisted of very dark brown (7.5 YR 2.5/3) loosely compacted silt with a high concentration of gravel throughout. A small amount of charcoal flecking was recovered from this layer. Layer II (4–17 cmbs) consisted of saphrolytic, reddish yellow (5 YR 6/8) silt. No cultural material was recovered from this layer.

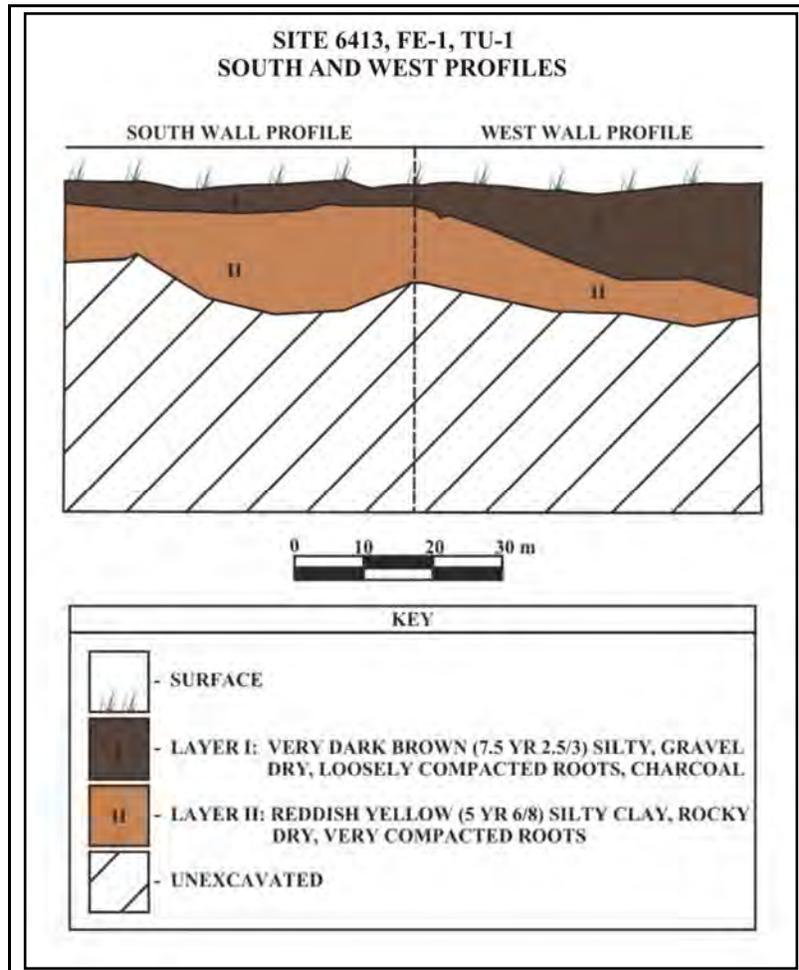


Figure 38: South and West Profiles, 6413, TU-1.

TU-2 was excavated in the northwest corner of the rock shelter. Excavation of this unit yielded a single stratigraphic layer consisting of loose, moist, very dark brown (10 YR 2/2) silt and a high concentration of basalt boulders and cobbles (Figure 39). Upon termination of this unit, it became apparent that the boulders in this unit were stacked in between two, much larger boulders, as to fill the gap and create a level floor within the rock shelter. A small amount of charcoal was collected *in situ* at 35 cmbd. This charcoal sample was radiocarbon tested, yielding a conventional radiocarbon age of 280±40 years before present (see Appendix A).

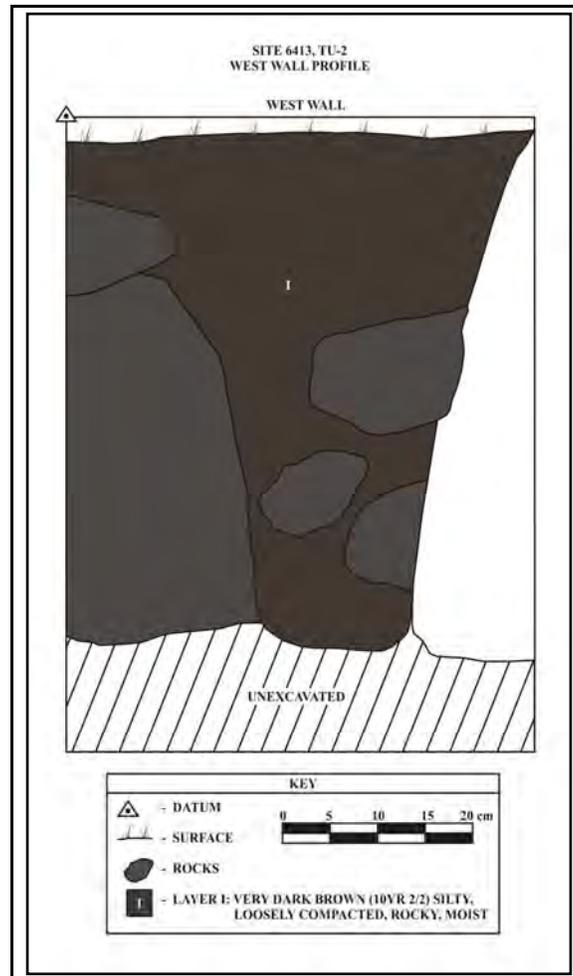


Figure 39: West Profile, 6413, TU-2.

Four panels of anthropomorphic petroglyphs have been consolidated under Feature 2. These panels (sample shown in Figure 40) consist of ten distinct anthropomorphic figures, as well as several additional non-diagnostic images, peckings and scratches. The anthropomorphic figures range in height from 15 to 30 cm and consist of both pecked and scratched components.

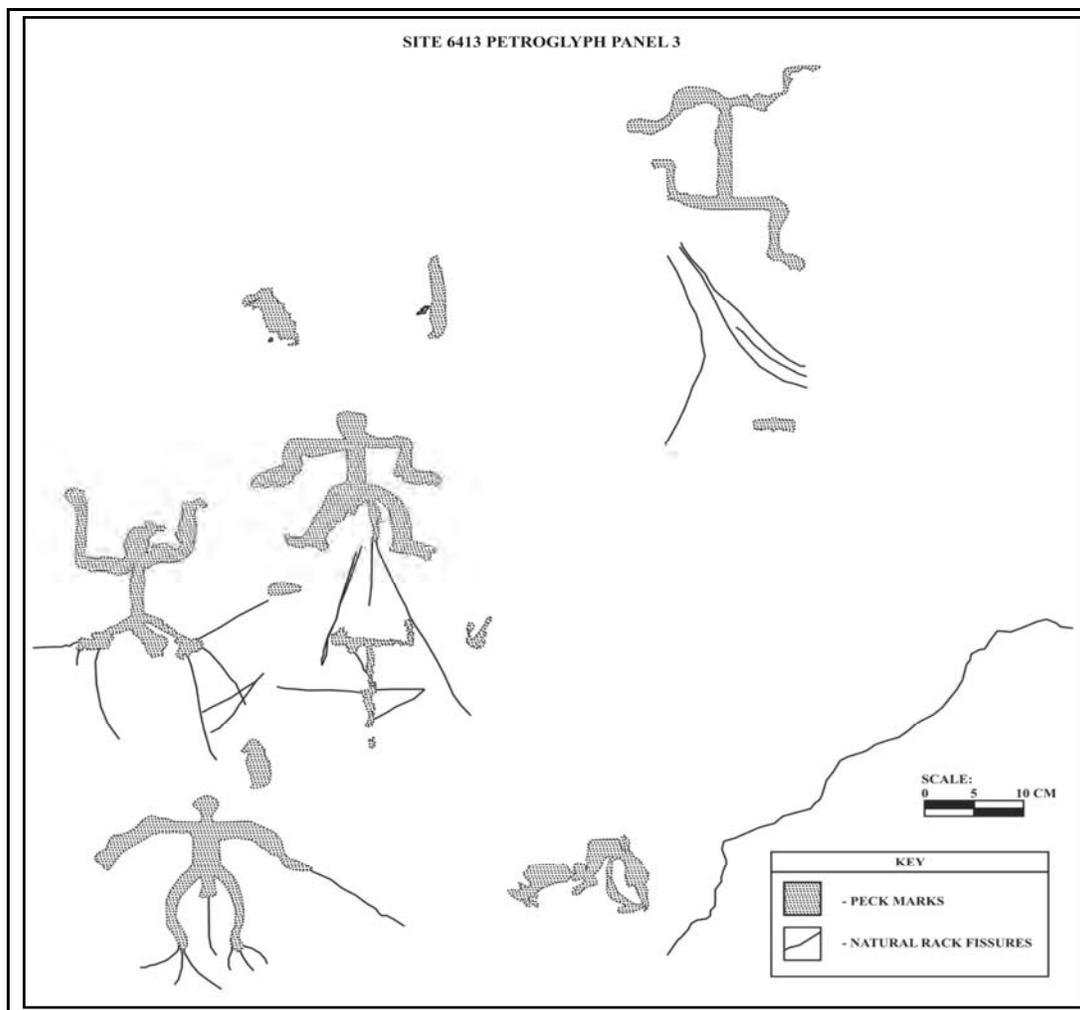


Figure 40: Site 6413, Feature 2, Petroglyph Panel 3.

#### 50-50-10-6414

Located in the bottom of Kulanihakoi Gulch in the northeast corner of the project area is Site 6414, a rock shelter (Feature 1) with two petroglyphs (Feature 2). The rock shelter measured approximately 9 m wide by 16 m long. As there was no surface cultural material, no subsurface excavation was conducted in this feature. Two petroglyphs were consolidated under Feature 2. These are anthropomorphic figures positioned on the eastern and western extremes of a rock shelter at the base of the escarpment of Kulanihakoi Gulch (Figure 41). These figures measure 0.2 and 0.25 m high, respectively and both are pecked, rather than scratched, into the smooth basalt surfaces (Figure 42 and 43). The site typology indicates that it dates to the pre-Contact Period, and, being that no surface artifacts or midden were observed, it was likely a temporary use site. The site is significant under criterion D for its potential to yield information pertinent to the prehistory and history of Maui and the State of Hawai'i.

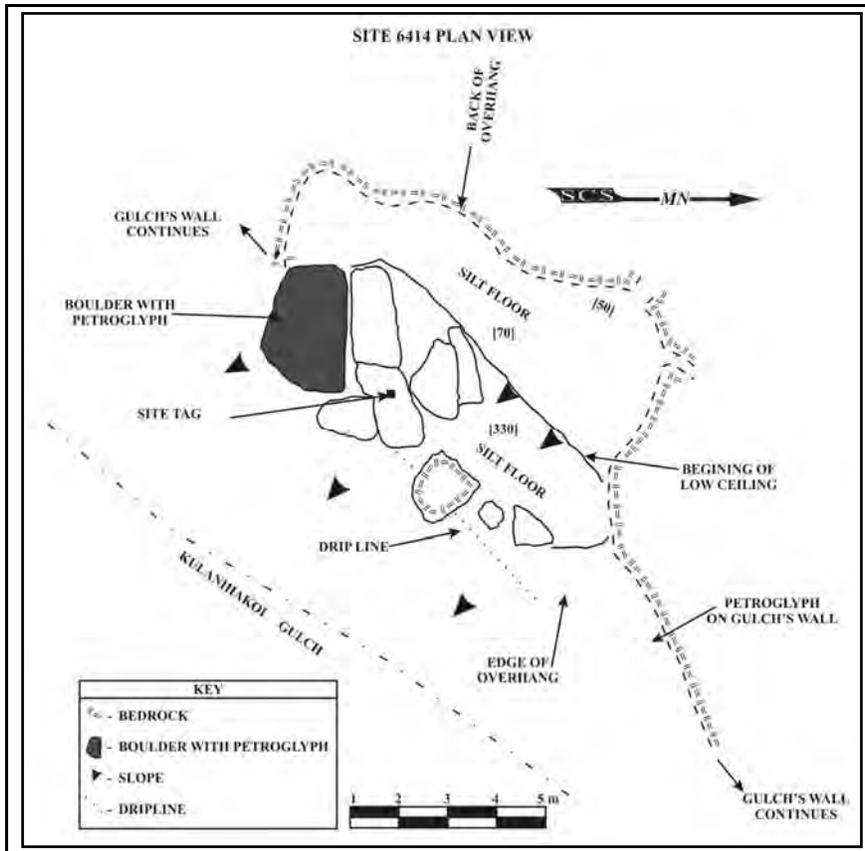


Figure 41: Plan View of Site 6414

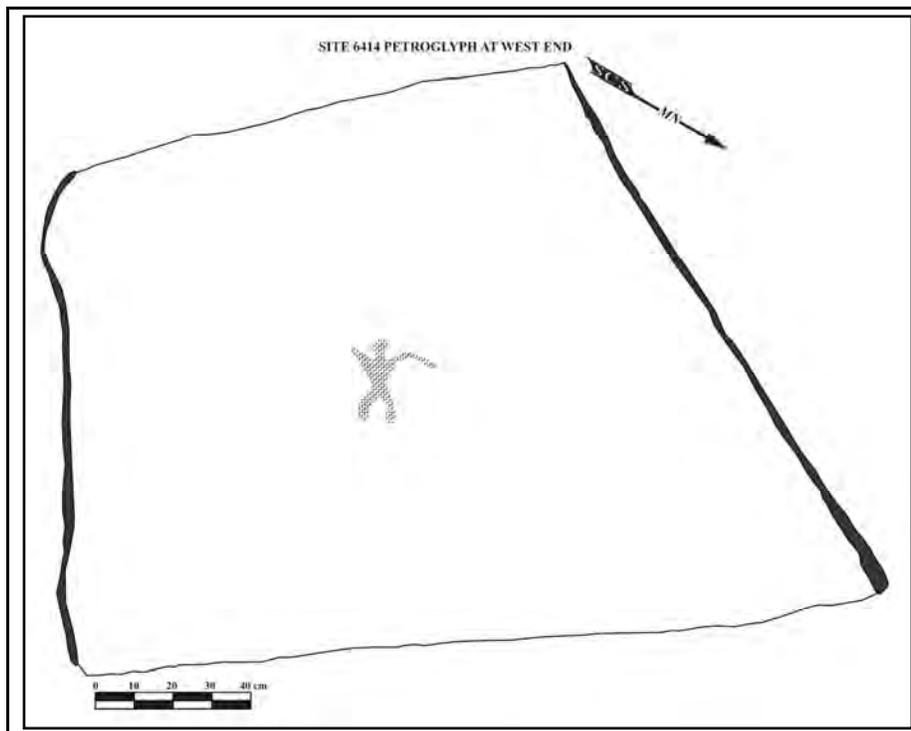


Figure 42: Petroglyph at the West End of 6414 (Feature 1).

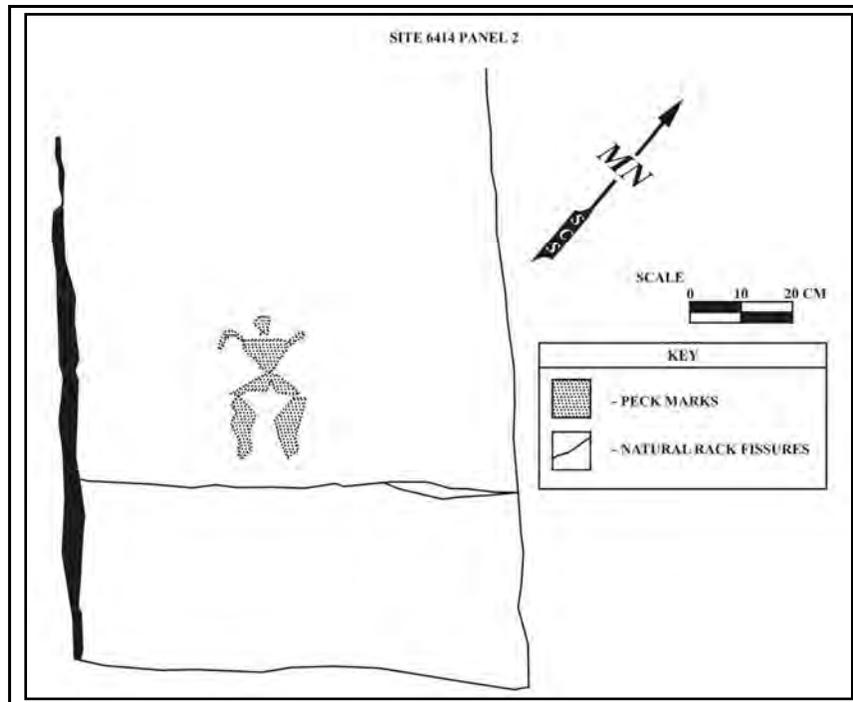


Figure 43: Petroglyph at the East End of 6414 (Feature 2)

#### 50-50-10-6415

Approximately 100.0 m north of 6414 is Site 6415; a low stone wall that likely dates to the pre-Contact period (Figure 44). This single-feature site measures approximately 42.0 m long, 0.5–1.0 m wide and up to 0.2 m high. The wall meanders on an east-west bearing, showing signs of having been severely damaged by erosion and cattle disturbances. This wall terminates abruptly on the east end, where it has likely been wiped out by erosive and animal activities. Site 6415 is morphologically traditional, with a very short, but stout stacked and faced construction. This type of wall differs from a ranch wall in that it is not core-cobble-filled, but built using medium-sized boulders and large-sized cobbles throughout the wall. Its shape, meandering rather than straight, also indicates that this wall did not relate to ranching activities, and it's apparently heavy-duty (though very short) construction separates it from the roughly-constructed walls associated with military activities in the parcel. The site is significant under criterion D for its potential to yield information pertinent to the prehistory and history of Maui and the State of Hawai'i as a whole.

#### 50-50-10-6416

Site 6416, on the northern edge of Kulanihakoi Gulch in the northeast quadrant of the project area, is a low, circular, basalt rock platform that is interpreted as dating to the pre-Contact Period (Figure 45). The platform, measuring 3.1 by 3.3 m and up to 0.5 m in height, is roughly



Figure 44: Photographic Overview of Site 6415.

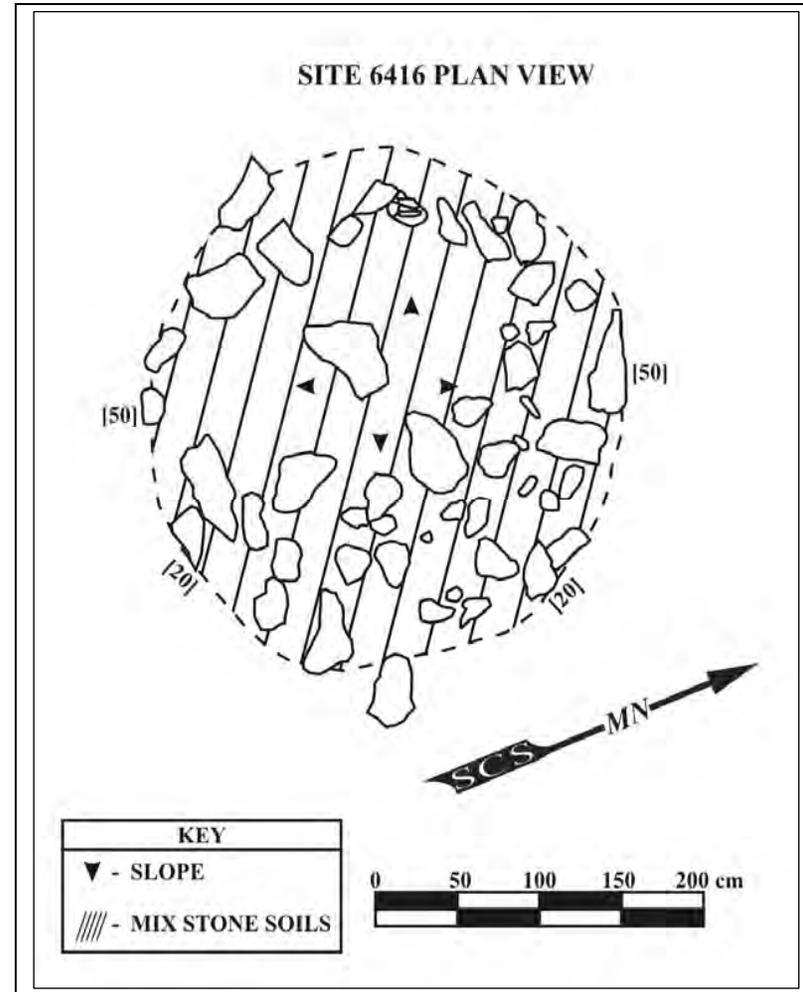


Figure 45: Plan View of Site6416

constructed of subangular cobbles and boulders. It has been heavily impacted by erosion and animal activity. It is further obscured by an accumulation of soil and grasses, indicating the site's antiquity. The heavily damaged condition of this feature renders it impossible to ascertain the function without conducting subsurface excavation. The site is significant under criterion D for its potential to yield information important to the history and prehistory of the island of Maui and the state of Hawai'i.

**50-50-10-6417**

Site 6417 is a single-feature site consisting of a low, L-shaped rock wall (Figure 46). The site, which is located on the northern edge of Kulanihakoi Gulch, approximately 100.0 m south of 6416, may have functioned as a garden enclosure. The wall measured 17.1 by 7.2 m and is constructed of small, subangular and subrounded basalt boulders with intermittent large boulders included in the construction. The interior is made up of level silt with few rocks. It has been severely affected by erosion and animal activities, as evidenced by the intermittent breaks and collapsed sections of the wall. With no artifactual evidence to support a temporal affiliation, the feature's age is undetermined. The site is considered significant under criterion D.

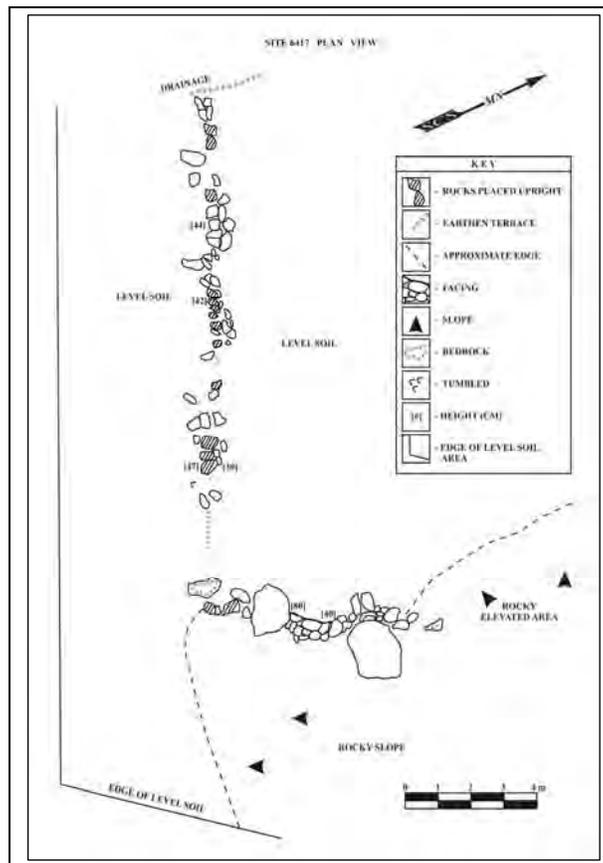


Figure 46: Plan View of Site 6417.

### **50-50-10-6418**

Approximately 125.0 m west of 6417 lies Site 6418, a multi-feature site that is, like 6417, associated with agricultural activities (Figure 47). Site 6418 consists of two features. Feature 1 is a low wall, partially faced, with portions consisting of single, small and medium boulders that have been placed upright. This feature measures approximately 56.0 m long with walls standing up to 0.5 m high and 0.8 m thick. It bears northwest-southeast along the northern edge of Kulanihakoi Gulch. The function of this feature is unknown, but it may have been a garden wall. The area upslope of the wall is very rocky and appears to have been significantly altered, both mechanically and by erosion. The site is significant under criterion D for its potential to yield information pertinent to the history or prehistory of Maui and the state of Hawai'i.

Feature 2 is a terrace in a narrow drainage that functions for water flow control. It measures 2.2 m long, approximately 0.2 m wide and up to 0.64 m in height.



Figure 47: Photographic Overview of Site 6419.

### **50-50-10-6419**

Site 6419 is a pre-Contact rock shelter in a large basalt outcrop on the northern edge of Kulanihakoi Gulch, adjacent to 6418 (Figure 48). This rock shelter functioned as a temporary habitation, as evidenced by scattered charcoal throughout the surface of the cave floor. This rock

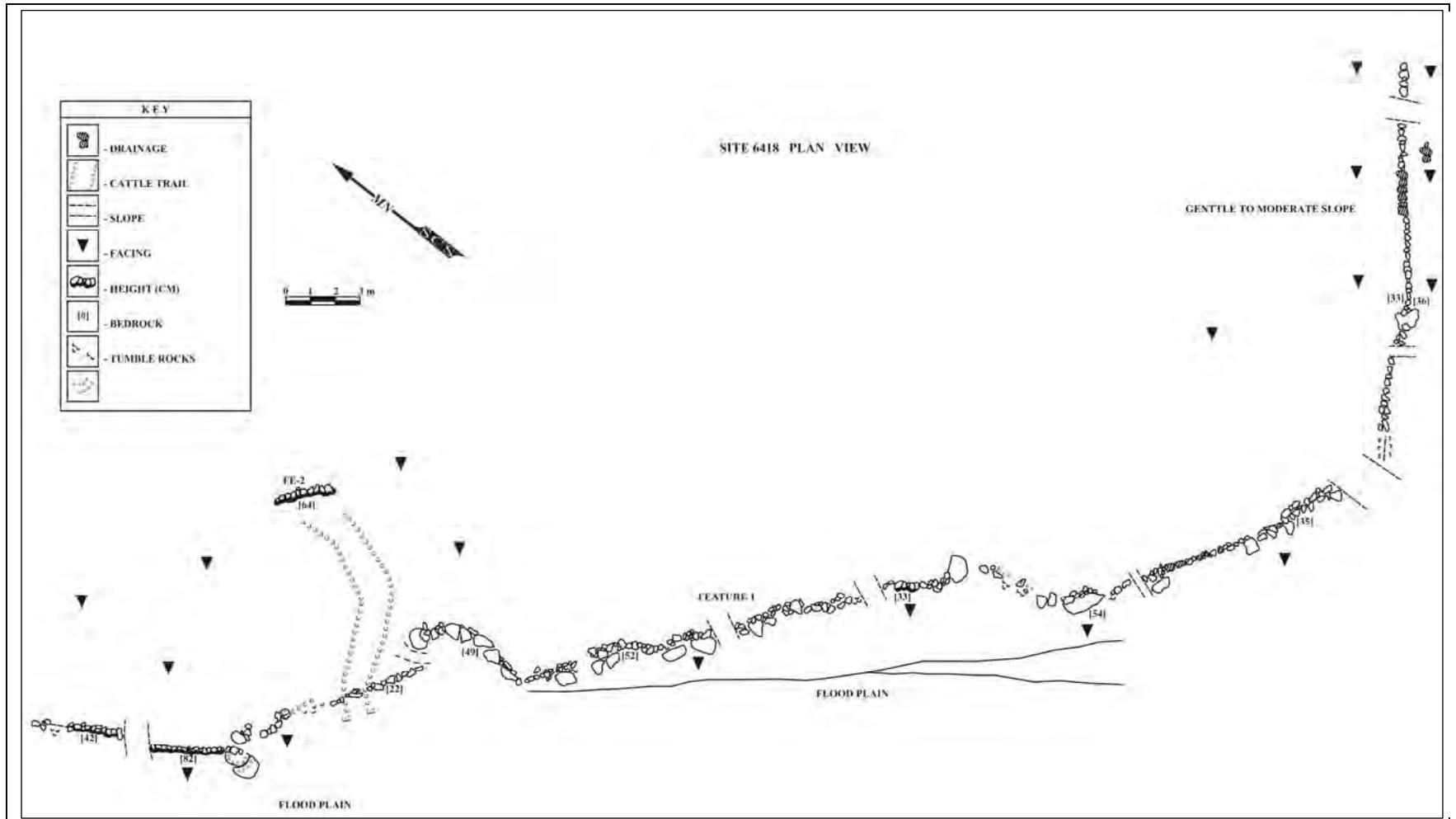


Figure 48: Plan View of Site 6418.

shelter measures approximately 3.0 m long, 5.0 m deep and up to 0.6 m high on the interior. Extensive recording was not conducted at this site due to a heavy infestation of bees. This site is significant under criterion D for its potential to yield information important to the prehistory and history of the island of Maui and the state of Hawai`i as a whole

#### **50-50-10-6420**

Site 6420 is a pre-Contact rock shelter located on the northern interior edge of Kulanihakoi Gulch, just south of 6416 (Figure 49). The site consists of a rock shelter (Feature 1) with a modified outcrop (Feature 2) and a petroglyph panel (Feature 3). Site is assessed as

significant under criterion D for its potential to yield information important to the prehistory and history of the island of Maui and the state of Hawai`i as a whole.

Feature 1, a rock shelter, measures approximately 11 m long and up to 6 m high on the interior.

Feature 2, an additional component of the rock shelter, is a modified outcrop located on the west end of the rock shelter. This feature consists of small- and medium-sized basalt boulders, aligned and stacked along an outcrop measuring 1.4 m long by 0.4 m wide. Stacking is up to three courses high. The feature bears generally northwest-southeast. The interior side of Feature 2 is filled in with silt and stones that have fallen from the rock shelter roof. This feature is the location of TU-1.

Feature 3 consists of two anthropomorphic petroglyphs that were scratched and pecked into the escarpment at the eastern extremity of the rock shelter. These images measure 7 by 3 cm and 9 by 7 cm, respectively.

TU-1 is a 0.5 by 0.5 m test unit placed on the interior side of Feature 2. The purpose of this excavation was to determine the presence or absence of cultural material and to assess the function and approximate age of the feature. The unit yielded two sterile, stratigraphic layers (Figure 50). Layer I (0–5 cmbs) consisted of dry, lightly compacted dark reddish brown (5 YR 3/3) silt. Layer II (5–34 cmbs) was made up of brown (10 YR 4/3) silt of a similar texture and compaction to Layer I. No cultural material was observed, or collected, from this unit.

#### **50-50-10-6421**

Site 6421 consists of a single, historic wall just south of Site 6417 in the bottom of Kulanihakoi Gulch (Figure 51). This single-feature site measures approximately 7.0 m long

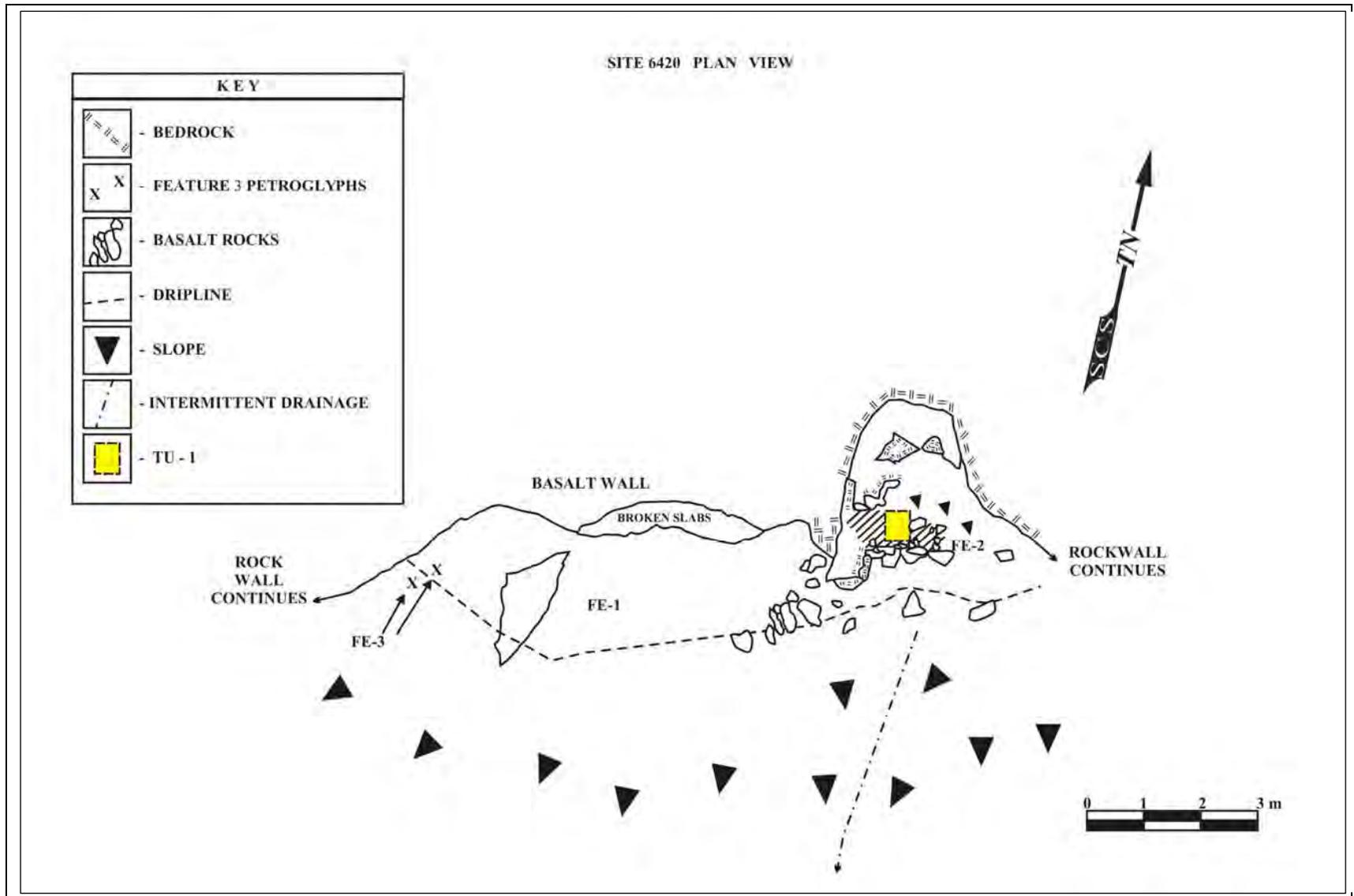


Figure 49: Plan View of Site 6420.

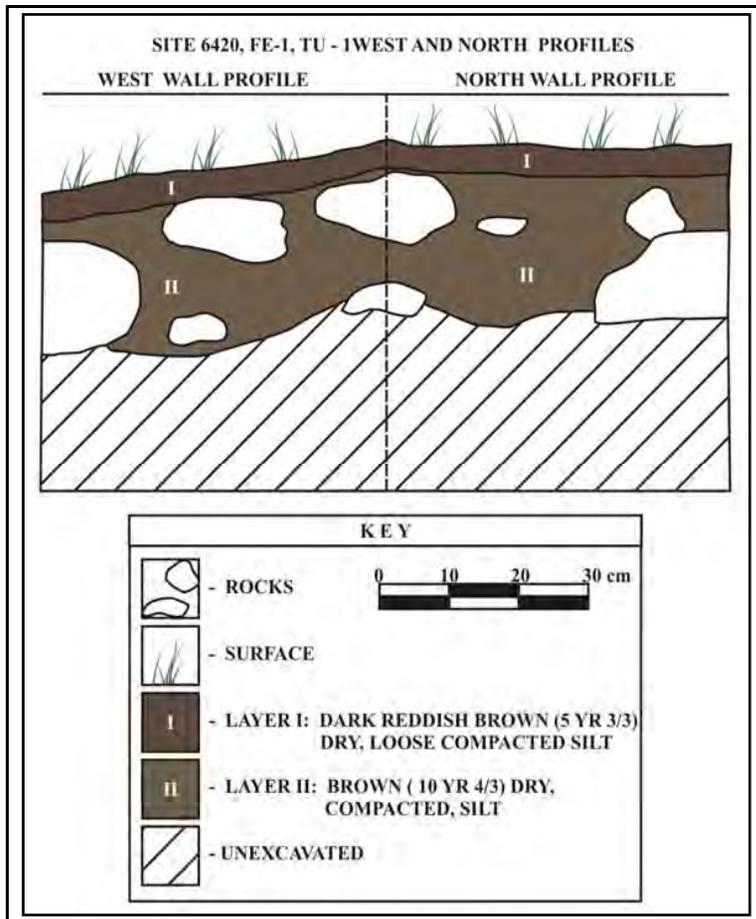


Figure 50: Plan View of Site 6421.

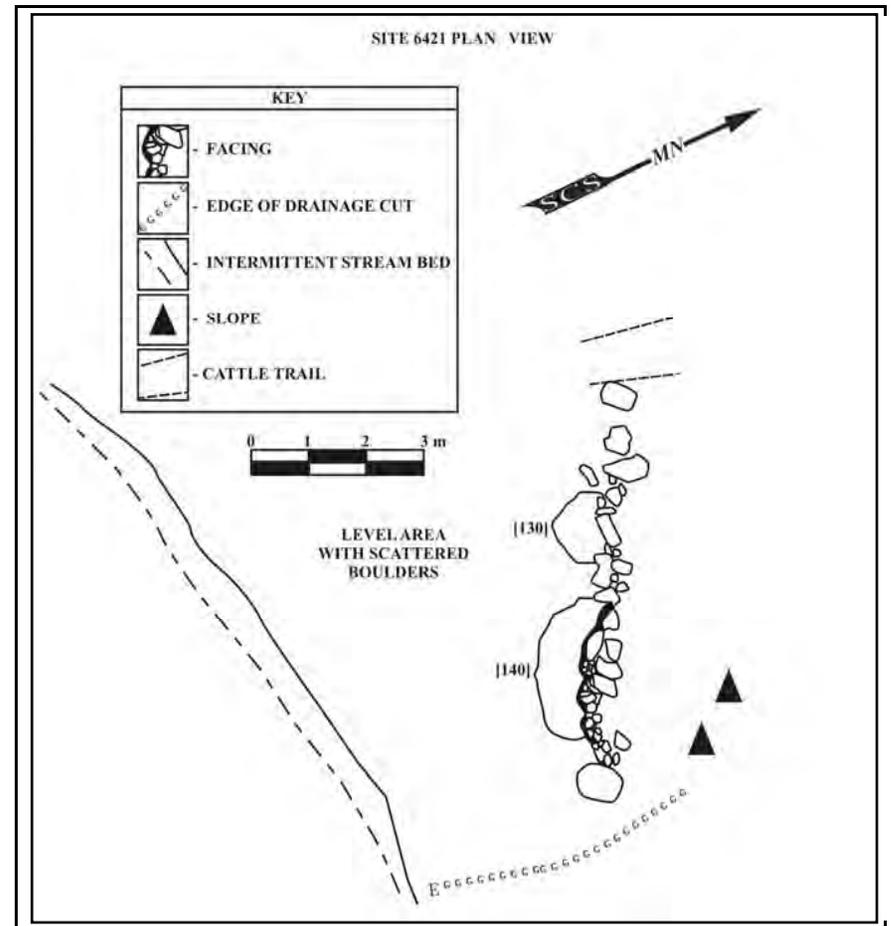


Figure 51: North and West Profiles, 6420, TU-1.

bearing northwest-southeast adjacent to a natural waterway. The feature has been severely damaged by water erosion and animal activity. The wall consists of medium- and large-sized basalt boulders stacked and faced up to four courses high, incorporating very large boulders into the construction. The feature is likely associated with military activity. An old road crosses the gulch just to the northeast of the site. The site is significant under criterion D for its potential to yield information pertinent to the history and/or prehistory of Maui and the state of Hawai`i.

**50-50-10-6422**

Site 6422 consists of five mounds located on land that has been extensively altered by mechanical activity (Figure 52). As such, each feature is interpreted to be associated with the most recent land clearing activities on the lot. These features are situated in a 625.0 square meter area on the southern flank of lower Kulanihakoi Gulch. As these mounds are amorphous and similar to other mound features described previously for this project area, Site 6422 was not mapped. Feature 1 is a circular mound measuring 1.2 m in diameter and approximately 0.4 m high. Feature 2 measures 1.8 by 1.1 m and 0.37 m high. Feature 3 measures 1.3 by 0.9 m and 0.4 m in height. Feature 4 measures 1.1 by 0.7 m and 0.26 m high. Feature 5 measures 1.7 by 0.8 m and 0.3 m high. The site is significant under criterion D for its potential to yield information important to the history and/or prehistory of Maui and the state of Hawai`i.



Figure 52: Photographic Overview of Site 6422.

### 50-50-10-6423

Site 6423 consists of three Historic mounds located between the southern entry road and the southern boundary of the project area (Figure 53). Each of these features is comprised of mechanically scarred boulders, implying late Historic or Modern agricultural activity. The features were not mapped, as they are morphologically similar to other, more extensively recorded features throughout the project area. Feature 1 measured 2.6 by 1.4 m and 0.4 m high. Feature 2 measures 2.0 by 1.3 m and 0.24 m high. Finally, Feature 3 measures 2.26 by 0.9 m and 0.3 m high. The site is significant under criterion D for its potential to yield information pertinent to the history of Maui and the state of Hawai'i.



Figure 53: Photographic Overview of Site 6423.

### 50-50-10-6424

Site 6424 is a single, Historic, linear mound located approximately 4.0 m northwest of Site 6423 (Figure 54). This single-feature site consists of broken up, angular basalt boulders and cobbles mounded mechanically, as evidenced by bulldozer scars on several stones in the feature. The site measures 1.8 by 1.0 and 0.4 m high. Site 6424 was not mapped due to its morphological similarity to other sites in the area. The site's morphology and geographic proximity to 6423 call



Figure 54: Photographic Overview of Site 6424.

for a similar temporal and functional interpretation. The site is significant under criterion D or its potential to yield information important to the history of Maui and the state of Hawai'i.

#### **50-50-10-6425**

Site 6425 consists of two low rock mounds located about 70.0 m north of the existing access road (Figure 55). These features were constructed of large, subround and subangular basalt cobbles and small boulders loosely piled into low, disorderly mounds. They are interpreted to be agricultural clearing mounds dating to the Historic Period. Water channels around the features and the general area of Site 6425 indicate that the area has been extensively impacted by erosion. The site is significant under criterion D for its potential to yield information pertinent to the history and/or prehistory of Maui and the state of Hawai'i as a whole.

Feature 1 measured 1.8 by 1.2 m and 0.2 m in height. Feature 2 measures 1.7 by 1.4 m and 0.21 m high. The distance between Features 1 and 2 is approximately 9.5 m at a bearing of 142/322°.



Figure 55: Photographic Overview of Site 6425.

#### **50-50-10-6426**

Site 6426 consists of a single, Historic C-shaped structure relating to military activity in the area. This feature, measuring 2.6 by 2.5 m on the exterior, has a single-course width wall constructed of small, subangular basalt boulders, with some bedrock inclusions in the north end. The wall of this feature stands only 0.24 m in height. The interior of this feature measures 1.4 by 1.7 m. The opening, which faces southwest, is flanked by a boulder alignment and a small boulder pile. While the feature is in fair condition, it appears to have been affected by erosion and animal activity. The site is significant under criterion D due to its potential to yield information important to the history of Maui and the state of Hawai`i.

### **DISCUSSION**

Archaeological Inventory Survey for this 516.32-acre lot yielded forty previously undocumented archaeological sites. These sites represent pre-Contact, historic agricultural and military features. Pre-Contact features predominantly consist of temporary use and habitation sites in the northeast corner of the project area, clustered in the upper reaches of Kulanihakoï Gulch. Military and historic agricultural sites are dispersed throughout the project area. These include roads, walls, military C-shapes (used in training exercises), and many rock mounds associated with clearing and/or military activities. The summary table (Table 1) illustrates both

the temporal nature and function of all identified sites and their constituent features as depicted in Figure 4 above.

Of the forty sites recorded during this work, eight are associated with pre-Contact activities. These sites are: 6390, 6405, 6413, 6414, 6415, 6416, 6419, and 6420. These pre-Contact sites consisted of temporary rock shelters with petroglyph components, enclosures, platforms, a mound and a wall. Sites 6413, 6414, and 6420 are interpreted as temporary habitation sites bearing anthropomorphic petroglyph features. When compared to findings from other archaeological research in the area (see Previous Archaeology), the results of this work are not inconsistent with the expectations for the site as a whole. However, these sites are geographically isolated from the barren zone, as it is formally described. As discussed, the barren zone has poor soils, nearly no fresh water, and extremely hot and exposed environs. With only two exceptions, all traditional habitations found here were located in the northeast corner of the project area, within the upper reaches of Kulanihakoi Gulch, where a perennial stream would have supported temporary habitation and allowed shady trees and shrubs, as well as needed cultigens to support habitation.

Two pre-Contact sites, 6390 and 6405, are positioned toward the center of the project area, where the banks of Kulanihakoi Gulch become shallower and perennial waterways more diffuse. This area, unlike the northeast corner, is more congruent with the barren zone as it is defined. These sites give evidence to pre-Contact activity outside of the shelter of the gulch. While Historic and Modern disturbances have damaged these sites (and probably obliterated others like them), there is a suggestion here that the barren zone supported traditional activities despite the extreme hostility of the landscape. In the case of 6405, historic activities (including military training) impacted the site by adding Historic component features (as with Feature 1) and extensively damaging pre-existing features (especially Feature 4)

It is generally agreed that pre-Contact sites within the barren zone relate to travel between upland and coastal villages. However, Site 6405 (Feature 2) is interpreted as a lithic workshop, as evidenced by the presence of basalt lithics on the surface and in subsurface contexts. Such a site implies that the barren zone was utilized culturally—if not continuously—at least intermittently over the course of time.

Table 1: Temporal Summary of Identified Sites and Associated Function.

Historic: Military Training Activities					
Site No.	Fe	Feature Construction	Form	Area/Dimensions (m)	Function
6386	1	Nearly circular shape, constructed of mostly angular small to medium sized boulders	Rock Mound	1.7 X 1.5 m, 0.45 m tall; west side is 2 courses high	Gun fire cover
6391	1	C-shape located 11 m from North boundary. Constructed of small to medium subangular to subrounded boulders, also has naturally deposited rock inclusions. Neatly piled to form architecture along N and E sides. W and S sides are open	C-shape	5.0 X 4.1 m	Gunner position; temp. habitation
6394	1	Small- to large-sized basalt boulders piled in a semi-circle or half-moon shape	Linear Mound	4.5 X 4.0 m	Gun fire cover
6396	1	Constructed with small to medium boulders. Single stone high; the interior is level soil	U-shape	1.69 X 1.54 m	Gunner position
6397	1	Construction materials range from small cobbles to small boulders. Interior is slightly depressed. A lot of exposed bedrock in the surrounding area	C-shape	2.4 X 1.8 m	Gunner position; temp. habitation
6399	1	A rather short linear mound resembles a short wall segment, but no facing. Broken cobbles from bulldozing are present at the northeast side of the feature. Angular broken rocks are included on the construction	Linear Mound	2.9 X 0.56 m; all stones are piled 1-2 stones high	Gunner position; temp. habitation
6400	1	A U-shaped feature constructed with subrounded small and medium sized boulders. Stacked along the east and portions of north and south, the west end is open. The interior is excavated to 30 cm below the base of the architectural stones. Similar to other sites; located to the northeast of T-4 on the north side of the first branch of Kulanihakoi Gulch	U-shape possible fox hole	2.3 X 2.1 m	Gunner position; temp. habitation
6402	1	Low crude wall extending along the south edge of the ridge for 19.0 m, constructed with subangular to subrounded cobbles and small boulders. Constructed very rough with most stones crudely piled and certain portions consisted of stone alignments.	Wall	20.2 X 0.2-0.8 m	Gunner position; gun fire protection

Historic: Military Training Activities					
Site No.	Fe	Feature Construction	Form	Area/Dimensions (m)	Function
6403	1	Mostly piled along the east and west. Some stacking along the north (downslope) side. The south end is open and the interior is level soil; constructed of subangular to subrounded small to medium sized basalt boulders.	C-shape	exterior 3.8 X 3.2 m height: 0.55 m ; interior: 2.0 X 2.4 m height: 0.34 m; stacked 2-4 courses high on downslope (north) portion	Gunner position; temp. habitation
6403	2	Alignment to 2 stones high constructed of subangular to subrounded basalt boulders	C-shape	exterior: 1.8 X 1.8 X 0.35 m; interior: 1.3 X 1.3 (stacked 2 courses high	Gunner position; temp. habitation
6403	3	Small to medium sized boulders piled to form a linear mound, pile is on top of exposed bedrock, constructed of subangular to subrounded basalt	Linear Mound	1.6 X 0.8 X 0.34; interior: 0.2 m	Gun fire cover
6403	4	Small boulders alignment with bedrock inclusions. Stones are arranged to form C-shape. The interior is mostly exposed bedrock with some soil, constructed of angular to subrounded small basalt boulders	C-shape	2.0 X 1.4 X 0.3 m; interior: 1.5 X 1.2 X 0.32 m	Gun placement/ Protection
6405	1	Piled large cobbles and small boulders with 1 large boulder inclusion near the northeastern corner of the feature; composed of subangular and subrounded basalt cobbles and boulders	C-shape	3.5 X 3.0 X 0.25; interior: 2.8 X 2.0 X 0.4 m	Gun placement/ Protection
6408		Located on west edge of very low ridge, approximately 100 m south of Kulanihakoi gulch	(See below)	22.5 X 17.0 m	-
6408	1	Constructed of small to medium size subangular and subrounded basalt boulders. some stacking along the northeast and southeast sides, the rest is mostly piled. Small opening on the west side	Enclosure	3.0 X 3.0 height: 0.18 - 0.30 interior: 0.32 - 0.44m diameter: 2.0 m; where stacking 2-3 courses high	Gunner position; temp. habitation
6408	2	Constructed of small to medium subangular and subrounded basalt boulders, all piled into concentration, most of the interior is exposed bedrock	C-shape	6.0 X 3.2 m; height: 0.2-0.26 m interior: 0.12 - 0.22 m	Gunner position; temp. habitation
6408	3	Constructed of subangular and subrounded small and medium basalt boulders piled	Linear Rock Mound	2.0 X 0.6 m; height: 0.2-0.35 m	Gun fire cover
6408	4	Constructed of subangular and subrounded, small to medium size basalt boulders piled to form linear concentration	Linear Rock Mound	9.5 X 1.6 m; height: 0.2-0.46 m	Gun fire cover

Historic: Military Training Activities					
Site No.	Fe	Feature Construction	Form	Area/Dimensions (m)	Function
6408	5	Constructed of small to medium subangular and subrounded basalt boulders. The interior contains scattered cobbles but otherwise relatively level. Stones are piled neatly to form a C-Shape structure and it is open to the southwest	C-shape	exterior: 3.6 X 2.3 X 0.1-0.3 m, interior: 2.3 X 1.7 m X 0.5-0.3 m	Gunner position; temp. habitation
6409	1	L-shape alignment with a rectangular depression extending northeasterly from the alignment. This feature is constructed with large cobbles and small boulders. An alignment at the west end with more piling towards the east. The depression is eastern	L-shape	1.6 X 1.8 m	Gunner position; gun fire cover; temp. habitation
6410	-	(See below)	(See below)	9.8 X 2.6 m	-
6410	1	Constructed of angular and subangular cobbles and small basalt boulder that are neatly piled to form a C-shape; south boundary is not defined therefore the interior dimensions are estimated based on the extent of the architecture	C-shape	3.8 X ~2.0 X 0.24 m; interior: ~2.0 X ~1.0 X 0.30 m	Gunner position; temp. habitation
6410	2	Constructed of angular to subrounded cobbles and small basalt boulders piled to form a C-shape. The interior is mostly exposed bedrock and is very rugged. South boundary is not defined therefore the interior dimensions are estimated based on the extent of the architecture	C-shape	exterior: 4.0 X 2.6 X 0.3 m; interior: ~2.1 X 1.6 X 0.24 m	Gunner position; temp. habitation
6411	2	Mostly alignment, portions of piled small boulders and also portions that are 2-3 stones high; this feature extends from the top of the north facing slope of the edge on which Fe-1 is located. It extends north along the flood plain between the ridge and Kulanihakoi gulch. It ends about 9 m south of the existing waterway of the gulch	Wall	35.0 X 0.2 - 0.6 m height: 0.58 m where coursing: 2-3 stones	Gunner position/ gun fire protection
6412	-	The area around Features 1-3 had been greatly affected by erosion. Grass cover in this area is rather sparse and contains lots of gravel	(See below)	(See below)	-
6412	1	Constructed of basalt subangular to subrounded cobbles and small to medium size boulders are piled to form a C-shape	C-shape	Exterior: 3.7 X 3.0 X 0.2 m; interior: 2.7 X 2.4 X 0.2 m	Gunner position; temp. habitation

Historic: Military Training Activities					
Site No.	Fe	Feature Construction	Form	Area/Dimensions (m)	Function
6412	2	Constructed of alignments of small subangular to subrounded basalt boulders; the interior of the feature had been extensively eroded. All sediments had been eroded out to a point where the vertical extent of the architecture is completely exposed, no cultural materials were associated with eroded portion	L-shape	exterior: 3.2 X 2.3 X 0.2 m; interior: undetermined; interior height: 0.26-0.37 m	Gunner position; gun fire cover; temp. habitation
6412	3	Composed of subangular and subrounded cobbles and small basalt boulders piled to form a C-shape; the interior has been eroded, culturally sterile	C-shape	3.0 X 1.7 X 0.2 m interior height: 0.15 m	Gunner position; temp. habitation
6412	4	Constructed of small to medium sized subangular to subrounded basalt boulders piled to form the architectural feature; the interior is relatively level, however, there are some exposed bedrock	L-shape	3.5 X 1.5 X 0.5 m	Gunner position; gun fire cover; temp. habitation
6412	5	Constructed of subangular to subrounded small to medium size basalt boulders piled to form a linear structure along the north with three boulder alignments extending south off of the main structure to form 2 adjoining c-shapes	C-shape	6.5 X 3.0 X 0.56 m	Gunner position; temp. habitation
6421	1	Constructed of subrounded cobbles and small boulders as well as large naturally deposited boulders. Abuts the south bank of an old natural waterway. An old road crosses the gulch just to the northeast of the site	Wall	7.0 X 1.5 m; ranges from 1 - 4 courses high	Gunner position/ gun fire protection
6426	1	Constructed of subangular and subrounded small boulders with some bedrock inclusion at the north end. The feature opens to the southwest which consisted of a boulder alignment and boulder pile (2 stones wide) along the east side. Interior is level soil with some exposed bedrock	C-shape	2.6 X 2.5 and 0.24 m high; interior: level soil	Gunner position; temp. habitation

Historic: Agriculture					
Site No.	Fe	Feature Construction	Form	Area/Dimensions (m)	Function
6392	1	Constructed with large cobbles to small boulders. Top of feature is relatively flat. Most stones had been broken up and are now mostly angular with some subrounded. Feature is oval shaped	Rock Mound	1.7 X 1.3 m	Clearing mound
6393		It appears an old road extends along the north side of Fe-3 and extends northwesterly between Fe-1 and Fe-2. A dried channel extends southwesterly about 5 meters north and west of Fe-1	Rock Mound	40 X 30 m	Clearing mound
6393	1	Angular (mechanically altered) basalt piled	Rock Mound	2.6 X 1.6 height: 0.55 m	Clearing mound
6393	2	Angular (mechanically altered) basalt mostly piled; but its faced at southwest side	Rock Mound	3.5 X 2.0 height: 0.55-0.8 m; 3-4 courses high	Clearing mound
6393	3	Angular (mechanically altered) basalt piled	Rock Mound	2.3 X 2.0 height: 0.46 m	Clearing mound
6406	1 & 2	All material used in the construction involve mechanically split stones	Rock Mounds	6.75 X 5.0 m	Clearing mound
6423		Consisted of 3 historic rock mounds located on a low ridge between the existing road and the south boundary fence. Comprised of mechanically altered small boulders. Purposefully piled mounds; but purpose is unknown	Rock Mounds	(See below)	Clearing mound
6423	1	"	Rock mound	2.6 X 1.4 m and 0.4 m high	Clearing mound
6423	2	"	Rock mound	2.0 X 1.3 m and 0.24 m high	Clearing mound
6423	3	"	Rock mound	2.26 X 0.9 m and 0.3 m high	Clearing mound
6424	1	Single historic linear mound located about 40 m northwest of site T-37 Both are on the same northwest ridge between the access road and the south boundary fence consists of broken up stones (angular)	Rock Mound	1.8 X 1.0 m and 0.4 m high	Clearing mound
6425	-	Consisted of two rock mounds located about 70 m north of the existing access road. Consisted of subrounded to subangular large cobbles and small boulders;	Rock Mounds	(See below)	Clearing mound

<b>Historic: Agriculture</b>					
<b>Site No.</b>	<b>Fe</b>	<b>Feature Construction</b>	<b>Form</b>	<b>Area/Dimensions (m)</b>	<b>Function</b>
6425	1	Piled, basalt subrounded to subangular cobbles and small boulders; the water channels probably started off as cattle trails	Rock mound	1.8 X 1.2 m and 0.24 m high	Clearing mound
6425	2	Piled basalt, subrounded to subangular cobbles and small boulders	Rock mound	1.7 X 1.4 m and 0.24 m high	Clearing mound
<b>Historic: Undetermined</b>					
<b>Site No.</b>	<b>Fe</b>	<b>Feature Construction</b>	<b>Form</b>	<b>Area/Dimensions (m)</b>	<b>Function</b>
6387	1	Road with retention terrace along the north edge fronting Kulanihakoi Gulch. Terrace consisted of nicely stacked small boulders with isolated naturally deposited boulder inclusions	Road	134 X 4 m; Stacking ranges from 3-8 stones high.	Transport
6388	1	Angular (mechanically broken up) rocks with discolored cortex suggest these rocks were buried prior to bulldozing of the area.	Rock Mound	1.5 X 1.1 m; stone piled 2-4 stones high	Clearing mound
6389	1	Most rocks have been mechanically altered; mounds constructed with angular (split) cobble to medium boulders	Rock Mound	5.0 X 1.6, height: 0.5 - 0.8 m	Clearing mound
6389	2	Most rocks have been mechanically altered; mounds constructed with angular (split) cobble to medium boulders	Rock Mound	3.0 X 2.0 m, height: 0.4-0.75 m	Clearing mound
6389	3	Most rocks have been mechanically altered; mounds constructed with angular (split) cobble to medium boulders	Rock Mound	3.0 X 2.0 m, height: 0.42-0.9 m	Clearing mound
6389	4	Part of road retention. Most rocks have been mechanically altered; mounds constructed with angular (split) cobble to medium boulders	Rock Mound	6.9 X 1.3 m, height: 0.7-0.8 m	Soil retention
<b>Pre-Contact: Historic Reuse</b>					
<b>Site No.</b>	<b>Fe</b>	<b>Feature Construction</b>	<b>Form</b>	<b>Area/Dimensions (m)</b>	<b>Function</b>
6412	7	Constructed of subangular to subrounded cobbles to small basalt boulders piles along the north and west and alignments to 2 stones wide along the south and east; This feature might have an earlier component but later used during military training	Enclosure	exterior: 2.5 X 3.7 X 0.2 m; interior: 2.0 X 2.5 X 0.3 m	Habitation / Gunner position; temp. habitation

Pre-Contact					
Site No.	Fe	Feature Construction	Form	Area/Dimensions (m)	Function
6389	1	Feature located on top of bedrock. Constructed with altered cobbles and small boulders with sediments within, possibly a clearing mound however this cannot be determined due to absence of other features; oddity compared to other mounds on project area	Rock Mound	2.0 X 1.5 m	Possible clearing mound
6405	2	Original construction is not known, currently the architecture consisted of crude piling and alignments; constructed of subrounded to subangular basalt cobbles and small boulders	Enclosure	4.3 X 3.5 X 0.3 m; interior: 3.7 X 2.5 X 0.22 m	Habitation
6405	3	Mostly disturbed, alignment with some crude piling; constructed of basalt cobbles and small to medium size basalt boulders	Enclosure	3.5 X 3.0 m; interior: 3.0 X 2.0 m	Habitation
6405	4	Appears to be a remnant of a low wall forming the south boundary of the site; a linear small to medium boulder concentration, a short section extends southward from the mid-section of the primary concentration to form a C-shape; constructed of subangular to subrounded small to medium sized basalt boulders	Wall	7.4 X 3.0, thickness: 0.4-1.8 m, height: 0.2-0.38 m	Boundary
6413	-	Basalt boulders and cobbles have been stacked to connect the cliff face with boulders that have fallen, forming a simple enclosure. Including a possible hearth, there are four petroglyph panels on the cliff face.	Rock shelter and modified outcrop with 4 petroglyph panels	(See below)	(See below)
6413	1	Fe-1 is a small ring of small basalt boulders in the center of Fe-1 under the drip line. It looks similar to a hearth however there is no charring or any other signs of fire. Shelter and modified outcrop; construction method is stacked basalt boulders and cobbles (0.50 - 1.5 m) the stacking connects the bedrock cliff face with large boulders that have fallen from the cliff making an enclosure; basalt cobbles and boulders, angular to subangular in shape	Rock shelter	exterior: 9.5 X 4.0 m height: 0.15 - 0.98m; interior: 4.0 X 4.0 m height: 0.23 - 2.78 m; 5 courses high in the eastern portion of the feature	Habitation

Pre-Contact					
Site No.	Fe	Feature Construction	Form	Area/Dimensions (m)	Function
6413	2	Consists of four panels of pre-historic rock art with petroglyphs (majority are pecked with some scratching) majority appear original, although some of the scratches (modifications) appear to have been added; pecked onto a north facing basalt wall	Possibly workshop, ceremonial, or communication	Panel 1: 1.20 X 2.0. Panel 2: 1.38 X 0.8 m, Panel 3: 1.95 X 2.0 m, Panel 4: 1.10 X 1.5 m	Ceremonial
6414		Overhang measures 9.5 X 5.7. The ceiling is low starting 2.5 m from the drip line. It measures 70 cm high towards the opening and about 50cm at the back. The area between the low ceiling and the drip line measures 3.3 m at the highest point. The interior is level silt in the back and slopes southeasterly where the ceiling is highest. Two petroglyphs are present. One on a boulder at the west end of the overhang and the other on the gulch's wall 3.3 m from the east edge of the overhang.	Rock shelter; Rock art	see feature description	Habitation
6414	1	Overhang measures. The ceiling is low starting 2.5 m from the drip line. It measures 70 cm high towards the opening and about 50cm at the back. The area between the low ceiling and the drip line measures 3.3 m at the highest point. The interior is level silt in the back and slopes southeasterly where the ceiling is highest. The slope continues for 4.0 m before dropping into the base of the gulch.	Overhang	9.5 X 5.7 X 0.50 - 0.70	Habitation
6414	2	Two petroglyphs are present, one is on a boulder at the west end of the overhang and the other is on the gulch's wall 3.3 m from the east edge of the overhang	Rock Art	Petroglyph 1: 0.28 X 0.22 m; Petroglyph 2: 0.28 X 0.16 m	Decorative; ceremonial
6415	1	Constructed of large cobbles to medium size boulders. The width ranges from two to several stones (3-5) depending on rock sizes. Several short segments are in good conditions	Trail	41.8 m long; 0.5-1.0 wide and 0.17-0.20 m high	Transport
6416	1	Mounded cobbles to small boulders. Most of the rocks covered with soils and plant remains; possibly a clearing	Rock Mound	3.3 X 3.1 m	Ag. Clearing
6419	1	Overhang with the entryway. Some charcoal scatter was observed on the surface, no detail recording due to	Overhang	Entryway: 3 m long, 0.60 m high and is about 5.0 m	Habitation

Pre-Contact					
Site No.	Fe	Feature Construction	Form	Area/Dimensions (m)	Function
		bee hives		deep	
6420		Fe-1 is a rockwall, Fe-2 petroglyphs; rock shelter part of basalt rock outcropping. The chamber also includes Fe-1 small basalt rock wall alignment built into the existing bedrock.	Rock shelter	Shelter: 11.0 X 6.0 and 4 m deep	Habitation
6420	1	Constructed of stacked rock along edge of existing natural bedrock, consisted of basalt small (less than 20 cm) to medium (20 - 40 cm) basalt boulders, several large (greater than 40 cm) basalt rocks	Alignment	1.41 X 0.90, thickness: 0.40 m; 3 courses high from existing rock wall for 1.3 m	Possible planting area
6420	2	2 petroglyphs were scratched and pecked on a basalt rock wall outcropping, angle of wall is generally east-facing.; Petroglyph 2 (stick figure) was pecked onto the rock panel and is not very deep or obvious without a close look, triangular figure scratched on rock with other small scratched lines nearby.	Rock Art	Petroglyph 1: 7 X 3 cm; petroglyph 2: 2-9cm X 7 cm	Decorative; ceremonial

For the most part, historic sites found during this work pertained to agriculture and military training activities. Overwhelmingly, the majority of Historic sites and features found during this work were rock mounds. Thirty-three features, distributed between 16 sites, were rock mounds. These mounds are typologically distinguished between agricultural mounds (i.e., field and pasture clearing) and military mounds. With few exceptions, agricultural mounds are distinguished by scars on boulders made by heavy equipment. In the absence of such markers, these mounds are also assumed agricultural due to their geographic proximity to other Historic agricultural features. Military mounds were interpreted based on their geographic proximity to other military features. For a complete list of mounds found during this work, refer to Appendix B.

Two mounds, Sites 6390 and 6416, were determined to relate to pre-Contact times. These sites were evaluated based on their form (in the case of 6390) and their proximity to other pre-Contact sites (in the case of 6416). Site 6390 was more formal than other mounds. Unlike rock mounds that are indiscriminately piled, the cobbles and boulders that make up Site 6390 were stacked and faced in some places. This single-feature site also lies atop a bedrock outcrop, rather than atop the ground surface. Such a distinction is unique among the mounds in this area.

This mound is further distinguished by aeolian soil deposits that have filled the open spaces between stones, indicating the site's antiquity. As this feature is so unique among the others identified on this lot, there is a high probability that this feature may yield significant Traditional deposits, including human remains. While Site 6416 is severely disturbed, its form is similar to 6390, and its potential for yielding similarly significant deposits is equally as high. Therefore, these sites are recommended for Data Recovery.

Sites 6387 and 6401 are historic roads that traverse the project area, moving generally *mauka-makai*. Site 6387 follows Kulanihakoi Gulch and gives access from Pi'ilani Highway to the upper reaches of the project area. Site 6401 is a unique single-feature site, with basalt stone alignments, or "curbs," running along both sides of the road. While the purpose of this unique component is not known, it is presumed to relate to military training exercises.

One unique Historic site deserving note was found in this lot. Site 6395 is a possible staging area, loading dock, or water tank platform. The form of this feature is unique, with a level floor constructed with gravel on one half and poured cement on the other half.

Features relating to military training activity are present throughout the project area. A total of 17 sites relate to military training on the parcel. Among these, 14 C-shaped structures, 1 enclosure, 5 mounds, 2 U-shaped structures, and 3 walls were identified. These features were loosely constructed and seem to have been built for one-time use. Unlike traditional structures, military features are structurally weak. Traditional-style C-shapes are neatly stacked and faced to several courses high, whereas the C-shapes and U-shapes documented here are usually a single course of stones arranged in a curved alignment. Several of these C-shapes and U-shapes display a depression in the center of the feature, where a training soldier might have lain armed with a weapon. Walls and enclosures associated with military use tend to be piled indiscriminately, rather than neatly stacked and faced. These features, like the C-shapes and U-shapes, were not built to withstand time and the elements, but rather for one time use in a training exercise.

The findings reported herein were generally congruent with expectations for the project area. While very few, if any, traditional sites were anticipated, eight traditional sites were newly documented within the project area. Six of these, however, are located within Kulanihakoi Gulch, where the environmental makeup is more hospitable to temporary habitation. A high density of military-related sites was documented here, which was not unexpected. Also, many historic agricultural features were documented, as anticipated.

## **SITE SIGNIFICANCE ASSESSMENTS AND RECOMMENDATIONS**

These sites have been evaluated for significance according to the criteria established for the Hawai'i State Register of Historic Places. The five criteria are presented below:

- Criterion A: Site is associated with events that have made a significant contribution to the broad patterns of our history
- Criterion B: Site is associated with the lives of persons significant to our past
- Criterion C: Site is an excellent site type; embodies distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual construction
- Criterion D: Site has yielded or has the potential to yield information important in prehistory or history
- Criterion E: Site has cultural significance to an ethnic group; examples include religious structures, burials, major traditional trails, and traditional cultural places

All of the sites identified during Inventory Survey are significant under Criterion D. Most of the sites (except for a few rock mounds and roads) have been thoroughly mapped and recorded.

Data Recovery is recommended for sites 6405 and 6412. These sites consist of mixed pre-Contact and military components, representing adaptive re-use of pre-existing sites in the area. While features within these sites have been interpreted as both military and pre-Contact, these mixed component sites necessitate further work in order to confirm their temporal interpretations as well as establish the extent of adaptive re-use.

Preservation is recommended for Sites 6390, 6413, 6414, 6415, 6416, 6419, and 6420. These sites represent Hawaiian traditional structures in the barren zone, where habitation is understood to have been limited and extremely temporary. These sites, therefore, are relatively uncommon and warrant Preservation, the degree of which shall be established in a Preservation Plan following this AIS, as per the guidelines of SHPD (§13-284-12 HAR). Furthermore, Sites 6413, 6414 and 6420 also contain petroglyphs, a feature type that typically calls for Preservation in any context and is certainly recommended here.

No further work is recommended for any agricultural mounds or miscellaneous Historic sites, including 6386, 6389, 6391 – 6403, 6406 – 6411, 6417, 6418 and 6421 as these have little potential for providing further data. The limited excavations that have occurred at military Sites 6403 and 6408 demonstrate the absence of cultural material in these subsurface deposits, a finding that is consistent with previous work in similar sites (especially McGerty *et al.* 2000). Therefore, no further work is recommended for military sites, with the exception of 6405 and 6412, as discussed above.

Due to the density of sites within the project area, and the archaeological data yielded—and the future potential for this land to yield additional data—Archeological Monitoring is recommended during any ground altering work planned for the parcel.

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**APPENDIX A: RADIOCARBON RESULTS**

Ms. Donna Shefcheck

Report Date: 7/20/2007

Scientific Consultant Services, Inc.

Material Received: 6/25/2007

Sample Data	Measured Radiocarbon Age	$^{13}\text{C}/^{12}\text{C}$ Ratio	Conventional Radiocarbon Age(*)
Beta - 232006 SAMPLE : SCSRC541 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 1490 to 1670 (Cal BP 460 to 280) AND Cal AD 1780 to 1790 (Cal BP 160 to 160)	270 +/- 40 BP	-24.5 o/oo	280 +/- 40 BP

## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.5:lab.mult=1)

Laboratory number: **Beta-232006**

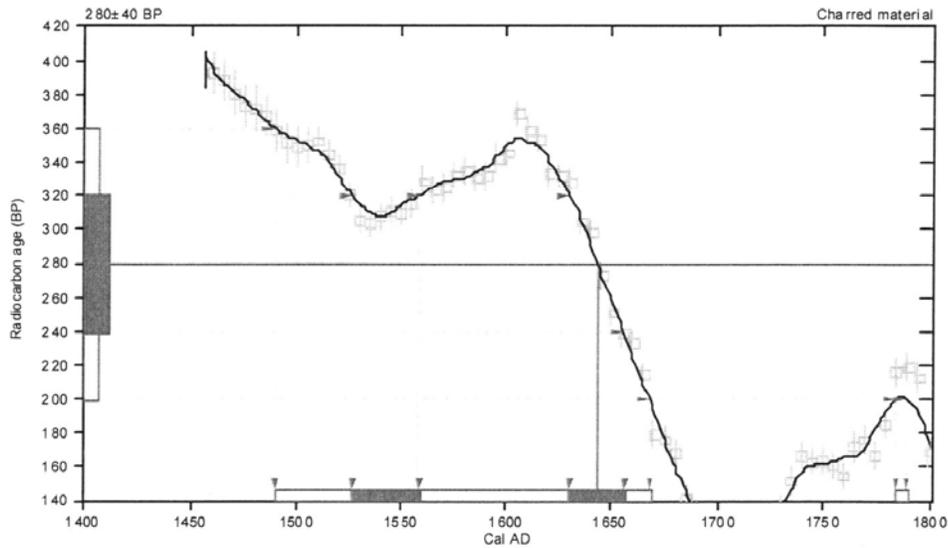
Conventional radiocarbon age: **280±40 BP**

**2 Sigma calibrated results:** Cal AD 1490 to 1670 (Cal BP 460 to 280) and  
(95% probability) Cal AD 1780 to 1790 (Cal BP 160 to 160)

Intercept data

Intercept of radiocarbon age  
with calibration curve: Cal AD 1640 (Cal BP 310)

**1 Sigma calibrated results:** Cal AD 1530 to 1560 (Cal BP 420 to 390) and  
(68% probability) Cal AD 1630 to 1660 (Cal BP 320 to 290)



### References:

*Database used*  
INTCAL04

*Calibration Database*

INTCAL04 Radiocarbon Age Calibration

IntCal04: Calibration Issue of Radiocarbon (Volume 46, nr 3, 2004).

*Mathematics*

*A Simplified Approach to Calibrating C14 Dates*

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35 (2), p317-322

## Beta Analytic Radiocarbon Dating Laboratory

4985 S.W. 74th Court, Miami, Florida 33155 • Tel: (305) 667-5167 • Fax: (305) 663-0964 • E-Mail: beta@radiocarbon.com

**APPENDIX B: SITE DATA**

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6386	1	Military	Agricultural; possibly Military Related	Rock Mound	Historic	Nearly circular shape, constructed of mostly angular small to medium sized boulders	1.7 X 1.5 m, 0.45 m tall; west side is 2 courses high	No further work
6387	1	Historic Misc.	Transportation	Road	Historic	Road with retention terrace along the north edge fronting Kulanihakoi Gulch. Terrace consisted of nicely stacked small boulders with isolated naturally deposited boulder inclusions	134 X 4 m; Stacking ranges from 3-8 stones high.	No further work
6388	1	Historic Misc.	Undetermined	Rock Mound	Historic	Angular (mechanically broken up) rocks with discolored cortex suggests these rocks were buried prior to bulldozing of the area.	1.5 X 1.1 m; stone piled 2-4 stones high	No further work
6389	1	Historic Misc.	Undetermined	Rock Mound	Historic	Most rocks have been mechanically altered; mounds constructed with angular (split) cobble to medium boulders	5.0 X 1.6, height: 0.5 - 0.8 m	No further work
6389	2	Historic Misc.	Undetermined	Rock Mound	Historic	Most rocks have been mechanically altered; mounds constructed with angular (split) cobble to medium boulders	3.0 X 2.0 m, height: 0.4-0.75 m	No further work
6389	3	Historic Misc.	Undetermined	Rock Mound	Historic	Most rocks have been mechanically altered; mounds constructed with angular (split) cobble to medium boulders	3.0 X 2.0 m, height: 0.42-0.9 m	No further work
6389	4	Historic Misc.	Undetermined	Rock Mound	Historic	Part of a road retention. Most rocks have been mechanically altered; mounds constructed with angular (split) cobble to medium boulders	6.9 X 1.3 m, height: 0.7-0.8 m	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6390	1	pre-Contact	Agricultural	Rock Mound	Possibly pre-Contact	Feature located on top of bedrock. Constructed with altered cobbles and small boulders with sediments within, possibly a clearing mound however this cannot be determined due to absence of other features; oddity compared to other mounds on project area	2.0 X 1.5 m	No further work
6391	1	Military	Military Training Related	C-shape	Historic	C-shape located 11 m from North boundary. Constructed of small to medium subangular to subrounded boulders, also has naturally deposited rock inclusions. Neatly piled to form architecture along N and E sides. W and S sides are open	5.0 X 4.1 m	No further work
6392	1	Historic Agriculture	Agricultural/Undetermined	Rock Mound	Historic	Constructed with large cobbles to small boulders. Top of feature is relatively flat. Most stones had been broken up and are now mostly angular with some subrounded. Feature is oval shaped	1.7 X 1.3 m	No further work
6393		Historic Agriculture	Agricultural/Undetermined	Rock Mound	Historic	It appears an old road extends along the north side of Fe-3 and extends northwesterly between Fe-1 and Fe-2. A dried channel extends southwesterly about 5 meters north and west of Fe-1	40 X 30 m	No further work
6393	1	Historic Agriculture	Agricultural/Undetermined	Rock Mound	Historic	Angular (mechanically altered) basalt piled	2.6 X 1.6 height: 0.55 m	"

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6393	2	Historic Agriculture	Agricultural/ Undetermined	Rock Mound	Historic	Angular (mechanically altered) basalt mostly piled; but its faced at southwest side	3.5 X 2.0 height: 0.55-0.8 m; 3-4 courses high	"
6393	3	Historic Agriculture	Agricultural/ Undetermined	Rock Mound	Historic	Angular (mechanically altered) basalt piled	2.3 X 2.0 height: 0.46 m	"
6394	1	Military	Possibly Military Related	Linear Mound	Historic	Roughly 30-40 m north of the existing dirt road	4.5 X 4.0 m	No further work
6395	1	Historic Misc.	Undetermined	Terrace/Retention Wall	Historic	Retention wall at east end is partially concrete paved. Terrace continues westerly, however, this portion is stacked and faced with small boulder, but no concrete is involved. Appears to be an area where gravel was stock piled.	11.0 X 1.4 m; height: 0.67-1.47 m; facing is 3-5 courses	No further work
6396	1	Military	Military Training Related	U-shape	Historic	Constructed with small to medium boulders. Single stone high; the interior is level soil	1.69 X 1.54 m	No further work
6397	1	Military	Military Training Related	C-shape	Historic	Construction materials range from small cobbles to small boulders. Interior is slightly depressed. A lot of exposed bedrock in the surrounding area	2.4 X 1.8 m	No further work
6398	1	Historic Misc.	Possible Pet Burial	Linear Mound with possible epitaph on wood marker	Historic	All stones are newly piled and the wooden marker is a piece treated wood; a small area measuring 80 X 50 cm is slightly depressed suggesting the presence of a pit; size suggestive of animal burial.	2.8 X 1.6	

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6399	1	Historic Misc.	Undetermined; Possibly Military Related	Linear short Mound	Historic	A rather short linear mound resembles a short wall segment, but no facing. Broken cobbles from bulldozing are present at the northeast side of the feature. Angular broken rocks are included on the construction	2.9 X 0.56 m; all stones area piled 1-2 stones high	No further work
6400	1	Military	Military Training Related	U-shape possible fox hole	Historic	A U-shaped feature constricted with subrounded small and medium sized boulders. Stacked along the east and portions of north and south, the west end is open. The interior is excavated to 30 cm below the base of the architectural stones. Similar to other sites; located to the northeast of T-4 on the north side of the first branch of Kulanihakoi Gulch	2.3 X 2.1 m	No further work
6401	1	Historic Misc.	Transportation	Road	Historic	An old road of undetermined length. Curbstone line both north and south sides. Curbstones include single small to large boulder alignments, but portion also consisted of piled small to large boulders. A small portion reveals some cobbles and gravel deposit, which probably represents the original road surface.	undetermined	No further work
6402	1	Military	Probably Associated with Military Training	Wall	Historic	Low crude wall extending along the south edge of the ridge for 19.0 m, constructed with subangular to subrounded cobbles and small boulders.	20.2 X 0.2-0.8 m	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
						Constructed very rough with most stones crudely piled and certain portions consisted of stone alignments.		
6403		Military	Military Training Related	(See below)	Historic	(See below)	(See below)	(See below)
6403	1	Military	Military Training Related	C-shape	Historic	Mostly piled along the east and west. Some stacking along the north (downslope) side. The south end is open and the interior is level soil; constructed of subangular to subrounded small to medium sized basalt boulders.	exterior 3.8 X 3.2 m height: 0.55 m ; interior: 2.0 X 2.4 m height: 0.34 m; stacked 2-4 courses high on downslope (north) portion	No further work
6403	2	Military	Military Training Related	C-shape	Historic	Alignment to 2 stones high constructed of subangular to subrounded basalt boulders	exterior: 1.8 X 1.8 X 0.35 m; interior: 1.3 X 1.3 (stacked 2 courses high	No further work
6403	3	Military	Military Training Related	Linear Mound	Historic	Small to medium sized boulders piled to form a linear mound, pile is on top of exposed bedrock, constructed of subangular to subrounded basalt	1.6 X 0.8 X 0.34; interior: 0.2 m	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6403	4	Military	Military Training Related	C-shape	Historic	Small boulders alignment with bedrock inclusions. Stones are arranged to form C-shape. The interior is mostly exposed bedrock with some soil, constructed of angular to subrounded small basalt boulders	2.0 X 1.4 X 0.3 m; interior: 1.5 X 1.2 X 0.32 m	No further work
6405	-	Historic Misc.	Habitational/ Military Training Related	(See below)	Pre-Contact/ Historic	Basalt flakes are scattered within poriton of the site; site consisted of 4 features as well as lithic scatter. Fe-1 is similar to a lot of features thought to be associated with military training	(See below)	(See below)
6405	1	Military	Military Training Related	C-shape	Historic	Piled large cobbles and small boulders with 1 large boulder inclusion near the northeastern corner of the feature; composed of subangular and subrounded basalt cobbles and boulders	3.5 X 3.0 X 0.25; interior: 2.8 X 2.0 X 0.4 m	No further work
6405	2	pre-Contact	Habitational	Enclosure	pre-Contact	Original construction is not known, currently the architecture consisted of crude piling and alighments; constructed of subrounded to subangular basalt cobbles and small boulders; Looks a lot earlier than possilby military Fe-1 and Features at T-18 just west of the site	4.3 X 3.5 X 0.3 m ; interior: 3.7 X 2.5 X 0.22 m	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6405	3	pre-Contact	Habitational	Enclosure	pre-Contact	Mostly disturbed, alignment with some crude piling; constructed of basalt cobbles and small to medium size basalt boulders	3.5 X 3.0; interior: 3.0 X 2.0 m	No further work
6405	4	pre-Contact	Habitational/ workshop	Wall	pre-Contact	appears to be a remnant of a low wall forming the south boundary of the site; a linear small to medium boulder concentraion, a short section extends southward from the mid-section of the primary concentration to form a C-shape. However the original shape is difficult to be certain due to extensive erosion; constructed of subangular to subrounded small to medium sized basalt boulders	7.4 X 3.0, thickness: 0.4-1.8 m, height: 0.2-0.38 m	No further work
6406	1 & 2	Historic Agriculture	Agricultural/ Clearing for the ranch	Rock Mounds	Historic	All material used in the construction invlove mechanically split stones	6.75 X 5.0 m	No further work
6407	1	Historic Misc.	Possibly Associated with Military	Rock Mound	Historic	Linear rock mound constructed with subangular cobbles and small to medium size boulders. No stacking, the eastern half of this feature is on top of bedrock.	9.0 X 0.3-0.8 m	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6408		Military	Possibly Associated with Military	(See below)	Historic	Located on west edge of very low ridge, approximately 100 m south of Kulanihakoi gulch	22.5 X 17.0 m	No further work
6408	1	Military	Undetermined; Possibly Military Related	Enclosure	Historic	Constructed of small to medium size subangular and subrounded basalt boulders. some stacking along the northeast and southeast sides, the rest is mostly piled. Small opening on the west side	3.0 X 3.0 height: 0.18 - 0.30 interior: 0.32 - 0.44m diameter: 2.0 m; where stacking 2-3 courses high	No further work
6408	2	Military	Military Training Related	C-shape	Historic	constructed of small to medium subangular and subrounded basalt boulders, all piled into concentration, most of the interior is exposed bedrock	6.0 X 3.2 m; height: 0.2-0.26 m interior: 0.12 - 0.22 m	No further work
6408	3	Military	Military Training Related	Linear Rock Mound	Historic	Constructed of subangular and subrounded small and medium basalt boulders piled	2.0 X 0.6 m; height: 0.2-0.35 m	No further work
6408	4	Military	Military Training Related	Linear Rock Mound	Historic	Constructed of subangular and subrounded, small to medium size basalt boulders piled to form linear concentration	9.5 X 1.6 m; height: 0.2-0.46 m	No further work
6408	5	Military	Military Training Related	C-shape	Historic	Constructed of small to medium subangular and subrounded basalt boulders. The interior contains scattered cobbles but otherwise relatively level. Stones are piled neatly to form a C-Shape	exterior: 3.6 X 2.3 X 0.1-0.3 m, interior: 2.3 X 1.7 m X 0.5-0.3 m	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
						structrue and it is ope to the southwest		
6409	1	Military	Military Training Related	L-shape	Historic	L-hape alignment with a rectangular depression extending northeasterly from the alignment. This feature is constructed with large cobbles and small boulders. An alignment at the west end with more piling towards the east. The depression is eastern	1.6 X 1.8 m	No further work
6410		Military	Military Training Related	(See below)	Historic	(See below)	9.8 X 2.6 m	No further work
6410	1	Military	Military Training Related	C-shape	Historic	contructed of angular and subangular cobbles and small basalt boulder that are neatly piled to form a C-shape; south boundary is not defined therefore the interior dimensions are estimated based on the extent of the architecture	3.8 X ~2.0 X 0.24 m; interior: ~2.0 X ~1.0 X 0.30 m	No further work
6410	2	Military	Military Training Related	C-shape	Historic	constructed of angular to subrounded cobbles and small basalt boulders piled to form a C-shape. The interior is mostly exposed bedrock and is very rugged. South boundary is not definedtherefore the interior	exterior: 4.0 X 2.6 X 0.3 m; interior: ~2.1 X 1.6 X 0.24 m	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
						dimensions are estimated based on the extent of the architecture		
6411		Historic Misc.	(See below)	(See below)	(See below)	(See below)	(See below)	(See below)
6411	1	Historic Misc.	Possibly Agricultural	Rock Mound	Undetermined	Constructed of basalt subangular to subrounded cobbles to medium size boulders piled. No stacking or facing	2.1 X 2.0 height: 0.26 - 0.34 m	No further work
6411	2	Military	Possibly Associated with Military Training	Wall	Historic	Mostly alignment, portions of piled small boulders and also portions that are 2-3 stones high; this feature extends from the top of the north facing slope of the edge on which Fe-1 is located. It extends north along the flood plain between the ridge and Kulanihakoi gulch. It ends about 9 m south of the existing waterway of the gulch	35.0 X 0.2 - 0.6 m height: 0.58 m where coarsing: 2-3 stones	No further work
6412		Military	Possibly Associated with Military Training	(See below)	Historic	The area around Features 1-3 had been greatly affected by erosion. Grass cover in this area is rather sparse and contains lots of gravel	(See below)	(See below)

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6412	1	Military	Possibly Associated with Military Training	C-shape	Undetermined; possibly historic	Constructed of basalt subangular to subrounded cobbles and small to medium size boulders are piled to form a C-shape	Exterior: 3.7 X 3.0 X 0.2 m; interior: 2.7 X 2.4 X 0.2 m	No further work
6412	2	Military	Possibly Associated with Military Training	L-shape	Undetermined; possibly historic	Constructed of alignments of small subangular to subrounded basalt boulders; the interior of the feature had been extensively eroded. All sediments had been eroded out to a point where the verticle extent of the architecture is completely exposed, no cultural materials were associated with eroded portion	exterior: 3.2 X 2.3 X 0.2 m; interior: undetermined; interior height: 0.26-0.37 m	No further work
6412	3	Military	Possibly Associated with Military Training	C-shape	Undetermined; possibly historic	Composed of subangular and subrounded cobbles and small basalt boulders piled to form a C-shape; the interior has been eroded, culturally sterile	3.0 X 1.7 X 0.2 m interior height: 0.15 m	No further work
6412	4	Military	Possibly Associated with Military Training	L-shape	Undetermined; possibly historic	Constructed of small to medium sized subangular to subrounded basalt boulders piled to form the architectural feature; the interior is relatively level, however, there are some exposed bedrock	3.5 X 1.5 X 0.5 m	No further work
6412	5	Military	Possibly Associated with Military Training	C-shape	Undetermined; possibly historic	Constructed of subangular to subrounded small to medium size basalt boulders piled to form a linear structure along the north with three boulder alignments extending south off	6.5 X 3.0 X 0.56 m	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
						of the main structure to form 2 adjoining c-shapes		
6412	6	Historic Misc.	Undetermined	Alignment	Undetermined; possibly historic	Constructed of medium to large, subangular to subrounded basalt boulder alignments	length: 4.0 m , height: 0.25 m	No further work
6412	7	pre-Contact and Historic	Undetermined	Enclosure	possibly pre-Contact and historic	Constructed of subangular to subrounded cobbles to small basalt boulders piles along the north and west and alignments to 2 stones wide along the south and east; This feature might have an earlier component but later used during military training	exterior: 2.5 X 3.7 X 0.2 m; interior: 2.0 X 2.5 X 0.3 m	No further work
6413		pre-Contact	Temporary shelter	rock shelter and modified outcrop with 4 petroglyph panels	Pre-Contact & Historic	Basalt boulders and cobbles have been stacked to connect the cliff face with boulders that hae fallen, forming a simple enclosure. In the middle of this is a small pile of rocks, resembling a hearth however there is no sign of fire, there are four petroglyph panels on the cliff face. Most of the petroglyphs are antropomorphs and have been pecked. There are a few unidentifiable figures and there is some scratching	(See below)	(See below)

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6413	1	pre-Contact	Temporary shelter	Rock Shelter	pre-Contact	Fe-1 is a small ring of small basalt boulders in the center of Fe-1 under the dripline. It looks similar to a hearth however there is no charring or any other signs of fire. Shelter and modified outcrop the construction method is stacked basalt boulders and cobbles (0.50 - 1.5 m) the stacking connects the bedrock cliff face with large boulders that have fallen from the cliff making an enclosure; basalt cobbles and boulders, angular to subangular in shape	exterior: 9.5 X 4.0 m height: 0.15 - 0.98m; interior: 4.0 X 4.0 m height: 0.23 - 2.78 m; 5 courses high in the eastern portion of the feature	candidate for preservation
6413	2	pre-Contact	Rock Art	possibly workshop, ceremonial, or communication	Pre-Contact & Historic	Consists of four panels of pre-historic rock art with petroglyphs (majority are pecked with some scratching) majority appear original, although some of the scratches (modifications) appear to have been added; pecked onto a north facing basalt wall	Panel 1: 1.20 X 2.0. Panel 2: 1.38 X 0.8 m, Panel 3: 1.95 X 2.0 m, Panel 4: 1.10 X 1.5 m	candidate for preservation

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6414		pre-Contact	Temporary Habitational	temporary	pre-Contact	Overhang measures 9.5 X 5.7. The ceiling is low starting 2.5 m from the dripline. It measures 70 cm high towards the opening and about 50cm at the back. The area between the low ceiling and the dripline measures 3.3 m at the highest point. The interior is level silt in the back and slopes southeasterly where the ceiling is highest. The slope continues for 4.0 m before dropping into the base of the gulch. two petroglyphs are present. One is on a boulder at the west end of the overhang and the other is on the gulch's wall 3.3 m from the east edge of the overhang.	see feature description	
6414	1	pre-Contact	Temporary Habitational	Overhang	pre-Contact	Overhang measures 9.5 X 5.7. The ceiling is low starting 2.5 m from the dripline. It measures 70 cm high towards the opening and about 50cm at the back. The area between the low ceiling and the dripline measures 3.3 m at the highest point. The interior is level silt in the back and slopes southeasterly where the ceiling is highest. The slope continues for 4.0 m before dropping into the base of the gulch.	see feature description	

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6414	2	pre-Contact	Rock Art	Communication	pre-Contact	Two petroglyphs are present, one is on a boulder at the west end of the overhang and the other is on the gulch's wall 3.3 m from the east edge of the overhang	Petroglyph 1: 0.28 X 0.22 m; Petroglyph 2: 0.28 X 0.16 m	
6415	1	pre-Contact	Travel Path	Trail	pre-Contact	Constructed of large cobbles to medium size boulders. The width ranges from two to several stones (3-5) depending on rock sizes. Several short segments are in good conditions	41.8 m long; 0.5-1.0 wide and 0.17-0.20 m high	
6416	1	pre-Contact	Agricultural	Rock Mound	pre-Contact	Mounded cobbles to small boulders. Most of the rocks covered with soils and plant remains; possibly a clearing	3.3 X 3.1 m	
6417	1	Historic Misc.	Agricultural/ Possibly Military Related	Wall	Undetermined	The site is an L-Shaped low wall constructed with subrounded and subangular small boulders. There are also isolated large boulder inclusions. An area of level soils along the southwest appears to be an old road way, however, the impact of erosion makes it difficult to verify this possible use. Possibly remnants of a garden area or possibly	17.1 X 7.2 m	

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
						associated with military activities given the number of surrounding sites		
6418		Historic Misc.	Agricultural	(See below)	Undetermined	Site is located at the southwest end of facing slope of Kalanihakoi gulch near the north east edge of the project. Fe-1 is a low wall partially faced and poritons consisted of single medium to small boulders that are placed in upright positions, fundtion is not known, but possibly used to demarcating a garden area. The area upslope of the wall is very rocky with much alterations. FE-2 is a terrace in a narrow drainage and was obviously placed there for water flow control	56.0 X 9.0 m	(See below)
6418	1	Historic Misc.	Agricultural	Wall	Undetermined	Constructed of partially stacked, faced, single stone high in places. Composed of basalt cobbles to large angular and subrounded boulder inclusions	56.0 X 0.2-0.8 m height: 0.2 - 0.5 m; 3-5 courses high	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6418	2	Historic Misc.	Agricultural	Terrace	Undetermined	Constructed of stacked and faced basalt medium subangular boulders	2.2 X 0.2 X 0.6 m 3-5 courses high	No further work
6419	1	pre-Contact	Temporary Habitation	Overhang	pre-Contact	Site is an overhang with the entryway. Some charcoal scatter was observed on the surface, no detail recording due to bee hives	Entryway: 3 m long, 0.60 m high and is about 5.0 m deep	
6420		pre-Contact	Temporary Habitation	(See below)	pre-Contact	Fe-1 is a rockwall, Fe-2 is petroglyphs; rock shelter is part of a basalt rock outcropping which faces generally south. The east end has a chamber with exposed bedrock at 4 m deep. The chamber also includes Fe-1 which is a small basalt rock wall alignment which appears to have built into the existing bedrock. Sediment has filled in from above at the western end, just beyond the overhand, there are 2 petroglyphs (Fe-2) First image is pecked stick figure. Second is a scratched figure with a triangular body, both are faint. No artifacts noted on the	Shelter: 11.0 X 6.0 and 4 m deep	Candidate for preservation

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
						surface or in Test unit		
6420	1	pre-Contact	Undetermined	Alignment	pre-Contact	Constructed of stacked rock along edge of existing natural bedrock, consisted of basalt small (less than 20 cm) to medium (20 - 40 cm) basalt boulders, several large (greater than 40 cm) basalt rocks	1.41 X 0.90, thickness: 0.40 m; 3 courses high from existing rock wall for 1.3 m	Candidate for preservation
6420	2	pre-Contact	Communication	Rock Art	pre-Contact	2 petroglyphs were scratched and pecked on a basalt rock wall outcropping, angle of wall is generally east-facing. Pecking tool was not located; Petroglyph 2 (stick figure) was pecked onto the rock panel and is not very deep or obvious without a close look, triangular figure has been scratched on the rock with some other small scratched lines nearby it, it's hard to determine if these scratches are original	Petroglyph 1: 7 X 3 cm; petroglyph 2: 2-9cm X 7 cm	Candidate for preservation
6421	1	Military	Possibly Associated with Military	Wall	Historic	Constructed of subrounded cobbles and small boulders as well as large naturally deposited boulders. Abuts the south bank of an old natural waterway. An old road crosses the gulch just to the northeast	7.0 X 1.5 m; ranges from 1 - 4 courses high	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
						of the site		
6422		Historic Misc.	Undetermined	Rock mounds	Historic	All features are of mechanically altered basalt (angular shape) they are similar to other sites (6387, 7, and 8) in the area. Purpose of mounds is not known except associated with the most recent land alteration activities in the area	25.3 m long	No further work
6422	1	Historic Misc.	Undetermined	Rock mound	Historic	"	1.2 in diameter and 4 m high	No further work
6422	2	Historic Misc.	Undetermined	Rock mound	Historic	"	1.8 X 1.1 m and 0.37 m high	No further work
6422	3	Historic Misc.	Undetermined	Rock mound	Historic	"	1.3 X 0.9 m and 0.4 m high	No further work
6422	4	Historic Misc.	Undetermined	Rock mound	Historic	"	1.1 X 0.7 m and 0.26 m high	No further work
6422	5	Historic Misc.	Undetermined	Rock mound	Historic	"	1.7 S 0.8 m and 0.3 m high	No further work
6423		Historic Agriculture	Possibly Clearing for Cattle	Rock Mounds	Historic	Consisted of 3 historic rock mounds located on a low ridge between the existing road and		No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
						the south boundary fence. Comprised of mechanically altered small boulders. Purposefully piled mounds; but purpose is unknown		
6423	1	Historic Agriculture	Possibly Clearing for Cattle	Rock mound	Historic	"	2.6 X 1.4 m and 0.4 m high	No further work
6423	2	Historic Agriculture	Possibly Clearing for Cattle	Rock mound	Historic	"	2.0 X 1.3 m and 0.24 m high	No further work
6423	3	Historic Agriculture	Possibly Clearing for Cattle	Rock mound	Historic	"	2.26 X 0.9 m and 0.3 m high	No further work
6424	1	Historic Agriculture	Related to ranching	Rock Mound	Historic	Single historic linear mound located about 40 m northwest of site T-37 Both are on the same northwest ridge between the access road and the south boundary fence consists of broken up stones (angular)	1.8 X 1.0 m and 0.4 m high	No further work
6425		Historic Agriculture	Clearing	Rock Mounds	Historic	consisted of two rock mounds located about 70 m north of the existing access road. Consisted of subrounded to subangular large cobbles and small boulders;	(See below)	(See below)
6425	1	Historic Agriculture	Clearing	Rock mound	Historic	Piled, basalt subrounded to subangular cobbles and small boulders; the water channels probably started off as cattle trails	1.8 X 1.2 m and 0.24 m high	No further work

Site No.	Fe	Feature Type	Feature Use	Feature Type	Possible Site Age	Feature Description	Feature Dimensions (m)	Recommendation
6425	2	Historic Agriculture	Clearing	Rock mound	Historic	Piled, basalt subrounded to subangular cobbles and small boulders	1.7 X 1.4 m and 0.24 m high	No further work
6426	1	Military	Military Training Related	C-shape	Historic	Constructed of subangular and subrounded small boulders with some bedrock inclusion at the north end. The feature opens to the southwest which consisted of a boulder alignment and boulder pile (2 stones wide) along the east side. Interior is level soil with some exposed bedrock.		



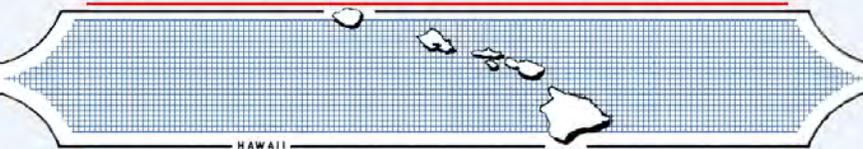
**APPENDIX H**  
**Archaeological Monitoring Plan dated July 2011 with**  
**SHPD acceptance letter dated August 2011**

**AN ARCHAEOLOGICAL MONITORING PLAN FOR  
THE KAONOULU MARKETPLACE PROJECT  
LOCATED IN KĪHEI,  
KA`ONO`ULU AHUPUA`A, MAKAWAO DISTRICT,  
MAUI ISLAND, HAWAII  
[TMK: 3-9-01:16 and (2) 2-2-002:015 por.]**

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July 2011  
**FINAL**

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## INTRODUCTION

At the request of Mr. Charlie Jencks of Pacific Rim Land, Scientific Consultant Services, Inc. (SCS) prepared this Archaeological Monitoring Plan in advance of grading and construction on an 88-acre parcel of land (Pi`ilani Promenade South, LLC., majority landowner) located in Kīhei, Ka`ono`ulu Ahupua`a, Wailuku and Makawao Districts, Maui Island, Hawai`i [TMK: 3-9-01:16 and 2-2-02: 015 por.] (Figures 1 through 5). Proposed development on this lot consists of a master planned project district with an integrated concept, whereby land use will be organized around a commercial and mixed-use village center to serve these planned neighborhoods. A combination of commercial, light industrial, residential, recreational and public/quasi-public uses is anticipated as part of the project area's land use.

The subject parcel has undergone Inventory Survey in the past by Fredericksen *et al.* (1994). A portion of the project area was studied by Shefcheck *et al.* (2008). Archaeological Monitoring was recommended by the State Historic Preservation Division (SHPD) in a letter dated March 7, 2011 (Log No.:2011.0536; Doc No.:1103MD05). This AMP will be in effect for all ground altering activities and planned construction related activities for the marketplace project.

Archaeological Monitoring “shall entail the archaeological observation of, and possibly intervention with, on-going activities which may adversely affect historic properties” (§13-279-4, HAR). Monitoring will ensure that significant cultural resources, if identified on the property, are documented through profiles and plan view maps, possibly sampled through excavation of exposed features, and evaluated for their historical significance. This Monitoring Plan will also ensure that if human remains are identified during subsurface work, appropriate and lawful protocol concerning the Inadvertant Discovery of Human Remains (pursuant to §13-300-40a, b, c, HAR) is followed. As will be made aware to the construction team, the archaeological Monitor has the authority to halt any ground disturbing activities during this project in the immediate area of a find in order to appropriately carry out the provisions of this plan.

This AMP will require the approval of the State Historic Preservation Division (SHPD) prior to any land altering activities on the parcel. The following text provides more detailed information on the reasons for monitoring, potential site types to be encountered during excavation, monitoring conventions and methodology for both field and laboratory work, and discusses curation and reporting of cultural material recovered.

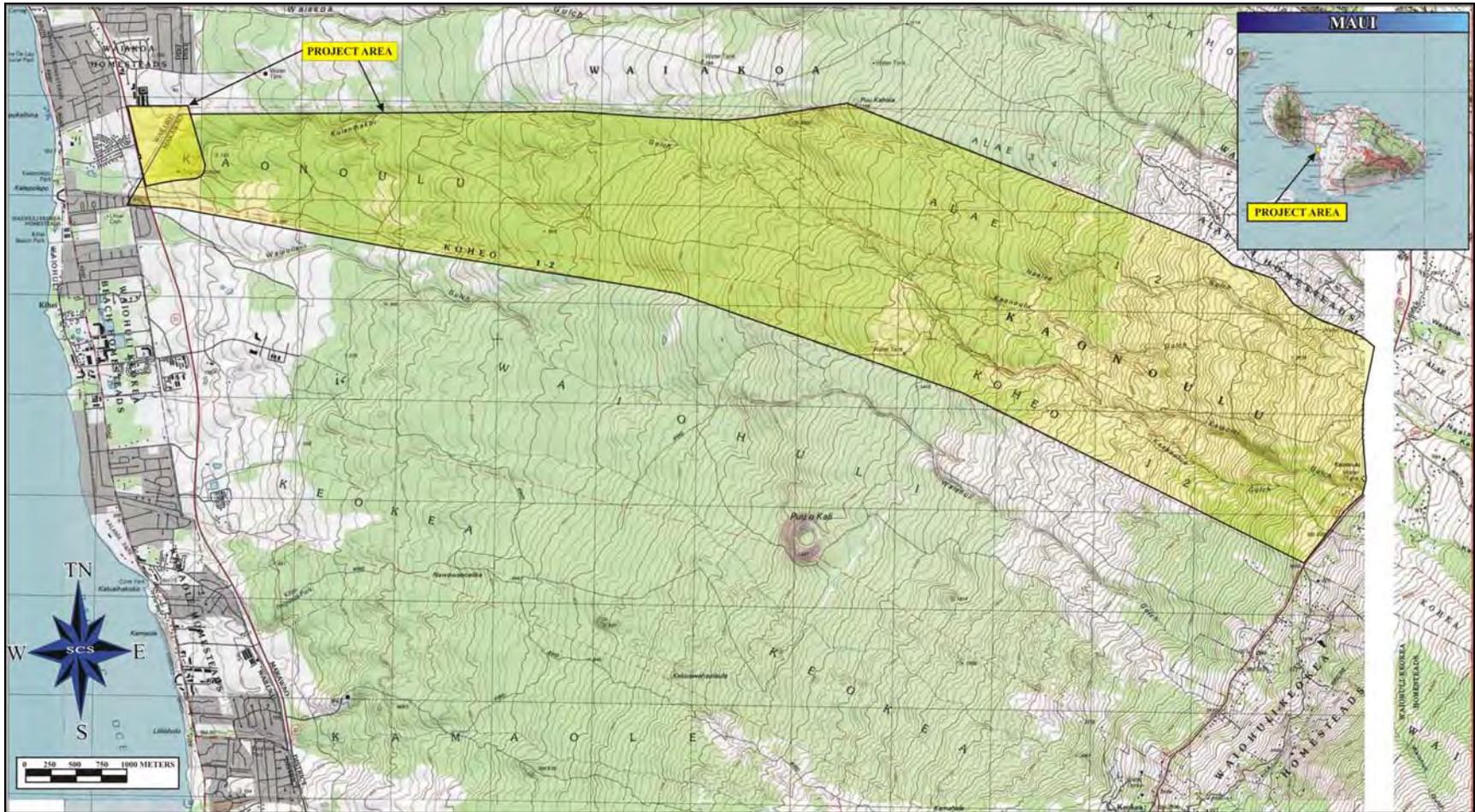


Figure 1: USGS Pu`u O Kali Quadrangle Showing the Project Area.

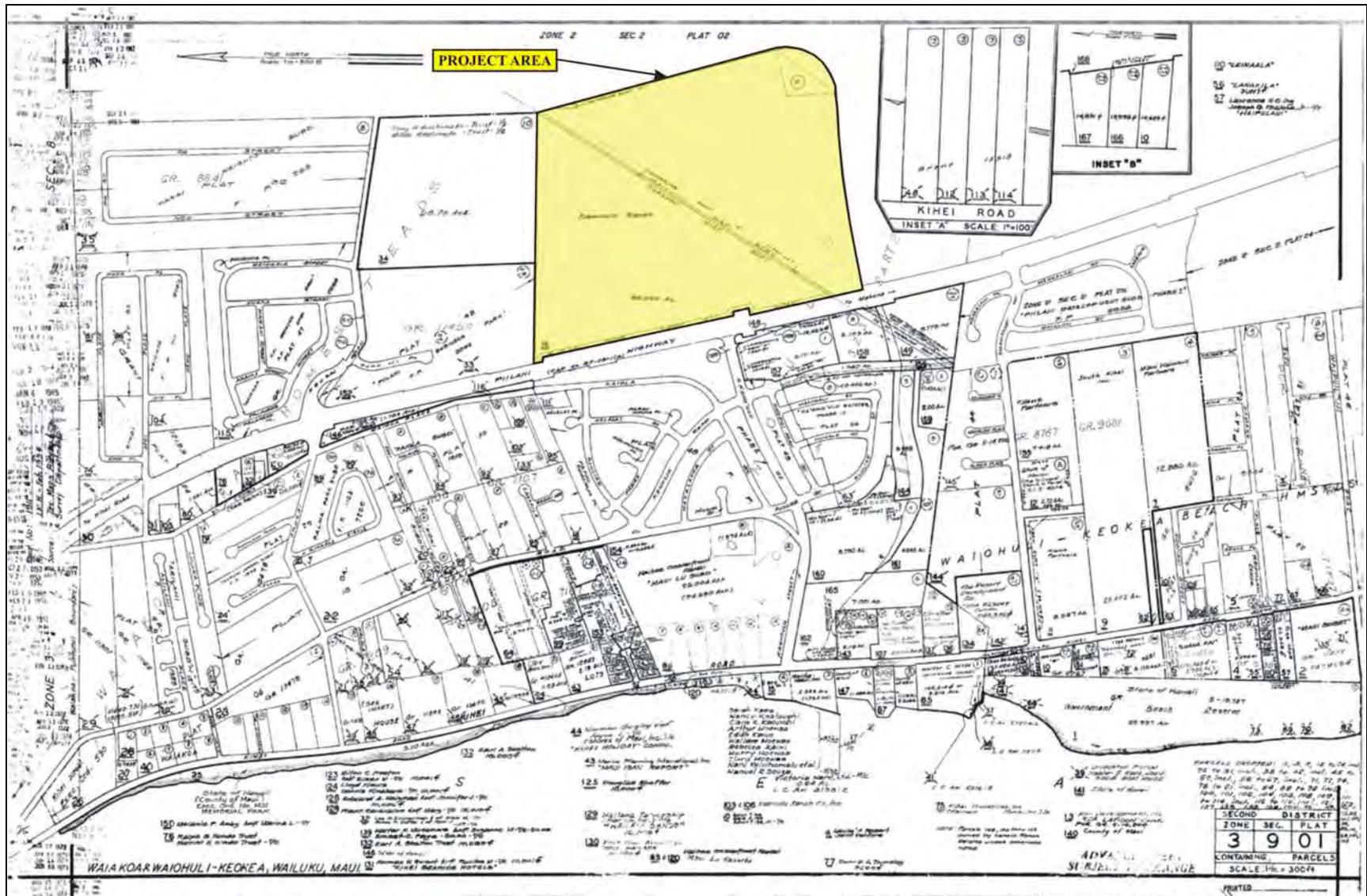


Figure 2: Tax Map Key [TMK] Showing the Project Area as a Portion of Lot 15.

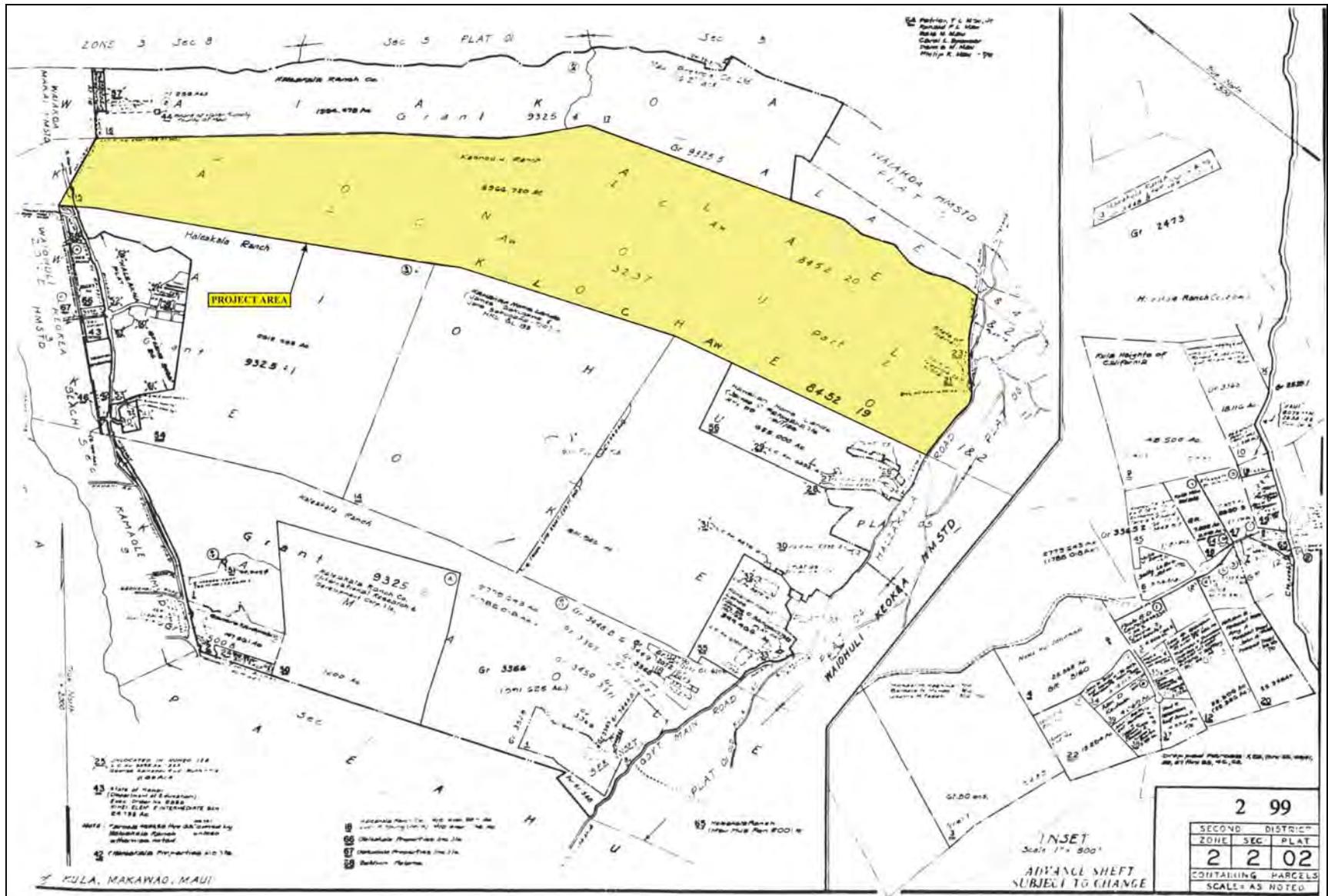


Figure 3: Tax Map Key [TMK] Showing the Project Area not Included in Figure 2

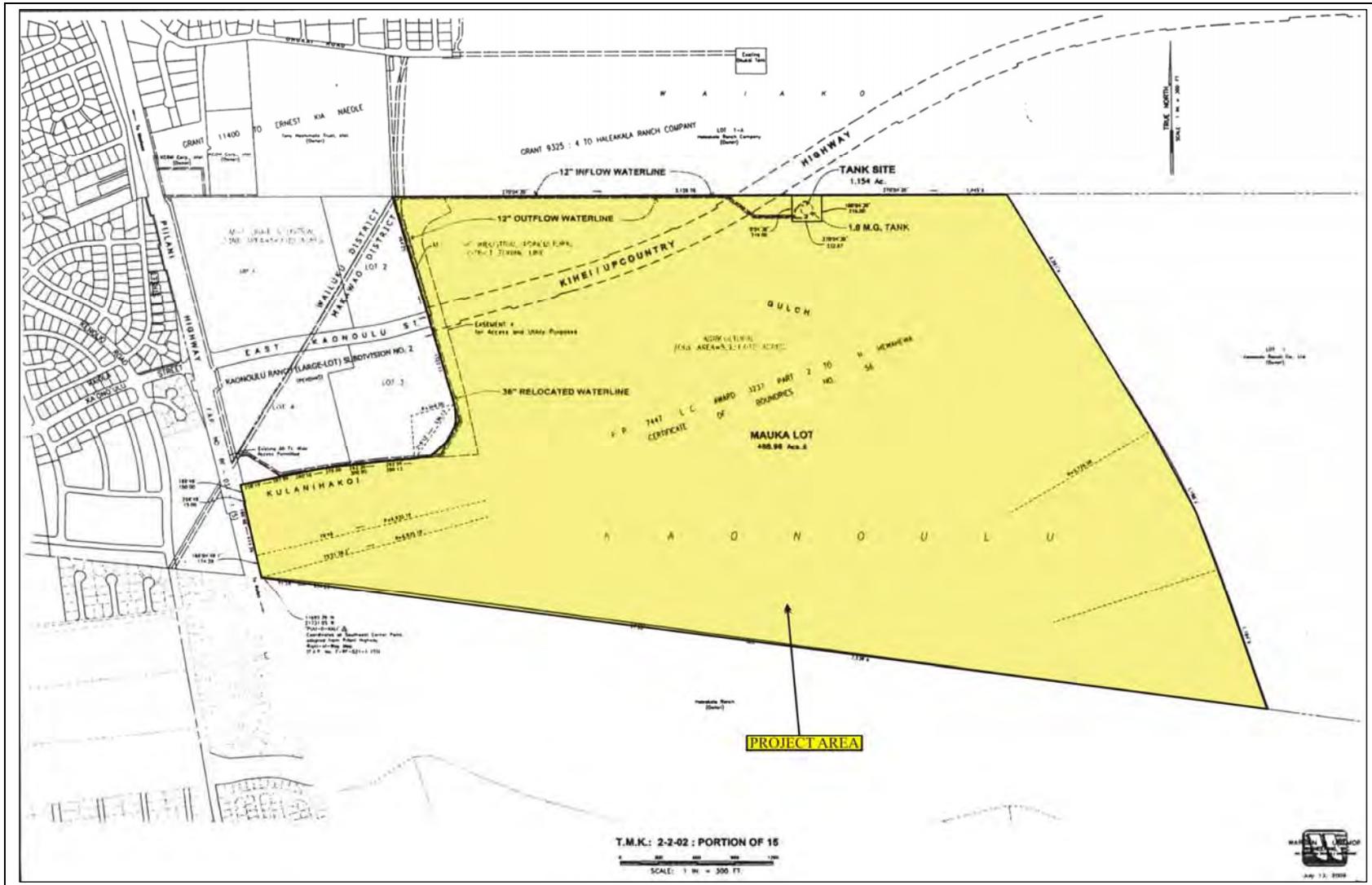


Figure 4: Tax Map Key [TMK] Showing the Lower Project Area in Detail.

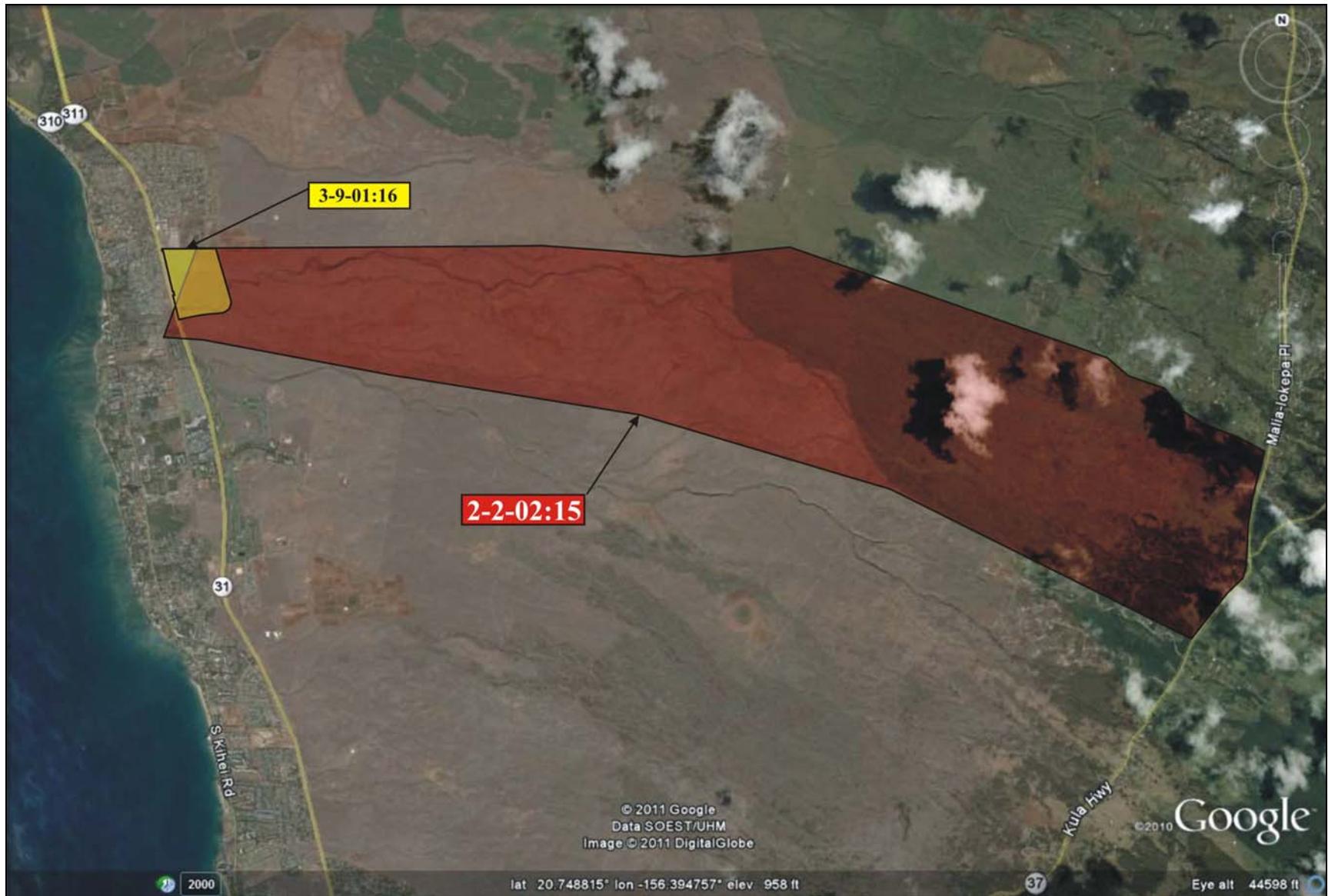


Figure 5: Google Maps Showing Project Area.

Monitoring will be conducted on a full-time basis during all ground-altering activities, with one archaeological monitor per piece of excavating equipment, in order to document any historic properties which may be encountered during the proposed undertaking and to provide its significant assessments and recommended mitigation measures, in consultation with the State Historic Preservation Division (SHPD). This Monitoring program will ensure that if human remains are identified during subsurface work, appropriate and lawful protocol concerning the Inadvertent Discovery of Human Remains (pursuant to 13-300-40a, b, c, HAR) is followed. Archaeological Monitoring will also ensure that significant cultural resources, if identified, are sampled, adequately documented, and evaluated for their historical significance in accordance with SHPD recommendations. Cultural resources, as is described in more detail below, could consist of remnant cultural layers, artifacts, or midden associated with traditional Native Hawaiian or early historic times.

### **PROJECT AREA DESCRIPTION**

The project area is located in Ka`ono`ulu Ahupua`a, east of the Wailuku-Makawao boundary that cuts across the *ahupua`a*. It is bordered on the north by Waiakoa Ahupua`a and to the south by Kōheo Ahupua`a. The southwestern boundary abuts Pi`ilani Highway for some distance and then jogs inland ending with its northwest corner on the Wailuku-Makawao boundary (see Figure 2). The entire parcel was part of the Kaonoulu Ranch lands and spans from a half mile to approximately two miles inland of the coastline within an area archaeologically known as the “barren zone”.

The project area soils are dominated by Waiakoa Extremely Stony Silty Clay Loam (WID2). This soil type is generally associated with highly eroded landscapes with shallow, 3 to 25 percent slopes and low precipitation (Foote *et al.* 1972: 126). Kīhei gets less than ten inches of rainfall per year (Armstrong 1983). Elevation ranges from 40 to 600 feet above mean sea level (amsl). The northeastern flank of the project area is marked with a steep natural gulch, called Kulanihakoi. While there is a general absence of perennial streams throughout the project area environs, Kulanihakoi Gulch does support a perennial stream during seasons of particularly heavy rainfall.

### **BARREN ZONE**

In geographical and physiographical terms, the barren zone is an intermediary zone between direct coastline and back beach areas to upland forests and more montane environments. The barren zone is a medial zone that appears to have been almost exclusively transitory, or at best, intermittently occupied through time. Intermittent habitation loci, as defined by surface midden scatters or small architectural features (*i.e.*, C-shapes, alignments) dominate the few

documented traditional-period site types (pre-Contact) in the area through time. Post-Contact features are generally limited to walls and small alignments, respectively associated with ranching and military training in the area.

The barren zone was an intermediary region between verdant upland regions and the coastline. Apparently, agricultural endeavors were practically non-existent in the barren zone and tool procurement materials (basalt, wood) were selected from other locales as well. Sediment regimes in the area are shallow, most often overlying bedrock, and perennial water sources are virtually non-existent.

Cordy (1977) divided the Kīhei (inclusive of Kaonoulu) area into three environmental zones (or subzones when one considers the entire *ahupua`a*): coastal, transitional/barren, and inland. The current project location occurs in the transitional or barren zone: the slopes back of the coast with less than 30 inches of rainfall annually (Cordy 1977:4).

This barren zone is perceived as dry and antagonistic to permanent habitation. Use of the area would primarily have been intermittent or transitory, particularly as the zone could have contained coastal-inland trails and would have marked an intermediary point between the two more profitable ecozones. The region remains hostile to permanent habitation, only having been “conquered” in recent times through much modern adaptation (i.e., air conditioning, water feed systems, etc.).

Based on general archaeological and historic research, the barren zone was not subject to permanent or expansive population until recent times. This intimates that population pressure along the coast was minimal or non-existent in the Kīhei coastal area through time. As such, architectural structures associated with permanent habitation sites and/or ceremonial sites are not often identified in the area. The prevailing model that temporary habitation-temporary use sites predominate in the barren zone has been authenticated further by recent research.

## **CULTURAL HISTORICAL CONTEXT**

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. The island was formed by two volcanoes, Mount Kukui in the west and Haleakalā in the east. The younger of the two volcanoes, Haleakalā, soars 2,727 m (10,023 feet) above sea level and embodies the largest section of the island. Unlike the amphitheater valleys of West Maui, the flanks of Haleakalā are distinguished by gentle slopes. Although it receives more rain than its counterpart in the east, the permeable lava flows of the Honomanū and Kula Volcanic

Series prevent the formation of rain-fed perennial streams. The few perennial streams found on the windward side of Haleakalā originate from springs located at low elevations. Valleys and gulches were formed by intermittent water run-off. The environment factors and resource availability heavily influenced pre-Contact settlement patterns. Although an extensive population was found occupying the uplands above the 30-inch rainfall line where crops could easily be grown, coastal settlement was also common (Kolb *et al.* 1997). The existence of three fishponds at Kalepolepo, north of the project area, and at least two *heiau* (shrine, temple, place of worship) identified near the shore confirm the presence of a stable population relying mainly on coastal and marine resources.

Agriculture may have been practiced behind the dune berms in low-lying marshland or in the vicinity of Keālia pond. It is suggested that permanent habitation and their associated activities occurred from A.D. 1200 to the present in both the uplands and coastal region (*Ibid.*).

### **PAST POLITICAL BOUNDARIES**

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha`ōhia, during the time of the *ali`i* Kaka`alaneo (Beckwith 1979:383; Fornander places Kaka`alaneo at the end of the fifteenth century or the beginning of the sixteenth century [Fornander 1919-20, Vol. 6:248]). Land was considered the property of the king or *ali`i`ai moku* (the *ali`i* who eats the island/district), which he held in trust for the gods. The title of *ali`i`ai moku* ensured rights and responsibilities to the land, but did not confer absolute ownership. The king kept the parcels he wanted; his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka`āinana* (commoners) worked the individual plots of land.

In general, several terms were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua`a*), which customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua`a* were able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *`ili`āina* or *`ili* were smaller land divisions next to importance to the *ahupua`a* and were administered by the chief who controlled the *ahupua`a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo`o`āina* were narrow strips of land within an *`ili*. The land holding of a tenant or *hoa`āina* residing in an *ahupua`a* was called a *kuleana* (Lucas 1995:61). The project area is located in the *ahupua`a* of Ka`ono`ulu, which translated means literally "the desire for breadfruit" (Pukui *et al* 1974.:86).

## TRADITIONAL SETTLEMENT PATTERNS

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua`a*. Within the *ahupua`a*, residents were able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111).

During pre-Contact times, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugarcane, *Saccharum officinarum*), *mai`a* (banana, *Musa* sp.), and *uala* (sweet potato, *Ipomoea batatas*) were also grown. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on the leeward side of Maui was likely to have begun early in what is known as the Expansion Period (AD 1200–1400, Kirch 1985). According to Handy (1940: 159), there was “continuous cultivation on the coastal region along the northwest coast” of Maui . He writes:

On the south side of western Maui the flat coastal plain all the way from Kihei and Ma`alaea to Honokahua, in old Hawaiian times, must have supported many fishing settlements and isolated fishermen’s houses, where sweet potatoes were grown in the sandy soil or red lepo [soil] near the shore. For fishing, this coast is the most favorable on Maui, and, although a considerable amount of taro was grown, I think it is reasonable to suppose that the large fishing population, which presumably inhabited this leeward coast, ate more sweet potatoes than taro with their fish.... [*ibid*]

There is little specific information pertaining directly to Kīhei, which was originally a small area adjacent to a landing built in the 1890s (Clark 1980). Presently, Kīhei consists of a six-mile section along the coast from the town of Kīhei to Keawakapu. Scattered amongst the agricultural and habitation sites were places of cultural significance to the *kama`āina* of the district including at least two *heiau*. In ancient times, there was a small village at Kalepolepo based primarily on marine resources. It was recorded that occasionally the blustery Kaumuku Winds would arrive with amazing intensity along the coast (Wilcox 1921).

There were several fishponds in the vicinity of Kīhei; Waiohuli, Ka`ono`ulu-kai, and Kalepolepo Pond (Site 50-50-09-1288), which is also known by the ancient name of Kō`ie`ie Pond (Kolb *et al.* 1997). Constructed on the boundary between Ka`ono`ulu and Waiohuli

Ahupua`a, these three ponds were some of the most important royal fishponds on Maui. The builder of Kalepolepo and two other ponds (Waiohuli and Ka`ono`ulu-kai) has been lost in antiquity, but they were reportedly rebuilt at least three times through history, beginning during the reign of Pi`ilani (1500s) (*ibid*; Cordy 2000).

Oral tradition recounts the repairing of the fishponds during the reign of Kiha-Pi`ilani, the son of the great chief Pi`ilani, who had bequeathed the ponds to Umi, ruler of Hawai`i Island. Umi's *konohiki* (land manager) ordered all the people from Maui to help repair the walls of Kalepolepo's fishponds. A man named Kikau protested that the repairs couldn't be done without the assistance of the *menehune* who were master builders (Wilcox 1921:66-67). The *konohiki* was furious and Kikau was told he would die once the repairs had been made. Ka`ono`ulu-kai was the first to be repaired. When the capstone was carried on a litter to the site, the *konohiki* rode proudly on top of the rock as it was being placed in the northeast corner of the pond. When it was time for repairs on Waiohuli-kai, the *konohiki* did the same. As the last pond, then known as Ka`ono`ulu-kai, was completed, the *konohiki* once again rode the capstone to its resting place. Before it could be put into position, the capstone broke throwing both the rock and *konohiki* into the dirt. The workers reportedly said "*Ua konohiki Kalepolepo, ua eku i ka lepo,*" or, "the manager of Kalepolepo, one who roots in the dirt" (*ibid*:66). That night a tremendous storm threw down the walls of the fishponds. The *konohiki* implored Kikau to help him repair the damage. Kikau called the *menehune* who rebuilt the walls in one night. Umi sent for Kikau who lived in the court of Waipi`o Valley from then on. The region of Ka`ono`ulu-kai and Ka`ono`ulu-kai fishpond became known as Kalepolepo fishpond (*ibid*).

The Kalepolepo fishponds were rebuilt by Kekaulike, chief of Maui in the 1700s, at which time it supplied `ama`ama (mullet) to Kahekili II. Again, it was restored by Kamehameha I when he ruled as governing chief over Maui, and for the last time in the 1840s, when prisoners from Kaho`olawe penal colony were sent to do repairs (Kamakau 1961; Wilcox 1921). At this time, stones were taken from Waiohuli-kai pond for the reconstruction of Kalepolepo. It was here at Kalepolepo that Kamehameha I reportedly beached his victorious canoes after subduing the Maui chiefs. The stream draining into Keālia pond (north of the project area) became sacred to royalty and *kapu* to commoners (Stoddard 1894).

Trails extended from the coast to the mountains, linking the two for both economic and social reasons. A trail known as the *alanui* or "King's trail" built by Kihapi`ilani, extended along the coast passing through all the major communities between Lāhainā and Mākena, including Kīhei. Kolb noted that two traditional trails extended through Ka`ono`ulu. One trail, named "*Kekuawaha`ula`ula*" or the "red-mouthed god", went from Kīhei inland to Ka`ono`ulu.

Another, the Kalelepo trail, began at the Kalepolepo fishpond and continued to upland Waiohuli. These trails were not only used in the pre-Contact era, but were expanded to accommodate wagons bringing produce to the coast in the 1850s (Kolb *et al.* 1997:61).

## WESTERN CONTACT

Early records, such as journals kept by explorers, travelers and missionaries, Hawaiian traditions that survived long enough to be written down, and archaeological investigations, have assisted in the understanding of past cultural activities. Unfortunately, early descriptions of this portion of the Maui coast are brief and infrequent. Captain King, Second Lieutenant on the *Revolution* during Cook's third voyage briefly described what he saw from a vantage point of "eight or ten leagues" (approximately 24 miles) out to sea as his ship departed the islands in 1779 (Beaglehole 1967). He mentions Pu`u Ōla`i, south of Kīhei, and enumerates the observed animals, thriving groves of breadfruit, the excellence of the *taro*, and describes the sugarcane as being of an unusual height. Seen from this distance and the mention of breadfruit suggest the uplands of Kīpahulu-Kaupo and `Ulupalakua were his focus.

In the ensuing years, LaPérouse (1786), Nathaniel Portlock and George Dixon, (also in 1786), sailed along the western coast, but added little to our direct knowledge of Kīhei. During the second visit of Vancouver in 1793, his expedition becalmed in the Ma`alaea Bay close to the project area. (A marker commemorating this visit is located across from the Maui Lu Hotel). He reported:

The appearance of this side of Mowee was scarcely less forbidding than that of its southern parts, which we had passed the preceding day. The shores, however, were not so steep and rocky, and were mostly composed of a sandy beach; the land did not rise so very abruptly from the sea towards the mountains, nor was its surface so much broken with hills and deep chasms; yet the soil had little appearance of fertility, and no cultivation was to be seen. A few habitations were promiscuously scattered near the waterside, and the inhabitants who came off to us, like those seen the day before, had little to dispose of. [Vancouver 1984:852]

Archibald Menzies, a naturalist accompanying Vancouver stated, "...we had some canoes off from the latter island [Maui], but they brought no refreshments. Indeed, this part of the island appeared to be very barren and thinly inhabited" (Menzies 1920:102). According to Kahekili, then chief of Maui, the extreme poverty in the area was the result of the continuous wars between Maui and Hawai`i Island causing the land to be neglected and human resources wasted (Vancouver 1984:856).

## THE MĀHELE

In the 1840s a drastic change in traditional land tenure resulted in a division, or Māhele, of island lands. This system of private ownership was based on western law. While a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III (Kamehameha III) was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kuykendall Vol. I, 1938:145 footnote 47, 152, 165–6, 170; Daws 1968:111; Kelly 1983:45; Kame`eleihiwa 1992:169–70, 176).

Among other thing, foreigners demanded private ownership of land to insure their investments (Kuykendall Vol. I, 1938:138, 145, 178, 184, 202, 206, 271; Kame`eleihiwa 1992:178; Kelly 1998:4). Once lands were made available and private ownership was instituted the *maka`āinana* (commoners) were able to claim the plots on which they had been cultivating and living, if they had been made aware of the foreign procedures (*kuleana* lands, Land Commission Awards, LCA). These claims could not include any previously cultivated or presently fallow land, `okipū (on O`ahu), stream fisheries or many other resources necessary for traditional survival (Kelly 1983; Kame`eleihiwa 1992:295; Kirch and Sahlins 1992). The awarded parcels were called Land Commission Awards. If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA, issued a Royal Patent number, and could then take possession of the property (Chinen 1961: 16). Fifty-five LCA claims were made for land in Ka`ono`ulu.

As western influence grew, Kalepolepo, west of the project area became the important provisioning area. Europeans were now living or frequently visiting the coast and several churches and missionary stations were established. A Mr. Halstead left medical school on the East coast of the continent to become a whaler and after marrying the granddaughter of Issac Davis, settled in Kalepolepo on land given him by Kamehameha III (Kolb *et al.* 1997). His residence and store situated at Kalepolepo landing was known as the Koa House having been constructed of *koa* logs brought from the uplands of Kula. The store flourished due to the whaling and potato industry and provided an accessible port for exported produce. Several of Hawai`i's ruling monarchs stayed at the Koa House, including Kamehameha III, Kamehameha the IV, Lot Kamehameha (V), and Lunalilo. After viewing the surroundings, Wilcox stated, "...Kalepolepo was not so barren looking a place. Coconut trees grew beside pools of clear warm water along the banks of which grew taro and ape..." (1921:67). However, by 1887 this had changed. Wilcox continues:

...the Kula mountains had become denuded of their forests, torrential winter rains were washing down earth from the uplands, filling with silt the ponds at Kalepolepo...ruins of grass huts

[were] partly covered by drifting sand, and a few weather-beaten houses perched on the broad top of the old fish pond wall at the edge of the sea, with the Halstead house looming over them dim and shadowy in the daily swirl of dust and flying sand..." [ibid]

As early as 1828, sugar cane was being grown commercially on Maui (Speakman 1981:114). Sugar was established in the Makawao area in the late 1800s and by 1899, the Kihei Plantation Company (KPC) was growing cane in the plains above Kīhei. In 1908, the Kihei Plantation was absorbed by the Hawaiian Commercial and Sugar Company (HC&SC); the new-formed company continued cultivating what had been the KPC fields into the 1960s. A 200-foot-long wharf was constructed in Kīhei at the request of Maui plantation owners and farmers and served inter-island boats for landing freight and shipping produce to Honolulu (Clark 1980). In 1927, Alexander and Baldwin became the agents for the plantation (Condé and Best 1973). A landing was built at Kīhei around 1890.

Kaonoulu Ranch lands have been in the Rice family since 1916. Previously, both the Haleakalā and Kaonoulu Ranches leased the then Crown lands for pasture and other ranching activities. The introduction of a dependable water supply in 1952 set a foundation for overseas investment and development, which has thrived along the coastal region of Kīhei.

### **PREVIOUS ARCHAEOLOGY**

Archaeological studies in the greater Kīhei area began in the early twentieth century with T. Thrum (1909), J. Stokes (1909–1916), and W. M. Walker (1931). These surveys included areas of leeward Maui and inventoried both upland of the Kula District and coastal sites (Figure 6).

The barren zone areas of this study have recently been subject to a proliferation of archaeological studies as residential and business endeavors expand from the coastline into other reaches of the Kīhei area. Concomitant with modern expansion involves necessary historic preservation work. The following section provides a general overview of archaeological studies in the general Kīhei area, focused on the barren zone.

As noted by Hammatt and Shideler (1992:10), "what is particularly striking in the many archaeological reports on Kīhei is the general paucity of sites within the transitional or barren zone." Cordy (1977) and Cox (1976) all conducted large-scale survey in this zone that led to the recordation of only small, temporary habitation or temporary use sites. Several other studies in this zone of Kama`ole Ahupua`a, including those conducted by Mayberry and Haun (1988) and

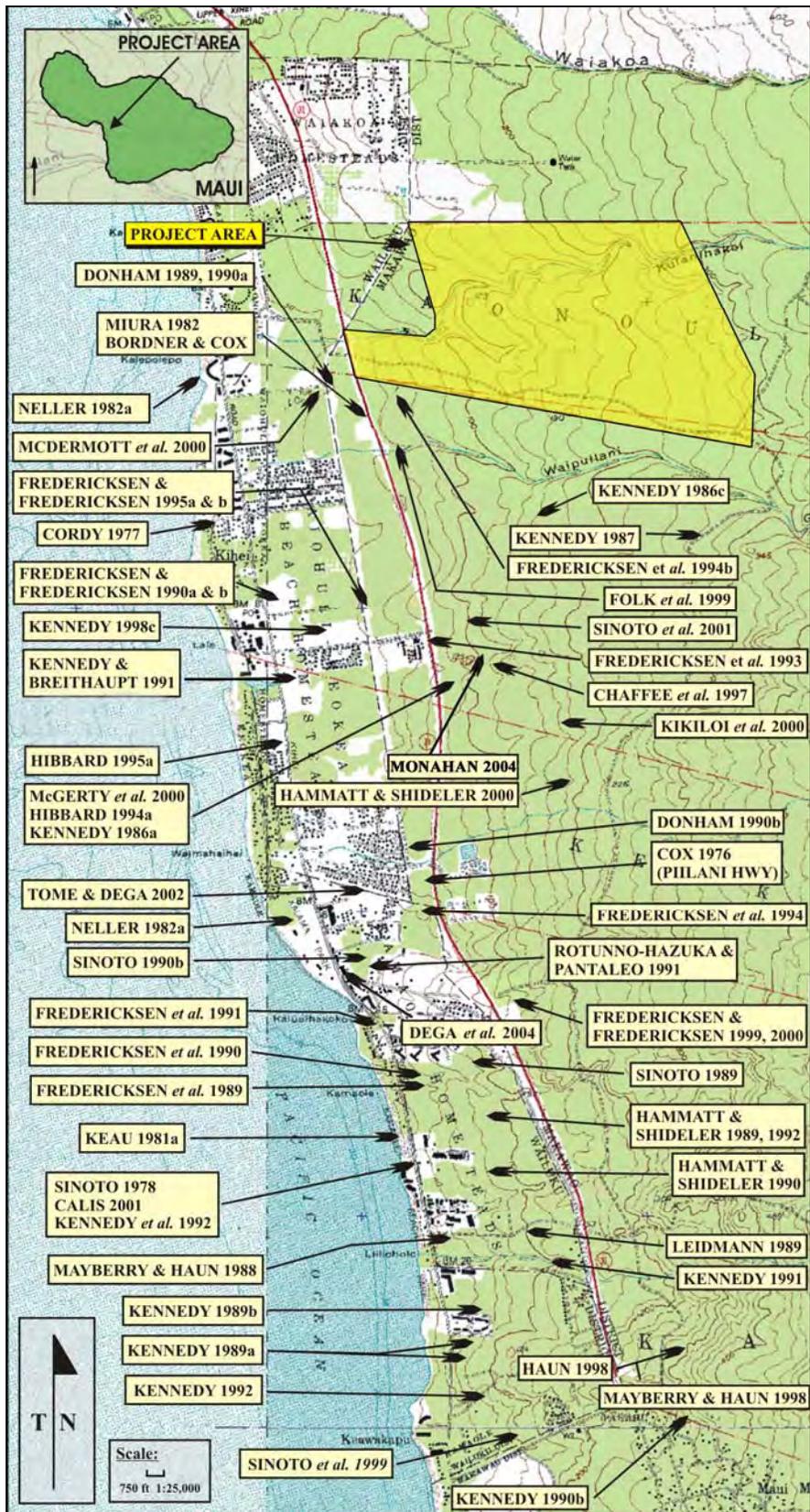


Figure 6: USGS Map Showing Locations of Previous Archaeological Investigations.

Hammatt and Shideler (1990), also only revealed the presence of temporary habitation and temporary use loci.

McDermott (2001:100) states that site densities are typically quite low within the “barren zone” with multiple studies having been conducted on large parcels (Kennedy 1986, Watanabe 1987, Hammatt and Shideler 2000, Kikiloi *et al.* 2000) that did not lead to the identification any pre-Contact sites. However, military sites related to World War II (WWII) training exercises have been previously documented in the area (McGerty *et al.* 2000), these sites often consisting of low, short alignments or walls. The few radiocarbon dates acquired from the area indicate definitive use of the landscape in later prehistory c. A.D. 1500 to 1600+.

SCS, and others, have more recently conducted numerous projects in the vicinity of the present project area. Several studies have been conducted in association with development of the Maui Research and Technology Park and the Elleair Maui Golf Club (Kennedy 1986; Hibbard 1994; Chaffee *et al.* 1997; McGerty *et al.* 2000; Sinoto *et al.* 2001; Tome and Dega 2002; Monahan 2003).

Kennedy (1986) conducted an archaeological reconnaissance of the entire 150.032 acres of the then-proposed Maui Research and Technology Park (TMK:2-2-02, since changed to 2-2-24). Kennedy’s study, which did not include subsurface testing (excavation), concluded that no archaeological sites or features were located within the project area. Chaffee *et al.* (1997) conducted an Archaeological Inventory Survey, including subsurface testing, of a portion of the Maui Research and Technology Park, within the area investigated by Kennedy (1986). Three sites consisting of ten archaeological features were identified. The features included remnant terraces, stone alignments, a mound, and a modified outcrop. All of the sites were interpreted as agricultural in function with the exception of a rock mound that may have functioned as a religious feature.

Monahan (2003) conducted an Archaeological Inventory Survey, including subsurface testing, of a 28.737-acre portion of the Maui Research and Technology Park, within the area investigated by Kennedy (1986). Other than one surface feature, a small arrangement of stacked boulders interpreted as a ‘push pile,’ this survey yielded no evidence of historic or prehistoric significance.

Theresa Donham conducted an Archaeological Reconnaissance Survey of the Haleakalā Greens Subdivision area (Hibbard 1994). She identified a low, circular rock mound, a historical site with multiple features on the crest of a prominent ridge, a linear rock mound or wall

remnant, a rock-filled terrace outlined with a low, rock wall, and other modifications along a rock outcrop. Shell midden was observed on the surface inside an enclosure.

McGerty *et al.* (2000) surveyed 15 selected areas within the Elleair Maui Golf Club, and identified five archaeological sites (State Site Nos. 50-50-10-5043, -5044, -5045, -5046, and -5047) containing a total of seven surface features. The surface features were interpreted as agricultural terraces, perhaps dating from the pre-Contact period, and C-shaped rock formations (fighting positions) built during World War II training. Ten excavation units placed within these features yielded no cultural material.

Sinoto *et al.* (2001) conducted an Archaeological Inventory Survey of a parcel adjacent to the subject property. No archaeological or historical sites or features were identified.

Tome and Dega (2002) conducted an Archaeological Inventory Survey along the northeastern flank of the Elleair Maui Golf Club property. They identified a historical ranching corral and a short agricultural wall, collectively designated State Site No. 50-50-10-5233. No other structures or subsurface deposits were identified. No traditional Native Hawaiian sites or features were identified. Another Inventory Survey along the southern flank of the Elleair Maui Golf Course (Dega 2003) failed to yield any archaeological or historical features.

Scientific Consultant Services (SCS), Inc. conducted Archaeological Inventory Survey (Monahan 2004) on two undeveloped lots totaling approximately 56.647 acres near the Elleair Golf Course in Kīhei, Waiohuli and Ka`ono`ulu Ahupua`a, Wailuku (Kula) District, Kīhei, Maui Island, Hawai`i [TMK: 2-2-24: Portion 12 and 13]. A pedestrian survey and subsurface testing was performed in advance of a proposed residential project near the Elleair Golf Course. Four surface features consisting of stacked basalt stones were located within the project area; each was assigned a separate state site number. Test excavations yielded buried cultural material consistent with traditional Native Hawaiian activities at three of the four sites (Sites 50-50-10-5506, -5507, and -5509). Excavation at the fourth site (-5508)—a C-shaped rock pile consistent with a World War II military training feature—did not yield any subsurface evidence. The discovery of three traditional Native Hawaiian sites in this area is significant, as previous studies have generally failed to document any such activity. One of these sites (-5509) yielded a modern radiocarbon date ( $0 \pm 50$  BP), but its context is questionable and it may not be associated with the buried artifacts. Two other sites (-5506 and -5507) did not yield charcoal, although both contained buried traditional artifacts and midden. No additional archaeological work was recommended in the project area (Monahan 2004).

Field Inspection for two waterline corridors was conducted by Dega and Tome in 2006. That letter report describing the results of the field work is included as Appendix A.

SCS personnel Tomasi Patolo, B.A., Dea Funka, B.A., and Bryan Armstrong, B.A. conducted Inventory Survey on the current area of study between January 24 and April 6, 2007 under the general supervision of Michael Dega, Ph.D. (Shefchek *et al* 2008). Forty new archaeological sites were identified and recorded during this work. Of the forty sites recorded during this work, eight are associated with pre-Contact activities. These pre-Contact sites consisted of temporary rock shelters with petroglyph components, enclosures, platforms, a mound and a wall. Historic sites found during this work pertained to agriculture and military training activities.

### **PROJECT AREA EXPECTATIONS**

The current project area falls into the barren zone. Archaeological reconnaissance and inventory survey work in the barren zone have yielded only a modest amount of evidence for traditional and historic-period activity. Documented sites in the general area primarily include agricultural terraces and short walls, C-shaped structures (military period), and historic ranching features (walls, corrals).

This project area has been subject to Inventory Survey, with 20 sites documented (see above). However, being located within the barren zone, it is not expected to yield many, if any, traditional-type deposits in subsurface contexts, this due to the shallow nature of soils overlying bedrock. Previous archaeology in the area (McGerty *et al.* 2000) attests to the likelihood for encountering numerous sites relating to military activity on the parcel. There is limited expectation that significant sites will be identified in subsurface contexts.

### **REASON FOR MONITORING**

The main impetus for full-time Archaeological Monitoring of construction activities in the current project area directly correlates to the positive results earned through Inventory Survey (Fredericksen *et al.* 1994). Given that twenty sites were identified in the area, there maintains some occupation through time, which could be revealed again during Monitoring.

In addition, the numerous archaeological projects that have been conducted in the Kīhei-Makena area have been important in determining the pre- and post-Contact period settlement patterns within the general project area (see Figure 5; Table 1). Much of this research has demonstrated that significant cultural deposits, consisting of subterranean cultural strata,

subsurface pit features, midden, artifacts, and human burials, are present in subsurface contexts in the area. Surface, and subsurface, features related to traditional and historic-period occupation, whether complete or partially truncated, have been documented in several of the area's studies (see Previous Archaeology section below). The present monitoring work will provide an opportunity to more closely assess the presence/absence of significant cultural resources on the property, and if present, will allow for complete documentation of such resources. Data gleaned through this study should allow for contributing to the database of knowledge for the area, and for refining Kīhei settlement pattern models.

### **MONITORING CONVENTIONS AND METHODOLOGY**

This Archaeological Monitoring Plan has been devised in accordance with DLNR-SHPD rules governing standards for Archaeological Monitoring (DLNR-SHPD 2003). SCS monitors will adhere to the following guidelines during monitoring:

1. A qualified archaeologist intimately familiar with the project area and the results of previous archaeological work conducted in the Kīhei-Makena area will monitor subsurface construction activities on the parcel. Please note that one archaeological monitor is required for each piece of ground altering machinery. If significant deposits or features are identified and additional field personnel are required, the contracting archaeologist will notify the contractor, or representatives before additional personnel are brought to the site.
2. If features, or cultural deposits, are identified during 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, per the letter of this plan. SHPD will be contacted 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 two dimensions, photographing the finds (with the exception of human burials), collecting artifact and soil samples, and triangulating the finds on a map. Construction work and/or back-filling of excavation pits or trenches will only continue in the sample location when all documentation has been completed.
3. Soil stratigraphy associated with subsurface cultural deposits will be noted and photographed, particularly those containing significant quantities or qualities of cultural materials. If deemed significant by SHPD and the contracting archaeologist, these deposits will be sampled, as determined by the same.

**Table 1: List of Sample Archaeological Projects by Ahupua`a Location in Chronological Order.**

Location	Report
Kama`ole Ahupua`a	Sinoto 1978
	Keau 1981
	Neller 1982
	Leidemann 1989
	Hammatt and Shideler 1989
	Sinoto 1989
	Fredericksen <i>et al.</i> 1989
	Fredericksen <i>et al.</i> 1990
	Hammatt and Shideler 1990
	Sinoto 1990
	Kennedy 1991
	Fredericksen <i>et al.</i> 1991
	Rotunno-Hazuka and Pantaleo 1991
	Kennedy <i>et al.</i> 1992
	Hammatt and Shideler 1992
	Fredericksen <i>et al.</i> 1994
	Mayberry and Haun 1998
	Haun 1998
	Fredericksen and Fredericksen 1999
	Calis 2001
Tome and Dega 2002	
Keokea Ahupua`a	Cox 1976
	Brown 1989
	Brown <i>et al.</i> 1989
	Donham 1990b
	Kennedy and Breithaupt 1991
	Hibbard 1995
	Hammatt and Shideler 2000
	Fredericksen 2001
	Fredericksen and Fredericksen 2001
Waiohuli Ahupua`a	Cordy 1977
	Miura 1982
	Kennedy 1986
	Watanabe 1987
	Riford 1987
	Kennedy 1988
	Donham 1989
	Donham 1990a
	Fredericksen <i>et al.</i> 1993
	Fredericksen <i>et al.</i> 1994
	Hibbard 1994
	Fredericksen and Fredericksen 1995a
	Fredericksen and Fredericksen 1995b
	Dunn and Spear 1995
	Chaffee <i>et al.</i> 1997
	Sinoto <i>et al.</i> 1999
	McDermott and Hammatt 2000
	Kikiloi and Hammatt 2000
	McGerty <i>et al.</i> 2000
	McDermott 2001
Sinoto <i>et al.</i> 2001	

4. In the event that human remains are encountered, all work in the immediate area of the find will cease and the area will be secured from further activity until burial protocol has been completed. The SHPD-Maui Cultural Historian will be immediately identified about the inadvertent discovery of human remains on the property. Notification of the inadvertent discovery will also be made to the Maui/Lanai Islands Burial Council by either SHPD or the contracting archaeological firm. A determination of the minimum number of individuals (MNI), age(s), and ethnicity of the burial(s) will be ascertained in the field by the contracting archaeologist. Rules outlined in Chapter 6e, Section 43 shall be followed. 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 during trench excavations, materials excavated from the vicinity of the burial(s) will be manually screened through 1/8-inch wire mesh screens to recover any displaced skeletal material. If the remains are to be removed, the work will be in compliance with HRS 6.E-43.6, Procedures Relating to Inadvertent Discoveries after approval from all parties (SHPD).
5. To ensure that contractors and the construction crew are aware of this Archaeological Monitoring Plan and possible site types to be encountered on the parcel, a brief coordination meeting will be held between the construction team and monitoring archaeologist prior to initiation of the project. The construction crew will also be informed about the possibility that human burials could be encountered and how they should proceed if they observe such remains.
6. SCS will provide all coordination with the contractor, SHPD, and any other group involved in the project. SCS will coordinate all Monitoring and sampling activities with the contractor's safety officers to ensure that proper safety regulations and protective measures meet compliance. Close coordination will also be maintained with construction representatives in order to adequately inform personnel of the possibility that open archaeological units or trenches may occur in the project area.
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 at the SCS laboratory in Honolulu. In the event that human remains are identified and SHPD-Burial Sites Program personnel authorize their removal, they will be curated on-site in a secure location or at the SHPD-Maui. All other burials will remain protected and in place until any decisions are made by the SHPD-Burial Sites Program. Photographs, illustrations, and all notes accumulated during the project will be curated at the Honolulu laboratory. All retrieved artifact and midden samples will be thoroughly cleaned, sorted, and analyzed. Significant artifacts will be photographed, sketched, and classified (qualitative analysis). All metric 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, mammal). All data will be clearly recorded on standard laboratory forms that also include number and weight (as appropriate) of each constituent category. These counts will also be included in the final report.

Should any samples amenable to dating be collected from a significant cultural deposit, they will be prepared in the SCS laboratory and submitted for specialized radiocarbon analysis. While primary emphasis for dating is placed on charcoal samples, we do not preclude the use of other material such as marine shell or nonhuman bone materials. SCS will consult with SHPD and the client if radiocarbon dates are deemed necessary.

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**

If requested by the land owner, SCS will curate all recovered materials in Honolulu (except human remains and associated goods, which would remain on-island) until a permanent, more suitable curation center is identified. The land owner may request to curate all recovered cultural materials once analysis has been completed.

### **REPORTING**

An Archaeological Monitoring report documenting the project findings and interpretation, following SHPD guidelines for Archaeological Monitoring reports, will be prepared and submitted within 180 days after the completion of fieldwork.

If cultural features or deposits are identified during fieldwork, the sites will be evaluated for historical significance and assessed under State significance criteria. The Archaeological Monitoring report will contain these significance assessments, as well as recommendations for any future work to be conducted on the parcel.

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**APPENDIX A: LETTER REPORT FOR TWO WATERLINES IN THE PROJECT  
AREA**

Dr. Melissa Kirkendall  
SHPD-Maui  
130 Mahalani Street  
Wailuku, HI 96793

June 9, 2006

**Re: Field Inspection of Proposed Waterlines near the Kaonoulu Market Place in Kihei, Maui, Hawai'i [TMK:2-2-02:por. of 15 and 3-9-01:16]**

Dear Dr. Kirkendall:

At the request of Pacific Rim Land, Inc., Scientific Consultant Services, Inc. (SCS) conducted a Field Inspection of a two proposed waterline corridors and a proposed water tank site in the "barren zone" of Kihei, Maui, Hawai'i at TMK:2-2-02:por. 15 and 3-9-01:16. The purpose of the Field Inspection was to determine the presence/absence of architecture, midden deposits, and/or artifact deposits on the surface of the corridors and to assess the potential for the presence of subsurface cultural deposits. Other characteristics pertinent to the parcel were noted and include descriptions of landscape disturbance, topographic changes, and soil regimes present, among others. Fieldwork for this project was conducted on June 9, 2006 by M. Dega, Ph.D. and G. Tome, B.A., both of SCS.

#### **Location and Current Status**

The project area is linear in morphology and is generally bounded on the North by two parcels containing corn fields, a residence, a pond, and an orchard. Ohukai Road borders the northern portions of these two parcels. The southern flank is defined by Kulanihakoi Gulch. The eastern flank is demarcated by undeveloped land associated with the future Kaonoulu Market Place (which borders Pi'ilani Highway). The western flank spreads into undeveloped land owned by Kaonoulu Ranch. The current project area is currently undeveloped. A swath of the proposed Kihei/upcountry Highway cuts through a small portion of the project area's northeastern flank.

Two proposed waterline corridors and a tank site were subject to this Field Inspection. Corridor A is designated for a north-south trending corridor running c. 2,200 feet to its terminus at the northern flank of Kulanihakoi Gulch, a large intermittent drainage. Corridor B is designated for an east-west trending segment running c. 3,400 feet to the proposed tank site. The tank site itself will measure 200 sq. ft in diameter. The width of both corridors measures 12 feet. Pedestrian survey of the corridors was conducted by the two crew members walking abreast but separated by 6 feet to cover the flanks and center of the corridors. Ground surface visibility was generally high.

Corridor A consists of slightly undulating land with slope trending toward the south where it meets the base of Kulanihakoi Gulch. Primarily flat across the northern 2/3 of the corridor, the slope descends gradually to the flank of the drainage wherein a virtual cliff face is present as the corridor descends to the stream bank. Corridor A generally runs along the 120 ft. elevation line. This corridor has been subject to minor grading in areas, with several unimproved dirt roads coursing east-west or perpendicular across the corridor in three locations. Corridor B is generally flat as it skirts existing corn fields and gains elevation near the proposed tank

location. An extremely small arterial drainage (c. 3 feet deep) in the western 1/3 has been filled with soil and rocks cleared from the corn fields. From east to west, Corridor B runs from the 120 ft elevation line to a maximum 200 ft above mean sea level at the proposed tank location. The eastern 2/3 of Corridor B primarily consists of corn fields and access roads to the fields. The remaining 1/3 is currently undeveloped. The proposed water tank site occurs at the eastern terminus of Corridor B on the top of a small knoll at the 200 ft elevation line. This land is also undeveloped. Barbed-wire fences are common through and around Corridor A, Corridor B, and the tank site.

## RESULTS

Full pedestrian survey of Corridor A, Corridor B, and the proposed water tank site failed to lead to the identification of any archaeological structures, scatters, or deposits. In addition, no areas readily amenable to the recovery of cultural materials in subterranean contexts were identified. A brief listing of description and results for each of the three survey areas follows.

### *Corridor A*

This north-south trending segment crossed both flat and slightly undulating topography to its step terminus on the north bank of Kulanihakoi Gulch. The surface of the corridor was relatively open. Bedrock and scattered, non-modified cobbles and boulders were present along the length of the survey area. Modern impacts included three non-improved roads (c. 8 feet wide) running perpendicular to the corridor, soil testing pits (filled), and multiple cattle trails. A small herd of cattle grazed under the *kiawe* trees near the northern flank of the corridor. Neither rock concentrations nor artifacts/midden were identified on the surface of Corridor A. In addition, bedrock was ubiquitous across portions of the surface. Soil deposits appeared extremely shallow in this area. A close inspection of the steep cliff area near the southern terminus failed to reveal any cultural modifications, including petroglyphs on rock panels. This corridor only yielded negative results and was not expected to yield cultural resources through any subsurface sampling.

### *Corridor B*

A majority of this east-west directional corridor proceeded through corn fields, along modified dirt access roads to the fields, and up a small knoll at its western terminus. Most of the proposed corridor area had been extensively modified through agriculture (corn) and associated infrastructure. Undeveloped portions of this corridor were present for c. 600 feet to the top of the knoll. Surface grasses and scattered cobbles/boulders were identified. None of the rocks formed alignments, walls, or C-shapes. There also appeared to be no areas that could lead to the recovery of cultural resources in subterranean contexts. The terminus of Corridor B led to the tank site.

### *Water Tank Site*

The proposed tank area measures c. 200 sq. ft. in diameter and occurs at the top of a small knoll. The knoll itself is fairly flat. The tank area was primarily devoid of any rock concentrations and covered in surface grasses. Bedrock was evident at the top of the knoll and along its slight slope. Soil deposits appeared shallow even at the apex of the knoll. No structures, scatters, or deposits were identified in the proposed tank area.

In addition, based on previous archaeological work by SCS in this “barren zone” area, few, if any, cultural resources would be expected in subsurface contexts.

### **Recommendations**

This Field Inspection of a “barren zone” project area did not lead to the identification of any archaeological sites nor areas thought to contain deposits in subsurface contexts. The corridors and water tank area surveyed during this Field Inspection were void of sites, this being the result of limited activity through time in the area and the nature of the “barren zone” itself. Few archaeological signatures are present in this zone, particularly in subsurface contexts. While ranching may have altered the landscape of the overall zone, ranching related structures were virtually absent in the project area. Even informal survey of Kulanihakoi Gulch, beyond the project area boundaries, failed to lead to identification of any sites.

Based on the above factors and the extremely limited potential for excavation, no further work is recommended for the above noted project area.

If any questions arise pertaining to this Field Inspection or recommendations herein, please contact me at your earliest convenience. Thank you.

Best Regards,

Michael F. Dega, Ph.D.  
Senior Archaeologist  
Scientific Consultant Services, Inc.

1224  
NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

WILLIAM J. AILA, JR.  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

GUY KAULUKUKUI  
FIRST DEPUTY

WILLIAM M. TAM  
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  
STATE PARKS

August 10, 2011

Robert Spear, Ph.D.  
Scientific Consultant Services, Inc.  
711 Kapiolani Blvd., Suite 975  
Honolulu, Hawaii 96813

LOG NO: 2011.2060  
DOC NO: 1108MD12  
Archaeology

Dear Dr. Spear:

**SUBJECT: Chapter 6E-42 Historic Preservation Review –  
Archaeological Monitoring Plan for the Pi'ilani Promenade South Project  
Ka'ono'ulu Ahupua'a, Makawao District, Island of Maui  
TMK: (2) 2-5-002:015 (por.) and 3-9-001:016**

This letter summarizes our review of the aforementioned plan (Chaffee and Dega July 2011; *An Archaeological Monitoring Plan for the Kaonoulu Marketplace Project Located in Kihei, Ka'ono'ulu Ahupua'a, Makawao District, Maui Island, Hawai'i* [TMK: 3-9-01:16 and (2) 2-2-002:015 por.]/SCS Project Number 1224 AMP-1), which we received on July 29, 2011.

The proposed project will involve grubbing, grading and development of 88 acres. A search of our records indicates that an archaeological inventory survey of this location was conducted (Xamanek Researches 1994). SHPD previously determined that a similar proposed project would have no effect in 2006, and more recently we recommended archaeological monitoring during a grubbing and grading permit review from Maui County (Log No. 2011.0536, Doc No. 1103MD05).

This plan is accepted as final pursuant to HAR §13-279-4. Please notify the Maui and Oahu offices via fax at the start and completion of archaeological monitoring. Upon receipt of this letter please submit one paper copy of your report marked Final to our Kapolei office along with a CD containing a searchable pdf version of the final report and a copy of this approval letter, marked to the attention of the Kapolei Library. If you have questions about this letter please contact me at (808) 243-5169 or via email to: [morgan.e.davis@hawaii.gov](mailto:morgan.e.davis@hawaii.gov).

Aloha,

Morgan E. Davis  
Lead Archaeologist, Maui Island Section  
State Historic Preservation Division



**APPENDIX H-1**  
**Archaeological Consultant Memo**  
**dated October 28, 2016**

**XAMANЕК RESEARCHES LLC**  
**P.O. BOX 880131**  
**PUKALANI, MAUI, HI 96788**  
**Phone: 572-8900**  
**Phone/Fax: 572-6118**  
**E-mail: [xamanekresearchesllc@gmail.com](mailto:xamanekresearchesllc@gmail.com)**

**Jordan E. Hart, President**  
**Chris Hart & Partners, Inc.**  
**115 N. Market Street**  
**Wailuku, Hawaii 96793-1717**  
**Phone: 808-242-1955**  
**Fax: 808-242-1956**

**Attn: Jordan Hart, President**

**28 October 2016**

**Subject: Piilani Promenade, Draft EIS Comments Received Regarding the Small Gulch (Drainageway “A”) for the Project located in Kihei, Maui, Hawaii. TMKs: (2) 3-9-001:016, 170-174.**

Dear Mr. Hart,

I provide the following response to your memo, dated 12 October 2016, which I received via email on 19 October, and via mail on 24 October 2016. By way of background, the area in question - Drainageway “A” is located in the northern half of the current Project (reference your Figures 2-3 and 2-4). A portion of this drainage feature contains one previously identified historic property - Site 50-50-10-3740.

Site 3740 was first identified during an earlier 1994 archaeological inventory survey of an 88-acre portion of the current Project area (Fredericksen, et al., 1994). At the time, Site 3740 was interpreted as a post-contact ranch-era feature, possibly associated with erosion control. This site consists of segments of a low, discontinuous rock wall that primarily extend along portions of either side of the gully. The State Historic Preservation Division (SHPD) Maui staff archaeologist at the time visited the project area in 1994 to inspect the various sites that had been identified during the inventory survey, including Site 3740. The SHPD approved the archaeological inventory survey report, concurred with site interpretations, and indicated that no further archaeological work was needed for any of the remaining<sup>1</sup> identified sites, including Site 3740. This recommendation was reaffirmed in a 2011 SHPD comment letter (SHPD DOC NO: 1103MD05).

Xamanek Researches LLC was subsequently hired to carry out an archaeological inventory survey of the original 88-acre parcel plus additional lands in 2014-2015. This subsequent survey reexamined sites previously identified in 1994, including Site 3740, in

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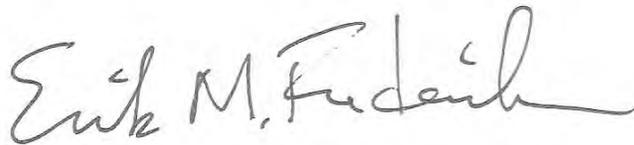
<sup>1</sup> At the time, one site - a petroglyph on a boulder (Site 3746) was recommended for preservation. This petroglyph was removed from the property by a former landowner after the 1994 inventory survey, and relocated to the Kula area.

addition to one newly identified site. Pedestrian inspections of all previously identified sites, including Site 3740, were conducted during our 2014-2015 fieldwork. The SHPD Maui staff archaeologist at the time carried out two project inspections with Xamanek Researches LLC staff in 2015. The SHPD Maui staff archaeologist was able to view all sites, including Site 3740. Our archaeological inventory survey report (Fredericksen, 2015) for the overall project area was approved in a 2016 SHPD comment letter (SHPD DOC NO: 1601MD08). The SHPD concurred with the interpreted function for Site 3740 and affirmed that no additional work was warranted for this post-contact site.

Xamanek Researches LLC staff members have subsequently revisited the gully area on three separate occasions since the inventory survey was accepted in early 2016. No additional findings have been made in the gully. However, given concerns raised, the developer's representative has voluntarily agreed to have archaeological data recovery work carried out on Site 3740. This additional and intensive work will include detailed mapping, subsurface and surface investigation of the construction style of sections of the wall segments, including a short wall section that is located within along a portion of the drainage feature's slope. Results of this work will be included in the Project's forthcoming data recovery report. The SHPD will review the results of this future report.

Please contact me if you have any questions regarding the above memo for the subject project in Kihei, Maui.

Sincerely,

A handwritten signature in black ink, reading "Erik M. Fredericksen". The signature is written in a cursive style with a large, looping initial "E".

Erik M. Fredericksen



**APPENDIX H-2**  
**Archaeological Consultant Memo**  
**dated November 15, 2016**

**XAMANЕК RESEARCHES LLC**  
**P.O. BOX 880131**  
**PUKALANI, MAUI, HI 96788**  
**Phone: 572-8900**  
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**Jordan E. Hart, President**  
**Chris Hart & Partners, Inc.**  
**115 N. Market Street**  
**Wailuku, Hawaii 96793-1717**  
**Phone: 808-242-1955**  
**Fax: 808-242-1956**

**Attn: Jordan Hart, President**

**15 November 2016**

**Stone identified as being significant by Interested Parties for the Project located in Kihei, Maui, Hawaii. TMKs: (2) 3-9-001:016, 170-174.**

Dear Mr. Hart,

I provide the following response to your memo, dated 3 November 2016, which I received via email on 4 November, and via mail on 12 November 2016. By way of background, the subject "Stone" is a natural, unmodified basalt boulder, which is located in the vicinity of Site 50-50-10-3727 and Site -3728. Our previous archaeological inventory survey report (Fredericksen, 2015) for the overall Piilani Promenade project area was approved in a 2016 State Historic Preservation Division comment letter (SHPD DOC NO: 1601MD08). Site 3727 consists of three stone piles and a surface scatter, and Site 3728 consists of a stone pile. Both of these sites will be further investigated during the forthcoming Archaeological Data Recovery project (Fredericksen, 2016).

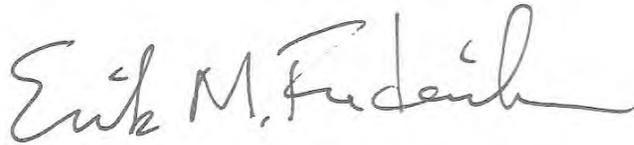
Both of the above sites are in the vicinity (west) of the County of Maui Department of Water Supply 36-inch waterline that crosses the c. 88-acre main portion of the project area (TMK (2) 3-9-001: 16). This substantial waterline was installed about 40 years ago. Many boulders in this area display heavy equipment scars from prior mechanical disturbance of this portion of the project area.

By way of background, the SHPD Maui staff archaeologist previously carried out two project inspections with Xamanek Researches LLC staff in 2015. The staff archaeologist was able to view all previously identified sites, including Sites 3727 and 3728. The SHPD Maui staff archaeologist was previously sent the Submittal by Interested Parties that included comment regarding the natural boulder in question. She subsequently provided Xamanek Researches LLC with a copy of this 2015 memo in advance of her two inspections of the project area with our staff.

Xamanek Researches LLC staff members have subsequently revisited this portion of the project area on two separate occasions since the inventory survey was accepted in early 2016. No additional archaeological findings have been made, which suggest the possible function of this boulder. However, given the concern raised, the developer's representative has voluntarily agreed to preserve this natural boulder on the project area. It is my understanding that concerned individuals will be consulted regarding the final location of this boulder.

Please contact me if you have any questions regarding the above memo for the subject project in Kihei, Maui.

Sincerely,

A handwritten signature in black ink, reading "Erik M. Fredericksen". The signature is written in a cursive style with a large, prominent "E" and "F".

Erik M. Fredericksen



**APPENDIX I**  
**Cultural Impact Assessment dated December 2013,**  
**revised March 2016 and August 2016**

**CULTURAL IMPACT ASSESSMENT**  
**For the**  
**PROPOSED**  
**Piilani Promenade Project**

**December 2013**  
Revised March 2016 & August 2016



Hana Pono, LLC - PO Box 1574 Kihei, HI 96753 – [hanapono@gmail.com](mailto:hanapono@gmail.com)

**CULTURAL IMPACT ASSESSMENT**  
For the  
**PROPOSED**  
**Piilani Promenade Project**

**TMK: (2) 3-9-01:016, (2) 3-9-01:169-174, (2) 3-9-048:122, (2) 3-9-001:148, (2) 2-2-02:077, (2) 2-2-02:016 (portion), (2) 2-2-02:082 (portion)**

Prepared for:  
**Mr. Robert Poynor, Vice President**  
**Sarofim Realty Advisors**  
**8115 Presto Road, Ste. 400**  
**Dallas, TX 75225**

Prepared by:  
**Hana Pono, LLC**  
**PO Box 1574**  
**Kihei, Maui, Hawai'i 96753**

**December 2013**  
Revised March 2016 & August 2016

## Management Summary

<b>Report</b>	Cultural Impact Assessment for the proposed Piilani Promenade project
<b>Date</b>	December 2013, revised March 2016 & August 2016
<b>Project Location</b>	County of Maui; Kula District; Ka'ono'ulu ahupua'a, TMK(s): (2) 3-9-01:016, (2) 3-9-01:169-174, (2) 3-9-048:122, (2) 3-9-001:148, (2) 2-2-02:077, (2) 2-2-02:016 (portion), (2) 2-2-02:082 (portion)
<b>Acreage</b>	Approximately 88 acres
<b>Ownership</b>	Sarofim Realty Advisors
<b>Developer/Applicant</b>	Sarofim Realty Advisors
<b>Project Description</b>	The proposed project will include residential, light-industrial, commercial, and public/ quasi-public uses.
<b>Region of Influence</b>	Ka'ono'ulu ahupua'a, Kula Moku
<b>Agencies Involved</b>	SHPD/DLNR, Maui County, State Land Use Commission
<b>Environmental Regulatory Context</b>	The undertaking is subject to both State land use laws and County zoning regulations, and other environmental regulations
<b>Results of Consultation</b>	Lands in question have long been disturbed by ranching and construction. However, there are still archeological sites within the project area that should be preserved when possible.
<b>Recommendations</b>	<ul style="list-style-type: none"> <li>• Work with community members on the data recovery plan to identify cultural sites/features for incorporation into the final site development plan.</li> <li>• Adherence to all applicable rules governing earth-disturbance activities</li> <li>• Adherence to accepted SHPD archaeological monitoring plans</li> </ul>

## **Cultural Summary**

Sarofim Realty Advisors is proposing the construction of a mixed -use development just mauka (upland) of Pi'ilani Highway at Ka'ono'ulu Road. The entire project sits in the moku of Kula and the ahupua'a of Ka'ono'ulu, adjacent to the Pi'ilani Hwy and other previously disturbed lands. Whatever cultural practices or resources were practiced there in ancient times have long been abandoned and paved over in the construction of modern-day Kihei.

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## APPENDICES

Appendix A: Transcription of interview with Daniel Kanahele

Appendix B: Transcription of interview Michael Lee

Appendix C: Transcription of Cultural Consultation Meeting of February 25, 2014

Appendix D: Transcription of Cultural Consultation Meeting of April 27, 2016

## **Introduction**

At the request of Mr. Charlie Jencks, owner representative for Sarofim Realty Advisors, Hana Pono LLC has completed a report for the Cultural Impact Assessment of the proposed Piilani Promenade project at TMK(s): (2) 3-9-01:016, (2) 3-9-01:169-174, (2) 3-9-048:122, (2) 3-9-001:148, (2) 2-2-02:077, (2) 2-2-02:016 (portion), (2) 2-2-02:082 (portion). This study was completed in accordance with State of Hawaii Chapter 343, HRS, and the State of Hawaii Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts (1997).

### ***Guiding Legislation for Cultural Impact Assessments***

It is the policy of the State of Hawaii under Chapter 343, Hawaii Revised Statutes, to alert decision makers about significant environmental effects that may occur due to actions such as development, re-development, or other actions taken on lands. Articles IX and XII of the State Constitution, other state laws, and the courts of the state require the promotion and preservation of cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups.

The Guidelines for Assessing Cultural Impacts, as adopted by the Environmental Council, State of Hawaii 1997 and administered by the Office of Environmental Quality Control, including HAR Title 11 Chapter 200-4(a), include effects on the cultural practices of the community and state. The Guidelines also amend the definition of “significant effect” to include adverse effects on cultural practices.

### ***Goal and Purpose***

The goal of this study is to identify any and all Native Hawaiian, traditional, historical, or otherwise noteworthy practices, resources, sites, and beliefs attached to the project area in order to analyze the impact of the proposed development on these practices and features. Consultations with lineal descendents or kupuna (Hawaiian elders) with knowledge of the area in gleaning further information are a central part of this study.

### ***Scope***

The scope of this report compiles various historical, cultural and topographical accounts and facts of the project area and its adjacent ahupua’a.

*The geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. An ahupua’a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupua’a and the geographical extent of the study area should take into account those cultural practices. (OEQC, Guidelines for Assessing Cultural Impacts, Nov 9, 1997)*

Data will be compiled beginning with the first migrations of Polynesians to the area, progressing through the pre-contact period of Hawaiian settlement, containing data on the post-contact period, through to the current day and any cultural practices or beliefs still occurring in the project area. Hawaiian kupuna with ties to the area will be interviewed on their knowledge of the area and its associated beliefs, practices, and resources. Additionally, any other individuals

or organizations with expertise concerning the types of cultural resources, practices and beliefs found within the geographical area in question will be consulted.

## **Project Area**

The project is located in the State of Hawaii, County of Maui, at TMK(s): TMK(s): (2) 3-9-01:016, (2) 3-9-01:169-174, (2) 3-9-048:122, (2) 3-9-001:148, (2) 2-2-02:077, (2) 2-2-02:016 (portion), (2) 2-2-02:082 (portion). The project is in the moku of Kula, the ahupua'a of Ka'ono'ulu, and centers around Pi'ilani Highway and its intersection with Ka'ono'ulu Street.

## **Approach & Method**

The approach taken in this study was two-fold. Foremost, historical, involving as appropriate, a review of: mahele (land division of 1848), land court, census and tax records, previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs and other archival documents. Secondly, an in-depth study involving oral interviews with living persons with ties, either lineal or cultural, to the project area and the surrounding region.

## **Objectives**

The objectives of the Cultural Impact Assessment are as follows:

- to compile and identify historical and current cultural uses of the project area,
- to identify historical and current cultural beliefs & practices associated with project area,
- To assess the impact of the proposed action on the cultural resources, practices, and beliefs.

## **Tasks**

Data gathered combined oral interviews of knowledgeable kupuna and families/individuals with long-standing ties to the area with all available written and recorded background information.

## **Archival Research**

All sources of historical written data, old maps, and literature were culled for information.

## **Oral Interviews**

Tasks completed for oral interviews included: identification of appropriate individuals to be interviewed, determination of legitimate ties to project area and surrounding region, interview recorded in writing and by digital audiocassette, transcription of interview, compilation of pertinent data.

## **Level of Effort Undertaken**

Interviewees are contacted and selected for inclusion in this report based on a sliding scale of legitimate authority based on the following characteristics: lineal descendents, cultural descendents, traditional practitioners, cultural practitioners, knowledgeable area residents of Hawaiian ancestry, knowledgeable concerned citizens. Every effort is made to obtain the highest quality interviewees and determination of appropriate individuals follows this criteria.

## Historical & Current Cultural Resources & Practices

The island of Maui is comprised of twelve (12) traditional land districts, called moku. Each moku is made up of numerous ahupua'a, smaller land divisions wherein a self-inclusive community could find all the things needed for a satisfactory life. Usually these ahupua'a ran from the heights of the mountain peak to the edge of the outer reef like a giant pie slice, although many ahupua'a did not fit this template. As previously mentioned, the project area resides in the moku of Kula and the ahupua'a of Ka'ono'ulu. Handy relates that, "Kula was always an arid region, throughout its long, low seashore, vast stony kula [open country] lands and broad uplands. Both on the coast, where fishing was good, and on the lower westward slopes of Haleakalā a considerable population existed" (ESC Handy, 114). The moku of Kula is so called for its kula lands, meaning broad open expanses, likened to pasture land by the ranchers of the last century.

Although Kihei is one of the more dry areas of Maui in present time, it once was home to many fresh and brackish wetlands. Such as the wisdom of the ahupua'a system, the events mauka (upland) effected the land below. The mauka portion of Kula underwent major deforestation for farming and ranching and therefore, rainwater was less able to filter into the ground and recharge the ponds near the coast. The Honolulu Star-Bulletin and Advertiser reported in 1962, "a secondary result of the clearing of the Kula forests, he said, was the destruction of extensive fresh water ponds in Kihei, on the Mā'alaiea Bay coast below Kula. When the forest was cleared, water was free to rush down the mountain, carrying soil from Kula to the coast and filling with mud the ponds for which Kihei was once famous" (Sterling, 245). This destruction started with the large-scale deforestation of the native Sandalwood in the 1800's and although short-lived was a major source of commerce for this area in those times.



The project area has been severely disturbed from its original and unaltered state for many decades, by the effects of grazing cattle and the construction of ranch roads, county roads and the construction of the Pi'ilani Highway. Any resources or practices occurring traditionally in the area are now non-existent and would have been obliterated.

### ***First migrations***

Traditional stories start with the creation chant called “Kumulipo.” The Kumulipo brings darkness into light. Embedded in this all-encompassing chant includes the tale of the coming of the Hawaiian Islands through the mythical stories of Pele and another demigod named Maui who, with his brothers, pulls up all the islands from the bottom of the sea. The latest and last physical appearance of Pele occurred as late as mid-1800s when the Fire Goddess flowed from the top of the southern slopes of Haleakalā, south of our project area, down through Honua'ula and landing at the surf of Mākena and southward. In the Hawaiian Annual published by Thomas Thrum and James Dana's "Characteristics of Volcanoes", are reported Father Bailey's statements of his oral interviews explaining that the last flow had occurred in 1750 (Sterling 1998: 228). Many of the lava flows in the summit depression and in the Ulupalakua to Nu'u area were dark black and bare 'a'ā (rough, jagged type of lava landscape). The two freshest lava flows run near La Perouse Bay. The upper flow broke out of a fissure near Pu'u Mahoe and the lower flow broke out at Kalua o Lapa cone. Both flows contain large balls or wrapped masses of typical 'a'a found throughout Hawai'i.

The occupation of the Hawaiian archipelago after its mythical creation came in distinct eras starting around 0 to 600 A.D. This was the time of migrations from Polynesia, particularly the Marquesas. Between 600 and 1100 A.D. the population in the Hawaiian Islands primarily expanded from natural internal growth on all of the islands. Through the course of this period the inhabitants of the Hawaiian Islands grew to share common ancestors and a common heritage. More significantly, they had developed a Hawaiian culture and language uniquely adapted to the islands of Hawai'i which was distinct from that of other Polynesian peoples (Fornander, 222).

Between 1100 and 1400 A.D., marks the era of the long voyages between Hawai'i and Tahiti and the introduction of major changes in the social system of the Hawaiian nation. The chants, myths and legends record the voyages of great Polynesian chiefs and priests, such as the high priest Pa'ao, the ali'inui (Head Chief) Mō'ikeha and his sons Kiha and La'amaikahiki, and high chief Hawai'iloa. Traditional chants and myths describe how these new Polynesian chiefs and their sons and daughters gradually appropriated the rule over the land from the original inhabitants through intermarriage, battles and ritual sacrifices. The high priest Pa'ao introduced a new religious system that used human sacrifices, feathered images, and enclosed heiau (temples) to facilitate their sacred religious practices. The migration coincided also with a period of rapid internal population growth. Remnant structures and artifacts dating to this time suggest that previously uninhabited leeward areas were settled during this period.

### ***Settling of Kula Moku & Ahupua'a***

With its gentle and open white sand beaches, the coastal areas of Kula were surely a favorite location for fisherman and their families. Accounts tell of a large population on the coast with much bounty from the ocean, not only by fishing the open sea, but also by the construction of fishponds, gathering limu (seaweed), and diving for octopus, lobster, and other marine life. Inhabitants of this region relied on vegetable foods from other areas of the island. Possibly obtaining kalo (taro) from across the Mā'alaea plain in Waikapū and uala (sweet potato) from the mauka slopes of Haleakalā, the inhabitants of the coastal region were able to supplement their diet of fish, shellfish, and limu. Handy and Handy elaborate on the lands of the moku, “there were some patches of upland taro, not irrigated; but this was a notable area for sweet potato,

which, combined with the fishing, must have supported a sizable population although it cannot be counted as one of the chief centers” (272).

The project area rests in the Ahupua’a of Ka’ono’ulu, named for the delicious Ulu trees that grew in the upper, cooler portion of the ahupua’a that those residents on the coast would trek up the mountain to obtain. In ancient times the surrounding areas makai from the project were known for their fresh (brackish) water ponds that would fill up in times of rain and become dry during the summer months. Previously, there were many of these types of ponds that have now been filled in for development. There were no perennial streams here and the water supplied by these ponds and freshets of water that filled the gulches were an important lifeline for these peoples.

Hewahewa claimed Kalepolepo during the Great Mahele and was awarded over five thousand acres referred to as “Kaonoulu Ahupua’a” (Waihona). This award likely includes the project area. Hewahewa calls Kalepolepo his “fixed place of residence” (Waihona).

## **Place Names Associated With This Area**

The Hawaiian culture places a particular importance on place-names. Throughout Polynesia, cultures are for the most part ocean-based, surviving and building their cultures around the bounty of the sea. While Hawaiians share common history with all Pacific peoples, because of the unique factors of these high-islands, their culture turned decidedly more land-oriented than many other Pacific cultures. The abundant access to fresh water sources, fertile soil, relative lack of reef and reef fish compared to older south Pacific islands all contributed to their formation of a completely unique and distinct culture; a culture that placed a high inherent value on land and landforms, landscapes and their relationship to people’s lives. In place-names one can find its purpose, their purpose, and the hidden *kaona* (symbolism) behind the word.

### ***Ka’ono’ulu***

The ahupua’a the project resides in is named for the breadfruit grown on its upper slopes in the cooler mauka region on Haleakala. This breadfruit would have been carried down to the coastline and traded for fish and other products.

### ***Waiakoa***

The ahupua’a adjacent and to the north of the project area, it is named for the Koa tree that grew on the upper slopes of that ahupua’a.

### ***Waiohuli***

The ahupua’a adjacent and to the south of the project area, it is named for the clouds that come down the slopes of Haleakala and let loose their rain before retreating again to the mauka regions.

### ***Kalepolepo***

The small coastal region directly makai of the project area that houses the fishpond of Ko’ie’ie, so called for the dirty (lepo) waters in the area during times of rain.

### ***Ko'ie'ie***

The name of the major ancient fishpond in the Ka'ono'ulu ahupua'a, that along with others supplied a variety of food to the residents. See the following sections for more detailed information on the history of Ko'ie'ie.

### ***Kaipukaiohina***

A section of beach named for the bounty of its waters, *Ka ipu kai o Hina* is the Ocean-basket of Hina.

### ***Kihei***

The contemporary name for the entire coastal area of Kula, Kihei literally means a cape or shawl as is interpreted as representing the cloak of dust spread over the area by fierce trade winds and/or the cloak of the clouds created by Haleakala that stretch out into the channel sometimes connecting to Kaho'olawe and Lana'i.

## **Traditional Hawaiian Uses & Practices**

The inhabitants of the coastal areas of Ka'ono'ulu sustained themselves through the bounty of the ocean. Nearby to them was the fishpond of Kalepolepo, commonly called Ko'ie'ie. Kalepolepo was built by an early Maui chief and by the 16th century King Umi of Hawai'i Island tasked the commoners with rebuilding the walls. Later, during the reign of Kamehameha I he rebuilt Kalepolepo again, tasking all the people of the west side of Maui to work. Ke Alaloa o Maui, the broad highway of Maui constructed by King Pi'ilani crosses through the ahupua'a of Ka'ono'ulu on its way to Mākena and not much is mentioned of this area besides Kalepolepo pond and the dryness of the area.

## ***Post-Contact Historical Uses & Practices***

It was near Kalepolepo and the shoreline north of the project area that Kamehameha is said to have landed his canoes for his invasion of Maui. Kamehameha had previously been beaten by the forces of Maui because of their furious use of the ma'a (sling) for which Maui's warriors were famous. But Kamehameha this time had the foreign technology of mortars, muskets, and cannons. It was here he uttered the now famous saying, "Imua e nā poki'i. He inu i ka wai 'awa'awa", forward my brothers or drink of the bitter waters. He set fire to his canoes, their only form of retreat and challenged his men to win the battle or drink the bitter water of defeat and certain death. From Kalepolepo the army of Kamehameha pushed the warriors of Maui back to the West Maui Mountains.

With the arrival of the foreigners came the foreign interest of making money and one of the first goods to be mass exported from the islands was the Sandalwood. Ili'ahi in Hawaiian, the sandalwood tree has a fragrance highly prized by the Chinese and entire forests were denuded in the rush to make foreign money. Many of these forests were in the upper part of the Kula moku and the deforestation of these forests was a contributor to the siltation of the brackish ponds and loko i'a (fishponds).

While the rest of the island was undergoing a radical transformation of landscape with the construction of large sugar and pineapple plantations, the Kihei area remained largely unchanged

due to the lack of water. No foreign investors wanted to stake a claim to land out there knowing there was no way to water their crops. For a long time, Kihei remained the same, a few hundred Hawaiian families living off the bounty of the ocean.

In 1828 the first Catholic priest to the Hawaiian Islands, Father Bachelot, brought with him from Paris a seed which he grew into a tree and planted in a church in Honolulu. Soon after the seeds of this tree were taken to all the islands and began to dominate the leeward landscape of Maui. Kiawe soon was the most prolific tree in South Maui, so much so, that the kupuna (elders) of today remember Kihei as being covered in kiawe. There was so much kiawe that they would make slippers out of old car tires, the only thing that would stop the kiawe thorn from puncturing their feet. Oral accounts detailed how they would take the rubber tires off their bikes and replace it with a garden hose, wrapped multiple times and bound with wire, after getting too many flats with a regular tube tire.

### ***Current Uses, Practices, & Resources of Project Area***

Currently the project area is generally unmaintained former ranch lands mauka of the highway. There are no known cultural practices or resources in the project area. The closest cultural resource of significance is the Ko'ie'ie fishpond and the other fishponds along the coast which are undergoing a revitalization effort to bring them back to their former glory and provide educational opportunities for the community. The project area does include a variety of archaeological sites and features for which an Archaeological Inventory Survey (AIS) was completed on August 26, 2015, submitted to DLNR/State Historic Preservation Division with a letter of acceptance dated January 6, 2016. Recommendations with the accepted AIS include data recovery for nearly all of the sites and features located within the property.

## **Summary of Interviews**

### ***Paula Kalanikau***

Paula was interviewed for another Kihei project in 2006 and again in October 2013, both interviews took place at her residence on Kenolio Street in Kihei. Paula married into the Kalanikau 'ohana, the family who owned the ahupua'a of Kaonoulu. She stated that there were three families involved in the ownership prior to the Great Mahele: the Waiwaiole's and the Kalanikauikealaleo's.

Paula Kalanikau moved to Kihei in the early 1960's. She reminisced that all of the people lived in the flood inundation zone and when the floods came from a Kona storm, people couldn't get in or get out. That was before Pi'ilani Highway. The old Suda Store at the beginning of South Kihei Road was the gateway to Kihei back in the 1960's and 1970's.

In 1972, Paula's husband worked with a group of neighborhood men to start the Kihei Canoe Club on Sugar Beach. All of the Sugar Beach hotels were already there by the time Kihei Canoe Club got that land from the County. The Kalanikaus were all active in the Kihei community.

Mrs. Kalanikau talked about the changes in Kihei and how a lot of the changes are for the worse. Her final comment sums up her feelings about the future of Kihei:

“Oh, I’m definitely interested in them having a High School here. I think the children deserve that; and a hospital. But we need to be also aware of what our ancestors have established in these areas and be mindful to developers what would be our priorities. And that is our priority: to look after our ‘aina.”

### ***Daniel Kanahale***

Daniel Kanahale’s interview was recorded and the entire video is available through the ownership per the request of Mr. Kanahale. His interview was also transcribed in an effort to address his concern that Hawaiian stories need to be told. Mr. Kanahale spoke earnestly about the fact that once something is gone, it cannot be recovered. So preserving the stories as well as the various sites should be of utmost importance. Mr. Kanahale spoke of the fundamental relationship from the heavens to the land to the ocean—a relationship that can be negatively influenced if people aren’t careful in their development. Mr. Kanahale regularly walks the land in the proposed project area. He views rocks and plant life and living creatures as books in a library, things we can learn from.

*“So when I walk the land and I see an archaeological site, it's like me opening a book. And it teaches me about history and my connection to that --that -- the past.” “When I look at a cultural site, I don't look at it as like separated and disconnected from everything else around it. Because I know the cultural site is there because it's connected to that site, to that site, to that gulch, to that local i`a, it's all related. And the sites not even in the project area. ... So what I'm saying is my cultural practice is walking the land so that I can be taught by my kupuna.”*

### ***Michael Lee***

Michael Lee’s interview was recorded and the entire video is available through the ownership per the request of Mr. Lee. The interview was also transcribed in an effort to address his concern that Hawaiian stories should be told. Mr. Lee feels that people should be educated about the spiritual and physical meaning of the various sites in the project area. He also feels that as many of the sites as possible should be preserved. Specifically, the water flow in the streams and gullies should flow mauka to makai. Mr. Lee would like a group meeting that includes members of the Aha Moku Kula: Basil Oshiro and ‘Ohana, Brian Naeole and ‘Ohana, Jacob Mau and Tim Baily and ‘Ohana (from Mauka) to discuss a Site Preservation Plan. Mr. Lee spoke about his elders taking the time with him when he was young to teach him about his family genealogy and the history of the land. He was taught the wind and rain names, fishing and cultivating practices. He is grateful that he was given the knowledge to pass down to future generations and feels education of Hawaiian culture and history should be a priority.

*“We as a community have to move on in progress, jobs, development, but the law is situated that we can save those corners and pieces that are valuable to our Hawaiian culture. Like at the -- the megamall Pi`ilani Promenade, there are certain rocks and features that I was taught and told that -- how to distinguish what their purpose was through generational knowledge of this family line.”*

### ***Piilani Promenade Cultural Consultation Meeting, February 25, 2014***

Sarofim Realty Investors, Inc. hosted a Cultural Consultation Meeting on February 25, 2014, from 6:00 p.m. to 8:00 p.m. at the offices of Goodfellow Bros., Inc., located at 1300 N. Holopono Street, Suite 201, Kihei, Maui, Hawaii. In attendance were:

Charlie Jencks  
Brett Davis  
Eric Fredrickson  
Kimokeo Kapahulehua  
Kelii Taua  
Mike Lee  
Levi Almeida  
Basil Oshiro  
Sally Ann Oshiro  
Clare Apana  
Brian Nae`ole  
Florence K. Lani  
Daniel Kanahela  
Jacob R. Mau  
Lucienne DeNaie

The purpose of the consultation meeting was to present to those in the cultural community a summary of the current archaeological findings discovered as part of the ongoing environmental review process and to gain input from the attendees on their cultural and practical knowledge of the project area. The attendees were given the time and date of the meeting through Ms. Lucienne DeNaie and asked to attend if they were interested in communicating their knowledge of the area. The following summarizes the discussion:

The consultation meeting was started with a general description of the property and the most recent archaeological survey work done for the project area. The project area was subject to military occupation in the 1940's with land modification work on and above the subject lands. Modified land forms on and above the project were discussed in the context of possible cultural connection.

During the meeting there was a discussion about the petroglyph stone relocated off of the property in the mid 1990's. The petroglyph stone was moved prior to relocation being approved by SHPD. The petroglyph stone was relocated to prevent damage, and the petroglyph stone is now located on property not owned by the current owner of the subject project.

With respect to the AIS sites, the existence of coral midden was discussed as an important indicator of use and activity. It was explained that a data recovery plan would be approved and implemented to fully understand the significance of the sites and their relationship to the site.

Some of the consultation participants had spent time on the land as youth and members of families working for Ulupalakua and Kaonoulu Ranch and had familial ties with the ranch ownerships. Ranching practices including the creation of roads and removal of trees for the cattle

operation were briefly described along with the significance of Kulanihakoi gulch and the changes the gulch has seen over the years in getting deeper and wider.

There was discussion about the size of Kulanihakoi Gulch, its relationship to the areas Mauka of the project, historic flooding and the concern relative to any changes to the gulch in terms of hardening. Historic flows and the damage done to areas Makai of the subject property were also discussed. The gulch may be of interest in understanding the cultural history of the area and it was asked if the AIS work could be expanded to include the gulch area.

Discussion on the form of the land and presence of drainage ways traversing the project was reviewed in the context of the AIS with emphasis on making sure any cultural significance discovered through the AIS review of the areas was documented.

With the historic use of the land there was the question as to water and possible use of springs in the area. The folks having history of the area described the use of catchment to secure water for domestic and other uses in the area with no reference to ground water.

On the subject of food resources there was considerable discussion on the availability of Limu and other similar edible material on the shoreline. Collection and use was historically established but availability and access to the areas outside the project on the shoreline have diminished.

Finally, there was discussion about looking at the land form in a historical context which is actually part of the Cultural Impact Assessment process, hence this interview and consultation effort.

## **Piilani Promenade Cultural Consultation Meeting, April 27, 2016**

Sarofim Realty Investors, Inc. hosted a Cultural Consultation Meeting with Aha Moku Council representatives noted below on April 27, 2016 , from 10AM to 11:30 AM at the offices of Chris Hart and Partners, located at 115 North Market Street, Wailuku, Maui, Hawaii. In attendance were:

Charlie Jencks  
Brett Davis  
Kimoqueo Kapahulehua  
Basil Oshiro  
Sally Ann Oshiro  
Brian Nae`ole  
Florence K. Lani  
Lucienne deNaie

The purpose of the meeting was to first understand the overall mission of the Aha Moku Council, specific areas of interest and how those areas of interest can be communicated to the development community and gather input on various aspects of the project for which there is a concern as expressed by the Aha Moku Council. A specific request from the Aha Moku Council was made to Kimoqueo Kapahulehua for a meeting to discuss the project and in an effort to further extent the cultural knowledge and concerns regarding the project the ownership assisted in scheduling and hosting the subject meeting on the date noted above. The full transcript of this

meeting is contained within Appendix D of this document with the following summarizing the salient points discussed during the meeting:

So as to fully understand the overall role of the Aha Moku Council it was requested that as an opening statement the Aha Moku Council members present summarize the mission, purpose and direction of the Aha Moku Council. It was represented that the Aha Moku Council meets with landowners and community interests as a way to express and get the ideas of traditional thinking relating to a specific or geographical area discussed and addressed. The Aha Moku Council openly invites discussion on traditional Hawaiian ideas and philosophy as a way to help focus on issues of concern to the Hawaiian community, and works to get open dialogue on areas of concern. The idea of open discussion on issues helps to put forward the traditional concepts of sustainability and traditional use of the land, preservation of cultural resources for future generations and long term sustainable use of natural resources such as water, land and the ocean.

It was noted that all of those present representing the Aha Moku Council had attended prior meetings to discuss the same project.

A summary of the status for the cultural aspects of the site was offered by Charles Jencks with assistance provided by Brett Davis. Briefly, the following was noted:

- Previous consultation discussion occurred in February 2014,
- Draft EIS published with comments received,
- Site visit request for project area completed in January 2016
- Final Draft EIS in process,
- The project AIS has been accepted by SHPD,
- The accepted AIS recognized sites not previously noted through the site survey work,
- Recent site visit noted additional areas of concern which have been added to scope for future evaluation and data recovery,
- Overall approach in AIS is to prepare a data recovery plan and include cultural community in the data recovery process,
- No decisions on final significance can be made until data recovery plan is completed,
- Overall goal is to bring cultural findings into project through set-aside areas designed to reflect the cultural history of the land as revealed through the data recovery process,

### **Cultural Input from Aha Moku Council**

The Aha Moku Council members present offered the following input on the project area: The archaeological sites located within the project area should not be disturbed and remain in their current context. As part of this discussion, the existing drainage way traversing the property was discussed as it contains what is believed to be portions of a Punawai or dam structure used to regulate and improve water quality for downstream areas. The discussion on the gulch also included the discussion of and presentation of pictures and mapping showing the location of other possible cultural sites of interest with a request to ownership for further site investigation. Specific reference was made to rock shelf and shelter along with the rock stacking believed to form a Punawai as areas of specific concern.

### **Drainage Way Discussion**

The small drainage way was discussed in further detail regarding its future possible change and the impact on downstream properties. The significance of the drainage way was emphasized by those present in terms of drainage flow and possible impact to downstream properties if modified. The project team was asked if the drainage way would be relocated and the response was in the affirmative with the improvements located within the East Kaonoulu right of way with no increase in either quantity or velocity of flow. The explanation provided reflected on the original plans for diversion to Kulanihakoi Gulch which have been changed to instead direct flow through improvements to property with same Makai exit under Piilani Highway. Those present felt the drainage way has cultural significance and should be closely evaluated further with respect to sites and features within the gulch and ownership agreed to discuss further with project engineer and archaeologist.

From the perspective of flooding and the nature of Kihei being the low point, the Aha Moku Council made it clear it was concerned about flooding and the impact the proposed project would have on stream flows and additional runoff plus impacts to near shore water quality.

### **Requests from the Aha Moku Council**

The Council concluded its discussion by making the following requests of ownership:

- Want GPS for all sites on property – This will be accomplished prior to or with data recovery program,
- Additional site visits – Data recovery will be the next visit,
- Drainage way site evaluation – To be done by project archaeologist,
- Eclipse rock feature needs to be included in AIS – AIS has been accepted but if significant, rock can be part of cultural site within project,
- Circle of rocks in area close to corral must stay in place and not be moved – Rock locations are the result of past construction work on site but if deemed significant, may be relocated into cultural site within project area,
- Site preservation for sites 3730, 3731, 3732, 3736, 3740, and 3745 – Preservation will be driven by data recovery,

The meeting was concluded with the transfer of information regarding site pictures and mapping and the note that another meeting would be scheduled to discuss the project.

## **Synthesis of Archival, Literary, & Oral Accountings**

The ahupua'a of Ka'ono'ulu carried a relatively large population in pre-contact times that survived on marine life, sweet potato, and ulu that was carried down from the upper slopes of Haleakala. Post-contact the area nearer the coast continued to support a variety of commerce and recreational activities centered around Ko'ie'ie fishpond until the siltation of the ocean area and breakdown of the fishpond wall made it unusable. The proposed project area has been used for ranching for the past century.

## **Potential Effects of Development & Proposed Recommendations**

This report finds that the proposed Piilani Promenade Project located at TMK(s): TMK(s): (2) 3-9-01:016, (2) 3-9-01:169-174, (2) 3-9-048:122, (2) 3-9-001:148, (2) 2-2-02:077, (2) 2-2-02:016

(portion), (2) 2-2-02:082 (portion) could benefit from further meetings with the Aha Moku Council members as well as other members of the community during the site data recovery process to further understand the cultural and archaeological nature of the site and where possible, development of a preservation plan for those sites.

Given the input received through the consultation process and a review of the archaeological data gathered in the project AIS we cannot conclude the minor drainage way discussed within the project documents or consultation discussions has any relevant cultural significance. As part of the data recovery process proposed for the project area further information may reveal more about this drainage way and possible significance.

As always, all applicable county, state, and federal laws concerning discovery of burials or other cultural materials should be followed to the letter.

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1895

## Appendix A: Transcription of interview with Daniel Kanahele

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INTERVIEW OF DANIEL KANAHELE

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BY KIMOKEO KAPAHULEHUA

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KIMOKEO KAPAHULEHUA: I think that's really important, in this interview, people understand that.

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DANIEL KANAHELE: I agree.

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KIMOKEO KAPAHULEHUA: And to think -- the importance of the Aha Moku of Kula and having Basil as Aha Moku was important, you know, as makai one.

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DANIEL KANAHELE: Yes.

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KIMOKEO KAPAHULEHUA: And, yet, to connect with Timmy. So can you explain about the Aha Moku so people understand in this thing how -- that we're talking about the moku of Kula, you know.

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DANIEL KANAHELE: Yeah.

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KIMOKEO KAPAHULEHUA: And the Aha Moku person, Basil, was there and the reason why Aha Moku exists today.

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DANIEL KANAHELE: As best as I can.

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KIMOKEO KAPAHULEHUA: Yeah.

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DANIEL KANAHELE: And, probably, Basil could do better job of it because he's actually the rep, or Tim Bailey. I don't know if you're gonna interview Tim, too.

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KIMOKEO KAPAHULEHUA: Uh-huh.

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DANIEL KANAHELE: But the -- the Aha Moku system was created under Act 288. And the idea behind it was to -- to form an advisory group to the Department of Land and Natural Resources that relied in traditional generational

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knowledge from top to bottom, which was the practice, you know, in ancient times, to help manage our resources, our natural resources, and to be an advisory group to the Department of Land and Natural Resources. So Act 288 formed this advisory group. And each island has a kirole who represents -- who works with all the representatives from all the moku. Right? Like Maui has 12 moku, as far as we know. Some say there's 13. And there may be 13, but, you know, right now, my understanding, there's 12.

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KIMOKEO KAPAHULEHUA: Right.

11

DANIEL KANAHELE: And as -- as -- as we speak today, there are 12 moku. Each of those moku has a representative that -- that speaks for that moku. And everybody that belongs to that moku or lives in that moku, whether they're Hawaiian or not, can participate in the Aha Moku system. And so the leaders within each moku are -- hopefully, have the -- the knowledge or maybe expertise in -- in some area that has been passed down to them from over generations, from kupuna to, you know, the next generation, the next generation. And they use that knowledge to help determine how to best take care, malama, you know, that -- the resources of that moku, down to the a`a, the (inaudible) ahupua`a.

24

So it's fairly new. It's just a couple years old.

25

But Maui has probably the most organized Aha Moku on the

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island because we have all the moku reps, there's 12 of them. We have a kirole, which is, right now, Kai Makani Lua, but he's gonna step down, I think he's already stepped down. So they're gonna replace him. And there's a process in

5 place for doing that. And so Aha Moku got together and  
6 nominated individuals to serve as the kiole for the -- for  
7 the (inaudible). So -- so right now, forward, speaking of  
8 the Kula Moku, there are two representatives, one that  
9 represents Kula makai, you know, near the ocean, and one  
10 that represents Kula mauka. So Kula makai is Basil Oshiro,  
11 who lives right next to the project area, Pi'ilani  
12 Promenade. And then Tim Bailey, who lives up -- up mauka.  
13 KIMOKEO KAPAHULEHUA: I think the -- the other  
14 thing is that why was Tim Bailey chosen and why was Basil  
15 Oshiro chosen for be representative of the Kula Moku? Mauka  
16 was Tim Bailey.  
17 DANIEL KANAHELE: Yeah. So like the way I seen  
18 it, then, is that the residents or people within the moku  
19 choose who they want to be their representative. So I'm  
20 assuming that Basil and Tim were chosen by --  
21 KIMOKEO KAPAHULEHUA: Residents.  
22 DANIEL KANAHELE: -- the residents, yeah, to be  
23 their representatives.  
24 KIMOKEO KAPAHULEHUA: Were they -- were they  
25 chosen by residents, one, and would you say that they were  
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1 chosen by genealogy connection or lineage of the land?  
2 DANIEL KANAHELE: Yes. Both.  
3 KIMOKEO KAPAHULEHUA: Both, yeah.  
4 DANIEL KANAHELE: Both lineals and people who live  
5 there and may -- you know, may not be kanaka, may not be  
6 from here, but -- you don't have to be kanaka to have  
7 generational knowledge, you know. You don't have to be  
8 kanaka to be --  
9 KIMOKEO KAPAHULEHUA: I think the idea was lineage  
10 and knowledge of the area.  
11 DANIEL KANAHELE: Was the key, yeah.  
12 KIMOKEO KAPAHULEHUA: Yeah.  
13 DANIEL KANAHELE: Knowledge. You know, knowledge  
14 and lineage, those are both important. But knowledge is  
15 very important.  
16 KIMOKEO KAPAHULEHUA: But both of 'em live within  
17 the moku?  
18 DANIEL KANAHELE: Yes.  
19 KIMOKEO KAPAHULEHUA: And both of them is  
20 identified as makai, which is Tim Bailey --  
21 DANIEL KANAHELE: Yeah.  
22 KIMOKEO KAPAHULEHUA: -- and mauka -- I mean mauka  
23 is Tim Bailey.  
24 DANIEL KANAHELE: Yeah.  
25 KIMOKEO KAPAHULEHUA: Makai is Basil.  
0006  
1 DANIEL KANAHELE: That's right.  
2 KIMOKEO KAPAHULEHUA: And Basil, like you said,  
3 live right in the moku.  
4 DANIEL KANAHELE: Right. Yeah. I think he lives  
5 in the -- does he live in ahupua`a, too?  
6 KIMOKEO KAPAHULEHUA: Yeah.  
7 DANIEL KANAHELE: I don't know if he's Kaonoulu or  
8 he's in the next one over. I think he's -- yeah, I think  
9 he's in the Kaonoulu Ahupua`a.

10 KIMOKEO KAPAHULEHUA: I no think Honua`ula. I  
11 think the next one is Waiakoa.  
12 DANIEL KANAHELE: Right. Next is Waiakoa.  
13 KIMOKEO KAPAHULEHUA: You know. If you had -- if  
14 I asked you the question does -- the Pi'ilani Promenade, I  
15 think Pi'ilani Promenade project --  
16 DANIEL KANAHELE: Yeah.  
17 KIMOKEO KAPAHULEHUA: -- have a impact on you  
18 culturally?  
19 DANIEL KANAHELE: Uh-huh. Cultural practices  
20 or --  
21 KIMOKEO KAPAHULEHUA: Yeah. Practices, culture  
22 land, culture flora, culture fauna, culture insects, various  
23 culture sections.  
24 DANIEL KANAHELE: Well, if we're talking  
25 about this -- I don't know what the proposed project is  
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1 right now because they've done a environmental impact  
2 statement. Right? And they've shown a plan of what they're  
3 thinking of doing right now. But I don't know if that's  
4 actually what they're going to do. But based upon what I  
5 know --  
6 KIMOKEO KAPAHULEHUA: Yeah.  
7 DANIEL KANAHELE: -- that they're planning to  
8 build right now and that they are -- based on what I know  
9 from the EIS, they are not planning to preserve any sites,  
10 to my knowledge. They may, but not to my knowledge. And  
11 they're also planning to culvertize the gulch.  
12 KIMOKEO KAPAHULEHUA: Gulch.  
13 DANIEL KANAHELE: I would have to say -- speaking  
14 just for myself as Kanaka Maoli that lives in this area --  
15 KIMOKEO KAPAHULEHUA: Yeah.  
16 DANIEL KANAHELE: -- that, you know, my family is  
17 from Maui, from different -- from different moku, maybe had  
18 family in Kula, but I cannot say right now, right now, I  
19 don't know, that for me, personally, it will have impact on  
20 my traditional cultural practices.  
21 KIMOKEO KAPAHULEHUA: That is important.  
22 DANIEL KANAHELE: Pardon me?  
23 KIMOKEO KAPAHULEHUA: I think that's important  
24 they know --  
25 DANIEL KANAHELE: Yeah.  
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1 KIMOKEO KAPAHULEHUA: -- from a Kanaka Maoli,  
2 Daniel Kanahele that --  
3 DANIEL KANAHELE: Yeah.  
4 KIMOKEO KAPAHULEHUA: -- there is a impact, you  
5 know.  
6 DANIEL KANAHELE: On my -- on what I do as a  
7 cultural practitioner, yeah, it will have a impact on me.  
8 KIMOKEO KAPAHULEHUA: Uh-huh. So, you know, I'm  
9 filming and interviewing you, so we have to ask permission  
10 to use your interview. Would you allow the permission for  
11 us to use the interview in this project as the CIA?  
12 DANIEL KANAHELE: Yeah. So maybe you can  
13 explain -- well, maybe I'll just kind of say what you told  
14 to me before that. The -- the video will be turned into a

15 transcript. So someone will type up what --  
16 KIMOKEO KAPAHULEHUA: Exactly what we're saying.  
17 DANIEL KANAHELE: And that transcript will be  
18 included in the Cultural Impact --  
19 KIMOKEO KAPAHULEHUA: Yeah.  
20 DANIEL KANAHELE: -- Assessment. And then what  
21 happens -- what happens to that? All the interviews that  
22 are done, does someone make a determination as to whether or  
23 not, based on the interviews, there is cultural -- impact to  
24 cultural traditional practices?  
25 KIMOKEO KAPAHULEHUA: My understanding, that State  
0009  
1 Hawaii -- State of Hawaii Preservation --  
2 DANIEL KANAHELE: Yeah.  
3 KIMOKEO KAPAHULEHUA: -- gets to look at it. And  
4 they would be -- they would have a decision to make. They  
5 would be one of the decision people. I think the other  
6 person -- it included a QECC, Quality of Environment -- you  
7 know. So they get it read it and see it and they would make  
8 a recommendation of preserving or, just like you said, data  
9 recovery and not significant, you know what I mean. So this  
10 will go to them. They would -- they would -- and it also  
11 goes to Office of Hawaiian Affairs. So they would be the  
12 agency that would tell the developer, my understanding, this  
13 is what should be done, you know.  
14 DANIEL KANAHELE: Okay. So the firm that's  
15 interviewing me that you work for is --  
16 KIMOKEO KAPAHULEHUA: Is Hart -- is Hart -- Chris  
17 Hart & Associates.  
18 DANIEL KANAHELE: Chris Hart & Associates. So  
19 you're -- you're -- you're working for the consultant, Chris  
20 Hart & Associate?  
21 KIMOKEO KAPAHULEHUA: They -- they contract us as  
22 a --  
23 DANIEL KANAHELE: They contract you.  
24 KIMOKEO KAPAHULEHUA: Yeah.  
25 DANIEL KANAHELE: And then you're -- are you Hui  
0010  
1 Pono or --  
2 KIMOKEO KAPAHULEHUA: Hana Pono.  
3 DANIEL KANAHELE: Oh, Hana Pono. Okay.  
4 KIMOKEO KAPAHULEHUA: Yeah.  
5 DANIEL KANAHELE: Okay. So does Hana Pono make  
6 any recommendations to -- do you take the interviews and  
7 then say -- make a summary of -- based on what we --  
8 KIMOKEO KAPAHULEHUA: We -- we make a summary.  
9 And so our summary will show, you know, that -- what we had  
10 discussed --  
11 DANIEL KANAHELE: Uh-huh.  
12 KIMOKEO KAPAHULEHUA: -- with interviews that  
13 there is impact.  
14 DANIEL KANAHELE: So you'll make a conclusion  
15 as --  
16 KIMOKEO KAPAHULEHUA: We'll make a --  
17 DANIEL KANAHELE: -- to whether or not there are  
18 impacts or not?  
19 KIMOKEO KAPAHULEHUA: Yeah. So our recommendation

20 would be based on our interviews.  
21 DANIEL KANAHELE: Okay. Just thought I would  
22 share -- maybe share something. I have talked to SHPD,  
23 State Historic Preservation Division --  
24 KIMOKEO KAPAHULEHUA: Yeah.  
25 DANIEL KANAHELE: -- about cultural impact

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1 assessments and their purview. And I was told by Hinano  
2 Rodrigues -- and I forget what his position is right now,  
3 but he's in the Maui office -- and -- and Morgan Davis --  
4 KIMOKEO KAPAHULEHUA: Right.  
5 DANIEL KANAHELE: -- the archaeologist here in  
6 Maui. They don't have any purview over CIAs.  
7 KIMOKEO KAPAHULEHUA: No. It goes to --  
8 DANIEL KANAHELE: The ones that review CIAs is the  
9 OEQC.  
10 KIMOKEO KAPAHULEHUA: Yeah.  
11 DANIEL KANAHELE: The Office of Environmental --  
12 KIMOKEO KAPAHULEHUA: Environmental --  
13 DANIEL KANAHELE: -- Control. So SHPD won't make  
14 any recommendations based on this interview; only OEQC.  
15 What SHPD has purviews over is ethnographic studies. They  
16 can make comments on ethnographic studies, but not CIAs, not  
17 cultural impact assessments. And that's what I was told by  
18 Hinano Rodrigues and Morgan Davis.  
19 KIMOKEO KAPAHULEHUA: Yeah. Our summary would  
20 show exactly what our interviews, you know, say. We  
21 wouldn't turn that or make a recommendation. We -- we -- we  
22 summarize exactly what we got --  
23 DANIEL KANAHELE: Okay.  
24 KIMOKEO KAPAHULEHUA: -- from the people.  
25 DANIEL KANAHELE: Should I state what the cultural

0012  
1 impact is going to be to me?  
2 KIMOKEO KAPAHULEHUA: Yeah. That's important.  
3 DANIEL KANAHELE: Okay. So what is my cultural  
4 practice? My cultural practice is walking the land. I love  
5 walking wahi pana, story places, because they teach me so  
6 much about my culture and who I am as -- as a kanaka, where  
7 I came from, why I am here and where I am going.  
8 So speaking of archaeological sites.  
9 Archaeological sites with their attached features are, to  
10 me, like books in a library. And you can open a book in a  
11 library and you can read it and you can learn many, many  
12 things on many, many topics. So when I walk the land and I  
13 see an archaeological site, it's like me opening a book.  
14 And it teaches me about history and my connection to that --  
15 that -- the past.  
16 And so when you have a large area with a lot of  
17 cultural historic sites, like this project has maybe 20 or  
18 more, give or take, that's many, many books. And then what  
19 you eventually have, if you go even beyond -- because you  
20 know in western -- our western view is that we -- we look  
21 things through like tunnel vision. We have a very narrow  
22 view. We takes -- in western views, they take something,  
23 they dissect it into little tiny pieces, and then they try  
24 to understand things, how they work better. Hawaiian -- the

25 Hawaiian approach is completely different. We look at  
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1 things as a whole, as a complete. We try to understand how  
2 things work in relationship to each other, you know, to  
3 the -- the stars, to the streams, to the plants, to the  
4 local i`a, to the sea. Everything is connected --  
5 KIMOKEO KAPAHULEHUA: Connected.  
6 DANIEL KANAHELE: -- like a spiderweb. You touch  
7 one part of a spiderweb, the whole thing shakes. It's all  
8 connected. There's nothing not connected. But the western  
9 view disconnects everything and isolates it from its other  
10 connected parts. And you cannot really understand the whole  
11 by looking at a small tiny part of it. So when you look at  
12 this project area, you're looking at a TMK, tax map key.  
13 Right? You're not looking at the whole moku. You're not  
14 looking at the mokupuni. And that's how you have to look at  
15 things in order to understand the big picture and the  
16 interrelationships and interconnections and everything.  
17 Always what is going happen on the land going o impact  
18 things around it, not just on the land, but around it, from  
19 mauka to makai, all the way out into the ocean.  
20 And so that's -- that's how I look at things when  
21 I walk on land. When I look at a cultural site, I don't  
22 look at it as like separated and disconnected from  
23 everything else around it. Because I know the cultural site  
24 is there because it's connected to that site, to that site,  
25 to that gulch, to that local i`a, it's all related. And the  
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1 sites not even in the project area. There are sites in  
2 Kulanihakoi Gulch that haven't been documented. I know  
3 because I walk that. I love walking gulches. So I know  
4 there's sites in there that haven't been documented that are  
5 connected to the sites that are in the project.  
6 So what I'm saying is my cultural practice is  
7 walking the land so that I can be taught by my kupuna. And  
8 whether it's a rock, whether it's a cultural site, whether  
9 it's a native plant, or what-have-you, you know, I'm being  
10 taught and educated so that I can be a better prepared  
11 kanaka living on this land, know how to malama the resources  
12 that took care of my ancestors, which can take care of me  
13 today, and which I want to make sure is around to take care  
14 of future generations. So all that knowledge is there for  
15 me to learn. So the impact of this project is if they wipe  
16 that all out, there goes the books I could read. There goes  
17 my library. There's a big part of my education that I no  
18 longer can access because I'll never ever be able to read  
19 the stories those cultural sites could tell me. I'll never  
20 be able to open -- or anybody else.  
21 Oh, sure, they'll do data recovery, they'll write  
22 it down, they'll put it in the reports, stick it on a shelf  
23 somewhere. Who is going to look at that? How many  
24 Hawaiians would have a chance to look at that? Not too  
25 many. But if it's still there, it's still present, then we  
0015  
1 can still access it. It's all about being able to access  
2 things. You can't access your cultural resources, whether  
3 it's a plant, whether it's a tree, whether it's a pohako,

4 whether it's a local (inaudible), you cannot practice your  
5 culture. You need the cultural resources to practice your  
6 culture. You take away the cultural resources, a`ole, no  
7 more cultural practices. That's how it's going to impact  
8 me.

9 KIMOKEO KAPAHULEHUA: I think that's really  
10 important that this interview brings to the developer and  
11 the people how -- not only the treasures of our culture,  
12 yeah, but how do we -- how do we keep the treasure and how  
13 do we -- how do you -- your interview impact them to make  
14 some decisions to do something about it, you know. So I  
15 appreciate you meeting with us today.

16 DANIEL KANAHELE: Oh, thank you so much.

17 KIMOKEO KAPAHULEHUA: So ulu ulu about your mana`o  
18 and walking the land like how I go in the ocean and how  
19 kupuna keep on teaching us every day because the natural  
20 elements, they not the same every day, you know. And so  
21 this is Kimokeo Kapahulehua interview with Daniel Kanahele  
22 Kealoha --

23 DANIEL KANAHELE: Kaleoaloha.

24 KIMOKEO KAPAHULEHUA: Kaleoaloha. Daniel  
25 Kaleoaloha Kanahele on Saturday -- I think today is --  
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1 DANIEL KANAHELE: February 6, I think.

2 KIMOKEO KAPAHULEHUA: 6th. Mahalo, Daniel.

3 DANIEL KANAHELE: February 16.

4 KIMOKEO KAPAHULEHUA: Appreciate it.

5 DANIEL KANAHELE: Aloha. That was good.

6 (Recording concluded.)  
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CERTIFICATE

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5 I, TONYA MCDADE, Certified Shorthand Reporter, do  
6 hereby certify that the electronically-recorded proceedings  
7 contained herein were, after the fact, taken by me in  
8 machine shorthand and thereafter was reduced to print by

9 means of computer-aided transcription; proofread under my  
10 supervision; and that the foregoing represents, to the best  
11 of my ability, a true and accurate transcript of the  
12 electronically-recorded proceedings provided to me in the  
13 foregoing matter.

14 I further certify that I am not an employee nor  
15 an attorney for any of the parties hereto, nor in any way  
16 concerned with the cause.

17 DATED this 13th day of March, 2016.  
18  
19

20 \_\_\_\_\_  
21 Tonya McDade  
22 Registered Professional Reporter  
23 Certified Realtime Reporter  
24 Certified Broadcast Captioner  
25 Hawaii Certified Shorthand Reporter #447

## Appendix B: Transcription of interview Michael Lee

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3 INTERVIEW OF MICHAEL LEE  
4 BY KIMOKEO KAPAHULEHUA  
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3 MICHAEL LEE: -- fifties and sixties. And my  
4 father was there in the -- the fifties and sixties. And  
5 then he opened the Royal Hawaiian Kaanapali in 1962. So we  
6 moved from Hana to --  
7 KIMOKEO KAPAHULEHUA: Royal Lahaina?  
8 MICHAEL LEE: -- Royal Lahaina in '62. So all of  
9 that -- all of that took place. And so I was learning from  
10 both sides of my family about tramping the land and going  
11 to the ocean, learning more about the seaweed and  
12 everything. So this was my -- this was my Hawaiian tutu and  
13 her half Hawaiian child which was Jacob Martin Lee. His  
14 father was Peter Lee of Peter Lee Rhode at the Volcano  
15 House.  
16 KIMOKEO KAPAHULEHUA: Oh, yeah.  
17 MICHAEL LEE: He was manager before the Curtises,  
18 yeah. So that was him in the 1800s. And that's him in the  
19 1940s, Jacob Martin. So -- and then this is his mother with  
20 her sister, our kanaka side. So we were steeped in family  
21 culture because my mother's a quarter Hawaiian and my father  
22 is a quarter Hawaiian, making us kids quarter Hawaiian. So  
23 that was the family line for -- for that part of the family  
24 that we were steeped.  
25 Now, on my father's side, in the Maui genealogy,  
my -- the Meek side cohabitated and married into -- this is  
0003  
1 the -- from the archives. G6 is from Lahaina, June --

2 KIMOKEO KAPAHULEHUA: 18 --  
3 MICHAEL LEE: 1865.  
4 KIMOKEO KAPAHULEHUA: -- 65?  
5 MICHAEL LEE: Yeah, 1865. This is the Maui  
6 genealogy, okay. And this is one of the best genealogies  
7 because it outs everybody, you know. And on Page 49, this  
8 is Alapai. This is Alapai. This is Julia Alapai. And at  
9 the time she was married to Helikunii. This was before  
10 Kioniana. Her child was Keiki Namiki, the child of Meek.  
11 And the Meek we're talking about is Eliza Meek. Because,  
12 she was known as ali'i haole. So this lady is from Princess  
13 Julia Alapai Kauwa, who Olowalu land and Hana land.  
14 KIMOKEO KAPAHULEHUA: Oh.  
15 MICHAEL LEE: And then her grandson from Keiki  
16 Namiki, John Meek Kalawaia, he has land in Hana, too, so the  
17 connection in our family was always Hana, Maui on both  
18 sides. All sides was always Hana.  
19 KIMOKEO KAPAHULEHUA: From the beginning.  
20 MICHAEL LEE: From the beginning, it's always  
21 Hana. And Hana people always know who they are.  
22 KIMOKEO KAPAHULEHUA: Yeah.  
23 MICHAEL LEE: They know because there's the  
24 connection to the Big Island. Because that's the back door  
25 of the Big Island.

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1 KIMOKEO KAPAHULEHUA: Yeah.  
2 MICHAEL LEE: That's the porch of the Big Island.  
3 So I get chicken skin when I talk about this because this is  
4 how we're connected to Princess Julia Alapai Kauwa was  
5 through Captain Meek. Now you know you can't get these kind  
6 of documents unless you can prove, going backwards, that  
7 you're related --  
8 KIMOKEO KAPAHULEHUA: To them.  
9 MICHAEL LEE: -- to them because the -- the -- the  
10 Health Department would not give anybody anybody's records.  
11 So this is Captain John Meek. He passed away in 1875.  
12 KIMOKEO KAPAHULEHUA: 74.  
13 MICHAEL LEE: Yeah, '75 at 83.  
14 KIMOKEO KAPAHULEHUA: What is that on the top,  
15 1886-87?  
16 MICHAEL LEE: Oh, these are the book of records.  
17 KIMOKEO KAPAHULEHUA: Oh, the record book.  
18 MICHAEL LEE: Book of records. So that's for the  
19 book of records. And this then this is my grandmother,  
20 Eliza Meek. And this is her records. She died in February  
21 8th, 1888. And she was the mother of John Meek, okay,  
22 because he was hanai to two full-blooded Hawaiians, but, on  
23 his certificate of death, it says hapa haole.  
24 KIMOKEO KAPAHULEHUA: Oh.  
25 MICHAEL LEE: So how can two Hawaiians make one --

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1 KIMOKEO KAPAHULEHUA: Hapa haole.  
2 MICHAEL LEE: -- hapa haole, yeah. So he died in  
3 1891. He was born in 1833. Okay. And then, of course,  
4 this is the Lahaina side of this family that comes from Mary  
5 Ann Nunez. She's the one who has this blood. She was a  
6 great granddaughter of Captain Meek and Eliza Meek. So

7 that's how we jump into that -- that -- that pool.  
8 KIMOKEO KAPAHULEHUA: It shows -- on the death  
9 thing --  
10 MICHAEL LEE: Yeah.  
11 KIMOKEO KAPAHULEHUA: -- shows like makimole.  
12 MICHAEL LEE: Yeah. It says -- it says like what  
13 they died of over there.  
14 KIMOKEO KAPAHULEHUA: It says fever.  
15 MICHAEL LEE: Right.  
16 KIMOKEO KAPAHULEHUA: And maimau.  
17 MICHAEL LEE: Yeah.  
18 KIMOKEO KAPAHULEHUA: (Inaudible).  
19 MICHAEL LEE: Yeah. Yeah.  
20 KIMOKEO KAPAHULEHUA: That you know the record  
21 shows everything.  
22 MICHAEL LEE: Yeah.  
23 KIMOKEO KAPAHULEHUA: And registered as so.  
24 MICHAEL LEE: Yeah. So this is from Moren's  
25 journals. And it says -- this is from 1819, baptism, 4th of  
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1 July. Says today the children were baptized, I was  
2 godfather of son of John Meek. John Meek's son is very  
3 important because John Meek's son marries Princess Harriet  
4 Kawaikipi in June of 1837. She is the daughter of George  
5 Humehume, the heir of Kauai.  
6 KIMOKEO KAPAHULEHUA: Oh.  
7 MICHAEL LEE: Now, that's really interesting.  
8 This is how we're related to Bula Logan is because Eliza  
9 Meek, she's the elder sister of John Meek, Jr. He marries  
10 Princess Harriett Kawaikipi, he gets one daughter from her  
11 because Kamohoalii is her grandfather and the heir to Kauai  
12 is George Humehume.  
13 KIMOKEO KAPAHULEHUA: So Kamohoalii is from Kauai?  
14 MICHAEL LEE: From Kauai.  
15 KIMOKEO KAPAHULEHUA: Ali`i?  
16 MICHAEL LEE: Ali`i. So this is how we jump into  
17 the Kauai ali`i side was that this boy married Princess  
18 Harriet Kawaihinikipi. She died in 1842, but, before she  
19 died, she had a daughter. Her name is Becky, Elizabeth,  
20 Elizabeth Meek. From her comes Ahi Logan and Bula Logan.  
21 KIMOKEO KAPAHULEHUA: Oh.  
22 MICHAEL LEE: That's how they're related to us.  
23 KIMOKEO KAPAHULEHUA: So the Logan now is  
24 (inaudible).  
25 MICHAEL LEE: Yeah, yeah.  
0007  
1 KIMOKEO KAPAHULEHUA: His papa out there?  
2 MICHAEL LEE: Yeah, his papa out there, yeah. And  
3 then this is John Meek in 19 -- the year 1918, he said I was  
4 known -- I lived in a grass hut next to the hotel and it  
5 stood where the market is now on -- the hotel was outside my  
6 grass hut. Okay. And this is certified. This is  
7 certified. So it says that he lived there on the property.  
8 It says, this property in Honolulu I was given to John Meek  
9 by (inaudible) in the year 1817, when I arrived. Okay. And  
10 this sets up -- this is the property downtown. This was the  
11 next door neighbors. They said there were chiefs from

12 Kuhealani who were the chiefs on Oahu, a haole man,  
13 Mr. Kiaka, that's Jack, for Jack Meek, who is living with a  
14 wahine, and had some children from hence the occupation of  
15 my parents hina were there. But this was -- this -- this is  
16 very important because what this does, in the -- it says  
17 that Princess Julia Alapai Kauwa.

18 KIMOKEO KAPAHULEHUA: Oh, really.

19 MICHAEL LEE: Yeah, is that. On this certified  
20 house lot for Number 150 Helu, for LCA, Kikiau, okay. It  
21 says, at the time when Kamehameha I --

22 KIMOKEO KAPAHULEHUA: First.

23 MICHAEL LEE: -- wrote -- yeah -- from Kauai to --  
24 and -- and Kuhealani and the chiefs on Oahu, a haole man.  
25 So this was before he died in 1819, yeah, in May. So

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1 Captain Meek had children during the time of Kamehameha I,  
2 yeah.

3 And so we also have Buster Crabbe, the famous  
4 movie star that was Flash Gordon and everything, he was a  
5 grandson the Captain Meek. Because one of the Captain  
6 Meek's daughters was Elizabeth, the younger daughter of my  
7 grandmother, Eliza Meek. And in his memoirs and  
8 autobiography, he said, yeah, Captain Meek originally came  
9 from Massachusetts, who married a native girl in the 1820s  
10 and settled in the islands. But he had children, according  
11 to the Hawaiian testimonies and everything, before 1820,  
12 yeah. And the Moren's journals, 1819, the boy is being  
13 baptized.

14 KIMOKEO KAPAHULEHUA: Before --

15 MICHAEL LEE: On the 4th of July.

16 KIMOKEO KAPAHULEHUA: Before 1820?

17 MICHAEL LEE: Before 1820. So all the -- all the  
18 evidence that certified --

19 KIMOKEO KAPAHULEHUA: They were the documents that  
20 showed it was 1818, too.

21 MICHAEL LEE: Yeah. So bruddah had that. But  
22 that's how we jumped into Julia Alapai Kauwa's, her --

23 KIMOKEO KAPAHULEHUA: Lineage.

24 MICHAEL LEE: -- lineage, yeah. So -- and that's  
25 very important because Julia Alapai, she has land on Maui,

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1 in Olowalu and, also, in Hana, that links up to our Hana  
2 connection as well. So this establishes that, you know, we  
3 were around for quite some time. And it goes back to the  
4 Pi'ilani genealogy.

5 Now, what is very important on this tape, which is  
6 kind of really rare, was one of my teachers, back in the  
7 eighties -- I have to use this kind of tape, don't make it  
8 any more, or tape recorder -- was Auntie Alice Holokai,  
9 George Holokai, master hula chanter's mother. And she, with  
10 my grandfather, gave me my -- my star knowledge that I have.  
11 So this is -- and she got it from David Kali, from Niihau,  
12 so this is her talking about --

13 (A recording is being played out loud; and is not  
14 being transcribed.)

15 KIMOKEO KAPAHULEHUA: Stop, I'm gonna change the  
16 tape. But we'll finish the recording. Just stop that.

17           MICHAEL LEE: She was born in 1900. She would be  
18 116 today.

19           KIMOKEO KAPAHULEHUA: Okay.

20           MICHAEL LEE: Auntie Alice, she would be 116.

21           KIMOKEO KAPAHULEHUA: And her real name?

22           MICHAEL LEE: Alice Holokai. Her father came  
23 from -- he was lua master -- lua practitioner from Kohala.  
24 He broke kapu and taught her how to do the (inaudible). She  
25 killed her husband and then she brought him back and he  
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1 never beat her up again. She lived with the queen from  
2 1910, when she was 10 years old, to right before the queen  
3 died in 1918. So I was really, really fortunate to be with  
4 her. And she would, on sessions with me, talk about the  
5 death of Captain Cook, all in Hawaiian, who was the man who  
6 is different -- it's a different story from what you hear in  
7 history. She goes to the genealogy of the man who broke his  
8 bones, in doing lua snapped his -- his spine. She tells you  
9 the name of the guy was, who the family is, who they are  
10 today, and she does it in Hawaiian. And she went back and  
11 forth. I mean, she was such a treasure trove of knowledge.  
12 She knew Prince Kuhio, she lived with Queen Liliuokalani.  
13 She was part of the star knowledge that I got for these  
14 certificates as Papa Kilo Hoku from the City Council. They  
15 recognized me in two certificates, and my genealogy to the  
16 Kamehamehas.

17           KIMOKEO KAPAHULEHUA: 2012?

18           MICHAEL LEE: 2012. And then this one was -- this  
19 is May. That one was December. And the cultural practices  
20 of doing the mawawai ceremony, which I've done for children  
21 out here, it's a cultural practice from Kau on the Big  
22 Island for Lono, but we do Ke Akua. So they were  
23 recognition certificates. But all of this stuff, on all my  
24 certificates, I put my teachers, my grandfather, all the  
25 people who -- who --  
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1           KIMOKEO KAPAHULEHUA: Who taught you.

2           MICHAEL LEE: Who taught me. Because, for me, you  
3 know, they kept out of the limelight. Auntie Alice Holokai  
4 taught David Kalii's grandson in 1983 how to get to Kauai.  
5 And she was -- it was written up in the Star Bulletin. And  
6 she wouldn't give her name. She just -- they just said they  
7 got the knowledge from the lady on the mountain in  
8 Papakolea. She would never seek any knowledge for herself.  
9 She won the Thomas Jefferson award for taking care of  
10 children and healing people. Just an incredible group of --  
11 of people that I was so privileged to learn a lot of this --  
12 this knowledge in my cultural practice. And that tape is  
13 from 30 years ago, in 1986, when she was in her 80s. And  
14 she passed away in 1992 at 92 years old. And the wealth of  
15 knowledge that I got from my kupunas -- because I used to  
16 hang around 80 and 90 year olds when I was young and when I  
17 was in my early 20s, and just tried to soak up as much as  
18 I -- I could. And what Auntie -- Auntie Alice talked about  
19 the prayer. And this is the prayer of how to paddle. You  
20 have to go into prayer several months before you go and do  
21 it. So this was in her handwriting. I asked her, could you

22 please write it down, because I knew this was important  
23 historically and, some day, it would have to come out. So I  
24 wanted the master to write it in her hand, which she did.  
25 And, you know, the thing talks about the stars, but it

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1 doesn't show the positions. So I asked her to put the  
2 position of the star and how to paddle to Kauai under the  
3 double night rainbow. So she wrote this down in her hand.  
4 So all of this was, you know, very, very important. And I  
5 drew a picture of how Auntie Alice Holokai looked like. So  
6 my grandfather was the master keeper of the stars for me and  
7 the petroglyphs. Auntie Alice added on and others added on  
8 to that knowledge that I was really privileged to have these  
9 great people from the turn of the century who knew the  
10 historical figures personally.

11 And so Maui has always been very close to us  
12 because, you know, we're allodial landholders but, also,  
13 keepers of our record in `olelo. And when we were talking  
14 about the Kihei area and the neck of the property where the  
15 naulu rains and the naulu winds come down and how it affects  
16 by the side of the mountain where Keokealani is, pu`u makoi  
17 redirects from nuakea, the breasts of the mountains, pulling  
18 the naulu rains to feed the child. It's almost like a  
19 squatting child here on Kaho`olawe. And to feed the child  
20 the -- the life-giving mother's milk of the rains coming  
21 down in the clouds that are jutting out as the Kihei opens  
22 up and her breast milk goes to -- which is the fresh water,  
23 lawainui, the wealth and the fortune of the land. And all  
24 of these stories in Aki as well as Pana`ewa and the limus in  
25 Mala Bay and in Hana, where my grandfather fished, where he

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1 made his lama spear, 12-foot spear. And he had the -- the  
2 turtle glasses and he would take a breath at five minutes,  
3 he would go down and we wouldn't see him. And then he would  
4 come up with all this red fish and everything at Hana Pier  
5 and everything. So, you know, it was a rich, rich  
6 experience that I was given. And the stars and -- and the  
7 cloud signs. And really, really fortunate to have had these  
8 people who are my family teach this knowledge, which at the  
9 time I never thought anything of it. I just thought it was  
10 family stuff. But then as I got into my 50s, Auntie Alice,  
11 in my 20s, said, Governor, with one day you're gonna be  
12 doing what I'm doing. And I said, oh, auntie, that's never  
13 gonna happen because I'm a 9:00 to 5:00er. I gotta work for  
14 my living, I gotta -- I gotta pay the bills. And she goes,  
15 oh, you'll see. And sure enough, when I hit 50, exactly  
16 what she said, no longer a 9:00 to 5:00er, but actually  
17 taking all this knowledge that they showed me and actually  
18 doing something with it to save the Hawaiian culture.

19 We as a community have to move on in progress,  
20 jobs, development, but the law is situated that we can save  
21 those corners and pieces that are valuable to our Hawaiian  
22 culture. Like at the -- the megamall Pi`ilani Promenade,  
23 there are certain rocks and features that I was taught and  
24 told that -- how to distinguish what their purpose was  
25 through generational knowledge of this family line. And

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1 what we bring to the table is to educate, to you know  
2 better, you can do better. And if you know why this pile of  
3 rocks is what it is, and once its functionary --

4 KIMOKEO KAPAHULEHUA: Let me stop one minute.

5 MICHAEL LEE: Yeah.

6 KIMOKEO KAPAHULEHUA: So I can get a new tape.

7 MICHAEL LEE: Okay. Break in audio..

8 KIMOKEO KAPAHULEHUA: Hang on one more, a little  
9 bit. Okay.

10 MICHAEL LEE: Aloha again. You know, from our --  
11 our family lineage, this nihopalaoas came from my fifth  
12 grade grandmother found in the entrance channel of the  
13 marina of Ewa, walking the proposed channel, which we  
14 stopped regarding, we got into it and went up as our own  
15 attorney for the Supreme Court to stop, 'cause other family  
16 members are buried there. And so we got recognition. And  
17 our tutu was holding these nihopalaoas in her hand at the  
18 time. Two, one for male, one for female. And this is part  
19 of -- this is part of our world, our mo`oku`auhau, our  
20 genealogy, links all kanakas, 966 generations, but it links  
21 us to hauloa. And all of us are linked to how hauloa as the  
22 root, yeah, in our mo`oku`auhau. And it's important for  
23 anybody who's kanaka to know, this is the pupee that was  
24 found, to know the well to. She had a cache of all these  
25 Hawaiian jewelry. She was like 25 years old in -- in 1796,  
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1 1795 where the burials were -- were found. And so you don't  
2 destroy our world. I was never an attorney, but I'll do an  
3 attorney. I helped kanu the SHPD State Historic  
4 Preservation Division's found my grandmother's iwi kupuna.  
5 And it took me 10 years to get her back into the ground in  
6 Ewa, had to do a long fight. And this is the local -- how  
7 genealogy of how family goes to the Pi'ilani side and Kaiwe  
8 side.

9 KIMOKEO KAPAHULEHUA: And the Kamoalii.

10 MICHAEL LEE: And the Kamoalii side. We're all  
11 family. We all family in -- on my dad's side. The marriage  
12 locked everybody in through (inaudible), who was the  
13 Keopuolani of the 1700s, who married Luna Haipu, my  
14 grandfather of Kauai, and linked us all in. Kualii`i is my  
15 direct eighth grade grandfather, so he was from the Oahu  
16 (inaudible) line to both Kauai and Oahu. Kauai and Oahu are  
17 connected. And the channel is only a river between them  
18 because Kualii`i would spend every January, February on Kauai  
19 as mo`i of Kauai, but that bloodline is what locks in the  
20 islands, just as Hana is locked into north Kohala. The  
21 islands are one Big Island with these little rivers in  
22 between that we call channels, kaiwe channel, but they're  
23 rivers 'cause it's the family blood lines that lock in  
24 everything which is the back door to the front porch or  
25 whatever. So in our family lineage, there is no -- you  
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1 know, we have 88 different canoes and the 88 different ways  
2 of using the canoes, 'cause today people use the airplanes,  
3 jets. The canoe's usage, our family would stay two years on  
4 one island, go to Molokai, Kola Kula Koa was Chief Kula  
5 Koa's daughter who was ali`i of Molokai. That's my great,

6 great, great, great grandfather, my sixth -- seventh great  
7 grandfather. The family lineage locks us in to the land and  
8 visiting other family on other islands. We always visited  
9 each other. I mean, six months here, two years there, three  
10 years there, two years there, and we just kept on traveling  
11 all over. That's what our mo'oku'auhau chants say. So when  
12 they try to lock us in and they say, oh, Mr. Lee, you can't  
13 go to the Big Island and fight for the Kohala side because  
14 your ahupua'a is in Ewa. And I go, here's the chant of  
15 Koali'i. Kanehili is picking three limus, halahalaha, Lipoa  
16 and Komu. And I'm saying it goes to the Big Island, six  
17 months later, and, on the Hilo side, he's picking the same  
18 limus. I said that's our cultural practice. You can't  
19 limit us to one spot because our families are on all islands  
20 and our icebox is the ocean, and soon as you get off, boom,  
21 you start eating. So, you know, the outside people cannot  
22 define who we are. Our chants define who we are. Our  
23 generational knowledge define who we are. Place, presence  
24 and our cultural practice that we have been taught by our  
25 kupunas define who we are. And to have people who live in

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1 Nebraska on a farm for 200 years or whatever and says that's  
2 how you guys should live is false because we constantly  
3 move, nomadic. Summertime, that's why Queen Emma, summer  
4 palace. It's not -- they didn't stay in one place 24/7.  
5 They lived on different islands at different times,  
6 different sections of the island as their lovers, their  
7 moods, their children, their family needed them to help out  
8 in the lo'i or whatever. We constantly moved around. That  
9 knowledge that on the tape of Auntie Alice, this that you  
10 see is underneath Pu'u Wawa, Kohala on the Big Island. This  
11 is the underground aquifer, the river, the -- the ana cave,  
12 the puuwaina. So this is the keeper makakaiili. I know her  
13 and her family.

14 Now, haoles are getting into this cave. And I  
15 wrote to Alan Downer, saying what are haoles doing in here  
16 when there's been a keeper from the Keakeolani family for  
17 hundreds of years. And what are foreigners doing for our  
18 fresh water system. That fresh water goes to (inaudible)  
19 and makes the limu grow for our fishery because the limu's  
20 algae, and algae is the foundational food source for our  
21 fishery. So I wrote to Alan Downer saying what -- how come  
22 DLNR is allowing people to go into our ana caves when there  
23 are Hawaiian keepers for our culture in this place. And why  
24 wasn't it put out for public notice because this is not  
25 Disneyland. This is very important. Because on the shelves

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1 of these caves we put our keai, we put our iwi kupuna. You  
2 see the shelves down here? Well, sometimes there are niches  
3 above where with put iwi kupuna. This is a sacred place for  
4 us. It's not just, like I said, Disneyland, for people to  
5 go in and -- and niele around. You know, these are our  
6 cultural places that are being infested by everybody, just  
7 because they think they can.

8 And there's laws, Section 6(d) 1 through 13, that  
9 the State regulates who can come into these caves and stuff.  
10 And where was the DLNR meeting? Where was public notice for

11 the lineal descendants to come forth and to protect their  
12 interest of their family that's buried inside these caves?

13 You know, we were here thousands of years and we  
14 know these things. We don't talk about that because look  
15 what happens once the secret gets out. It's infested like  
16 termites to go and use it as Disneyland. So, you know,  
17 proper pono, what fits. This does not fit in our Hawaiian  
18 sacred places.

19 Dealing with the Pi'ilani Promenade, or some  
20 people call it the megamall, there are historical features  
21 that -- mounds for sacrifice for rain, for fish, for the  
22 different times of the solstices because, you know, our  
23 cultural practice that I was taught in generational  
24 knowledge is konohiki, makahiki and kapu. So when people do  
25 a EIS or AIS, the first thing I ask is if you're gonna

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1 define the Hawaiian culture, our practices surround  
2 konohiki, makahiki and kapu, so where does your planter  
3 feature, your sea shape, your terraces fall into konohiki,  
4 makahiki and kapu. Because this was a spiritual land, with  
5 spiritual people who every day they did everything was  
6 through ha and prayer, the rising of the sun, ku, to wakea  
7 and napo`o, the hoku ewa, zenith of the sun and the sky, and  
8 the setting of the sun, Hina, in the west, konohiki,  
9 makahiki, kapu. The clock that regulated the practices  
10 dealing with fresh water, using fresh water 1,000 ways  
11 before it got to the ocean. And the signs of the seasons  
12 for konohiki, makahiki and kapu are constantly shouting out  
13 on the cultural landscape.

14 So why would you have a solar observatory on the  
15 property that told you when konohiki, makahiki and kapu?  
16 Because it was kapu -- after October, the Hawaiian year ends  
17 and the resetting of the covenant of waiwai nui, fortune,  
18 fresh water of the king, had to take place in November,  
19 December and January. The fisheries had to be reset. The  
20 la`au rights for the terraces and the planting had to be  
21 reset. The kahunas could not eat the -- they would have to  
22 feed themselves on food. Nobody could work. It was like a  
23 giant sabbath until everything was reset during cultural  
24 practice of konohiki, makahiki and kapu. So if they don't  
25 have it, then they're making it up because our culture

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1 written in Kamakau, Malo, Abraham Fornander, Papa I`i,  
2 Emery, Emerson, (inaudible) 1 through 5. Everything talks  
3 about konohiki and makahiki and kapu in a spiritual way, a  
4 spiritual way. Here I am up at Hale Maunau and Tutu Pele  
5 sending the red -- she's sending me the red Kihei saying --  
6 she's my 17th great grandmother, she's saying, eh, you gotta  
7 wear the red, not the blue. But my teacher, Auntie Alice  
8 never gave me permission. You know, we always listen to our  
9 elders. We don't do unless they give -- they give us  
10 permission to do. And for me, it was too kapu. So until my  
11 student was saying, eh, my Kihei's turning red that Tutu  
12 Pele gave us permission to wear red Kihei. I didn't wear  
13 red Kihei. So -- and then what -- what happens is when we  
14 do practice, we're too young to hold certain practices. You  
15 gotta be on makua. I'm not kupuna, but my hair will turn

16 white and I will turn 80 years old when I do a cultural  
17 practice that needs me to be in my eighties because of the  
18 Tutu Pele bloodline. We will turn -- our hair will turn  
19 color and we'll grow old, from being young to being very  
20 old. But that's the superhighway in the spirituality of what  
21 takes place for us, you know, that's something where, as you  
22 can see, my hair isn't this white, yeah. But it will happen  
23 because it's supposed to happen, yeah. Two pictures side to  
24 side, salt and pepper.

25 KIMOKEO KAPAHULEHUA: This way. Yeah. Right

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1 there.

2 MICHAEL LEE: So you see one salt and pepper --

3 KIMOKEO KAPAHULEHUA: This side. This side.

4 Wait, wait, wait. Right there.

5 MICHAEL LEE: So you can see the -- the

6 transformation from salt and pepper to extremely old.

7 KIMOKEO KAPAHULEHUA: The green one or the red

8 one. There you go. Right there. Right there.

9 MICHAEL LEE: Yeah. So, for us, this is not

10 something that, you know, is -- is try go see because my

11 aunties and uncles could do all of this stuff. And it's

12 just in the family -- it's in the family line of our

13 cultural practice when we go out. And this was on the

14 Pi'ilani Promenade side. We're doing the -- the eclipse.

15 And behind is the wiliwili forest showing up that used to be

16 there 1,000 years ago, the dryland wiliwili forest on the

17 Pi'ilani Promenade. And there was like 40 people up there

18 that night. The kahus or kahunas, all we do is open portals

19 and we close portals. And we bring ho`okupu and thanks and

20 care and ha to our ancestors who are what other people call

21 gods, but they're just family from us, they're just family,

22 you know. What we were taught in our mo`oku`auhau and the

23 proper mahina stone at Mala Bay I use for divination of

24 family genealogy. Only take kanakas for that one, you know,

25 because the stones are very important. Our --

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1 KIMOKEO KAPAHULEHUA: Who that guy? Who is this?

2 MICHAEL LEE: Oh. This is Hank Fergerstrom. I

3 took him to the -- the pu`u at Hunuulu in Wailuku to meet

4 his -- his son that had passed away, Michael. So there's

5 certain pu`us that we go to meet your family. And you go up

6 and you close your eyes, and we do a chant. You put the

7 lavender salt from Kauai on your forehead and then your

8 family members come to talk to you from the other side.

9 Then the mo`o. The mo`o is very important to us.

10 This was -- the mo`o, (inaudible) up at Wailuku 670, yeah,

11 you can see her -- her hand. She's kind of translucent

12 white.

13 KIMOKEO KAPAHULEHUA: Really close, so I can your

14 hand.

15 MICHAEL LEE: Yeah, translucent white. Okay.

16 This is when we did a cultural access with Charlie Jencks

17 and we went up on the land. It's important -- our

18 connection to the land is very important because our iwi

19 kupuna is there. And that's our connection.

20 KIMOKEO KAPAHULEHUA: There was a -- there was

21 some concerns that you had, and you wrote them the concerns.  
22 MICHAEL LEE: Yeah.  
23 KIMOKEO KAPAHULEHUA: So can you share that  
24 concerns that you had, you went over with on --  
25 MICHAEL LEE: The --

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1 KIMOKEO KAPAHULEHUA: -- the promenade?  
2 MICHAEL LEE: The promenade, yeah.  
3 KIMOKEO KAPAHULEHUA: (Inaudible), yeah.  
4 MICHAEL LEE: Yeah. The -- the concerns were that  
5 the -- and we went over with the archaeologist.  
6 KIMOKEO KAPAHULEHUA: Yeah.  
7 MICHAEL LEE: You know, there's certain sites  
8 that, on the highest part, the solar mound for our -- for  
9 our cultural practices, the oracle stone, which Lucienne de  
10 Naie -- I'm gonna be coming up in April, April 14th, 15th,  
11 16th and 17th of 2016. But the oracle stone that is there,  
12 the mound of stones for offering for rain to come, the solar  
13 area that has the solstices, the area that we -- the eclipse  
14 site, Hina Ake Ahi, and Hina Ake Ahi is Tutu Pele. Tutu  
15 Pele, this is her niho palaoa that we were given on  
16 Haleakala by tutu herself. She said take it. Okay.  
17 Our concerns is that these things can be raised  
18 up, because they have to flatten out that property, to make  
19 it level and plain. And these cultural sites need to be  
20 protected and landscaping around them. And it's okay to --  
21 if you're raising the property, you can raise it up, because  
22 that property's a bowl. It's, basically, a bowl. And these  
23 features are Hawaiian cultural resources. They are our  
24 books, our observations and practice in place for our  
25 presence of our history. And to destroy them is like to

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1 destroy the books in the library of Alexandria of Egypt when  
2 it was burned. And we come to the forefront to put our  
3 mo`oku`auhau, our ike, our `olelo out to define under law  
4 what needs to be -- is what they call a finding of fact, to  
5 show that these things existed, they had form, they had  
6 function, they had a foundation for the purpose and need of  
7 makahiki, konohiki and kapu in their observations and in  
8 their time clock as our `olelo book through our chants. And  
9 we're not stopping the project, but we're asking people,  
10 because we've identified these cultural resources, what they  
11 are, what the practices were, why they're important. And  
12 they're not a lot around. There's some major ones that we  
13 just said, raise it up. For the ones that have alignments,  
14 keep them as is, but you can raise it up, you know, to  
15 flatten the bowl out, to have your project. But we're  
16 defining it, so put a protective buffer boundary zone around  
17 it in your landscaping for our cultural landscape. And  
18 incorporate it into what makes this place so special and  
19 should not be destroyed. Because it connects in to the  
20 rising of the sun who -- and directly overhead and Hina and,  
21 also, the nighttime practices for the fishermen, which was,  
22 basically, like a -- a temporary fishing village that took  
23 advantage of all the fish that came and during a certain  
24 time because you dried fish. You dried fish and octopus and  
25 for survival strategies and food sustainability. This place

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1 was used primarily by fishermen, but you had your Papa Kilo  
2 Hoku to show you the signs, to ask for the rain to come so  
3 the limu would grow so more fish would come. And the basic  
4 big fishing was summertime, May, June, July, August,  
5 September, October, because the sun was prolific, always up,  
6 the limu grew, and that's when the mating season of all the  
7 fish take place. So, you know, this site primarily is going  
8 to concentrate on fishing, by kilo, kilo -- by -- kilo means  
9 the vision by being up and kiloea, to be able to see and  
10 then to thank the gods and offer the right sacrifices,  
11 konohiki, makahiki and kapu, and the different practices of  
12 the ku and the lono practices for purification for the  
13 different times of the year. So we've taken the time to put  
14 that out.

15 We also mention, in the EIS, the drainage issue,  
16 very important, because part of the cultural features in  
17 sites are the gullies and gulches that go down to the ocean.  
18 And it's gonna affect the limu. If you -- part of my --  
19 besides the archaeological inventory survey, part of my  
20 concerns dealt with, you know, partnering with the Army  
21 Corps of Engineers with what is next to the fishpond below.  
22 And right next to that, on the north side, you have a marsh  
23 carryout. And to protect that area with Army Corps of  
24 Engineers with -- what you're doing on the drainage above.  
25 Because what concerned me is they wanted to go over and

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1 cover up certain natural drains. You know, gravity rules.  
2 From the mountain to the sea, water flows from a high place  
3 to a low place, and it finds its own way. If you block it,  
4 it's gonna find a new way and cause plenty pilikea,  
5 especially if there's a 500-year rain event.

6 So, you know, all of these things we point out to  
7 the developers for best use, best practice. Risk, cost,  
8 benefit, ratio. Who is getting the benefit and who's  
9 carrying the risk and the cost? We don't want the ocean,  
10 the limu -- you know, as I said, Uncle Henry, myself and  
11 Uncle Walter (inaudible) founded the Ewa Limu Project and  
12 went out like apostles to all islands because we want best  
13 use, best practice conservation of our Hawaiian natural  
14 resources. Article 12, Section 7, which is we will not  
15 overregulate or destroy Hawaiian religious cultural practice  
16 for the benefit and the health of the Hawaiian people. It's  
17 not just for Hawaiians. If you do those good practices,  
18 it'll help out everybody. Everything is important.

19 We're not asking, stop the project, 90 percent of  
20 the thing, you have to do it our way. There are very few  
21 things that we bring up that show and define what our  
22 practices are and why, in konohiki, makahiki and kapu. So  
23 within those lines, it's very little to give consideration  
24 and mitigate on these sites that we brought out how  
25 important they are. Certain stones can be moved, but should

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1 not be destroyed or moved off the property. Certain places,  
2 because the orientation of the sun, has to be kept in that  
3 area. If you gotta go up, go up, but it is our books, it is  
4 our `olelo, it's our library.

5           And to say no practice is done there, tell me what  
6 Hawaiian puts a neon sign saying I'm doing cultural practice  
7 tonight, why don't everybody show up. And then the outside  
8 western world says, oh, we don't see anything. Most  
9 Hawaiians do not advertise something sacred like where the  
10 Keakealani line have their iwi kupuna underground. Because  
11 if they do, outsiders, unwanted people, will take advantage  
12 and show no respect, because they do not know the history  
13 and the DLNR and the State of Hawaii doesn't. That's why  
14 they enacted, in 2004, the Aha Moku Council, to help guide  
15 DLNR as a body that would give recommendations on proper  
16 usage of natural resources, cultural resources. This is  
17 a -- this is a pure example of what takes place when the  
18 outside culture doesn't take time to respect and find out  
19 how significant pili grass is for stopping erosion. And  
20 invasives come in and their roots are like concrete and the  
21 water runs off and doesn't percolate into our aquifer. So  
22 where we gonna get the water to live on a desert island?

23           So all of these things are foundational and  
24 functional for survival. And it's been part of our cultural  
25 generational knowledge for thousands of years. What we

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1 bring to the table is what the law allows us to do, to give  
2 us our concerns. And we would like that respect under the  
3 law because, if it doesn't happen, we end up suing as Wailea  
4 670 and the cultural preserve took place. And thank God  
5 it's coming to an end. And, you know, \$10 million is set  
6 aside -- 185 acres are set aside for the habitat of the  
7 dryland forest and all the plants, animals and insects,  
8 and -- and we pushed for Hawaiian cultural practice because  
9 I was a part of that, too, for years. This is the same  
10 thing. We're just following the law. We're doing what the  
11 law asks us, to put on the table, put some skin in the game,  
12 step up and define what your practices are and why it's  
13 important.

14           We have done that and we would like the -- not  
15 just footnotes, but we would like it mentioned in the AIS,  
16 because it's a legal document, that the County of Hawaii --  
17 the State of Hawaii and Land and Natural Resource -- DLNR,  
18 Board of Land and Natural Resources, and the Land Use  
19 Commission use as a document to make legal decisions from.  
20 So this is really important. Everything matters. Plus, we  
21 want to continue teaching to the next generation how  
22 important and how invaluable their culture is, whether it's  
23 Kamehameha Schools or whether it's tourists that don't know  
24 but wanna know, or Maui Meadows who, new people moving in  
25 from the mainland, they wanna find out what the culture so

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1 they can do the right thing in the right way that is pono  
2 for respect. And we'll willing, we're putting it out there  
3 that this doesn't happen normally, where Hawaiians break out  
4 their family mo`oku`auhau, their `olelos to bring it to the  
5 table to save it. But we've seen too many hidden treasures  
6 of our culture gets blitzed because people didn't know,  
7 because nobody stepped up and put this information on the  
8 table for people to question, for people to observe, for  
9 people to do whatever they need to do to do the right thing

10 under the law. And that's what we're looking for and that's  
11 what we're asking for.  
12 Mahalo.  
13 KIMOKEO KAPAHULEHUA: It is some of the things --  
14 this was the site that you went with us on Friday, yeah?  
15 MICHAEL LEE: Yeah.  
16 KIMOKEO KAPAHULEHUA: And was this documents that  
17 you sent in to address the concerns?  
18 MICHAEL LEE: Yes.  
19 KIMOKEO KAPAHULEHUA: Can you flip each of the  
20 document because there was a lot of -- lot of things that  
21 you talked that --  
22 MICHAEL LEE: Right.  
23 KIMOKEO KAPAHULEHUA: -- was in your -- your  
24 report --  
25 MICHAEL LEE: Right.

0030  
1 KIMOKEO KAPAHULEHUA: -- in the back end.  
2 MICHAEL LEE: Right.  
3 KIMOKEO KAPAHULEHUA: So we with Michael Lee and  
4 at his home, but he had some -- he's already sent in some  
5 photos of undocumented -- undocumented areas in Kalanihakoi  
6 Gulch.  
7 MICHAEL LEE: Right.  
8 KIMOKEO KAPAHULEHUA: So he can -- he can -- as  
9 you can see that.  
10 MICHAEL LEE: Yeah.  
11 KIMOKEO KAPAHULEHUA: And then, also, on the back  
12 page --  
13 MICHAEL LEE: Yeah.  
14 KIMOKEO KAPAHULEHUA: -- you know --  
15 MICHAEL LEE: In the back page, it has a  
16 description of the -- the site numbers that -- for the AIS.  
17 KIMOKEO KAPAHULEHUA: Right.  
18 MICHAEL LEE: The site numbers that were first  
19 recorded in 1997. And it goes into the boundaries and the  
20 sites of the gulches and it goes into the details of the  
21 areas.  
22 You know, some of these that I was told were  
23 heiaus that, you know, people say, well, you know, it's  
24 clearly that this was -- the bulldozer came and it's got --  
25 it's got striations and cut from bulldozers. And I have to

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1 remind people, oh, before the bulldozers came to Hawaii, we  
2 had our heiaus and rock sites, then Ka'ahumanu came, she  
3 abolished that in Kuamo'o, the battle on the Big Island.  
4 And then what happened, the missionaries came and they  
5 defunct our religious practices.  
6 But that doesn't mean they stopped, just because  
7 the ali'i said you cannot do it anymore, burn the statues  
8 doesn't mean the statutes weren't taken underground in our  
9 ana caves. And the practices were still being done Monday  
10 through Friday. And on Saturday, Sunday, they went to  
11 church, yeah. So the bottom line is our practices have  
12 been -- how come the hula didn't die out when the  
13 missionaries said stop that, clothe them, don't be naked,  
14 because people still continued in the family generational

15 life away from the missionaries. Because the missionaries  
16 aren't around -- there are not enough of missionaries to be  
17 around you 24/7, so they don't know what's going on.

18 So the transmittal of these important places like  
19 the heiau on the Pi'ilani Promenade, the heiau was first,  
20 and then came the Mahele. Then after the Mahele, ranching  
21 came in, around the same time of the Mahele. And then they  
22 used the stones, also for cattle pens and stuff, they move  
23 'em around. And then the military came in and then they  
24 bulldozed for their purposes and stuff, over the ranches  
25 that -- you know, during the war, that -- 1940, World War

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1 II. And even before 1940, 1930s they came in. And they did  
2 their thing. Sometimes right over our sites, putting their  
3 emplacements and gunnery stuff. They did it right over  
4 our -- our sites.

5 So, you know, we still had knowledge of what was  
6 there before the military, before the ranches and cattle.  
7 And, of course, they used the rocks for boundary stones and  
8 highways and stuff like that. People took them because  
9 the -- the practice was defunct officially.

10 But every kanaka knows in their family that the  
11 practices were still done out of sight, out of mind. They  
12 did it out of sight so people -- just like when we  
13 (inaudible), we don't do it in the daytime. We do it new  
14 moon, at night, so that people who are jealous do not steal  
15 and turn the bones or crap in the skull or turn 'em into  
16 fishhooks or defile our family. Because there's some  
17 Hawaiian families that were jealous and competed. So for  
18 survival strategy, continuing the practice was done in  
19 secret.

20 So when it came to these sites and these areas --  
21 and I talk about the neck of the property where the wind  
22 comes through, which was very important for cloud signs.  
23 And where the placement of water heiaus are because of where  
24 the clouds come in, that's where you're gonna offer  
25 sacrifice to Kane, (Hawaiian language), where are the waters

0033

1 of kane, to make the water come down, the limu bloom, the  
2 fishes to come in, because they eat off the limu. Chant 1,  
3 Kumulipo, the 12 limus in the ocean are protected by the  
4 mauna, what's up in the mauna. Well, what's up in the  
5 mauna? The broad stream. That's the surface river that  
6 comes down from the mountain. And with it, what does it  
7 bring that's in the mountain that protects the fishes and  
8 the ocean? It brings with it fruits that fall in  
9 seasonally. And the fish come to the ocean. And where the  
10 auwai comes out, they gotta make a choice, do I eat the limu  
11 that's coming or do I take the fruit that's coming, I see,  
12 which one, the ho'okupu from the -- from mauka, or the limu.  
13 So they go for the ho'okupu and they leave the limu alone.  
14 Then the sand shifts, covers the limu, allows it to grow.  
15 So as it gets bigger in the summertime and grows prolific  
16 under photosynthesis of the sun, there's a lot of limu for  
17 fish and people. Because the fresh water brings nutrients,  
18 not nitrates. Those are -- are high chemicals that make the  
19 invasives grow. But it's the foundation of the food source,

20 the mountain, the midrange land and the ocean are all  
21 connected by the broad stream, the wahine. Okay. And that  
22 makes the fresh water estuary, where the magic of life  
23 begins in breeding. Okay. Because all the food comes down,  
24 because the fresh water wakes up the limu in the different  
25 seasons with the temperature. Okay.

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1 The narrow stream, Kumulipo Chant 1, is the ana  
2 cave, the male running in the pahoehoe lava tube. Okay.  
3 That is a backup in case the top stream dries up, the bottom  
4 stream continues to go.

5 In the State of Hawaii, they've closed down all  
6 the natural streams and diverted the water for sugarcane and  
7 human development and whatever. So why is the fishery not  
8 collapsed? Well, we've seen the limu fall. I mean, there's  
9 great people from my generation, Lipoa Road and all of those  
10 places, we have seen a decline of limu because of diversion  
11 of fresh water. The limu needs to be healthy. Okay.  
12 There's a direct correlation. Several limus are indicator  
13 species of fresh water, (inaudible), palahalaha.

14 KIMOKEO KAPAHULEHUA: Eleele.

15 MICHAEL LEE: Eleele. You see that limu growing,  
16 you know there's a spring around, you know the fresh water  
17 is blasting. All of this are indicator species. Now, best  
18 use, best practice of land, konohiki, is that you allow that  
19 to flow because most endemic Hawaiian fish are like salmon.  
20 Okay. They go out into the ocean, but, when they have to  
21 breed, they have to go in fresh water, moi, aholehole.

22 KIMOKEO KAPAHULEHUA: Mullet?

23 MICHAEL LEE: Mullet, o`opu, the list goes on,  
24 awa. You go all the way through and you found out most of  
25 our fishes are like salmon, but the people from the mainland

0035

1 don't fish, don't know. So why hasn't it collapsed? We  
2 have all of these ana springs and caves that are huge that  
3 are -- are pumping out water from beneath the ground, which  
4 are these ana caves that I'm showing you to show that the  
5 fresh water still goes even though -- even though you can't  
6 see it. It's subsurface, it's the kane. And so the  
7 mountain is protecting the sea in many different ways.

8 And people don't stop and ask the practitioner,  
9 what does Kumulipo mean about Chant 1, the 13 limus in the  
10 ocean being protected by all these plants in the land, what  
11 is the connection, what is the interwoven web of life.

12 Well, the connector is the subsurface streams and rivers,  
13 and we call auwais, that go into the ocean, and the  
14 underground ana cave which continues sight unseen, but does  
15 the same purpose.

16 So when we talk about a property, we know that the  
17 name of the property is either named for the clouds that are  
18 floating or the stars above, what the cultural practice, use  
19 and the alignment. If it talks about makali`i, this is a  
20 place to observe the rising of the (inaudible). Why do you  
21 observe it? Because you have makahiki and you have for  
22 farming and fishing. Makali`i is called kalawaia for  
23 fishing and it's called mahi for farming. It's -- it's  
24 necessary in setting that time clock of ho`oilu. So we know

25 the mahina eye, we farm and we fish by the moon. All of  
0036

1 this has its practice and its time. Okay. The sea itself,  
2 on hoaka, it's the second day moon after Hilo, it naturally  
3 plants the limu, the ocean oki snaps the limu and vegetation  
4 reproduction and puts them into the reef to grow again. We  
5 know the seasons, we know the times. What you do on the  
6 land is gonna affect the sea. And that's what our concern  
7 is as cultural practitioners and generational knowledge that  
8 we bring to the table. If you destroy this balance of Hale  
9 O Kaulike, the house of balance, it's all gonna be kapakahi  
10 and then it's all gonna start to fall apart. You cut down  
11 too many trees, you're gonna change the wind, the bees are  
12 not gonna be able to go there. It's gonna be really hard  
13 when the rains come. Everything has a purpose the way it's  
14 situated. The outside culture comes in, it doesn't learn,  
15 it doesn't care, shows no respect. Pull out the pili grass,  
16 put in California grass. Take down the natural trees, no  
17 more nalu winds and nalu mists from the ocean breakers  
18 that come and condense and make two rains. They don't know.  
19 They don't care. They don't think it matters. But we know  
20 everything matters. So we bring all of this knowledge to  
21 the table not to be an obstruction, but to say do the right  
22 thing for the right reason, which is pono. Because you  
23 order pipes, special order pipes, and they don't fit,  
24 pono`ole. Same thing, what is connected to the mountain,  
25 the midrange and the ocean and deep in the ocean, it's all

0037  
1 connected. And you break the connection, pono`ole.  
2 And we're putting this stuff down, especially in  
3 Pi'ilani, to say, look, where that ancient petroglyph was,  
4 that was a sign marker for the well that was there for the  
5 intermittent village, the fishing village that was there.  
6 To take the water -- when the streams weren't flowing, there  
7 was water in the man stream below, the -- the narrow cave,  
8 to support life on the land so they could do their cultural  
9 practice. That was removed. They didn't -- the guys just  
10 took it, they didn't know what the purpose, what the need  
11 was, what the survival strategy.

12 I showed you documentations of my family on Maui.  
13 They knew, we're bringing it to the table, so we can do the  
14 right thing and teach at the same time. Because this  
15 culture doesn't belong to my family. It belongs to all our  
16 Hawaiian people so that -- so that they can do what is pono  
17 in managing and being good stewards of the land. And that's  
18 what -- that's what we bring to the table. We're not saying  
19 stop the project; we're just saying, hey, these are  
20 important flags and markers, that what you do up at  
21 Pi'ilani -- and if you block the gulches, you're gonna  
22 destroy the estuary below, the brackish water estuary below.  
23 And it's gonna modify the sand that's there. It's gonna  
24 change the limu. So knowing the patterns of the rain that  
25 come and the water that runs in the ana caves below and

0038  
1 properly manage the drainage runoff so that pili grass stops  
2 that erosion and red water, the brown water that we hear  
3 about. Because if it's managed properly, there is no brown

4 water. Because there is no ripping and tearing of the land.  
5 So that's, again, the knowledge we're bringing, to say,  
6 look, this exists, we managed the land. When Captain Cook  
7 came in March 1778, 400,000 Hawaiians living off the ocean  
8 and not polluting, not shedding in the streams causing  
9 havoc. They buried their crap. They buried their waste.  
10 We all used the ocean. Thousands of monk seals. They only  
11 became endangered when western man came and took the octopus  
12 over -- overharvest octopus, overharvest lobsters, then they  
13 started to starve. Kanakas used the -- the resources.  
14 That monk seal is found in Chant 6 of the  
15 Kumulipo, Line 500. Okay. We work together with the ocean.  
16 That's why we had local i`as, to -- and koas, we created the  
17 koas in the ocean. They're not just on the land, but  
18 they're in the ocean. We built them to train the opelu to  
19 come in the net. We feed 'em, we tame 'em. You take wild  
20 opelu and you feed 'em vegetation matter, like taro, like  
21 sweet potato, like fruits. What we do is we change their  
22 behavior and they become tame and they become like dogs. So  
23 we train 'em go in the net, go out of the net, go in the  
24 net, go out of the net. Then when it's time to harvest, we  
25 take out the big breeders that's gonna give hundreds of  
0039

1 thousands of eggs and hundreds of thousands of fish and we  
2 selectively take fish for the village, for their needs, and  
3 we take 'em. Okay. But we're not pirates. Hawaiian  
4 fishermen were not pirates. They were farmers, they were  
5 mahi eyes of the ocean under mahina eye. And what they did  
6 was they trained the next generation and planted the limu  
7 and did everything so the harvest was ensured for an  
8 abundance and an increase in opportunity for the children of  
9 prosperity. That's how you stave off hunger and famine, is  
10 you plant in the ocean.

11 Same thing with our local i`as. Those are heiaus.  
12 Why are they heiaus? Because you have the Ku stone and the  
13 Hina stone both impregnated. The Ku stone always stay  
14 underwater in the shape of the he`e. That's why this kuula,  
15 kuula, the standing octopus, Kanaloa, okay, this is always  
16 underwater. The Hina stone can be half -- can be out of  
17 water and in water. It symbolizes the moon, but she is the  
18 informant. We pray in the morning to them before the sun  
19 comes up. We touch the Hina stone, the Hina stone tell us,  
20 with the akua noho inside of it, who's been in the fishpond  
21 at night. Did the puhi eel come in, did the red eel come  
22 in, and -- and where is it now. She's gonna tell us.  
23 Because we cannot stand guarding that fishpond 24/7.  
24 Nobody's gonna do that. So how do we do that? The  
25 informant is the Hina stone. Okay. And the way we situated  
0040

1 it, it's -- it's based on Kane's forehead of the makaha and  
2 the makohelani, two stars in his forehead that show Kanaloa  
3 Kane, fresh water ocean octopus. When it's gonna -- the  
4 makaha is gonna open and when to close the makaha gate of  
5 the local i`a. It's a natural time clock of two stars that  
6 rotate around -- one rotates -- the red one rotates around  
7 alko, which is kane, which is makohelani, and makaha is  
8 Kanaloa which tells us when to open the sluice gates. All

9 of this knowledge has a purpose and need for survival  
10 strategy. And so we bring that to the table to say, look,  
11 this is not isolated. Everything matters. Everything fits.  
12 It doesn't match your western model because your  
13 western model is not an island. And in that island, if you  
14 don't take care of business correctly, you're gonna starve  
15 to death because everything is your refrigerator. The --  
16 the forest is your refrigerator. The land is your  
17 refrigerator. The springs are your refrigerator. The ocean  
18 is your refrigerator with the limu. All places to eat and  
19 be taken care of feed off the land, `aina, `aina, to eat  
20 from the land. The land itself, you eat from.  
21 So all of this is very important when it comes  
22 back to the assessment that is being made and for what we --  
23 we put in both for the -- for the EIS and the AIS in our  
24 commentaries to highlight these areas for the broader scope  
25 that we're talking about in this interview with Kimokeo who

0041  
1 has come down this morning from Maui to -- to give this  
2 interview.

3 And to back it up, what we're putting here -- and  
4 we're laying the foundation of standing, that there is a  
5 place where we get it. We're not making this up. Governor  
6 Abercrombie used to say all the time, "Oh, those Hawaiians,  
7 they just showed up 10 minutes ago and they made it up."  
8 Well, no. In this case that's not the case.

9 KIMOKEO KAPAHULEHUA: Way, way back. Couple  
10 hundred years.

11 MICHAEL LEE: Way, way ago, couple of hundred  
12 years.

13 KIMOKEO KAPAHULEHUA: And more.

14 MICHAEL LEE: And more. And in our  
15 interconnectivity, we're bringing this out, we're -- we're  
16 trying to reveal the best use, best practice, so that it  
17 works out for everybody. Because Hawaiians managed and were  
18 good stewards of the land so people could live. Everything  
19 was waiola, the life of the land is perpetuated in  
20 righteousness in Ke Akua io. Okay. So the spirituality of  
21 the land and our practices.

22 Since I came back to the land for the Wailea 670  
23 project and we've done cultural practice up there, I've been  
24 told that it rains there consistently now for the last four  
25 years in that area. And that's what our ancestors always

0042  
1 knew, if you brought the ho`okupus, if you paid the respect,  
2 if you did the ha and you did the proper chants and did you  
3 what you needed to do, everything would be put in balance.  
4 The house of balance, Hale O Akaulike. So that's what we've  
5 been doing and bringing to the table in these projects, to  
6 educate people on the best way. We figure if you know  
7 better, you can do better. And the -- the mainlanders say  
8 they wanna know, so, eh, we're just doing what the law  
9 provides us to do for best use, best practice. And what  
10 people on Maui have been asking for, can you teach us, can  
11 you come, can you show us, so we have.

12 Mahalo.  
13 KIMOKEO KAPAHULEHUA: So as can you see, we're at

14 Michael Lee, practitioner for Papa Kilo --  
15 MICHAEL LEE: And the limu.  
16 KIMOKEO KAPAHULEHUA: -- the limu and, also,  
17 protocol.  
18 MICHAEL LEE: Yeah.  
19 KIMOKEO KAPAHULEHUA: And we share with you -- he  
20 share with you his mo`oku`auhau, his genealogy, the  
21 connection to mokopuniomai and the moku of Hana and the  
22 moku of Kula and differential and different ahupua`as. He  
23 share with you napoikalani the people of the heaven and how  
24 they're connected to us and napoi kamuana, the people that  
25 have see, and napoi konua, that we one big family. So he  
0043  
1 has explained that -- some of the things that, on there, is  
2 a physical example or things that was left behind and he had  
3 expressed his concerns and addressed all of that for the  
4 developer to include that in this report, and to address it.  
5 And not to only address it, but see and -- and know that his  
6 and our ancestors, our kupuna, way, way back. So the  
7 documents that we shown you earlier was purely the  
8 mo`oku`auhau and the genealogy of his ohana from Hana all  
9 the way to Lahaina, and how he expressed the connection of  
10 the lehuula, which is the first fishpond made by Kula,  
11 connected to a local i`a right below the promenade project.  
12 And he was sharing with you the summer solstice and the  
13 winter solstice. And he also explained at the site about  
14 the winter solstice lined up when the moon sets on the north  
15 wall and the sunset -- rises on the north wall, that was  
16 winter solstice. And he was also explaining properly the --  
17 where the sun rises on south wall and the moon set on the  
18 south wall, that was summer solstice. So throughout this  
19 document, he was explaining to all of us and teaching us  
20 what knowledge was left behind for us with his ohana, his  
21 family, and showing the connection of the -- connected from  
22 the ali`i all the way down to where he is today. And we had  
23 seen -- we heard Auntie Alice showing about -- talking about  
24 the stars. So Papa Kilo Hoku was one of the awards he  
25 received because of the kupuna teaching him the many, many  
0044  
1 stars. And Auntie Alice was just sharing one example of  
2 following the stars from Pokai Bay to Nawiliwili. Now what  
3 does that have to do with (inaudible), were there other  
4 stories that never been told about the same situation of  
5 what Auntie Alice explains about Kauai.  
6 So I want to mahalo Mike this morning, brah, for  
7 being open and for sharing all your ohana genealogy. Such a  
8 rich genealogy you have. And we will send you a document  
9 what we just did now.  
10 MICHAEL LEE: Oh, Mahalo.  
11 KIMOKEO KAPAHULEHUA: I like the video because it  
12 gives word for word, and no one can change it.  
13 MICHAEL LEE: Right.  
14 KIMOKEO KAPAHULEHUA: So I'll send you a document  
15 of that. And with your permission, we would like to use  
16 your document --  
17 MICHAEL LEE: Yes. Whatever, however.  
18 KIMOKEO KAPAHULEHUA: Yeah.

19 MICHAEL LEE: You have my permission. You have my  
20 permission.  
21 KIMOKEO KAPAHULEHUA: Appreciate that very much.  
22 MICHAEL LEE: Yeah.  
23 KIMOKEO KAPAHULEHUA: So I'm gonna say mahalo  
24 akua.  
25 MICHAEL LEE: Mahalo.  
0045  
1 KIMOKEO KAPAHULEHUA: Mahalo naamakua.  
2 MICHAEL LEE: Mahalo.  
3 KIMOKEO KAPAHULEHUA: Mahalo no kupuna okahiko.  
4 And mahalo your oi and ohana oli.  
5 MICHAEL LEE: Mahalo.  
6 KIMOKEO KAPAHULEHUA: Ae mama uno.  
7 MICHAEL LEE: Mahalo puni o ae.  
8 KIMOKEO KAPAHULEHUA: Mahalo.  
9 (Recording concluded.)

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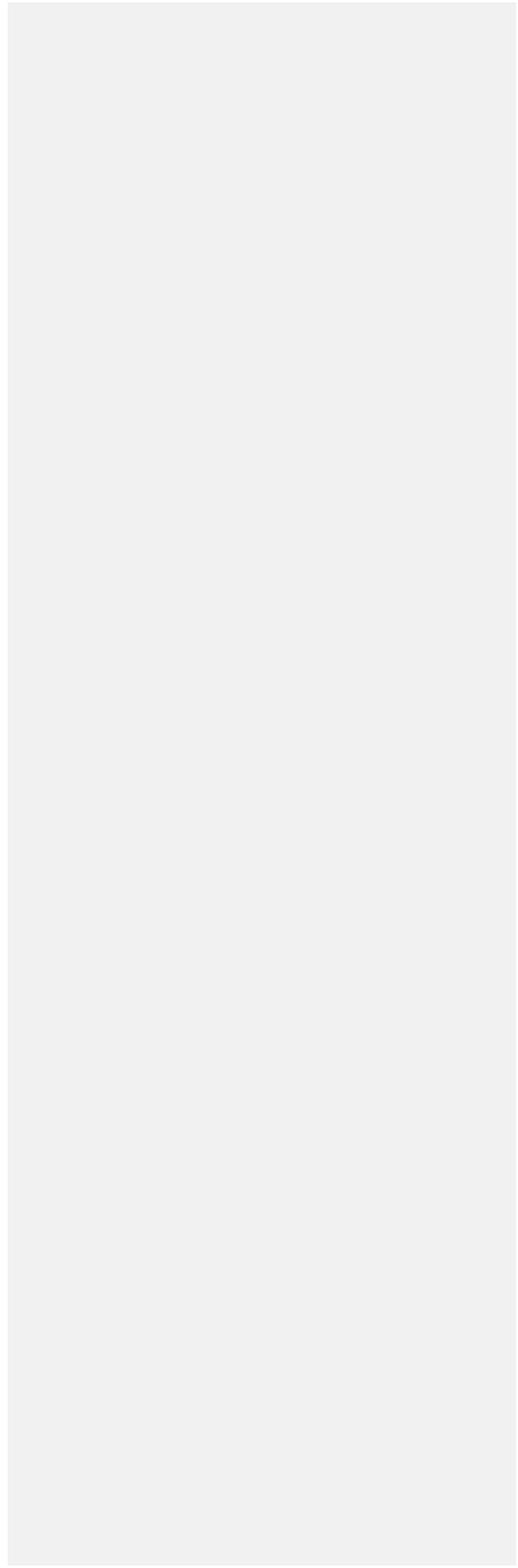
CERTIFICATE

1  
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5 I, TONYA MCDADE, Certified Shorthand Reporter, do  
6 hereby certify that the electronically-recorded proceedings  
7 contained herein were, after the fact, taken by me in  
8 machine shorthand and thereafter was reduced to print by  
9 means of computer-aided transcription; proofread under my  
10 supervision; and that the foregoing represents, to the best  
11 of my ability, a true and accurate transcript of the  
12 electronically-recorded proceedings provided to me in the  
13 foregoing matter.  
14 I further certify that I am not an employee nor  
15 an attorney for any of the parties hereto, nor in any way  
16 concerned with the cause.  
17 DATED this 15th day of March, 2016.  
18  
19

20 \_\_\_\_\_  
21 Tonya McDade  
Registered Professional Reporter  
Certified Realtime Reporter

22  
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Certified Broadcast Captioner  
Hawaii Certified Shorthand Reporter #447



**Appendix C: Transcription of Cultural Consultation Meeting of  
February 25, 2014**

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Piilani Promenade Cultural Consultation Meeting  
February 25, 2014

Transcribed by: Jessica R. Perry, CSR, RPR

1 Sarofim Realty Investors, Inc. hosted a Cultural  
2 Consultation Meeting on February 25, 2014, from 6:00  
3 p.m. to 8:00 p.m. at the offices of Goodfellow Bros.,  
4 Inc., located at 1300 N. Holopono Street, Suite 201,  
5 Kihei, Maui, Hawaii. In attendance were:

6 Charlie Jencks  
7 Brett Davis  
8 Eric Fredrickson  
9 Kimokeo Kapahulehua  
10 Kelii Taua  
11 Mike Lee  
12 Levi Almeida  
13 Basil Oshiro  
14 Sally Ann Oshiro  
15 Clare Apana  
16 Brian Nae`ole  
17 Florence K. Lani  
18 Daniel Kanahale  
19 Jacob R. Mau  
20 Lucienne deNaie

21 A copy of the sign-in sheet is attached as Exhibit A.  
22  
23  
24  
25

1           MR. JENCKS: Hi, everybody. Are we ready  
2 to go, Mr. Audio/video?

3           MR. KINNIE: We're good to go.

4           MR. JENCKS: Good deal. Okay, thank you  
5 all for coming. My name is Charlie Jencks. I'm the  
6 owners representative for Piilani Promenade, which is  
7 a project that you can see the land with dust control  
8 fences in north Kihei. We are in the process of doing  
9 an environmental impact statement, which as you all  
10 probably know and understand involves a couple can of  
11 things. One of those is a complete archaeological  
12 inventory survey that we need to do for the project,  
13 for the EIS.

14           Way back when, when the land was owned by  
15 Mr. Henry Rice, he -- in the mid, early '90s, he hired  
16 Zemanek to go out and do the archaeological survey  
17 for the property. When we contracted with Chris Hart  
18 & Partners, and Brett Davis is here from Chris Hart &  
19 Partners, to do the AIS, I thought it would be best  
20 and most efficient to have Zemanek redo the work as  
21 an update from the AIS. So Eric's firm was hired and  
22 Eric has completed a draft AIS that contains two of  
23 the sheets that he's handing out right now.

24           The purpose of tonight's meeting is to,  
25 number one, get a presentation from Eric on what was

1 found way back when and what we know about it today  
2 and update it, because we have an updated AIS. And  
3 number two, to take what he's going to tell you and  
4 then have a discussion from a cultural perspective  
5 what this property means to you and what you know  
6 about the property, because what we'd like to do is  
7 include that information as a part of the file when  
8 they resubmit the AIS. The intent tonight is to  
9 record video and audio. That information then will be  
10 used to develop a transcript, which we will then  
11 append to the AIS at some point in the future so the  
12 file is complete.

13 You know, we've looked at the property  
14 multiple times. I think it's decorum to ask you what  
15 you think. I went to Lucienne and asked her who --  
16 who should be invited to this meeting, and she came  
17 up with a good list of people that I have (inaudible)  
18 before and I think this should be a good discussion  
19 and I look forward to it.

20 So without any further ado, may I present  
21 to you Mr. Eric Fredrickson. We are going to go from  
22 6:00 to 8:00, as is standard procedure here. If  
23 you're going to speak, your name, so we know who it is  
24 on the record so it's easy to transcribe. Remember  
25 that, your name and then you talk. I said my name,

1 Charlie Jencks, so everyone knows who I am.

2 So, Eric, please, take it away.

3 MR. FREDRICKSON: Thank you, Charlie.

4 And hi, everyone. Thank you for coming. As Charlie  
5 said, I'm Eric Fredrickson. I grew up on Maui and  
6 have been doing archaeology for a long time. Does  
7 everybody have a handout? There are a couple pages  
8 that came out. Okay. (Inaudible).

9 What I'll do is before we get started, if  
10 it's okay, if everybody would just say hi, I'm --  
11 (inaudible) -- just to say hi. So I probably won't  
12 remember everybody's name, but just at least so we can  
13 all kind of say.

14 MS. DeNAIE: Hi, I'm Lucienne deNaie.

15 MR. LEE: Aloha, I'm Michael Kumukauoha  
16 Lee.

17 MR. ALMEIDA: Aloha, Levi Almeida.

18 MR. OSHIRO: Basil Oshiro.

19 MR. KANAHELE: Daniel Kanahale.

20 MS. APANA: Clare Apana.

21 MS. OSHIRO: Aloha. Aunty Sally Oshiro.

22 MR. NAE`OLE: Aloha, Brian Nae`ole.

23 MS. LANI: Aloha, I'm Florence Kea`ala  
24 Lani.

25 MR. MAU: Aloha. My name is Jacob Mau.

1                   MR. KAPAHULEHUA: Aloha. Kimokeo  
2 Kapahulehua.

3                   MR. TAU`A: Aloha. Kumu Tau`a.

4                   MR. DAVIS: My name's Brett Davis.

5                   MR. JENCKS: Charlie Jencks.

6                   MR. FREDRICKSON: Again, thanks all for  
7 coming. The whole purpose of this is to -- for  
8 information and then of course to get input from you  
9 folks. As Charlie said, we originally carried out an  
10 inventory survey, an archaeological inventory survey  
11 of this parcel, which is this pink portion right here,  
12 it was 88 acres originally, and a portion of it now is  
13 going to be developed as housing that's not directly  
14 involved with this project, which is now known as  
15 Piilani Promenade. So I think the on the ground  
16 component is about 75 or so acres.

17                   In 1994 the archaeological inventory  
18 survey that we conducted -- and I was on the ground  
19 for all of that. We located 20 sites, ranged from  
20 rock piles, some which were indeterminate function and  
21 then some which were makers. Some really low, some  
22 were a bit higher. We also found some enclosures, and  
23 I'll discuss them in a bit, and we also found what we  
24 are called surface scatters, which basically is an  
25 area where folks in the past were doing something,

1 eating, maybe working on tools, whatever, because  
2 people were going mauka-makai, and this was an area --  
3 it was kind of a stop point. It wasn't a place where  
4 people were living permanently because it's too dry.  
5 We also found a petroglyph that was on a bolder, and  
6 it's a good-size boulder, three or so feet in  
7 diameter. It was out in the middle of basically a  
8 pasture area. It had all been -- it was owned  
9 previously by Honua`ula Ranch and they'd run cattle on  
10 it. That boulder was a (inaudible). It was actually  
11 removed during the project while we were working --  
12 the report was in draft form and the prior owner took  
13 away. It went Upcountry, and it's in the same  
14 ahupua`a, but it's not on the property.

15 It was somewhere in this area, kind of  
16 near where this proposed Kihei-Upcountry highway is,  
17 originally. And that -- if you folks look at that,  
18 that map that came out is site 3746, which is kind of  
19 right up in this area. And again, that one was --  
20 that was taken off site.

21 At the time of the 1994 survey, all of  
22 the sites that we did locate were found to be  
23 significant, further information content under  
24 criteria D. No additional work was recommended at  
25 that time. The petroglyph, because of its cultural

1 significance, also was designated important under  
2 criteria E. And there was a -- preservation was  
3 recommended for it, but didn't get to that point  
4 because it was removed. The recommendation probably  
5 at the time would have been preservation on site  
6 somewhere. It was in an area that was not very  
7 secure. I mean, it was just out in the middle of just  
8 an open field. So that's a synopsis of what happened  
9 in the 1994 work.

10 Now here we are 2014. Happy new year, by  
11 the way, to all of you. There are some off site  
12 portions of this project that, you know, that wasn't  
13 even known in 1994 that anything was going to happen.  
14 So recently we came back, there's one -- there's an  
15 easement -- or, excuse me, there will be a road that  
16 comes from this project out to Ohukai, and then  
17 there's this -- it was titled a drainage easement, but  
18 now it's actually going to be used just to reroute the  
19 waterline. Right along the Wailuku-Makawao district  
20 line, which on that map that you folks have there's  
21 like an easement that's indicated, and that's the  
22 central Maui transmission waterline. It's a really  
23 big waterline. It's a 36-inch diameter waterline. It  
24 was completed, at least in this portion of Kihei, in  
25 1979, according to water department records. So that

1 comes across kind of the middle, diagonally across the  
2 property line -- or, excuse me, the project area, but  
3 that line is going to be diverted in this easement,  
4 and then it will be on the southern side in the  
5 project area, and then it connects down into the --  
6 into where it is down on the other side of Piilani  
7 Highway, which is down this direction.

8 And, I don't know, Charlie, maybe you can  
9 help. Is this -- is this going to be connecting in  
10 here?

11 MR. JENCKS: Yes, that's (inaudible).

12 MR. FREDRICKSON: So it will come in  
13 toward the south, southwest, in the southwest border  
14 and connect toward the system that's in place. That  
15 will be a major improvement and also action.

16 Other things that are proposed, all of  
17 this is required archaeological work to check out, is  
18 this access road here and then it comes up here and  
19 then this is -- is it a million gallon watertank?

20 MR. JENCKS: Yes.

21 MR. FREDRICKSON: A million gallon  
22 watertank is proposed. So we covered this area as  
23 well. This -- this area here is I believe leased by  
24 Monsanto for -- they're growing corn there. This  
25 whole area has been previously impacted by that

1 activity associated with land clearing.

2 There's another area -- so there's these  
3 three -- four areas, actually. There's this access  
4 road that goes out to Ohukai. Then you've got this  
5 access road that goes up to the watertank, then this  
6 easement, which was proposed for drainage formerly,  
7 but that's no longer going to be used for that. It's  
8 just the -- there will be a waterline kind of on the  
9 makai side of the western side of the new waterline  
10 will be diverted -- or not diverted, but excavated and  
11 then laid in place and go down there.

12 The additional area that's going to be --  
13 that was looked at, but, I mean, just basically, it's  
14 shoulder right-of-way, is this pink area over here.  
15 And that basically has to do with future improvements  
16 that this project is going to be required to do on the  
17 other side of the Piilani Highway.

18 So those areas we looked at this year,  
19 and no new sites were identified or anything in those  
20 areas. This area has been disturbed quite a bit. A  
21 lot of your sheet erosion, there's no more topsoil,  
22 it's down to bedrock. This part of Kihei, not  
23 everywhere, but in a lot of areas has gotten really  
24 shallow soil, and over 100 or so years of grazing and  
25 everything, the grass has been eaten down and then in

1 the summer, it's stressed, you get rain, soil -- soil  
2 has been washed away. So you get some pedestaling  
3 effect of rocks and stuff. If anybody here has been  
4 to Kahoolawe, not quite as severe because there's not  
5 as much soil as there is on Kahoolawe in a lot of  
6 areas, but you'll see like rocks and stuff that are  
7 just stuck up on little pedestals of soil.

8 So let's take a -- just a brief look at  
9 the sites that we actually located in the 1994 survey,  
10 and what we did -- because a lot of time elapsed,  
11 we've reevaluated sites, and in the prior survey there  
12 wasn't additional work recommended for the sites that  
13 were located. The preservation issue for the  
14 petroglyph is something that was set on the side,  
15 because it's not here. If it was here, I certainly  
16 would -- that would be recommended for preservation.  
17 There have been some discussions with the former  
18 landowner -- I don't know what's occurred yet -- about  
19 trying to have the petroglyph returned, but there's  
20 nothing that I've heard at this point.

21 These sites -- the sites started from  
22 3729, and there are 20 of them, so the petroglyph, the  
23 last one, is 3746. So sites 3729 through site 3746,  
24 those are the sites that were identified.

25 MS. DeNAIE: And did you take photos of

1 most of the sites?

2 MR. FREDRICKSON: Yeah, they're in --

3 MS. DeNAIE: They are --

4 MR. FREDRICKSON: In the appendix, in the  
5 back of the inventory survey from 2000 -- or 1994,  
6 they're in that, but not -- they may not be in this.

7 MS. DeNAIE: This was -- well, they were  
8 like sort of --

9 MR. FREDRICKSON: Yeah, they're black and  
10 white.

11 MS. DeNAIE: Yeah.

12 MR. FREDRICKSON: Which is -- that  
13 preserves the best.

14 MS. DeNAIE: Oh, I'm sorry, Lucienne,  
15 just asking about -- there's pictures of the sites.  
16 So you have these pictures in black and white --

17 MR. FREDRICKSON: Yes.

18 MS. DeNAIE: -- if anybody needed to see  
19 (inaudible)?

20 MR. FREDRICKSON: Yeah. So sites 3727  
21 through, let's see, okay, 3728, this is 3729. What  
22 are these, Charlie, I'm not quite --

23 MR. JENCKS: (Inaudible).

24 MR. FREDRICKSON: Oh, okay. Thank you.  
25 These are -- these were stone piles that were just --

1 and we actually tested a couple of them to see what,  
2 if anything, was underneath, just trying to get an  
3 approximate idea of the age, that sort of thing. Most  
4 of the piles appear to be placed on bedrock, on  
5 outcrop bedrock. We didn't locate anything in -- in  
6 the -- in the test phases. A couple of them had  
7 artifacts that were nearby, which isn't -- it's not a  
8 surprise. Hawaiians were transiting back and forth.

9 Some of the other sites -- so there's --  
10 let's see, 28 -- 3728, 3729, 3730, those are stone  
11 piles, (inaudible). An interesting one is -- what's  
12 this one, Charlie? I'm trying to --

13 MR. JENCKS: I don't see the number on  
14 it.

15 MR. FREDRICKSON: I think that one is --  
16 that's 37 I think 20 -- that's part of 3728, I  
17 believe. But that's a -- appeared to be a possible  
18 agricultural site, but we didn't find any evidence for  
19 it. I'm just going to get out my -- the other table.

20 MS. DeNAIE: Is that this one? Because  
21 that's 27.

22 MR. FREDRICKSON: 3727. Thanks. I've  
23 got my other table out. This has stone piles and  
24 there was some -- some -- the traditional --  
25 traditional cultural remains were -- was on the

1 surface. That was when we tested and weren't sure  
2 what it was, and our -- at that point the guests that  
3 we had was possible agricultural function. This is  
4 one that merits more study. So this one will have  
5 what's called data recovery work done on it in the  
6 future, once the State Historic Preservation Division  
7 reviews the report and once they concur, if that's --  
8 if that's reasonable. It was not recommendation in  
9 1994, views of things were a bit different, and the  
10 state said no, no further work was needed.

11 I spent -- just a quick thing about  
12 myself, just a brief -- I was on the Cultural  
13 Resources Commission for ten years, two separate  
14 five-year terms, and times have changed, so there does  
15 need to be some more work done to try to get  
16 additional information. That one, site 3727, is  
17 recommended for data recovery, and so is the 3728.  
18 There are other stone piles which we came across.  
19 Thanks, Charlie.

20 Again, these -- if you folks can see this  
21 bedrock around, there's bedrock in many of these  
22 areas, just more examples of stone -- of stone piles,  
23 some of them pretty high. 3731 was about -- you know,  
24 about like that tall, two and a half -- two and a half  
25 feet or so. Some were a bit lower. This one, 3734

1 was only about 35 centimeters, maybe a foot and a half  
2 high.

3 One thing, that one we probably will be  
4 doing some more -- some more work on. That's one that  
5 I'm still thinking about it. It said no further work,  
6 but there are a lot of -- a lot smaller rocks in that  
7 pile, so it may merit some additional work, and  
8 basically it would be just taking a section and seeing  
9 what's underneath it.

10 Again, bedrock is right there, and it's  
11 not a really big, you know, deep pile. Any time I see  
12 piles that are, you know, kind of good size, always  
13 there's a possibility there could be iwi there. When  
14 there's bedrock and stuff around, it's a little bit  
15 less, because it's not -- especially if it's not that  
16 deep, but still we -- that's why we probably are going  
17 to check to make sure, see if we can get any more  
18 information on it.

19 The area in the past was -- have been  
20 under ranching for quite a while, hundred plus years.  
21 The military was in there, in this part all over in  
22 Kihei during World War II and you see evidence of it  
23 all over the place. I worked on the Big Island a long  
24 time ago for Bishop Museum, and also on Maui, and  
25 you'll get these -- we found a couple of them

1 C-shapes, is what they're called, and it was basically  
2 a place where they would set up practice for machine  
3 gun -- have a machine gun there, and sometimes you'll  
4 find spent shell casings from practice and stuff. But  
5 the military had been in the area.

6 We looked at a couple of enclosures too,  
7 which I think they're -- yes, are over here. Site  
8 3735, 3736, we tested, didn't locate anything, but we  
9 probably will go back and do some more -- some more  
10 work on those. 3735 -- or, excuse me, 3736, this one.  
11 This one we think is probably military. We may go  
12 back and check that as well. Then we had some  
13 alignments. 3737, 3738 and 3739, two of them, 3737  
14 and 3738 were pretty long, especially 3737. I mean,  
15 60, 70 feet long, linear, parallel. Some of the rocks  
16 and the alignments had been -- I mean, it wasn't like  
17 really carefully stacked. It's like a bulldozer had  
18 gone through and the rocks were on the edge. There  
19 are some heavy equipment scars on some of the rocks  
20 and lots of like exposed -- like bedrock, flat, but  
21 it's like the -- there was hardly any rocks on the  
22 inside, so it's like it had been cleared of rocks. It  
23 looked like bulldozing, because there was metal --  
24 excuse me, heavy equipment scarring on the rock, on  
25 some of the rocks. Same with 3738. It wasn't as long

1 of a segment.

2           There is a possibility that because  
3 there's a lot of bulldozing that had happened on the  
4 parcel over the years in the past -- and some of it  
5 could have been related to like the fire department  
6 too, because sometimes Kihei has got the wild fires  
7 and they will take bulldozers out wherever need be  
8 just to try to -- for public safety.

9           Also, with the central -- central Maui  
10 transmission line was put in in the '70s, like I said,  
11 it's a three-foot diameter line. It's a big one, and  
12 they buried it pretty deep, and so when all of that  
13 work was going on, they had to have construction, you  
14 know, access roads and all that to get the equipment  
15 in and lay it, lay the pipe and everything, so that  
16 was a pretty big disturbance event that went through  
17 the middle of the property.

18           Yes, Lucienne.

19           MS. DeNAIE: Lucienne. Did you read in  
20 the report -- I guess it was Septric. They did a  
21 report for the parcel immediately mauka.

22           MR. FREDRICKSON: Mauka.

23           MS. DeNAIE: And they found an  
24 alignment -- I didn't see a picture of it, because I  
25 didn't see the actual report. I just saw it in

1 another report, the map, but it sounded like kind of a  
2 similar thing, an alignment of two things of stones  
3 that were, you know, so far apart. Did you ever  
4 encounter any pictures or anything to compare it, if  
5 it's the same?

6 MR. FREDRICKSON: We just have gotten  
7 that report. The state didn't have -- the SHPD didn't  
8 have --

9 MS. DeNAIE: Yeah, I tried to get it  
10 (inaudible).

11 MR. FREDRICKSON: Yeah, I will -- if you  
12 want to take a peek at it, I just got it in PDF.

13 MS. DeNAIE: I would love to.

14 MR. FREDRICKSON: And I will email it to  
15 you.

16 MS. DeNAIE: Oh, that would be great.

17 MR. FREDRICKSON: But what I was going to  
18 say is -- excuse me -- is near the watertank site, off  
19 the project, we just were -- just wanted to just take  
20 a look around the area. We did note a bulldozed -- an  
21 old bulldozed -- a road that had been bulldozed that  
22 had kind of some rough alignment, you know, like  
23 similar to these, but the -- there were smaller bits  
24 of rock as they dug down a little bit more and there  
25 was a little bit more soil, but again, it's probably

1 World War II era.

2 MS. DeNAIE: Be interesting just to even  
3 line them up and see just part of that history. I  
4 don't know if that's your job, but --

5 MR. FREDRICKSON: We found -- we found  
6 another one down -- it was off project, Piilani farm  
7 that Monsanto operates for their corn, near it, on  
8 another -- I think it was on Haleakala Ranch land, we  
9 saw another one of these. There was a World War II  
10 road that actually ran through that property that went  
11 off property and there was another one of these where  
12 a bulldozer had gone through relatively long ago, and  
13 you get this kind of a parallel alignment, and it's  
14 pretty -- you know, you've got basically a bulldozer  
15 blade width that goes through.

16 We found one more. There were three  
17 total. The other one was not as long, 3739 up here.  
18 Again, outcrop, bedrock, nothing in the interior  
19 portion of it. 3740, which is in the little gully  
20 that crosses the parcel -- a portion of the parcel,  
21 erosion containment walls, and it has like old fencing  
22 stuff in it and probably ranch (inaudible), so things  
23 didn't get washed -- washed out when that gully did  
24 flow, because when it rains, the water comes down  
25 pretty -- pretty fast.

1 MS. DeNAIE: And Lucienne here. We do  
2 have a former cowpoke here.

3 MR. FREDRICKSON: I'm looking forward  
4 to --

5 MS. DeNAIE: Brian Nae`ole, and he rode  
6 up and down here in his youth out of high school.

7 MR. NAE`OLE: 1979.

8 MS. DeNAIE: And so, you know -- and your  
9 ohana worked for the ranch too, yeah.

10 MR. NAE`OLE: Yes.

11 MS. DeNAIE: Yeah, so, and Aunty Florence  
12 too. So they might be able to answer some questions  
13 about ranching practices.

14 MR. FREDRICKSON: Oh, yeah, no, I would  
15 hope that -- I'm just talking, and, you know, feel  
16 free to interrupt me and then I'll shush and then I'd  
17 love to hear information from you folks, because  
18 you've seen an awful lot of interesting things over  
19 the years.

20 MS. DeNAIE: And we also have Jacob Mau,  
21 who worked for DOCARE, and so he -- he took his Jeep  
22 all over the place, so we're just hoping that, you  
23 know, some of the stuff, though, they'll know  
24 something about.

25 MR. FREDRICKSON: That's great. I

1 appreciate everybody, again, taking the time on what  
2 is a Tuesday at 6:00, whatever, beautiful day, but I  
3 know there's other things you could be doing, so I  
4 appreciate it.

5 The -- and then the sites 3741 to 3745,  
6 those are what are termed surface scatter, and those  
7 are definitely traditional Hawaiian sites. They had  
8 shell fish, like marine shell fish scattered around,  
9 not lots, but some. Somebody stopped there maybe a  
10 couple times, and some -- some artifacts, or like  
11 pieces of coral that people brought in. We did find  
12 on another project further Makena way, south from  
13 here, but on the mauka side of Piilani Highway,  
14 similar elevation, a place that had been -- it's kind  
15 of a stop -- a resting station, a rest station, kind  
16 of had an enclosure, not real -- a lot of effort put  
17 into it, but it's because it was just used not that  
18 often, but that actually ended up being a workshop, if  
19 you will, where folks were coming up from the ocean  
20 and reducing volcanic glass, taking the opala stuff  
21 off so they didn't have as much to pack up the -- up  
22 mauka. And that one -- that site also had food  
23 remains.

24 MS. DeNAIE: Excuse me. Lucienne. Was  
25 that the one that was preserve the sort of over near

1 the Monsanto area?

2 MR. FREDRICKSON: That's a different one.  
3 That one had a possible religious or ceremonial  
4 function, but yes, that was a different one.

5 MR. LEE: Hi. Michael Lee. When you get  
6 into the Hawaiian traditional practice, when you find  
7 a lot of coral on one of these mounds and stuff, that  
8 links to the Ku ceremony of au`au, when you go to the  
9 ocean and you cleanse and then you bring back a piece  
10 for -- usually it's a heiau or an offering site.

11 MR. FREDRICKSON: Yeah, these -- we  
12 didn't find much -- much -- it was small -- small  
13 pieces of coral, not like branch --

14 MR. LEE: Yeah, usually (inaudible) --

15 MR. FREDRICKSON: -- (inaudible) chunks  
16 of branch coral.

17 MR. LEE: Right, chunks (inaudible)  
18 normally.

19 MR. FREDRICKSON: That site that Lucienne  
20 brought up that's further south that was preserved did  
21 have some --

22 MR. LEE: (Inaudible).

23 MR. FREDRICKSON: -- excuse me, branch  
24 coral in it, and that was one of the rationale -- one  
25 of the rationales we used to say, hey, you know, it's

1 possible ceremonial function, preserve.

2 MR. LEE: Right.

3 MR. FREDRICKSON: But these four surface  
4 scatters, 3741 to 3745, the biggest one is 3741, which  
5 we did -- it's pretty substantial. It's about 50, 60  
6 feet, 60 feet in diameter, kind of, but it's not a  
7 clean circle or anything, but that's -- that one needs  
8 to have more work done, and so that would also be one  
9 that's going to be -- that we're going to recommend  
10 data recovery on. So we'll go back in and do some  
11 more testing. We didn't locate any subsurface  
12 component of it. It was only material on the top,  
13 and, again, shallow soil, a lot of erosion has  
14 occurred in the area, but that was certainly an area  
15 where people were stopping. There were some volcanic  
16 glass pieces that were there, but not good stuff,  
17 waste plates where it was just a place to lighten --  
18 lighten the load so you can take the good stuff up  
19 mauka.

20 3742 is another one, and that one will --  
21 it was just a few pieces of shell and a couple small  
22 pieces of coral and a water worn rock, and it's  
23 basically -- you know, somebody took it there, and  
24 it's called a manuport, if it's not something that was  
25 like an artifact or formal artifact. So that's

1 another one that we'll do some more excavation on --  
2 or excavation on. We didn't excavate that one.

3 3743 is another one of these surface  
4 scatters that we'll also do some excavation,  
5 excavation on. And 3744, that one we put in a couple  
6 test units. A good amount of food midden, not a ton,  
7 but more than the others, and it was in the top 10  
8 centimeters, which was about 6 1/2 -- 6 -- not even 6  
9 inches, 5 -- less than 5 inches of soil is for the --  
10 where the cultural material was and there wasn't  
11 anything deeper than that. It wasn't really deep soil  
12 deposited.

13 All of these areas have been traversed by  
14 cattle a lot. So it's possible the cattle just  
15 walking through might have pushed some of the shell  
16 down, but it's possible could have been covered by  
17 sheet erosion, water and dirt just going across, but  
18 it was certainly in the area where people were -- you  
19 know, they'd stop there, not on a regular basis, but  
20 they'd stop there at some point in the past. Again, a  
21 traditional site, though, it's not something that was  
22 very recent.

23 3745, another one, we tested that, same  
24 thing, got a little bit of shell midden in the soil  
25 deposit and -- but nothing below that. No charcoal or

1 anything. That was something we were looking for to  
2 try to -- so we could get a radiocarbon date -- sample  
3 so we could submit it to try to get an idea of about  
4 how old the site might be, but we didn't find any on  
5 all the testing that we did.

6 Yeah, Lucienne?

7 MS. DeNAIE: Lucienne. It looked like on  
8 your chart that the -- that last midden scatter was  
9 somewhat near where the petroglyph stone was --

10 MR. FREDRICKSON: Yeah, that one was  
11 about --

12 MS. DeNAIE: (Inaudible)?

13 MR. FREDRICKSON: It was -- I'm trying to  
14 remember how close it was. It was -- it wasn't right  
15 next to it. It was like -- just picture yourself out  
16 in the -- out in the field. It was probably 40 -- 30  
17 or 40 meters, 100 plus feet away, maybe a little bit  
18 farther, but it went -- comparatively speaking, it was  
19 close, certainly closer than anything -- any other of  
20 the sites on the project. And then the petroglyph  
21 itself was itself was, again, it was on a boulder  
22 about three feet in diameter and it was a real -- the  
23 rock was pretty porous, like if you rubbed up against  
24 it, really -- you know, you could get a pretty good  
25 sanding off of it and it was weathered, and it may

1 indicate that it was really, really old, or it may  
2 indicate that, you know, the rock is just more prone  
3 to getting weathered. But it's certainly interpreted  
4 as a traditional -- traditional site. Figure of a  
5 male, possibly with a basket or something, not sure,  
6 but, again, this is what got taken away.

7 Yes, Mike.

8 MR. LEE: Mike Lee. That circle on the  
9 bottom, was it like weather worn on one side that you  
10 could see it was a circle but it wore down or someone  
11 just completed what they thought should be the  
12 completed portion?

13 MR. FREDRICKSON: It -- really good  
14 question. This was our interpretation. It was kind  
15 of like -- it was discontinuous. It's like over here,  
16 we couldn't even -- you know, even see if the leg --  
17 I'm sure the leg had been there, but it was -- again,  
18 it was real weathered, but that was our -- it appeared  
19 that it was circular, but this -- the part that's  
20 dashed lines is -- that's what our interpretation was  
21 that that's what it appeared to do. There were a  
22 couple sections that were partial, partial  
23 (inaudible).

24 MS. DeNAIE: Showing (inaudible).

25 MR. FREDRICKSON: Oh, yeah, thank you.

1 And again, this boulder was transported off site.

2 MS. DeNAIE: Lucienne. Do you have like  
3 a fairly clear black and white picture of it that is  
4 in electronic form at all? It might be interesting  
5 (inaudible) cultural practitioners.

6 MR. FREDRICKSON: I could go back and  
7 look -- look in some of our old project photos, and  
8 I -- I'm sure it wouldn't be difficult to scan it or  
9 anything. It would -- and I'm happy to send -- to  
10 send it, to distribute that.

11 MS. DeNAIE: Yeah, we'd really appreciate  
12 it.

13 MR. FREDRICKSON: So that's -- that's the  
14 summary of the sites that were located and what is  
15 going to be the proposal for -- because some  
16 additional work does need to get done on some of  
17 the -- on some of the sites, the ones that I shared  
18 with you folks. And, excuse me, the data recovery  
19 will -- I mean, it's -- that we do as much work as we  
20 can, get as best information as possible, and  
21 sometimes you don't -- you don't get a lot more  
22 information, sometimes you do. It just -- it just  
23 depends. I'm not super optimistic, because of the  
24 real shallow soil. It would be great to get a couple  
25 carbon samples, but I don't know. All we can do is

1 try the best we can. Yeah.

2 MR. LEE: Mike Lee. Is there going to be  
3 a walkthrough for what these sites are, a consulting  
4 walkthrough?

5 MR. FREDRICKSON: Possibly later in  
6 the -- like when it's dry, prior to maybe data  
7 recovery.

8 UNIDENTIFIED MALE: Because it's like --  
9 you cannot see anything now.

10 MS. DeNAIE: It's (inaudible).

11 MR. FREDRICKSON: (Inaudible), but nobody  
12 else. Nothing else. Yeah, Daniel.

13 MR. KANAHELE: Daniel Kanahale. Eric,  
14 yeah, before I ask my questions, I just want to  
15 preface it by saying that this is part of a  
16 consultation process, according to HAR 13-7-276,  
17 where -- you know, where you're asked to seek the  
18 views of those who may have knowledge of the history  
19 of the area with regards to site significance and site  
20 function and site identification, so first of all, I  
21 wanted to ask the 2014 -- well, I did read the 1994  
22 archaeological inventory survey. I read it two years  
23 ago, so it's been awhile. My understanding, that was  
24 accepted --

25 MR. FREDRICKSON: Uh-huh.

1 MR. KANAHELE: -- by SHPD at the time.

2 MR. FREDRICKSON: Yeah.

3 MR. KANAHELE: So is this a supplement to  
4 that that you're undertaking? Is this something that  
5 you are going to be submitting for --

6 MR. FREDRICKSON: It will be submitted.

7 MR. KANAHELE: -- for review again and  
8 acceptance again?

9 MR. FREDRICKSON: Well, the 1994 --  
10 this -- the 88-acre project area, that's -- that part  
11 of it was accepted before. There was no monitoring  
12 recommendation or no further work recommended at the  
13 time in 1994. This project, like I said earlier,  
14 takes this -- this lot is a different land owner, but  
15 still it was part of the original survey in 1994, so  
16 that -- there weren't any sites located on this at the  
17 time, but that's still, in my mind, I'm considering it  
18 part of the -- of this overall project, so to speak.  
19 The -- so the sites that were found in 1994, that's  
20 the reevaluations, just see, you know, is the -- are  
21 they still significant, would they still be -- are the  
22 significance evaluations valid today.

23 The criterion D evaluations certainly --  
24 you know, certainly are. The petroglyph under -- is  
25 significant under criterion E for its cultural

1 importance. Again, it's in longer on the project;  
2 however, it's still -- doesn't mean its cultural  
3 significance goes away.

4 MR. KANAHELE: Just to -- just to follow  
5 up.

6 MR. FREDRICKSON: Yes.

7 MR. KANAHELE: So your recommendations --  
8 because I don't see the 1994 recommendations on --

9 MR. FREDRICKSON: Yeah, there -- at the  
10 time the views about criterion D sites were -- the  
11 amount of work were a little different that was  
12 figured, that was agreed upon, like, okay, well,  
13 there's enough information that's been collected. And  
14 the State Historic Preservation Division concurred,  
15 yeah, no additional work needed in -- at that time.  
16 In 2014, in my opinion, there should be some  
17 additional work done on the -- on close to half of the  
18 sites, to try to see if any additional information can  
19 be gathered. I mean, it's just -- just doing the best  
20 that can be done, and also, I mentioned a little  
21 earlier, in the 1994 inventory survey, no monitoring  
22 requirement was put in place. So there was no  
23 monitoring at all, and that was something that, again,  
24 that's 20 years ago. That has changed, and I  
25 completely agree that, yeah, I mean, even though it is

1 shallow soil and everything, there should be  
2 archaeologic -- precautionary archaeological  
3 monitoring carried out.

4 And the State -- the State Historic  
5 Preservation Division, actually in 2011, approved an  
6 archaeological monitoring plan that covers some of  
7 this property and some of the area mauka that -- of  
8 this property that Lucienne brought up that a 2008  
9 survey had looked at on the -- not in this area, but  
10 the area mauka. So there is an archaeological  
11 monitoring requirement that covers much of the  
12 property right now, and the plan has been accepted by  
13 the State Historic Preservation Division.

14 Because this -- you know, it's not a  
15 project-specific monitoring plan, though, and SHPD has  
16 already indicated that, hey, this project has changed,  
17 because originally it was 88 acres, but now -- well,  
18 it's less, this part of the original survey is a  
19 little less, but there's this off site improvement  
20 areas that they were never surveyed when we did the  
21 original work. This was just this one -- this one  
22 property. So these areas have been looked at.

23 The monitoring will also -- will  
24 extend -- it will be for this portion, the 88 acres,  
25 including the 13 acres or thereabouts, which is owned

1 by a separate entity, not part of the Piilani  
2 Promenade. It took me awhile to get my -- wrap my  
3 brain around this, but I finally do understand, so I  
4 know how frustrating it can be to not completely  
5 understand what a project is, because I saw this all  
6 the time on the Cultural Resources Commission, so I --  
7 Charlie was very patient with me, but I -- but I do  
8 understand what the scope of the project is, because  
9 this is the first time I've been involved with it  
10 since 1994.

11 I mean, I didn't do -- we didn't do any  
12 of the work in 2011 for the monitoring plan,  
13 preparation or anything. This was just kind of --  
14 Charlie called me last year about this and I was like,  
15 hmm, okay, I was always -- it was always difficult for  
16 me because of what had happened with the petroglyph,  
17 and I just -- it was something that just -- didn't  
18 have anything to do with them or anything. It was  
19 just one of those things that happened.

20 MR. LEE: Mike Lee. Was there an LCA for  
21 this whole property?

22 MR. FREDRICKSON: Yes, and I'm sorry, and  
23 I know someone here -- it was a very large one. It's  
24 5,000 plus acres to Heeiwa, and I don't have that --

25 MR. NAE`OLE: I have the apopuka. Brian

1 Nae`ole.

2 MR. FREDRICKSON: Oh, thank you.

3 MR. NAE`OLE: Land Commission Award,  
4 3237.

5 MR. FREDRICKSON: 3237.

6 MR. NAE`OLE: Mahalo.

7 MR. FREDRICKSON: Thank you.

8 MR. NAE`OLE: And I have an apopuka.

9 MR. KANAHELE: Was there a consultation  
10 process in 1994, somewhat like this, that occurred?

11 MR. FREDRICKSON: No, not -- not like  
12 this at all. It was, again, different -- different  
13 time. I'm trying -- we -- I think I brought -- who  
14 came out (inaudible).

15 MR. KANAHELE: I'm sorry, Daniel  
16 Kanahele.

17 MR. FREDRICKSON: I think -- and I'll  
18 double check, Daniel, but I believe Les Kuloloio came  
19 out to look at some of the -- like some of the surface  
20 scatters and stuff, because he's been involved with  
21 this for an awfully long time with -- you know, with  
22 being interested in what is found, and he came out and  
23 looked at -- looked at some of the sites, and I  
24 believe he saw the petroglyph, but we didn't have, I  
25 mean, as many folks -- and again, thank you for all,

1 you know, coming -- at the time who participated.

2 Yeah.

3 MR. KANAHELE: One other comment before  
4 I -- my understanding was in 1994 -- I don't know when  
5 the petroglyph was removed.

6 MR. FREDRICKSON: It was in 1994.

7 MR. KANAHELE: But it was removed without  
8 the permission of the state?

9 MR. FREDRICKSON: It was -- it was taken  
10 from the property before the inventory survey report  
11 had been finalized before the state had accepted it.

12 MR. KANAHELE: So still it was considered  
13 a historic property and removed from the site without  
14 permission of the state at that time?

15 MR. FREDRICKSON: As far as I know, there  
16 wasn't any permission, but I -- it was the land owner  
17 at the time, and they -- they -- they took it, I  
18 believe with good intentions, because it was -- it  
19 would be in a safer -- you know, safer area.

20 MR. KANAHELE: But you couldn't do that  
21 today, for example?

22 MR. FREDRICKSON: Oh, no. Well --

23 MR. KANAHELE: Do you remove a site  
24 before a preservation plan was put in place?

25 MR. FREDRICKSON: It's -- it's pretty

1 tricky. You -- the preservation plan needs to get put  
2 in place, and if it's not, it's kind of a gray area,  
3 and I don't really want to say that too much, just  
4 because there are landowner rights that can be kind  
5 of -- override some things. I don't want to go too  
6 much into.

7 MR. LEE: (Inaudible) tried to do some  
8 research --

9 MR. FREDRICKSON: Uh-huh.

10 MR. LEE: -- for Hawaiian cultural  
11 significance under Article 12, Section 7. Mike Lee.  
12 So -- thank you -- so we'll look at that, we'll look  
13 at survey notes and stuff like that.

14 MR. FREDRICKSON: It would be a lot -- if  
15 something like this were to happen now, it would be a  
16 lot different, I think, the result would be a lot  
17 different.

18 MR. LEE: This was in 19 --

19 MR. FREDRICKSON: 1994.

20 MR. LEE: 1994.

21 MR. JENCKS: Charlie Jencks. My  
22 understanding is that the state requested, subsequent  
23 to the relocation of the stone Upcountry, they  
24 requested that the land owner do the relocation --

25 MR. FREDRICKSON: There was some sort of

1 a relocation plan, but --

2 MR. JENCKS: Did you guys do that?

3 MR. FREDRICKSON: I don't think we did.

4 I don't remember, but that's --

5 MR. JENCKS: That was done --

6 MR. FREDRICKSON: That's something I will  
7 look at.

8 MR. JENCKS: That was done and accepted  
9 by the state.

10 MR. FREDRICKSON: Yeah, and there is  
11 reference to it, so --

12 MR. LEE: The relocation was to bring it  
13 back?

14 MR. FREDRICKSON: No, no, this was --

15 MR. JENCKS: To keep it up.

16 MR. FREDRICKSON: -- to -- (inaudible).  
17 It wouldn't be -- yeah, it would be a relocation,  
18 because from here Upcountry.

19 MR. JENCKS: Charlie Jencks. The point  
20 there is that the state knew about the relocation, the  
21 state had asked a land owner to do a study to  
22 formalize it, they blessed it --

23 MR. FREDRICKSON: Yeah, and --

24 MR. JENCKS: -- and closed it out.

25 MR. LEE: I see.

1                   MR. FREDRICKSON:   And again, not the  
2   ideal -- not the ideal, but there were some -- there  
3   were actions that were taken to I guess make it  
4   official.

5                   MR. LEE:   I see.

6                   MS. DeNAIE:   Lucienne deNaie.  I did come  
7   across sort of (inaudible) SHPD file, and I think the  
8   basic discussion was, well, Mr. Rice's intentions were  
9   good.  (Inaudible) see it defaced or (inaudible).  
10  However, he didn't follow proper procedure, so our  
11  only choice here -- and they didn't -- they didn't  
12  really think that they might have a choice to contact  
13  lineal descendents of the land or anybody else and see  
14  if anyone else wanted to say anything.  They felt  
15  their only choice was to provide a process to  
16  formalize what had already happened, because the  
17  intentions weren't bad.

18                   MR. FREDRICKSON:   Yeah.

19                   MS. DeNAIE:   You know, he didn't steal it  
20  to start his own museum.

21                   MR. FREDRICKSON:   Right, to do some  
22  tourist attraction.

23                   MS. DeNAIE:   He just said, well, you  
24  know, it's out here in the open and I don't know what  
25  I'm going to develop and, you know, to keep it from

1 harm, I'll just move it some place else.

2 MR. FREDRICKSON: Yeah, it wasn't done  
3 with malice or anything. It was done with good  
4 intentions. Again, it was 1994. A lot different than  
5 2014.

6 MR. LEE: Article 12 -- Mike Lee, Article  
7 12, Section 7 was in 1978, so it -- it's still covered  
8 under the State Constitution, which because they did  
9 not contact the lineal descendents, they're  
10 technically in violation of the Constitution when it  
11 comes to our gathering rights and religious cultural  
12 practice rights were not considered. State has made  
13 many mistakes while being -- this is not  
14 grandfathered. It would have been grandfathered if it  
15 was '77, you know, under that action, but because it  
16 falls under that umbrella of we just have to find  
17 specifically what those cultural practices were, if we  
18 can find it as a findings of fact, that would be cause  
19 to bring it back when this property is secured for  
20 what it's supposed to do, to have a place back, you  
21 know, maybe as a pedestal and a cleaning to  
22 (inaudible) to have it back on the property because of  
23 that significance. That's what I believe.

24 MR. FREDRICKSON: And the contact person  
25 (inaudible) anybody does have any questions at the

1 State Historic Preservation Division is Hinano  
2 Rodrigues. He's pretty knowledgeable about that  
3 stuff, so if anybody does have questions about it, I  
4 mean, certainly feel free to call him up. Thank you.  
5 Good questions and info.

6 So any other questions?

7 MS. DeNAIE: Sorry. I have so many  
8 questions. Lucienne deNaie. This project is  
9 immediately bordered by a gulch. I notice that when  
10 SCS did the high school site, right across the gulch  
11 from it, they did note that there were sites in the  
12 gulch.

13 MR. FREDRICKSON: Oh, I'm sure there's  
14 sites in the gulch.

15 MS. DeNAIE: And outside the project  
16 scope, but they noted them when they did some work on  
17 the parcel on the other side of Waipuilani Gulch.  
18 They also noted that there were some sites in that  
19 gulch, even though it was outside the project area of  
20 the Hi-Tech center area. So are the land owners  
21 willing to have the portion of the gulch that kind of  
22 surround here also surveyed, because it seems like it  
23 could inform us a little bit more about maybe what was  
24 going on here?

25 MR. FREDRICKSON: Yeah, good question.

1 The tricky part about that is it's a different -- this  
2 is -- I believe this is all Haleakala Ranch; is that  
3 correct?

4 MS. DeNAIE: (Inaudible).

5 MR. FREDRICKSON: Or, yeah, sorry,  
6 (inaudible) Ranch.

7 MS. DeNAIE: So it's the same people  
8 whose land you're surveying (inaudible).

9 MR. FREDRICKSON: At that time, yeah.  
10 And it would be -- it would be an owner -- land owner  
11 permission -- you'd have to have -- because you can't  
12 any more just kind of go on to somebody's property and  
13 go, oh, by the way, you have this site and this site  
14 and this site and you need to do X, Y and Z.

15 MS. DeNAIE: Well, it's interesting  
16 because, you know, they commissioned -- Honua`ula  
17 commissioned a study of the area up until the property  
18 line of this property, and yet recorded nothing in  
19 this gulch, and, you know, people have seen sites in  
20 that gulch, so it's sort of like a no man's land right  
21 now. I mean, I guess we could take it up with SHPD  
22 and ask that somehow, you know, it be included in the  
23 other review, but it just seems like there was no  
24 imaginary line between this gulch and this land. It's  
25 like they were functioning as --

1 MR. FREDRICKSON: Sure. Well, and mauka  
2 and makai do.

3 MS. DeNAIE: And you saw a (inaudible) or  
4 something around (inaudible) stone, it probably came  
5 from this gulch, because it's (inaudible). Also,  
6 Brian, what were you saying about the gulch had gone  
7 down like it was eight feet higher before or something  
8 like that?

9 MR. NAE`OLE: Well, when I used to work  
10 on the ranch with my uncle, John Nauwau, we used to  
11 ride horses all down through there. I remember the  
12 gulch as very shallow, but as the years go by, it gets  
13 heavier and heavier, and you can see the way the  
14 action of the water coming down is like --

15 MR. FREDRICKSON: (Inaudible) big flood  
16 events.

17 MR. NAE`OLE: It's like tidal waves.  
18 Yes, exactly, you know, and it got really deeper, you  
19 know, from the time I saw it, because you couldn't  
20 get -- you couldn't go on these lands, only if you  
21 were to work on the lands.

22 MR. FREDRICKSON: Uh-huh.

23 MR. NAE`OLE: So that's the only way you  
24 could see them, but riding horse, you're practically  
25 right next to the gulches.

1 MR. FREDRICKSON: Oh, yeah.

2 MR. NAE`OLE: You're seeing all -- more  
3 vegetation, a lot of paninis, a lot of walls, a lot of  
4 lava -- man-made walls. So when you're looking at it,  
5 you just vision what it was back then. The waters  
6 from old-timers, they used to say it was very heavy.  
7 It was dangerous. In fact, couple times my uncle had  
8 to just sleep right there because (inaudible) was just  
9 running.

10 MR. FREDRICKSON: Too much, yeah.

11 MR. NAE`OLE: And you would have had to  
12 wait at least 12 hours, maybe more or maybe less.

13 MR. FREDRICKSON: I remember down by  
14 Kamaole I, before they, you know, raise the road, I  
15 mean, there were times where it's like, oh, not going  
16 any further south --

17 MR. NAE`OLE: You know, it looks rainy up  
18 on the top and nice and sunny down here, but then when  
19 nature comes --

20 MR. FREDRICKSON: Just look out.

21 MR. NAE`OLE: -- wait 45 minutes. That's  
22 why the ground is -- you can see it. You can vision.  
23 It's getting -- you know, it's corroding, and how it's  
24 corroding, it's getting heavier and heavier, so...

25 MR. FREDRICKSON: So you think in your --

1 in your lifetime, like -- how long did you work for  
2 the ranch?

3 MR. NAE`OLE: I worked for the ranch five  
4 months. I went to high school, Baldwin High School,  
5 so I had the opportunity to go on a work furlough.

6 MR. FREDRICKSON: Oh, neat.

7 MR. NAE`OLE: With the job.

8 MS. DeNAIE: And what year was that,  
9 Brian?

10 MR. NAE`OLE: This is back in --

11 MR. JENCKS: Let's be careful about our  
12 names so we can keep track of what's going on.

13 MR. NAE`OLE: So Brian Nae`ole,  
14 (inaudible). Back in 1979 I had that opportunity,  
15 because uncle and in fact my grandfather used to do  
16 all the roads back then. They had many, many stories.  
17 They told us certain places not to go, certain places  
18 to go to. So we were pretty much, you know, all word  
19 of mouth, but does the experience, by looking at it  
20 today, you can see a lot of devastation, you know, in  
21 this area. So how can we make it safe, you know? And  
22 a lot of these gulches, like this gulch or this --  
23 that is coming across the property, it wasn't there.  
24 So you see the overload of water transferring to  
25 different areas. So we're diverting water that we

1 wasn't supposed to, because back in the old days the  
2 water just flowed naturally. So you see the  
3 difference.

4           And I know some of you guys in here, you  
5 know, by experience we see this all the time. Every  
6 year, every ten cycle, every twenty cycle, you know,  
7 it changes. So we don't know if we're coming to our  
8 catastrophic findings of disaster or is it naturally  
9 made that way. Because back in the old days they had,  
10 you know, the kupunas to -- the konahikis, the anuis  
11 had it all studied down, because they knew how to  
12 divert. Today we're just figuring out by word of  
13 mouth so we're not really pressing it by natural.  
14 We're just diverting it. So if you look by  
15 construction, I think that's where the problem is.  
16 So --

17           MS. LANI: Florence Lani. I was born in  
18 Ulupalakua and my dad -- all my families were all  
19 cowboys. My brothers, I have two brothers that worked  
20 the ranch and one of my brothers, he works with -- my  
21 dad was a heavy equipment operator for Ulupalakua  
22 Ranch.

23           UNIDENTIFIED MALE: (Inaudible).

24           MS. LANI: Yeah. And then in about --  
25 when I was about almost ten years old we moved to

1 Kula. That's where the (inaudible) Rice arena is now.  
2 That's where my dad worked for Harold Rice. He was  
3 the only operator that Harold Rice would have knocking  
4 all the kiawe trees. My sister and I, he used to take  
5 us on his bulldozer and go to red hill, and my mom --  
6 he would pack us, and my dad used to find these big  
7 bombs.

8 MR. FREDRICKSON: Oh, yeah?

9 MS. LANI: And he would bring it home and  
10 he would put it by the door. Yeah, he don't even know  
11 it's alive, and we didn't know, and, you know, my mom  
12 always told him to take away that big thing, it's so  
13 heavy, and he told (inaudible). He puts the bomb  
14 right there and they don't know anything, but my dad  
15 had so much trouble with the ranch, and he would let  
16 my dad do anything. Harold Rice, my dad was one  
17 (inaudible) best purpose, and only he would get brand  
18 new trucks every year. He loves my dad so much,  
19 that's why he would take care. We always have  
20 presents every year, you know, from Harold Rice, and  
21 then came Aske, all of his family, we raised with his  
22 two boys, you know, Freddie and Henry. So, you know,  
23 we just like family, but he used to come from Kula all  
24 the way down here to behind Maui Lou because he had  
25 all --

1 MR. FREDRICKSON: Oh, the road.

2 MS. LANI: The area, yes, and we always  
3 going back and forth. And like Brian, they're the  
4 boys, so all of them was just riding on the trucks and  
5 everything with my dad, and we seen see many things,  
6 you know, through our years, you know, as we were  
7 growing up, but then after when they past down, then,  
8 you know, my brothers started working, and one past on  
9 and that's how our life was always. You know, so I'm  
10 still (inaudible) in the place where I was born and  
11 raised. So I know a lot, and our lineal descendents  
12 is all grave back there in Lahaina.

13 MR. FREDRICKSON: Oh, in Lahaina?

14 MS. LANI: Yes.

15 MR. FREDRICKSON: Now, did you -- this is  
16 Eric Fredrickson. I'll try to say my name too so  
17 whoever is transcribing this doesn't get too upset.  
18 When you folks used to come from Ulupalakua down --  
19 did he come to Kihei area a lot?

20 MS. LANI: We would use that top road  
21 from the highway in the back road coming all down to  
22 Makena.

23 MR. FREDRICKSON: Uh-huh.

24 MS. LANI: That's our road every day  
25 going La Perouse, all the way to Kihei, we'll never

1 forget the areas, how (inaudible). Only (inaudible)  
2 kiawe trees, so we can park anyplace, you know.

3 MS. DeNAIE: Lucienne. Aunty Florence,  
4 what years were these?

5 MR. FREDRICKSON: Yes, thank you.

6 MS. LANI: This is back like in the '70s,  
7 I mean in the '50s, you know, because I was born in  
8 1939 here in Ulupalakua, and by the time five, six  
9 years old he took us to Kula and Makawao, and from  
10 then on my dad worked ranch all the time from then on.

11 MR. FREDRICKSON: So all for -- go ahead,  
12 I'm sorry.

13 MS. LANI: And, you know, when he brought  
14 us -- that is about like '52, '53. My dad always had  
15 to drive the bulldozer, because he knocks every tree  
16 down, you know, the kiawe tree. Red hill is his  
17 favorite spot. Always go there and camp up here  
18 (inaudible).

19 MR. MAU: Get all the fire wood.

20 MS. LANI: Yes, yes. And the bulls. Oh,  
21 my mom and dad, I remember they used to trick a lot,  
22 and they would sleep on the roadside, and my sister  
23 and I just running around and (inaudible) bulls, ho,  
24 just fighting and fighting, and they were just  
25 sleeping because they were all drunk (inaudible). But

1 I remember these days, you know, like before, so --  
2 and I never thought I gonna see that and remember  
3 those things, but I -- we always used to come out, and  
4 there was mean stories about that point, all the rain  
5 used to come from behind (inaudible), comes down a lot  
6 of times, you know, my mom said they know about these  
7 wheelbarrow. When this wheelbarrow is making noise,  
8 they hear the noise from up there coming down, you  
9 better make room, because it's -- before they have all  
10 this kind of stories and the wheelbarrow would just  
11 come from up there, going full speed, and you -- they  
12 know, and they just move on the side. (Inaudible),  
13 you know, they use these kind of words. We tell them,  
14 we don't know what they telling us. Why you moving  
15 over there, daddy? We supposed to be on the road, but  
16 no, he tells no, you wait, wait. Wait and keep quiet,  
17 no say nothing, just respect, okay. Yeah, and big  
18 wheelbarrow just come swishing right down, right down  
19 to the ocean.

20 And my dad travels all the way down from  
21 Makena going to La Perouse, he says he's going  
22 (inaudible) nighttime by himself. He going with the  
23 car and he see this cow walking in the middle road and  
24 he telling the cow, go blowing the horn, telling him  
25 to the move, the cow, the cow's going, he's taking his

1 time, taking his time, and he said when the bull --  
2 the cow turned around and look at him, had mad face.  
3 (Inaudible) those kind of stories they tell us, and oh  
4 (inaudible) my mom and dad (inaudible) never taught us  
5 to -- you know, don't -- you know, this is only to  
6 respect. They have things that way, but respect those  
7 things and we were taught that, you know. Don't  
8 damage or don't go -- do anything talk back and say  
9 anything, just respect that, and that's how we were  
10 raised today to respect. Know who you come from, you  
11 know, that's how we have to teach our children, our  
12 grandchildren, the generations going down, and I'm so  
13 happy that I (inaudible), I continue to learn what my  
14 tutu, because we used to -- we was raised with the  
15 olden tutu ways, yeah, so we know how to survive. No  
16 lights, no water, wash hands.

17 MR. FREDRICKSON: You remember -- you  
18 remember that. Kids now --

19 MS. LANI: I went through hell.

20 MR. LEE: Mike Lee. Aunty, how did you  
21 guys find springs, since you needed water, or did you  
22 pack water?

23 MS. LANI: Yes.

24 MR. LEE: Pack water?

25 MS. LANI: Yes. We had a lot of water

1 catchment, and (inaudible) big property we had, tutu  
2 to used to make us early in the morning, we have to  
3 get up, learn how to work, and no more this kind  
4 toilet you have today. It's outhouse, you know, and  
5 it's not near and in the house. You have to walk.

6 MR. MAU: (Inaudible).

7 MS. LANI: We still have that today,  
8 because where I'm staying now, I living like that. My  
9 kids didn't want that, but today they're used to that.  
10 Just not (inaudible). They know, and they love it.  
11 They (inaudible) they look up to going to the country,  
12 do what you want, you know, in the country.

13 MS. DeNAIE: Lucienne. Aunty Florence,  
14 so have you ever like hiked down the gulch that runs  
15 down, you know --

16 MS. LANI: Oh, yeah.

17 MS. DeNAIE: -- all the way --

18 MS. LANI: With my dad sometimes.

19 MS. DeNAIE: (Inaudible).

20 MS. LANI: Yes, and that's very true what  
21 Brian is saying, because sometimes we can't cross  
22 over. We have to, you know, stay -- stay there, but  
23 (inaudible) --

24 MS. DeNAIE: (Inaudible) along the side?  
25 How did you folks (inaudible) --

1 MS. LANI: Walk, and there's horse to --  
2 you know, he packs us on the horse, or sometimes he  
3 can use the bulldozers to come down and follow.  
4 That's why sometimes it blocks up and he has to be the  
5 one to knock the kahawai, you know.

6 UNIDENTIFIED MALE: So there's like big  
7 trees or stuff --

8 MS. LANI: Yeah, sometimes.

9 UNIDENTIFIED MALE: -- flood came, yeah.

10 MS. LANI: Yeah, and he has to go, yeah,  
11 to go and clean it, yeah. And if he can't pass, we  
12 have to just find an area. My dad knew where to go  
13 and, you know, make sure that we are, you know,  
14 safety, yeah, yeah. So we knew how to live life the  
15 hard way, but, you know --

16 MR. FREDRICKSON: When you were -- this  
17 is Eric again. Aunty, when you folks -- you know,  
18 when you were a kid like walking in some of the  
19 gulches or, you know, like Lucienne just said, the  
20 Kulanihakoi Gulch, do you remember seeing anything  
21 anywhere like coming down the gulch from anyplace  
22 anywhere, like caves, anything like that?

23 MS. LANI: Well, before it wasn't like  
24 that. Once in a big while we used to have a lot of,  
25 you know, rain, rain day -- then that's the only time

1 we see big boulders come down, then, yeah, it will hit  
2 the side, so, you know, on the side sometimes you just  
3 hits the side, and that's where the bank gets soft,  
4 yeah, hits the bank and the water hits it again and it  
5 will just fall, and it gets wider. Yeah, it's when he  
6 has to go in and clean it out, make room again so the  
7 water can, you know, go down.

8 MR. FREDRICKSON: Go down the channel.

9 MS. LANI: Yes. Yeah. So he always  
10 taught us about being careful to go, where to go in  
11 the -- you know, when you see water, don't go  
12 (inaudible).

13 MR. FREDRICKSON: It comes fast. It's  
14 scary.

15 MR. LEE: Aunty Florence, did your father  
16 ever talk about pahoe-hoe lava tubes on this property  
17 or that came from the side gulch or something that  
18 went around this property or through this property,  
19 like lava tube for a cave?

20 MS. LANI: Oh, no, but -- no, he was  
21 all -- no, we never did enter, you know, through --  
22 always following the -- either the roadside or making  
23 roads. You know, sometimes the roads get all block  
24 up, and he -- damaged by rain and everything, stones  
25 cover 'em up, so he has to (inaudible). (Inaudible),

1       yeah.  And sometimes he goes to the kahawai too, but  
2       then, you know, he has to go look all the way --  
3       that's why from up there to down here he has to look  
4       the safest place to make the (inaudible).

5                       UNIDENTIFIED MALE:  (Inaudible).

6                       MS. LANI:  Yeah, (inaudible), yeah.

7                       MS. DeNAIE:  Lucienne here.  Now, I know  
8       both of you folks used to go down to the shoreline  
9       here too.

10                      MS. LANI:  Yes.

11                      MS. DeNAIE:  Over where like Menehune  
12       Shores is, like that.  What was that like?  What did  
13       (inaudible) --

14                      MS. LANI:  (Inaudible).  Yes, yeah, a  
15       lot, we could go hukilau down the beaches, you know.  
16       That was when nothing was (inaudible), just kiawe  
17       trees (inaudible).

18                      MS. DeNAIE:  And what kinds of stuff --  
19       Lucienne again.  What kind of stuff did you find down  
20       there?

21                      MS. LANI:  Used to pick up limu and all  
22       kind of limu, all the Hawaiian limus that you could  
23       get, that's our area, just enough for us to take home  
24       to eat, you know.  It was -- and the water wasn't  
25       liked to.  Today there's slimy, the limu is slimy.

1 When you eat it, you can taste the (inaudible), the  
2 taste of the lotion, yeah. So that's why I hardly --  
3 hardly get it now. There's laws you can only take so  
4 much, so, you know, everything's changed today.

5 MR. FREDRICKSON: It's Eric here. A  
6 question actually for both of you folks. You know  
7 when you folks were let's say small kid times going  
8 like down to the -- to the shore, like Lucienne and  
9 Mike were talking about, compared to like then to more  
10 recent, what's your impressions of like how much limu  
11 is there now compared to like when you were -- you  
12 know when you were younger and -- because, you know,  
13 you folks --

14 MS. LANI: A lot. A lot.

15 MR. FREDRICKSON: -- a resource, just  
16 because -- to see the changes, you know. So, I'm  
17 sorry, I interrupted you.

18 MS. LANI: Yes, my uncles were all  
19 fishermens too. We'd go down Makena, La Perouse and  
20 they would put a building there and that's what did  
21 their job every day, and they would gather -- when  
22 they gather, they pull the nets and they get fish,  
23 limu, they always would share for all the families,  
24 you know, because before we didn't have the kind that  
25 you can go paddle or sell, you know, we would trade

1 our goods that we have, but there's rare, not today,  
2 you don't see that kind of limu hardly, huh-uh.

3 MR. LEE: Aunty Florence, are we talking  
4 about like lipoa, palahalaha, aalaula, lipeepee?

5 MS. LANI: Lipoa, lipeepee, all those,  
6 yeah, huluhuluwaena.

7 MR. LEE: (Inaudible).

8 MS. LANI: Yeah, tutu taught us how to,  
9 you know, make all the -- and it was not liked to.  
10 Today you don't hardly see all those. It's all -- the  
11 rocks -- every rock when you take, you know how to  
12 take it out, there's always -- next time there's  
13 always more, but today you don't -- you scrape the  
14 rock, so that's why hardly.

15 MR. NAE`OLE: Brian Nae`ole. Back in the  
16 '70s when we used to go pick up limu, remember we used  
17 to go down there all the time, we were told numerous  
18 times not to go in certain areas. We used to always  
19 stay in like more towards the makai -- well, more  
20 Makena side, because there were certain things that  
21 you couldn't go more by the fishpond, but I remember  
22 the limu that was so plentiful before. The fishes  
23 was -- they were like right there. Not liked to,  
24 they're pretty much disappearing.

25 But I remember when we go gathering, we

1 lay nets, and the limus was like lipeepee, wawae`iole,  
2 ogo, you know, you never had to go too far, because  
3 everything was right in the area. Now you have to go  
4 like further down to St. Theresa's. Even St.  
5 Theresa's is pretty much getting, you know, wiped out.  
6 I guess corrosion. But by experience, the fish was  
7 like -- you didn't have to go far. Now it's -- you  
8 walk -- or you go in the water, everything is just  
9 dead, more sand, everything is all covered up. Back  
10 in the days, you can see the difference from that  
11 times to what it is today. So we're pretty much  
12 destroying things right in front of our eyes, and how  
13 to do it, I think it takes the whole community to  
14 really save it. Because this place has food,  
15 resources, and I think that's part of our culture of  
16 living, because that was what we used to cut up  
17 tomatoes, you know, just basic stuff that we grow and  
18 we add to the limu, because that was part of our --  
19 like rice, you know. So now you look at it now, we  
20 don't go there, because we know it's -- there's no  
21 gain, you know, and even the -- you know, things are  
22 just different now, compared to what it was back then.

23 So like aunty was saying, you know, all  
24 that years, you know, we only hear from our ohana what  
25 they tell us to do and what not to do. So I don't

1 know if anyone here ever went there lately or ever  
2 tried to go and see if it came back alive.

3 MS. DeNAIE: Kimoqueo?

4 MR. LEE: Yeah, we've been doing for the  
5 last four years around that place, where Kimo is  
6 (inaudible) -- oh, Mike Lee -- for the good work that  
7 they're doing, you know, with the young people and  
8 trying to teach them to bring it back. Like we went  
9 down there on the lauo o Pele is coming out, the  
10 pakapaka is there. This is not the season for the  
11 palahalaha, usually April, May or August or October,  
12 because water has to be warm for that one, but that  
13 one loves freshwater. On the northern side of the  
14 fishpond is where you have the spring coming down and  
15 it feeds all the limu.

16 Limu and freshwater are one and one. You  
17 know, certainly limu like limu kala and also your limu  
18 koko needs the Jacuzzi of the ocean crashing, not just  
19 the water, and sand going over crashing, like the  
20 wawae`iole. They live off the sand inside their  
21 little pods. And the aalaula, because you've gotta  
22 clean, hard time cleaning that limu because the sand  
23 inside.

24 MR. MAU: Plenty rubbish.

25 MR. LEE: Plenty rubbish inside. So

1 unless you know how to clean it properly, you don't  
2 want to, you know, handle, a lot of work to clean that  
3 one. So -- and lipoa needs plenty, plenty freshwater,  
4 and that's like December that the (inaudible) moon  
5 cuts that -- that limu to replant.

6 So we've been down there. We've taken  
7 films of where you guys have been working, and  
8 palahalaha was there profusely, which we use for  
9 medicine and stuff for the lungs, yeah, and the lauo o  
10 Pele we use for cultural practice. That one you have  
11 to lawala and imu because like (inaudible), tough, but  
12 it can be eaten when you put it in the hot water and  
13 blanch it and it gets soft. But manawaea needs plenty  
14 Jacuzzi action and freshwater, and you got six  
15 different kinds from the very purple purple to the  
16 rice type, you know, the green one, kane wahine one,  
17 so all of this stuff, the health of the ocean depends  
18 on two things, the estuary -- see, used to have pili  
19 grass that used to grow, hold everything in place so  
20 when the water comes down, you don't tear off the  
21 sides of the gulches, yeah, so, dig, dig, dig, dig, if  
22 it's all pili grass. The invasive have come in so the  
23 tearing takes place. That's one of the reasons.

24 And then when you get to the estuary --  
25 they kind of made it narrow, so instead of having the

1 natural plants so when the water does flow down from  
2 up mauka -- that water is supposed to be crystal clean  
3 coming into the ocean. That doesn't destroy anything.  
4 It actually adds, yeah. But because it's coming down  
5 muddy, because you don't have pili grass to bend over  
6 and deep roots that go like this like limu in the  
7 water, holding everything together so the water does  
8 pilau, it doesn't turn red, so by the time you get to  
9 the ocean, you also had your grasses down makai and  
10 big so it spreads out, so when hits the energy doesn't  
11 (indicating) and all the rubbish and everything and  
12 red water going in and then getting inside.

13 So, you know, a project like this,  
14 because the gulches are so important for the  
15 drainage -- you cannot do -- you know, the arrogant  
16 thing in the state, they said you have to have  
17 drainage for this project. The drainage was natural.  
18 The mauka takes care of the drainage, but you have to  
19 make sure that the right kind of grasses -- it was  
20 known that pili grass grew inside, but you now have to  
21 plant it because the invasive -- the birds kukai and  
22 then they take over and so you literally have to  
23 replant that and take out the invasives, so that when  
24 this happens --

25 And concretizing isn't good.

1 Concretizing is when, you know, they did that in New  
2 Orleans, and they don't do that any more, and they did  
3 it at Iao. Think don't do that. I mean, nowadays you  
4 don't do it, because it has to percolate down, because  
5 there's an underwater natural channel freshwater  
6 that's going into the ocean.

7 So all of these protocol for safety, when  
8 you get -- as you said, Brian, when this builds up and  
9 it let's loose, those big boulders will crack all the  
10 concrete stuff, you know, and you cannot house water  
11 underneath to settle in. It's going to have a  
12 devastating effect, because you're going against the  
13 flow. And when you go against the flow on a -- say, a  
14 one-week straight rain, it's going to bust over the  
15 banks and just go like this.

16 I mean, we see that in Manoa, we see that  
17 down when you go to Waikiki when it -- those big  
18 ditches were flooding over, and it's those events  
19 health and safety, not the regular small event, but  
20 the fishery is dying. That's a native cultural  
21 resource that ties into this property and this  
22 project, and that's Article 12, Section 7. Article  
23 7 -- Article 11, Section 7, the natural flow is  
24 supposed to be protected, surface and subsurface.

25 So there are -- there are a win-win for

1 everybody. It's a doable, is what I'm saying, if the  
2 proper things are put into place. It's a doable. I  
3 mean, we're not here to be in the middle ages, but so  
4 long as we can keep the ocean clean and that water  
5 coming down fresh, this is a plus for everybody, you  
6 know, if that is part of the mitigation plan. Because  
7 Army Corps of Engineers will do a 10 million dollar  
8 grant, you know, not out of the pocket of the  
9 developers but to make sure that the Clean Water Act  
10 and all of that stuff, the protocols are kept,  
11 something to really keep in mind, you know.

12 MR. KAPAHULEHUA: Kimoqueo Kapahulehua.  
13 Another good example is Malama Maunaloa in Oahu, where  
14 they have taken mauka-makai and remove all the  
15 invasive seaweed and now they're moving back in the  
16 land and going up and taking care, like (inaudible)  
17 field in Maunaloa.

18 MR. LEE: Exactly.

19 MR. KAPAHULEHUA: So you talking exactly  
20 that kind of idea.

21 MR. LEE: Because I live -- Mike Lee. I  
22 lived on Summer Street from '62 to '79, so when we  
23 went out Paiku lagoon, palahalaha all over. It was  
24 one of the most known places, besides Ewa, for ogo,  
25 okay. People took bags, big bags of ogo out there, I

1 mean huge bags. This is before any, you know,  
2 (inaudible), and the octopus, the he`e, pulling he`e,  
3 you know, like crazy, but that ended when they busted  
4 into the springs and for the (inaudible) and they were  
5 literally not letting the springs (inaudible) ocean.  
6 And so then we see a big turn over and change and all  
7 the palahalaha disappeared, the ogo started -- the  
8 invasive started coming in and the problem.

9 And then the governor, when he was a  
10 congressman, put this bill in and they really brought  
11 it back. It can be brought back is the good news, is  
12 what you're saying. We can bring all of this back, if  
13 we do proper management plans for it.

14 MR. ALMEIDA: Levi Almeida, and to  
15 further speak, to touching, you know, the (inaudible).  
16 I'm actually kama`aina of Iao and (inaudible) near the  
17 ocean, so is my family, and, you know, concretizing  
18 and tampering with the natural flow of -- you know,  
19 the natural waterways has been extremely detrimental  
20 to the ocean resources in that area.

21 What it's akin to, you know, you have an  
22 ordinary garden hose, yeah. You can water your  
23 plants, you can -- you know, it's gentle, yeah, but  
24 when you start concretizing and tampering with it,  
25 what happens is you no longer have a garden hose.

1 You now have a fire hose, and we turn it on and it  
2 blasts everything, you know, causing further erosion.

3 So I think with the gulches, it's  
4 important for us to, you know, really be precise and  
5 to have a really, really deep and clear understanding  
6 of what the effects is going to have from, you know,  
7 touching these waterways.

8 UNIDENTIFIED MALE: Go ahead, Basil.

9 MR. OSHIRO: Basil Oshiro. From what  
10 I've been hearing from everybody is we've got to be in  
11 spirit with the land. We've got to know what the land  
12 is telling us. We with cannot create -- actually, we  
13 are creating pollution by industrialization, but  
14 there's solutions to it. We've got to look at -- like  
15 Kihei, the deep floods we having. Somebody's not in  
16 spirit with the land. (Inaudible) ranch was one of  
17 the faults of that. I can say that much because they  
18 just -- they forest the whole area over there, and  
19 what came down here, all the (inaudible) from up there  
20 came out down here. Yeah.

21 And we just overdeveloping our wetland.  
22 We putting concrete where the water supposed to  
23 settle. Because you can look up mauka, the Hawaiian  
24 homes are there, those gulches are huge. So you know  
25 water comes down through there in -- you know, you can

1 say catastrophic amounts. And where it's gonna end up  
2 if you have concrete? It cannot flow in the land. It  
3 comes out to a certain amount, it disperses itself and  
4 settles and creates a water table, because we on  
5 volcanic islands, and the dirt is only so thick. It  
6 will settle on the bedrock and that's our water table.  
7 And that's a common sense kind of thing.

8 We've gotta listen what the land is  
9 telling us, and industrialization is going to happen,  
10 whether we like it or not, but we gotta be in spirit.  
11 If the land tells us something, listen. We cannot  
12 just develop. Listen to the land and find solution to  
13 that, what's happening. Otherwise, we're not gonna  
14 have Hawaii. We're only -- we're so limited on our  
15 land space. You look mauka, you think, oh, we get a  
16 whole bunch of land. We don't. We just a needle in a  
17 haystack right now looking at it.

18 Look at our rain forest. It's moving  
19 farther and farther up the mountain. Yeah, you go up  
20 to Polepole, oh, it's a big area, because we one speck  
21 of dust in that area, but look down from there, you  
22 see the vast area, it's actually all wetlands. Yeah,  
23 you look at where Aunty Florence guys, they talking  
24 about right here, that's part of our wetland. The  
25 water comes down, disperses and goes down to our

1 bedrock, but that water table is being depleted. They  
2 think we have a lot of water, west Maui, east Maui,  
3 Kula, but (inaudible) Haleakala, I'm quite sure  
4 there's just maybe at the most two water tables that  
5 we keep drawing. Water from Mokuauia coming to Kihei.  
6 They want to pump it (inaudible) Kula because Kula  
7 don't have enough water. Farmers starving out there.

8           So we better listen to the land instead  
9 of growing homes and making industrializations. Let's  
10 grow farm land and food so we can be self-sustainable,  
11 because within my lifetime I hope to see something  
12 happen, that the -- we will be self-sustainable, in a  
13 way that we don't have to depend on the outside so  
14 much.

15           I come from -- I the only one from my  
16 family as a commercial fisherman, and a lot to do with  
17 the -- what we have on land, up mauka, makai, gonna  
18 affect our waters. And everybody's talking about the  
19 same -- same thing, and if we not in spirit with what  
20 we have here, we all gonna suffer. Our future  
21 generations are gonna suffer. So whenever you folks  
22 decide -- we not trying to stop all developments, but  
23 to be in spirit with what our kupuna had, how they did  
24 it, and listen and be in spirit. It's the main thing  
25 I'm talking about.

1                   Right now I see Kihei, the land is  
2 fighting back with the flooding, you know. Can see  
3 enough already, slow it down. Study. Do studies or  
4 research before you go ahead and do things, and right  
5 now that promenade, I live right up mauka of that, and  
6 the grass, the forest is the one that containing the  
7 water. If it rains -- you have to have real big  
8 rains. If it's concrete, the jungle over there, we're  
9 gonna lose it, yeah.

10                   Like (inaudible) Kula gulch, (inaudible)  
11 Kula gulch, you don't see it flow too often. When it  
12 comes, it's crazy, and if you're gonna concrete around  
13 that and divert the gulches, what's gonna happen?  
14 Like Mike said, it's gonna overflow. You cannot fool  
15 nature. You gotta build in spirit with nature and  
16 it's part of our land. So I think I talk enough  
17 already. Thanks.

18                   MR. KANAHELE: Yeah, getting -- you know,  
19 speaking of.

20                   UNIDENTIFIED MALE: Your name.

21                   MR. KANAHELE: Oh, Daniel Kanahele.  
22 Sorry. Speaking of the archaeological inventory  
23 survey, really to understand site significance of any  
24 individual cultural feature, you have to understand  
25 the cultural landscape that surrounds it. And so

1 often, you know, we look at just a small slice of a  
2 pie. We look at it through, you know, sort of tunnel  
3 vision. We can't do that, because we know as  
4 Hawaiians that it's a much bigger picture, and we're  
5 talking about a cultural landscape.

6 And so we're talking about the gulches,  
7 Kulanihakoi and Kaonoulu, which Basil says doesn't  
8 flow very often, but when it flows, it's crazy. It  
9 means a lot of water comes down. We have to look at  
10 our cultural landscape, and the gulches are cultural  
11 resources, and it's part of the reason why you have  
12 traditional sites there.

13 MR. FREDRICKSON: Sure.

14 MR. KANAHELE: Because of the water,  
15 because of the access (inaudible) ocean. And we know  
16 there was a lot of activity going down near the ocean,  
17 you know, this makai -- you had Kalepalepo  
18 (inaudible). You have a lot of people down there. So  
19 I have hiked Kulanihakoi gulch many times. I know for  
20 a fact that if you go along the southern boundary of  
21 the project area and the gulch and as you make that  
22 (inaudible) left turn in the gulch, gulch (inaudible)  
23 and it turns north. There are sites, there are walls  
24 along the gulch there, which is, you know, adjacent to  
25 the property.

1           So I think it's important to -- in order  
2 to understand the sites that you're looking at, to  
3 understand the sites that are adjacent to it, what's  
4 next to it, especially the sites in the gulch, because  
5 it's apparent that that was used a lot. So who is --  
6 who is going to cover that? Who is going to look at  
7 those sites that are just right, right next to this  
8 project area right along the gulch? Because the  
9 project area will impact the gulch, Kulanihakoi. It  
10 will impact Kaonoulu Gulch.

11           So who is going to look at those sites?  
12 Will it be -- will it be part of this reassessment  
13 that, you know, the survey is undergoing?

14           MR. FREDRICKSON: Really the question --  
15 Eric here, Fredrickson. Again, the gulch area per se,  
16 though, is -- it's not the same landowner, and trying  
17 to look at that -- one has to absolutely have  
18 permission, one, and -- because landowners tend to  
19 be -- especially large landowners, tend to be somewhat  
20 sensitive about having sites identified on their  
21 property that they're not necessarily wanting to do  
22 anything with or know about really.

23           Having said that, some landowners are --  
24 you know, they have like land managers, et cetera that  
25 they do have a level of interest about it -- if they

1 do know of something, making sure that they don't  
2 inadvertently bulldoze through a site complex or  
3 something, but actually looking at sites that are off  
4 the project area that have not been surveyed before,  
5 trying to do that is something that -- I mean, it  
6 sounds -- it would be neat to do, but that can't --  
7 that can't be done with this project. It's a -- I  
8 mean, it would be neat from an archaeological point to  
9 do that.

10 MR. KANAHELE: Is that a potential area  
11 of impact for the proposed -- proposed --

12 MR. FREDRICKSON: I'll let Charlie answer  
13 that, because that's -- I'm looking at the  
14 archaeology. My understanding -- I will say one  
15 thing, Daniel, that this easement -- excuse me, here,  
16 that's on the mauka, the eastern side, this originally  
17 was classified as a drainage easement, which would  
18 have brought drain and from up slope and just emptied  
19 it into the gulch. That -- that has been taken --  
20 that potential use is no longer something that's  
21 proposed. It's just going to be used for this  
22 waterline, the central Maui transmission waterline  
23 that will go around -- more around the property.

24 MR. KANAHELE: Okay. Close to the fence?

25 MR. FREDRICKSON: It will be -- it will

1 be next -- it will be mauka of the fence and then it  
2 will be on the southern part of -- in the property  
3 itself.

4 MR. KANAHELE: Okay.

5 MR. FREDRICKSON: But Charlie can  
6 speak -- Charlie Jencks can speak to your question  
7 about, you know, are actions of the project -- I mean,  
8 like development actions going to potentially do  
9 something to the gulch.

10 MR. JENCKS: Charlie Jencks. I would  
11 just say, Daniel, that, you know, we -- Eric described  
12 fairly accurately how the engineering plans for the  
13 project changed because I learned very quickly I  
14 didn't want to divert water and put it in Kulanihakoi  
15 gulch for a lot of reasons. Number one, I didn't to  
16 mess with the gulch in any fashion. And number two, I  
17 didn't want to be influencing stream flows down stream  
18 from the property, because that affects other people  
19 unfairly.

20 So for those reasons, we backed  
21 completely out of that approach to the stream,  
22 diverting any water to the Kulanihakoi Gulch, and  
23 we've -- we had a conscious effort to make sure that  
24 we were not doing any work close to the (inaudible).  
25 With that said, however, I'll take under advisement

1 your request and look at that in the context of the  
2 plans we have today and we'll fiddle with that.

3 MR. KANAHELE: So -- Daniel Kanahale.  
4 So, Charlie, your plans aren't to divert Kaonoulu  
5 Gulch to the east side of the project area into  
6 Kulanihakoi Gulch? There's no plans to divert  
7 Kaonoulu Gulch?

8 MR. JENCKS: That stream -- that  
9 intermittent stream bed is not being diverted to  
10 Kulanihakoi Gulch, that's correct.

11 MR. KANAHELE: Is it being changed in any  
12 way, shape or form?

13 MR. JENCKS: What it does, it comes  
14 down -- it comes down here. It's going to be diverted  
15 in a culvert over here, then down with the exact same  
16 spot that it crosses under Piilani Highway.

17 MR. KANAHELE: I see. You are diverting  
18 it.

19 MR. JENCKS: So there is no increase in  
20 flow or velocity as a result of that diversion.

21 MR. KANAHELE: On the map there is drawn  
22 the actual gulch, Kaonoulu Gulch, are you changing  
23 that, that's what I'm asking?

24 MR. JENCKS: It's going over from here,  
25 over here, then down here.

1 MR. KANAHELE: So you're diverting?

2 MR. JENCKS: Yeah, but not in -- not into  
3 Kulanihakoi Gulch. It was at one time. Henry's  
4 original proposal was to take it over to here and put  
5 it in the gulch over here.

6 MS. DeNAIE: Lucienne deNaie. I think it  
7 might be interesting, just from an archaeological  
8 perspective, to look at this project in terms of what  
9 the land might have looked like 400 years ago or so.  
10 And I'm really intrigued by what Brian and aunty are  
11 saying about Kulanihakoi Gulch being so much more  
12 shallower, because imagine if this is kind of a piece  
13 of land between two gulches. Because if you look at  
14 the 1922 topo map, Kaonoulu Gulch is pretty prominent  
15 on that. It's a little dotted blue line. It's not  
16 just, you know, some little checkered marks saying  
17 there's sort of a gully. It -- it had a life of some  
18 sort. It joined in to Kulanihakoi Gulch down below  
19 what is now Piilani Highway. There probably was sort  
20 of a wetlands or something there, because two water  
21 places coming together, because it's very low lying  
22 (inaudible).

23 UNIDENTIFIED MALE: (Inaudible).

24 MS. DeNAIE: And if you look at the 1930s  
25 maps you see as then the conjoined flow goes

1 through -- now it's Kaonoulu Estates and down near  
2 that place where it always floods near the whale  
3 sanctuary, where, you know, this gulch, Kulanihakoi  
4 Gulch comes out at that point there. There was a big  
5 (inaudible), and it's on the map. So in other words,  
6 it was a big, open lagoon swampy area. Now there's  
7 like a little channel, like Michael referred to  
8 earlier, Michael Lee noted this.

9           So in essence what you have was land that  
10 might have been between two areas that had maybe some  
11 spring feeding and certainly intermittent flow and  
12 certainly not intermittent flow like 15, 20 feet  
13 below, maybe 5 feet down or 6 feet down. And so I  
14 heard you say earlier, well, nobody lived here because  
15 there was no water, but 400 years ago it could have  
16 been --

17           UNIDENTIFIED MALE: Down closer to the  
18 coast there certainly would have -- were people living  
19 there, yeah.

20           MS. DeNAIE: Right. And I just wonder,  
21 because, you know, when you look at the archaeological  
22 surveys for a number of other places that are at this  
23 same elevation, a lot of times they're fairly empty.  
24 They've been pretty smashed up by military -- the  
25 activities or by ranching activities. It's

1 interesting that this one had all these mitten  
2 scatters and other, you know, the petroglyph, that  
3 there's more petroglyphs further up the gulch that  
4 were found in Socheck's report.

5 You know, I'm with whoever said we  
6 need -- I think it was Daniel. You need to look at  
7 the cultural landscape. And I realize you can't go  
8 out and do other people's work, but I'm really happy  
9 that we're looking at this report, because I know  
10 you're a hard working archaeologist. I've read so  
11 many of your reports and I really respect your work  
12 and I really respect the fact that you like to dig.  
13 You're personally curious about this.

14 So I would just say that let's take a  
15 look at this land. It may be that the reason that we  
16 have these mitten scatters is that so much soil that  
17 used to be there was washed away earlier simply  
18 because the same erosion effect that has cut down that  
19 gulch, Kulanihakoi Gulch, and sort of (inaudible) in  
20 Kaonoulu Gulch, has kind of, you know, impacted the  
21 flatter part of the land. Because there's sheet flow  
22 that comes across it too.

23 UNIDENTIFIED MALE: Oh, yeah, definitely.

24 MS. DeNAIE: Plenty of sheet (inaudible).

25 That's why we had that big cement thing there. It's

1 not just for the gulch. It's for all the sheet flow  
2 too. So in terms of the significance, I mean, I hope  
3 that, you know, your investigations shed more light on  
4 what's there, but even if they don't, I think we may  
5 have to assume that some of it may have been washed  
6 away, but if there's a way to design this project as  
7 (inaudible) parking lots, just so there's a sense of  
8 history left here, so there's a couple plaques that  
9 say, oh, here's a little -- here's a little -- I  
10 notice there was an enclosure that was near one of the  
11 mitten scatters, and it seemed like that mitten  
12 scatter, number 3744 had two layers, had kind of a  
13 larger selection artifacts, maybe a grinding stone,  
14 this and that, maybe there's a little bit going on  
15 there. I mean, if that can be preserved in a parking  
16 lot somewhere and you give up like four parking  
17 spaces, but you have a sense of -- Kaonoulu is not a  
18 very wide ahupua`a. I mean, I bet you wouldn't oppose  
19 that if that could be arranged, but just throwing this  
20 out, that there may be a whole other landscape view of  
21 this as we put the pieces together of what conditions  
22 were like 400 years back when people were using these  
23 kind of implements, what things were like further up  
24 the gulch, and what was happening down at the ocean,  
25 which was pretty busy. So end of rant.

1 MR. MAU: Jacob Mau. You know, I started  
2 working for the state Department of Land and Natural  
3 Resources in 1961, and part of my responsibility was  
4 once a week I would read the rain gauges from Cosner  
5 Grove, I go down Puluau, Puniaiu, I come out Waikamoi,  
6 and I go inside the reservoir, read the rain gauge. I  
7 come out, I go inside Waiahole spring, which is  
8 Olinda. I come back down, I go up Pulipuli. I take  
9 the sky road, I come down on the skyland ridge, come  
10 down Pulipuli, go read the rain gauge. And there were  
11 times, especially in the winter months when you get  
12 the Kona wind or the Kona rain, there's a river. I  
13 don't know if you guys been up Pulipuli, get one  
14 concrete crossing (inaudible).

15 UNIDENTIFIED FEMALE: Yeah, yeah.

16 MR. MAU: Sometime I cannot even come  
17 home until the water go down. And I stand up there, I  
18 sit down, I look. You see the water going all the way  
19 down to Kihei and all the dirt and mud and everything  
20 down there. I go, wow, I wish I had a video camera,  
21 you know, just to show the devastation.

22 Another thing, I was fortunate in 1963 or  
23 '64, I worked on Kahoolawe. We did a first  
24 reforestation -- first we did eradication, get rid of  
25 all the sheep and the goats that were -- I think

1 Kaonoulu Ranch, yeah, the Rice family had use of --

2 MS. DeNAIE: They had some use, yeah.

3 MR. MAU: Kahoolawe, so we had to get rid  
4 of all of the goats and the sheep, and you like see  
5 the damage, you know, over there, the erosion, the  
6 damage. I look at that, you know, and (inaudible) no  
7 more money for camera, but you look at the damage, the  
8 erosion, you know, all over that island, the  
9 devastation to all the native (inaudible), the kiawe  
10 tree, the goats get so hungry, they climb the kiawe  
11 tree and they go up on the limb, eat as much as they  
12 can on the trees, because that's all they can eat. On  
13 the ground no more nothing, you know, all gone.

14 So things like that can happen again,  
15 yeah, but today (inaudible) we did all the  
16 reforestation on Kahoolawe, so now get plenty rain,  
17 plenty rain. Everything stay pono now, I hope. Okay,  
18 that's it.

19 MR. NAE`OLE: Brian Nae`ole real fast.  
20 Talking about what Lucienne was saying about 400 years  
21 ago, does anybody in here knows Hewahewahapakuka, who  
22 he was back then?

23 MS. DeNAIE: Eldon Liu does, but he  
24 couldn't come tonight.

25 MR. NAE`OLE: Hewahewa was a kahu for

1 Kamehameha the Great, and he had some kind of  
2 significant thing back in here, because back then over  
3 here was green. Now we're like vacant, you know, we  
4 cannot go on the land, but back in the old days they  
5 used to work the lands before, so maintenance was  
6 pretty well organized. So had a significant life here  
7 in Kaonoulu, because Kamehameha the Great trusted  
8 Hewahewa, because Hewahewa was his high priest at the  
9 time.

10 So what was significant was vegetation,  
11 food, resources, fishpond was all in one area, and  
12 that land mass is so magnificent, it's high and it's  
13 low, you know, and it makes sense, because we're just  
14 trying to find --

15 MS. DeNAIE: Pili grass too. Lucienne.  
16 Pili grass was on this site. It was in your report.  
17 It's still there.

18 MR. LEE: Mike Lee. Hewahewanui was my  
19 8th great grandfather. His granddaughter Kapele, was  
20 mother of Neole, who married Kawaha, who had Julia  
21 Alapa`i, who is my grandmother, who when she was with  
22 Nahili or Nahele, the child that she had in the Maui  
23 genealogy's keiki na miki, Captain Meek's daughter,  
24 Liza Meek, alii haole, who is my 4th great  
25 grandmother. The secret was that so long as you keep

1 the natural forest going, okay, the (inaudible) keep  
2 double rain, okay.

3 So what happens is the water from the  
4 ocean condenses and then it goes down in dew from the  
5 morning time all the way to 1:00 and then you get the  
6 secondary rain that takes place. The cloud forms.  
7 This is the neck for the area. It's the neck. It  
8 comes down and shoots over to -- this is the naulu.

9 UNIDENTIFIED MALE: Naulu.

10 MR. LEE: Naulu for the uaulu rain that  
11 comes down. So long as you keep -- now, what happened  
12 was Kahona set this on fire, burned this, stopped  
13 this. This is the neck, and it's related to the mo`o  
14 that goes through here, which everything is made for  
15 the mo`o from east to west to clear everything from  
16 the mountain to the sea, but if you keep this in check  
17 up here, the neck run, the naulu rain will take -- the  
18 cloud will form, and that's part of Puumahoi's job  
19 over here.

20 So this takes the moisture. In October  
21 the moisture that comes off of the south -- the  
22 southeast and south, what happens is there's plankton  
23 inside that moisture from the surf. It gets very cold  
24 in mauka, but it comes cold down below and it  
25 condenses all of that. And what happens is it

1 fertilizing everything. It's more fertile than weeks  
2 and weeks of rain of the so you never see one drop of  
3 rain come, and everything turn green. And it's  
4 like --

5 MS. DeNAIE: From the fog?

6 MR. LEE: From the mist that comes down.  
7 That's the secret in the family structure of doing  
8 that. So when you keep that in check, then naulu  
9 comes and the uaulu rain takes place. You wipe that  
10 out here, it stops it here, and then this no longer --  
11 the fishery no longer proliferates because the  
12 underground pahoehoe lava tube and the mo`o is used to  
13 clear all of that stuff, so that the fishery is going  
14 to be impacted in a positive way, and that's why the  
15 nakoas are set up here, here, here, it intersects with  
16 the fishery and in December, through the right moon,  
17 (inaudible) can go right across. Just suck you right  
18 across.

19 So if it's kept in check, then everything  
20 goes. Keokea Lani, which on the earth is part of  
21 Puumahoi and her breast and Keokea Lani in the sky  
22 match up together, and everything flows. Break that  
23 cycle, you choke it all off, right down the whole  
24 thing.

25 MR. KANAHELE: Question. Eric, yeah, I

1 know our time is running short, the cultural impact  
2 assessment for this project area was done in 1994? I  
3 know there was a CIA done -- no, I think it was  
4 2000 -- (inaudible).

5 MR. FREDRICKSON: We didn't do the CIA --  
6 there was no requirement in '94 and we didn't do  
7 the -- I believe there was one done, but we didn't do  
8 one on this project.

9 MR. KANAHELE: Okay. (Inaudible) 2004,  
10 because I read a CIA for the project.

11 UNIDENTIFIED MALE: Yeah.

12 MR. KANAHELE: (Inaudible) did that? I  
13 think around 2004, something like that. And it was  
14 very short, because there was actually no one  
15 interviewed. There was no one found to interview,  
16 but, I mean, I'm just wondering if that should be  
17 redone, if there should be a CIA, because there's like  
18 two people here.

19 The other quick question -- oh, I see  
20 (inaudible). Another -- the other quick question is,  
21 you know, can we set a date for a site visit at green  
22 dry season, Charlie?

23 MR. JENCKS: Charlie Jencks. Yes, you  
24 can. We will. And number two -- that's with regard  
25 to the site visit. And number two with regard to the

1 cultural impact assessment, it has been redone by  
2 Hanapono as a part of this project application. It  
3 will be in the AIS.

4 MR. KANAHELE: It's done or it's going to  
5 be done?

6 MR. JENCKS: It has been done. It will  
7 be included in the draft AIS when it's published for  
8 review.

9 MR. KANAHELE: I wasn't aware that it was  
10 underway.

11 MR. JENCKS: Done.

12 UNIDENTIFIED MALE: Did you hear,  
13 (inaudible)?

14 UNIDENTIFIED MALE: No, I just heard  
15 about it now.

16 MR. LEE: Mike Lee. Can you do a  
17 supplemental for aunty and uncle over there for the  
18 CIA? Because they are cultural resources that are  
19 valuable and lineal descendents of the --

20 MR. JENCKS: What I would suggest you do  
21 or they do is comment, as a part of the draft comment,  
22 and then we have to address that.

23 MR. LEE: Okay. Good.

24 MR. JENCKS: That's basically the purpose  
25 of that document is to put out a draft document. You

1 have a chance to comment on every aspects of the  
2 document, and then we have to address those comments.

3 MR. LEE: Okay. Fair.

4 MR. JENCKS: Okay, it is literally  
5 straight up 8:00. I want to thank every -- hold on.  
6 I want to thank everybody for coming. Clare, you  
7 didn't say a word.

8 MS. APANA: (Inaudible). I just have a  
9 question. So everyone has given such great input, I  
10 mean, it's a record meeting. Seems like all the  
11 kanaka are pretty much in agreement about the flow of  
12 water and preserving the coastline, keeping the water  
13 clean, flowing down and keeping it flowing, but -- so  
14 how does -- where do you take this? Where do you take  
15 this, Charlie, these comments and --

16 MR. JENCKS: Well, like I said when I  
17 started the meeting, we have an audio man here. We'll  
18 take this audio recording, it will be put into a  
19 transcript. That transcript will then be attached to  
20 the AIS, which is part of the EIS for the project.  
21 Okay. And you will then have a chance to comment on  
22 the transcript, if you wish, and also comment on the  
23 AIS as a part of the project and the cultural impact  
24 assessment.

25 MS. APANA: Does this comments get to

1 be -- does it have a chance to be seen as an impact,  
2 as a cultural impact?

3 MR. JENCKS: You'll see it in context in  
4 the document and you'll be able to read that and you  
5 can comment on that. Okay?

6 UNIDENTIFIED MALE: (Inaudible).

7 MR. JENCKS: As I understand your  
8 question, that's a yes. Okay, thank you for coming.

9 UNIDENTIFIED MALE: Thank you, Charlie.

10 MR. JENCKS: Have a good evening.

11 (End of audio-recorded proceedings.)

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I, Jessica R. Perry, Certified Shorthand Reporter for the State of Hawaii, hereby certify that the audio-recorded proceedings were transcribed by me in machine shorthand and thereafter reduced to typewritten form; that the foregoing represents to the best of my ability, a true and correct transcript of the audio-recorded proceedings had in the foregoing matter.

I further certify that I am not attorney for any of the parties hereto, nor in any way concerned with the cause.

DATED this 21st day of March, 2014, in Honolulu, Hawaii.



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Jessica R. Perry, CSR, RPR  
Hawaii CSR# 404

**Piilani Promenade Cultural Consultation Meeting  
February 25, 2014**

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# Piilani Promenade Cultural Consultation Meeting

## February 25, 2014

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**Appendix D: Transcription of Cultural Consultation Meeting of  
April 27, 2016**

TRANSCRIPT OF VIDEOTAPED PROCEEDINGS

HELD ON APRIL 27, 2016

PI`ILANI PROMENADE PROJECT

PRESENT:

Charlie Jencks, Owner's Representative  
Kimokeo Kapahulehua, Cultural Consultant  
Brett Davis, Chris Hart & Partners  
Lucienne de Naie  
Florence Keala Lani  
Brian Naeole  
Basil Oshiro  
Sally Ann Oshiro

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1 \*\*\*

2 MR. JENCKS: I'll just open this up. My name is  
3 Charlie Jencks. And I am -- I am the owner's representative  
4 for Sarofim Realty out of Dallas, Texas, and the guy on Maui  
5 working with -- with Brett and Kimokeo on the Pi'ilani  
6 Promenade project. I think maybe the first thing to do  
7 today is to go around the room and introduce ourselves and  
8 who we're representing, if you are representing someone. So  
9 you've heard from me, you know who I am. Let's go, and then  
10 we'll go around the table this way back to me.

11 MR. KAPAHULEHUA: Kimokeo Kapahulehua, Hana Pono,  
12 working with Charlie Jencks on this project, as he  
13 identified.

14 MR. DAVIS: My name is Brett Davis, I'm a planner  
15 with Chris Hart & Partners. And we are preparing the  
16 environmental impact statement.

17 MR. NAEOLE: Brian Naeole, lineal descendant to  
18 Hewahewa Hapakuka in that area. Good morning.

19 MR. BASIL OSHIRO: Basil Oshiro, Aha Moku O Maui,  
20 Kula Makai Rep.

21 MS. LANI: Florence Keala Lani. I am here to  
22 represent myself as a lineal descendant to Hapakuka today.  
23 Thank you.

24 MS. SALLY OSHIRO: Hi. Sally Ann Oshiro with the  
25 Makai Kula Moku. Mahalo.

1 MR. JENCKS: Thank you. Thank you for coming.

2 MR. NAEOLE: Thank you.

3 MR. JENCKS: Some of the folks that are here -- I  
4 think, actually, all of the folks that are here were present  
5 at a meeting we had in my office February, it was a year  
6 ago, February 2015. We had the same videographer and we had  
7 the same --

8 MR. NAEOLE: Same.

9 MR. JENCKS: Same drill, right? We had the same  
10 discussion points, the same idea to get input and learn more  
11 about this property from a cultural perspective. And we --  
12 that meeting was concluded, we took the information that we  
13 gained from the video and the audio and had a transcript  
14 done, so we have good documentation as to what was talked  
15 about in that meeting.

16 Fast forward to today, there's been a lot of work  
17 done on the project, EIS and Cultural Impact Assessment,  
18 and, also, I'm pleased to say, an Archaeological impact --  
19 excuse me -- Archaeological Inventory Survey was done for  
20 the property again. It was originally done in the early  
21 nineties for Henry Rice and then was redone and then redone  
22 again. And what we did do is we had, as a part of learning  
23 more about the process -- I think every time I open up a  
24 book about process in this County, I learn something more I  
25 need to do or should have done and then I have to revise and

1 work. We had a site visit months ago out on the property.

2 It was --

3 MR. KAPAHULEHUA: January.

4 MR. DAVIS: January, yeah.

5 MR. JENCKS: January. It was requested -- that  
6 site visit was suggested and I agreed to it in the meeting  
7 we had in February of 2015. And we had a site visit. And  
8 Brett and Kimokeo was there. Brian, were -- who -- did  
9 anyone --

10 MR. DAVIS: Everybody was there.

11 MR. NAEOLE: Yeah, we went to walk the site, yes.  
12 Yes.

13 MR. JENCKS: Okay. Which is --

14 MR. KAPAHULEHUA: And Daniel Kanahale and --

15 MR. JENCKS: Right.

16 MR. KAPAHULEHUA: -- Lucienne De Naie.

17 MR. NAEOLE: Yes.

18 MR. JENCKS: Which was, I think, a good idea. We  
19 learned more about the property during that visit. The  
20 Archaeological Inventory Survey has been -- I think we told  
21 you folks at that site visit that the office of SHPD has  
22 accepted our Archaeological Inventory Survey, accepted it.  
23 That doesn't mean we're done, by any stretch of the  
24 imagination. That report proposed, just as a matter of  
25 background, in deference to the prior report, which

1 suggested data recovery and further work on a limited number  
2 of sites, we've expanded that to include, I think, pretty  
3 much almost every site we identified of any significance  
4 as -- for more data recovery work and research. And the --  
5 the project archaeologist, Erik Frederickson, was to have  
6 developed and submitted to SHPD a data recovery plan that  
7 they will review and approve. And we've also made it clear  
8 that it is our intent to pursue the data recovery sooner  
9 than later and involve the cultural community in that  
10 process. And I know everybody here has a job. Most of us  
11 work every day, we gotta be someplace, whether it's a  
12 nonprofit or taking care of children, we have something we  
13 need to do. But the idea here is -- and I've done this on  
14 another project where I actually invited people to  
15 participate in the process, I think it's -- I think it's a  
16 great experience. Having him in the field and being there  
17 while this data recovery work is underway, I think would be  
18 beneficial to everybody. We would learn -- all learn more  
19 about the property and what is there and what is not there,  
20 whatever the case may be. So that's -- that's an event  
21 that's coming. And as I said earlier, I would prefer to  
22 have that work underway sooner than later so that we know  
23 more about this as we get farther into the project.  
24 Hopefully, that work will start this summer sometime, early  
25 in the summer. And if you do have time, we'll reach out to

1 everybody and tell you what, when and where, what to bring,  
2 what the rules are. Because we have to organize, you know,  
3 there's a liability issue, but we want everybody to  
4 participate. We'll start that process. And I encourage  
5 those that want to attend and participate to do so because I  
6 think it will be -- it will be an interesting process.

7           Generally speaking, the idea here is to -- you  
8 know, this project is one that requires some significant  
9 infrastructure development. One critical piece is the  
10 initial increment of the Kihei/Upcountry Highway that we're  
11 obligated to build for the State.

12           MS. SALLY OSHIRO: Right.

13           MR. JENCKS: Some of the sites that are on the  
14 property -- well, I should say all of the sites that are on  
15 the property that we are aware of will not exist at their  
16 existing grade when the project is done; however, what we've  
17 talked about with Erik Frederickson and others, and the  
18 project ownership, which they -- they have agreed to do,  
19 is -- is when we find significant issues on the property,  
20 significant features -- and I hope you understand what I'm  
21 gonna communicate here -- we want to bring those vertically  
22 into the project. There may be walls, there could be  
23 midden, there could be -- I'm not quite sure what it is  
24 we're going to find, but bringing those sites, those  
25 features vertically into the project and making them --

1 creating a place for them, creating recognition --

2 MS. SALLY OSHIRO: Right.

3 MR. JENCKS: -- that that activity was on that  
4 property, I think, is an important thing to do. You can do  
5 the data recovery and say, okay, we're done, finish it up,  
6 we don't need this anymore, but I would prefer, and the  
7 owner prefers, to recognize that cultural history and bring  
8 it vertically into the project. So it's incorporated into  
9 the project in some way.

10 And -- and Brett did a really good job in the  
11 project EIS talking about the archaeological section and the  
12 work we've done to date in bringing you folks into that  
13 process. So that we -- whatever vertical (inaudible) we  
14 bring in, once we have all the data recovery done, we can --  
15 we can then sit down together and say, okay, what is it we  
16 want to bring vertically, what's the most important piece of  
17 this, how do we most effectively -- how do we most  
18 effectively represent the host culture on this property as a  
19 finished product. Okay.

20 That's -- that's where we are now. There's a lot  
21 of things to do. We wanted to have this meeting because  
22 Kimokeo had been working on the Cultural Impact Assessment.  
23 And I know there was communications, Basil, between you and  
24 Kimokeo on setting up a meeting.

25 MR. BASIL OSHIRO: Yeah.

1 MR. JENCKS: I think you were ill or there was a  
2 lot of stuff going on.

3 MR. KAPAHULEHUA: Aha Moku meeting and --

4 MR. JENCKS: So we wanted -- we wanted to pull the  
5 meeting together, sit down as a group and, once again, tell  
6 us what you know -- hi, Lucienne --

7 MS. DE NAIE: Hello.

8 MR. JENCKS: -- about the property in the context  
9 of your knowledge -- you've been out there a couple of  
10 times, you've walked it, you've seen it -- just so we can  
11 document further the knowledge of the property. So we've  
12 got -- you know, we've got the ownership represented here,  
13 we've got Kimokeo, we've got Brett. We're gonna record this  
14 and then do a transcript so that it's well documented, so  
15 there's no fudging around what people say. It's all a  
16 matter of record, which is good, I think.

17 MR. BASIL OSHIRO: I tell you what, you know, for  
18 me --

19 MR. JENCKS: So with that, I'll just open it up.  
20 Brett, if you want to add anything, or Kimokeo.

21 MR. KAPAHULEHUA: No. We just wanted to get us  
22 guys together knowing that this is not, you know, the final  
23 meeting. There's more things to happen. So we know it's  
24 tough on you guys, tough on all of us. I mean, every one of  
25 us will just do that. But we thought we -- since January

1 meeting, we would meet and we should just -- and I know  
2 everybody be busy, but, that way, we get some -- some kind  
3 of discussion ongoing. And it really happened that Charlie  
4 could be here to update all of us on what's -- what's coming  
5 on this summer, you know, and how do we proceed together in  
6 looking at it. And I know that they didn't have as much  
7 what we talked about earlier about Wailea 670, but there are  
8 sites that you guys had shown that's significant and  
9 everything else. So it's a good time to go out with the  
10 archaeological guy. And, you know, not necessarily  
11 everybody here, but those who can, you know. So I think the  
12 reason for the meeting was just to give ongoing discussion,  
13 you know, and ongoing update with -- with the owners and the  
14 developers.

15 MR. BASIL OSHIRO: So this part is -- we're  
16 looking at updating or looking at the EIS, AIS.

17 MR. JENCKS: The EIS was drafted.

18 MR. BASIL OSHIRO: Uh-huh.

19 MR. JENCKS: Went out for public comment. Public  
20 comments were received. Those letters were then reviewed by  
21 the ownership and the various technical members of the team.  
22 Responses were written, and those responses are included in  
23 the final EIS, which has not been finalized.

24 MR. BASIL OSHIRO: Yeah, because I don't think I  
25 got anything.

1 MS. DE NAIE: I didn't get anything.

2 MR. BASIL OSHIRO: Because you have my email  
3 address, can you send me all that -- I know it's probably  
4 400 pages long.

5 MR. DAVIS: I'm sorry. What are you ask -- are  
6 you asking for --

7 MR. KAPAHULEHUA: The EIS.

8 MR. BASIL OSHIRO: EIS, AIS or whatever you guys  
9 did already.

10 MR. DAVIS: The draft EIS?

11 MR. BASIL OSHIRO: Yeah.

12 MR. DAVIS: Yes, we can -- I can email that.

13 MR. BASIL OSHIRO: I hope it -- I hope it's not  
14 400 page long.

15 MR. DAVIS: It's longer than 400 pages.

16 MS. SALLY OSHIRO: Do we have it mailed?

17 MR. DAVIS: It's available on the State website.

18 The Office of Environmental Quality Control has what's  
19 called an EA and EIS library. So every EA and EIS that's  
20 ever been written is in there. And it's in PDF and you can  
21 review it right there or you can download it and print it.

22 MR. BASIL OSHIRO: What's the website?

23 MR. DAVIS: It's OEQC.

24 MR. BASIL OSHIRO: All in capital?

25 MR. DAVIS: If you went to like a Google search

1 engine and just typed in O-E-Q-C, it will take you to their  
2 website.

3 MS. DE NAIE: You have to do "Hawaii" because  
4 there's other OEQCs.

5 MR. DAVIS: Okay. Okay. Hawaii OEQC. I can  
6 forward you --

7 MR. BASIL OSHIRO: Yeah.

8 MR. DAVIS: -- a link to the website.

9 MR. BASIL OSHIRO: Yeah.

10 MR. NAEOLE: Yeah.

11 MS. SALLY OSHIRO: That would be better.

12 MR. DAVIS: Not a problem.

13 MR. KAPAHULEHUA: What's your email?

14 MR. NAEOLE: I'll give you my -- okay.

15 MS. SALLY OSHIRO: While we doing this, would you  
16 like to introduce yourself?

17 MR. KAPAHULEHUA: Yeah.

18 MS. DE NAIE: Thank you. Lucienne de Naie. I'm  
19 on the Advisory Board of Maui Cultural Lands and, also, I'm  
20 President of Maui Tomorrow, which is one of the  
21 organizations that did ask that this be reviewed and has  
22 submitted comments on the EIS in great volume. We haven't  
23 heard anything back yet.

24 MS. SALLY OSHIRO: Thank you.

25 MS. DE NAIE: Oh, sorry. Turn this off.

1 MR. JENCKS: Everybody is so popular.

2 MS. DE NAIE: Yeah.

3 MR. BASIL OSHIRO: You gonna get your turn too,  
4 Charlie, you watch, they gonna be calling you next.

5 MR. JENCKS: Who is that?

6 MR. BASIL OSHIRO: I don't know.

7 MR. JENCKS: That was my wife.

8 MS. DE NAIE: That counts.

9 MR. JENCKS: Always take those calls. You can  
10 never tell what's happening at home or at the office. Okay.

11 MS. SALLY OSHIRO: Thank you.

12 MR. DAVIS: So, yeah, I can email that link to  
13 you, no problem.

14 MR. BASIL OSHIRO: Yeah.

15 MR. DAVIS: I'll do that today.

16 MR. BASIL OSHIRO: Because, Brett, I look at the  
17 fishery stuff and I get 400 or 500 pages. It gonna take me  
18 six months to look at that, so just glance through it. So  
19 this meeting is actually about the AIS or the EIS?

20 MR. JENCKS: No. This meeting, Basil --

21 MR. BASIL OSHIRO: Yeah.

22 MR. JENCKS: -- is about what you know about the  
23 property, what you have to offer from a cultural perspective  
24 with regard to the property. That's what this meeting is  
25 about and that's what it's being held for. And I'm just

1 curious, if someone could explain to me clearly what the  
2 function of your organization is. Because I've -- I've  
3 looked at a lot of data on the website and I've read -- I've  
4 read through, but I --

5 MS. SALLY OSHIRO: You can't comprehend?

6 MR. JENCKS: No, I can comprehend.

7 MS. SALLY OSHIRO: Oh, okay.

8 MR. JENCKS: I'm just looking for the substance,  
9 what is -- I looked for a mission statement, I looked for  
10 goals. I just didn't see -- maybe -- maybe it's somewhere  
11 else and maybe I didn't go to the right spot, but if,  
12 perhaps, you could communicate what it is you're all about,  
13 I think that will be helpful.

14 MR. BASIL OSHIRO: Well, it's -- I will do the  
15 best I can. It's the ancient ways. If you know how the old  
16 Hawaiians, like, say, our ancestors, actually survived  
17 without outside intervention. We're trying to meet halfway,  
18 yeah. The system is almost about how we can conserve our  
19 natural resources, whether it's land, ocean --

20 MS. SALLY OSHIRO: Air.

21 MR. BASIL OSHIRO: -- air, all that. We had a  
22 whole (inaudible) of it. But it's mostly our natural  
23 resource, the conservation, the use of it. Not the ban --  
24 banding of it. So it's a sharing of our natural resources.

25 MR. JENCKS: And your organization, if I may, what

1 I did get from it, from what I read, was that the  
2 organization focuses on the various ahupua`a in the state.  
3 So there's a -- there's a council for geographical areas, is  
4 that --

5 MR. BASIL OSHIRO: Yeah. So it starts with the  
6 ahupua`a. It's, you know, like the single person, one  
7 person.

8 MR. JENCKS: Uh-huh.

9 MR. BASIL OSHIRO: It's a community. The ahupua`a  
10 is part of the moku. The towns in the moku --

11 MR. JENCKS: Like Honua`ula is a moku?

12 MR. BASIL OSHIRO: Yeah.

13 MR. JENCKS: Okay.

14 MR. BASIL OSHIRO: They have districts inside of  
15 that moku. That's what they call ahupua`a.

16 MR. JENCKS: Okay.

17 MR. BASIL OSHIRO: So that -- from -- you know if  
18 you have a concern from the ahupua`a or a single person,  
19 like Bully says, I have a concern, okay, they going talk to  
20 the leader of his community. And from his community, they  
21 going get together, okay, let's do this, and they go through  
22 the moku. And the moku rep comes out and they have their  
23 discussion. From their discussion, the people, the  
24 community involved, not just for special -- special interest  
25 group, it's the community. If you don't show up, well, you

1 know, you know what you have, what happens, you gonna be  
2 left out in the -- in the cold. But (inaudible) the  
3 ahupua`a, the community or the town has a -- has a concern  
4 or problem, comes to the moku, the moku of the ahupua`a can  
5 get together, what they wanna do. This is all the moku,  
6 now. Like you have -- like the stream that's flowing in a  
7 certain place. Then we all get together and then discuss  
8 that.

9 MS. SALLY OSHIRO: How we can get it back.

10 MR. BASIL OSHIRO: How can we get it back to  
11 actually not take all the water, but --

12 MS. SALLY OSHIRO: Share.

13 MR. BASIL OSHIRO: -- how we can share the water.  
14 Not one ahupua`a who get all the water and this other side,  
15 they lo`i dry. No. We try to share all that. And that's  
16 the conservation. And that's how the old Hawaiians worked  
17 before.

18 MR. JENCKS: Does the organization do annual  
19 reports on what they've accomplished or what they've engaged  
20 in?

21 MR. BASIL OSHIRO: Yeah.

22 MR. JENCKS: Does that -- is that also done?

23 MR. BASIL OSHIRO: Get all those --

24 MS. DE NAIE: It's up to the legislature.

25 MR. BASIL OSHIRO: Yeah. It's written in Hawaiian

1 and English. It goes to our (inaudible). From the  
2 (inaudible), from there, she supposed to be our -- our  
3 middleman that takes it to the DLNR, if we having problems  
4 there, it get stuck, you know, stays (inaudible).

5 MS. SALLY OSHIRO: It's not supposed to.

6 MR. BASIL OSHIRO: It's not supposed to do that,  
7 but nets is something else, but what --

8 MR. JENCKS: Are you funded by the State?

9 MR. BASIL OSHIRO: No.

10 MR. JENCKS: Is there any funding?

11 MR. BASIL OSHIRO: Not --

12 MR. JENCKS: So how do you -- how do you cover  
13 your expenses?

14 MS. SALLY OSHIRO: Right there.

15 MS. DE NAIE: Well, actually, isn't there some  
16 money for Leimana's salary?

17 MR. BASIL OSHIRO: We -- it hasn't gone through  
18 yet.

19 MR. JENCKS: Got somebody that --

20 MR. KAPAHULEHUA: No, but the moku and ahupua`a --

21 MS. SALLY OSHIRO: No. No.

22 MR. BASIL OSHIRO: Not --

23 MR. KAPAHULEHUA: Like this moku is called Kula,  
24 and you live in the ahupua`a, but the moku is -- this  
25 particular moku we talking right now, they not funded, they

1 don't -- they --

2 MS. DE NAIE: Yeah, there's no funding for the  
3 moku.

4 MR. KAPAHULEHUA: The moku -- down from the moku  
5 all the way to the shoreline, there's no funding, everybody  
6 is volunteer. Actually, they volunteer, documents --

7 MR. JENCKS: Okay.

8 MR. KAPAHULEHUA: So -- but what he's saying is  
9 how it works from the concern of the division, you know, the  
10 island, the moku and then ahupua`a. But it goes down to the  
11 kuleana of the lineal of Konohiki, you know. So in the  
12 ahupua`a, you still have kuleana, kuleana, you have  
13 (inaudible), you have Konohiki.

14 MS. SALLY OSHIRO: Do you understand what they --

15 MR. JENCKS: Yeah. Yeah. That's helpful. I  
16 mean, I --

17 MR. KAPAHULEHUA: So that is a particular person  
18 like when we just talked about this morning and told him  
19 about our fishpond get all the -- the ama, the ama is like  
20 this, then the mullet which are (inaudible). So the deal is  
21 to report to DLNR that nobody bother that fish so the thing  
22 can get big enough so it can go on its own.

23 MR. BASIL OSHIRO: Yeah, it can actually leave the  
24 fishpond, but the fishpond was actually made as a  
25 conservation district, yeah, it's our resource. So was

1 talking about monk seal getting in there, that's why they  
2 kill the monk seal. He eating all my kaukau, what -- get  
3 out of here, you know what I mean.

4 MR. KAPAHULEHUA: So the Aha Moku information,  
5 when he that, through the Aha Moku Kula.

6 MR. JENCKS: On the website.

7 MR. KAPAHULEHUA: The moku Kula.

8 MR. BASIL OSHIRO: Well, the thing is, on the  
9 Federal side, the ahamoku.org.

10 MR. JENCKS: That's where I went.

11 MR. KAPAHULEHUA: Yeah.

12 MR. JENCKS: That's where I went. And there was  
13 some information there.

14 MS. SALLY OSHIRO: Then you didn't get to see the  
15 Act 212 and --

16 MR. JENCKS: I have a copy of that as well.

17 MS. SALLY OSHIRO: Okay. Yeah.

18 MR. JENCKS: And I just started reading that.

19 MR. BASIL OSHIRO: That's all looking through it.  
20 That's -- it's a old, really old, 1,000-year-old system that  
21 the Hawaiians did to actually live sustainably without  
22 outside --

23 MS. SALLY OSHIRO: Intervention.

24 MR. BASIL OSHIRO: -- intervention.

25 MS. SALLY OSHIRO: And, also, you know, the way we

1 live is it's kapu, there are times that you don't go after  
2 fish or certain plant, you know. We've just lived our way  
3 that way. And that's what the moku is all about. It tries  
4 to have everybody, doesn't matter what race, but we all live  
5 as one. And like he was trying to explain, you have a  
6 problem because you don't want -- you want to develop, let  
7 me put it that way. Okay. We don't want you to develop in  
8 the area, but now you tell us, okay, let's work this out.  
9 It's the same thing. It the same principle.

10 MR. BASIL OSHIRO: About conservation.

11 MR. JENCKS: All right.

12 MR. BASIL OSHIRO: Yeah.

13 MR. JENCKS: Okay. I just -- I needed to  
14 understand that from your perspective.

15 MR. BASIL OSHIRO: It's not about no do this, no  
16 do that. The kapu system is -- you know, it's like all  
17 resources, that put in the fishery, when it's spawning --

18 MS. SALLY OSHIRO: You don't -- yeah.

19 MR. BASIL OSHIRO: -- it's kapu. And then every  
20 moku is different, the spawning cycle is different.

21 MR. JENCKS: It's all different.

22 MR. BASIL OSHIRO: You go to the ahupua`a, if it  
23 goes out on the ocean, too, it's different, yeah. It's like  
24 the moon calendar, you plant some certain things at certain  
25 times of the moon phase. Everything is done the Hawaiian

1 science. And then it's -- if you folks can actually take  
2 this plant, and then take it back to the mainland and say,  
3 see how these guys used to survive without outside  
4 intervention. They had -- Hawaiians -- had about a million  
5 of Hawaiians here. It's the same population, close to,  
6 right now, and, yet, we gotta import 90 percent of our food.  
7 The Hawaiians didn't have anything but their own. The  
8 (inaudible), they took care of themselves.

9 MR. JENCKS: Okay.

10 MR. BASIL OSHIRO: So that's -- that's what we  
11 trying to work partway, yeah. Bully knows about it, yeah,  
12 but he's been working on the wrong side of da kine fence.

13 MR. NAEOLE: Yeah, to protect the resources.

14 MR. BASIL OSHIRO: Well, you got to get him in  
15 there so he can --

16 MR. JENCKS: I thought we were all on the same  
17 side of the fence, looking in.

18 MR. KAPAHULEHUA: Take us 11 years to build a  
19 wall, so we still in. They not finished yet.

20 MR. BASIL OSHIRO: No. That just was a joke on  
21 that portion.

22 MR. JENCKS: Yeah, yeah.

23 MR. BASIL OSHIRO: We got to work together.

24 MR. KAPAHULEHUA: Together.

25 MR. BASIL OSHIRO: Otherwise, we gonna be bucking

1 heads. We not gonna be drinking from the same cup. No,  
2 separate, the cups. The cups from the same pitcher.

3 MR. JENCKS: Okay. Well, just for my edification,  
4 I want to understand.

5 MS. DE NAIE: The word you see in Act 121 over and  
6 over again is to bring traditional knowledge into the  
7 process because it was a big puka. It was not -- it was  
8 missing. You -- you -- you heard from the folks at DAR, you  
9 know, they trying to do their job, you heard from folks who  
10 own the properties and their consultants, they're trying to  
11 do their job, but what you weren't hearing from is people  
12 who knew about these places for generations. And their  
13 knowledge was not in books, it was not like made into a  
14 video somewhere on YouTube, for the most part, it was within  
15 their families. And so this was a place where people could  
16 feel safe to gather and come and share their family  
17 knowledge and know that it was supposed to actually have  
18 some part in the process because aha moku is -- it's  
19 designed by law to advise the DLNR, which is in charge of  
20 cultural sites, fish and wildlife, plants, you know, the  
21 reefs, the oceans, you know, all these kinds of things, and  
22 is also designed to be a voice within the community to talk  
23 to folks at the County, to talk to landowners, you know. So  
24 it's a relatively young organization. I've watched the  
25 formation. I serve on the Aha Moku Council over in

1 Hamakualoa. It's not confined only to people who are  
2 Hawaiian. If -- if you have an interest, our Aha Moku  
3 Council has several non-Hawaiians on it. It's just if you  
4 live in the moku, you have knowledge of the moku from your  
5 own practices or from just learning from your neighbors or  
6 learning over time, you know, then you're -- you're  
7 considered a valuable asset because you're passing on that  
8 traditional knowledge and that is --

9 MR. BASIL OSHIRO: It's generational.

10 MS. DE NAIE: -- generational knowledge.

11 MR. BASIL OSHIRO: That's not written down in the  
12 books.

13 MR. JENCKS: Well, let's see if there's something  
14 that we can pull out of this history that we can translate  
15 into a benefit for the project.

16 MR. BASIL OSHIRO: Yeah, but --

17 MR. JENCKS: And demonstrate that connection.

18 MR. BASIL OSHIRO: The thing is, Charlie, we wanna  
19 benefit the people, not just the project. Our main concern  
20 is the people of Hawaii. You know, doesn't matter where  
21 you're from.

22 MR. JENCKS: I don't disagree with you at all. I  
23 don't disagree.

24 MR. BASIL OSHIRO: Yeah, because the people the  
25 one gonna suffer, our next generation, you folks, your

1 grandkids, if you're gonna hang around, Kimokeo's grandkids,  
2 and --

3 MR. NAEOLE: Not knowing --

4 MR. BASIL OSHIRO: They're so westernized that  
5 they forget their -- where they came from. So what we talk  
6 about a lot of times is if there's a natural disaster, which  
7 is probably gonna happen, if we don't have the military, we  
8 sunk. So you go to Oahu, you ask them, "Where you get your  
9 food? The supermarket. Where else? The supermarket." You  
10 gonna starve, yeah. You don't know how to gather, you don't  
11 know how to hunt. And that's the culture of the Hawaiian  
12 people. And they keep taking away, so -- and that's what  
13 we're actually fighting, eh, don't take away any more from  
14 us. That's all we have, you know. We don't have -- you  
15 know, like auntie here, she has a lineal, Brian has a lineal  
16 to that land you folks trying to build. And Jacob Mau who  
17 I'm quite sure is lineal to that, too.

18 MS. DE NAIE: Eldon Liu, Hewahewa, that's his  
19 ancestors.

20 MR. BASIL OSHIRO: They --

21 MS. SALLY OSHIRO: They all --

22 MS. DE NAIE: Hewahewa was the Konohiki there.  
23 That's whose name is on the TMK.

24 MS. SALLY OSHIRO: That's right.

25 MR. BASIL OSHIRO: The thing is, you have to talk

1 to those people, too, what their manao is or their  
2 generational knowledge of the land.

3 MR. JENCKS: Well, in terms of, you know, the  
4 reason why we're here today is to get some input from you --

5 MR. BASIL OSHIRO: You getting it now.

6 MR. JENCKS: Okay. So continue.

7 MR. BASIL OSHIRO: Yeah. So Brian would know  
8 because he's part of it, Auntie Flo. And if you get the  
9 other guys in here, too, they probably tell you, you know,  
10 we weren't alone, but what is progress. If you can be pono  
11 and build, for me, I don't know, I don't have a lineal to  
12 that, so I gonna stick in only for myself. If you guys  
13 gonna build, the cultural sites should be used as education,  
14 to teach whoever's in there, whoever's gonna be using the  
15 land, that this is Hawaiian culture in here. It's not just  
16 come here, bulldoze or anything. When you walk in there,  
17 say, oh, my God, they bulldozed everything in there, how  
18 many of the sites did they damage already that we don't know  
19 about because it's buried. Because I went in there, I was  
20 by myself, I walked off by myself.

21 MR. JENCKS: Yeah.

22 MR. BASIL OSHIRO: I found that -- I don't know if  
23 it's -- it's probably a old dam. I don't see any place  
24 where they bulldozed. And I can see that the punawai over  
25 there from the -- the gulch come down and raise the waters

1 to collect and used to flow down. 'Til this day, I see that  
2 flow. And if it gets big rain, if you're gonna build in  
3 that area, somebody's gonna be underwater. Because even  
4 like few months back, had rain, you can see that gulch was  
5 flowing.

6 MR. JENCKS: The area that Basil is talking about,  
7 is that located on the map? Did you make note of that?

8 MS. DE NAIE: It's the small gulch. It's the  
9 small gulch that's shown.

10 MR. JENCKS: All right.

11 MS. DE NAIE: If you look at where Site 3740 is,  
12 that's on that natural gulch.

13 MR. DAVIS: Drainage Way A.

14 MR. JENCKS: All right.

15 MS. SALLY OSHIRO: You can't --

16 MR. BASIL OSHIRO: It's not a drainage. If you  
17 plowed there now --

18 MS. SALLY OSHIRO: That's what he's calling it.

19 MR. BASIL OSHIRO: -- you folks gonna have  
20 problem. Like, you know, the sanctuary, that area is gonna  
21 flood because I can see where -- I don't know if the kupuna  
22 actually showing me that, but that place is filled in  
23 with -- with dirt and silt now. When I going through, that  
24 place was one punawai, was a reservoir. And the people used  
25 it as a resting or -- that was a path, a traveled area down

1 from mauka to makai. You cannot fill up it. If you folks  
2 want to fill in that gulch, yeah, eh, gonna have problems.

3 MS. SALLY OSHIRO: I don't know if you're familiar  
4 with the Kula, where they built the homes. Yes.

5 MR. NAEOLE: The Hawaiian Homes.

6 MS. SALLY OSHIRO: Yes. Thank you.

7 MR. NAEOLE: I was just going to mention that.

8 MS. SALLY OSHIRO: Please.

9 MR. NAEOLE: That gulch.

10 MR. BASIL OSHIRO: It's the same gulch that come  
11 down. And that place, when it rained --

12 MR. JENCKS: That was Keokea?

13 MS. SALLY OSHIRO: Hawaiian Homes.

14 MR. NAEOLE: There was an incident back many years  
15 ago where that house got washed off the foundation.

16 MR. JENCKS: December 5th, I think, is the big  
17 storm, multi-day storm.

18 MR. NAEOLE: Yeah. That house.

19 MS. DE NAIE: It was Henry Lau's house, yeah.

20 MR. NAEOLE: Yeah.

21 MR. BASIL OSHIRO: Yeah.

22 MS. DE NAIE: Yeah, sad.

23 MR. NAEOLE: Ripped right off the foundation.

24 MS. SALLY OSHIRO: Right through.

25 MR. BASIL OSHIRO: That thing flew all the way to

1 Kihei.

2 MS. DE NAIE: Yeah.

3 MR. KAPAHULEHUA: Where that big stream come right  
4 down to the left, inside that Kulanihakoi Gulch.

5 MR. NAEOLE: Yeah.

6 MS. DE NAIE: Yeah.

7 MR. KAPAHULEHUA: By Maui Lu.

8 MR. NAEOLE: Yeah, right.

9 MR. KAPAHULEHUA: So that went down that whole  
10 area. So they're trying to get the new bridge, but this is  
11 a temporary bridge, they gonna build a big bridge.

12 MS. SALLY OSHIRO: See, the thing is that you  
13 folks don't understand is our islands, we have all  
14 natural --

15 MR. NAEOLE: Drainage.

16 MS. SALLY OSHIRO: -- drainage and, you know, from  
17 the -- like he said, from mauka to makai, from the mountain  
18 to the sea.

19 MR. JENCKS: Uh-huh.

20 MS. SALLY OSHIRO: Anytime you destroy that and  
21 you try to divert something, it don't work because, for some  
22 reason, it will go right back and say, "This is my place,  
23 this is the way I want to flow, but thank you very much, now  
24 you put all this rubbish, now I'm gonna block up down  
25 below." So you only causing more mishap.

1 MR. JENCKS: Right.

2 MR. BASIL OSHIRO: Gotta work with nature.

3 MS. SALLY OSHIRO: Yeah.

4 MR. BASIL OSHIRO: And that -- that gulch is  
5 natural. And the run right next, by the school, it  
6 overflows pretty often, too.

7 MR. KAPAHULEHUA: Kulanihakoi.

8 MR. JENCKS: Kulanihakoi.

9 MR. BASIL OSHIRO: Yeah.

10 MR. JENCKS: That's a big one.

11 MR. BASIL OSHIRO: Yeah.

12 MR. KAPAHULEHUA: Where?

13 MR. JENCKS: Kulanihakoi. Yeah, that's a big one.

14 MR. BASIL OSHIRO: That place flows. And one time  
15 I was wondering how come that other -- that ditch was  
16 flowing. And I found out the tank that -- I don't know how  
17 many million gallon tank, was broken. So where this water  
18 came from, no rain.

19 MR. JENCKS: It was in -- the water was in  
20 Kulanihakoi Gulch?

21 MR. BASIL OSHIRO: Yeah, flowing.

22 MS. DE NAIE: Where was the tank that was broken,  
23 up in Kula?

24 MS. SALLY OSHIRO: Right above our house.

25 MR. BASIL OSHIRO: Right above us.

1 MS. DE NAIE: Oh.

2 MR. BASIL OSHIRO: And it was flowing for like  
3 three months. And I was wondering where the hell this water  
4 coming from.

5 MR. JENCKS: I'm not sure.

6 MR. BASIL OSHIRO: No. That tank is --

7 MS. SALLY OSHIRO: No. It's --

8 MR. BASIL OSHIRO: Right above (inaudible). So  
9 that -- that was flowing.

10 MR. JENCKS: So it was flowing across, then down  
11 into the Kulanihakoi Gulch?

12 MR. BASIL OSHIRO: Yeah.

13 MS. SALLY OSHIRO: See, what happened was they  
14 blocked it off with -- they started making the cornfields or  
15 whatever they had.

16 MS. DE NAIE: Monsanto guys.

17 MS. SALLY OSHIRO: Yeah.

18 MS. DE NAIE: Yeah.

19 MS. SALLY OSHIRO: When they first started the  
20 thing. So they blocked it off. And then, right behind our  
21 house, I noticed that there was a natural gulch that had  
22 come down and then come across and joined. Well, now they  
23 blocked that off. So I told him -- right by the gate, I  
24 told him, eh, look, they blocked that off, where is it gonna  
25 go, down on this side, not going down the road. So I

1 thought, how dumb can they be, you know.

2 MR. JENCKS: Hard learners.

3 MR. BASIL OSHIRO: It's the engineers that not  
4 from Hawaii. Actually, you gotta talk to the kupuna. All  
5 that water used to flow. If they were generational, how the  
6 waters flow, you guys gotta follow, you know, that pattern.  
7 Otherwise, oh, boy, problems. And you can see the problems  
8 with the whale sanctuary. When they built all the wetlands,  
9 we were telling them, watch out because this place gonna be  
10 underwater when they get the 100-year rain. Sure enough.  
11 Lucky, nobody got injured or what. But my friend lives down  
12 there, he had 18 inches of water. He couldn't leave his  
13 house, and months. And what that thing smell like? Cow  
14 dung. (Inaudible).

15 MR. JENCKS: Not pleasant. Not pleasant at all.

16 MS. DE NAIE: So, Basil, was this down off of  
17 Kaonoulu Street like where it comes down?

18 MR. BASIL OSHIRO: Yeah.

19 MS. DE NAIE: And then there's that big wetlands  
20 on the -- across from Maui Lu? Yeah.

21 MR. BASIL OSHIRO: And (inaudible) on the ranch --

22 MS. DE NAIE: Yeah.

23 MR. BASIL OSHIRO: -- said it was about six inches  
24 deep of mud, if they dig. Couple of the trees down, they  
25 said this one rain, eh, we gonna get it.

1 MS. DE NAIE: Yeah.

2 MR. BASIL OSHIRO: And didn't take maybe about a  
3 year later had that big rain, constant rain --

4 MS. DE NAIE: Yeah. And all the rubbish flushed  
5 down.

6 MR. BASIL OSHIRO: Yeah. It was -- was a good  
7 smell for a little while.

8 MS. DE NAIE: Well, you know, I have a map from  
9 the 1930s that has that area there, right where the new  
10 bridge is, you know, where the little narrow water is coming  
11 across, it was like a much bigger area, and it was labeled  
12 muliwai. So it was known as a muliwai at that time. And  
13 even the 1950s maps, when you look at it, you know, it looks  
14 different than it does today. In fact, this little gulch  
15 comes out down by the ocean on those maps, as far as I could  
16 tell. Yeah.

17 MR. BASIL OSHIRO: Well, if you get the old maps,  
18 Sally, you can see, actually, how the water -- you can --  
19 I'm quite sure you will be able to see how the water  
20 actually flows. And if you try to divert that thing like  
21 they did on mauka side of the lower Kihei Road, South Kihei  
22 Road, try diverting all that water.

23 MR. NAEOLE: Flush it.

24 MR. BASIL OSHIRO: That's why it was underwater  
25 for a little while.

1 MR. JENCKS: Yeah.

2 MR. BASIL OSHIRO: If they kept to the natural  
3 flow and they didn't build so much on the wetland, I don't  
4 think we would have that --

5 MS. DE NAIE: Well, then the water can spread out.  
6 The wetland is for the water to spread out. By making it  
7 the small channel like that, then, yeah, then it just --

8 MR. JENCKS: Speaking of the development, on the  
9 makai side of the highway --

10 MR. BASIL OSHIRO: (Inaudible).

11 MR. JENCKS: Kaonoulu Estates.

12 MR. BASIL OSHIRO: Both sides of South Kihei Road.

13 MR. JENCKS: Yeah.

14 MR. BASIL OSHIRO: That's all wetland, from  
15 Maalaea all the way to -- past Kalama Park.

16 MS. DE NAIE: So where Maui Lu is, too?

17 MR. BASIL OSHIRO: Maui Lu is wetland, too.

18 MR. NAEOLE: Azeka.

19 MR. JENCKS: It was -- it was at one time before  
20 it was filled.

21 MR. NAEOLE: Ditches.

22 MR. BASIL OSHIRO: Yeah. Yeah, so that place gets  
23 flooded, too. (Inaudible) --

24 MS. DE NAIE: It's a bad flood -- yeah.

25 MR. NAEOLE: St. Theresa's.

1 MR. JENCKS: St. Theresa's, same.

2 MR. NAEOLE: Yeah.

3 MR. BASIL OSHIRO: If they -- I think they follow  
4 the right channels and watch how the drainage, the ditches  
5 and stuff, and then save enough wetland where the water can  
6 collect. By St. Theresa's is only place that's left.

7 MR. NAEOLE: Well, get that other one in the back  
8 of -- what is the -- Longs --

9 MS. DE NAIE: Yeah, Longs Drugs. Yeah, they --

10 MR. NAEOLE: Longs Drugs, in the back.

11 MS. DE NAIE: They created it, yeah, which it  
12 functions good. And they're gonna do one at that new place,  
13 the courts, whatever they are. Yeah, they have to -- they  
14 have to do a part there.

15 Daniel Kanahale asked me, said -- because he can't  
16 be here this time, he said would I bring up that many  
17 cultural practitioners have commented and feel that that  
18 small gulch is a cultural feature of the land and that it  
19 definitely should not just be, you know, viewed as some  
20 convenient drainage that you can get rid of and have a  
21 drainage someplace else. Everybody here sort of feel that  
22 way?

23 MS. SALLY OSHIRO: Yes.

24 MS. DE NAIE: So is there any consideration in  
25 this project not to -- not to fill that up and obliterate it

1 forever?

2 MR. JENCKS: Well, you know, we've looked at  
3 that -- at that drainageway a couple of ways. Originally,  
4 the original plan for the drainageway, when we bought the  
5 land from the original owner, Henry Rice, it was gonna be  
6 diverted to Kulanihakoi Gulch, 100 percent of it was going  
7 to go over to the gulch. And I realized that if I did  
8 that -- or if I allowed the civil plans to be completed to  
9 do that, then that would be creating problems for other  
10 people downstream, and that wouldn't be fair and wouldn't be  
11 equitable. So the current plan provides for intercepting  
12 the gulch, the drainageway, whatever you want to call it, on  
13 the mauka side of the property and then putting it in a  
14 culvert, down the alignment of East Kaonoulu Street with the  
15 same terminus at the makai side of the property with no  
16 increase in either quantity or speed.

17 MS. DE NAIE: So that means it gets filled in  
18 because you're intercepting it?

19 MR. JENCKS: So what we're going to do is we're  
20 going to use -- you know, the gulch crosses diagonally  
21 across the land.

22 MR. BASIL OSHIRO: Yeah.

23 MR. JENCKS: Two parcels. A parcel, the 1,300  
24 acre, which is at the very corner, which is designated to be  
25 an affordable housing site, and then the larger piece below

1 that similar to -- and if you, in your mind, think about  
2 the -- the overall acreage, there's a water line that the  
3 County built years ago which serves Central and South Maui.  
4 It cuts it diagonally right across. It's now the  
5 hypotenuse. That's going to be rerouted as well.  
6 Similarly, this drainageway cuts across these two pieces,  
7 one more than the other. And no matter what we do here on  
8 this property, whether it's -- it's the grading for the --  
9 for East Kaonoulu Street or the project itself, it's gonna  
10 be a problem. So, you know, we -- we tried to develop a  
11 scenario within which we would divert it at the top, across  
12 and down, without, A, increasing the volume or the capacity  
13 or the quantity of water. So that we're not harming  
14 downstream properties, which is important. And you can't do  
15 that. It's not fair and equitable. With respect to  
16 Kulanihakoi Gulch, there is no increase from that  
17 drainageway, which complicates, Basil, what you were talking  
18 about makai of the highway.

19 MS. DE NAIE: So that's not the question. The  
20 question is not whether it has flow or not. That's one  
21 question. You're saying it won't have flow, so it won't be  
22 a problem because the flow --

23 MR. JENCKS: I'm saying -- what I said was we're  
24 not diverting to Kulanihakoi Gulch to --

25 MS. DE NAIE: Yeah.

1 MR. JENCKS: -- increase the flow there. We are  
2 going to intercept at the top, bring it right down East  
3 Kaonoulu Street to the existing exit under the Piilani  
4 Highway. There's a series of culverts under the highway  
5 now, very large culverts, that -- that move water from --  
6 you know the gas station area? There's a drainage  
7 easement --

8 MS. SALLY OSHIRO: Right.

9 MR. JENCKS: -- on the highway.

10 MS. DE NAIE: Yeah, it's a big trough.

11 MR. JENCKS: Yeah. It's a concrete deal, that's  
12 there as well. So those culverts handle all that water.

13 MS. DE NAIE: Yeah.

14 MR. JENCKS: But the water that we're going to  
15 channel down will exit at the --

16 MS. DE NAIE: But it's not about the water, it's  
17 about the feature itself, where it exists. It's a cultural  
18 feature because folks lived along -- I mean, you can  
19 see it's green when other things are dry, you know, there's  
20 groundwater there, the water is following it. Brian, what  
21 were you saying? You were saying there was like trees, you  
22 couldn't even see the gulch when you were young.

23 MR. NAEOLE: You can't see. It was all covered,  
24 that's why. Water was flowing, that's why you have  
25 the greenery, yeah.

1 MR. BASIL OSHIRO: It's so green.

2 MS. DE NAIE: Yeah.

3 MR. JENCKS: Well, and that's the plan. We  
4 have -- you know, whether you agree or disagree with the  
5 Archaeological Inventory Survey, that's the plan. And we  
6 have to move on from there.

7 MR. NAEOLE: Yeah.

8 MR. BASIL OSHIRO: Because the thing is, is what  
9 you trying to say --

10 MS. DE NAIE: See, the green part is the gulch,  
11 yeah.

12 MR. JENCKS: What do you mean, the low part?

13 MS. DE NAIE: Well, yeah, but there's -- there's  
14 groundwater there, you know, too. It's like those trees can  
15 keep living while everything else dries up.

16 MR. BASIL OSHIRO: Water is still flowing  
17 underneath.

18 MS. DE NAIE: Yeah.

19 MR. BASIL OSHIRO: The thing what we trying to  
20 tell you, you folks, is when you folks develop, you know you  
21 guys gonna develop, to keep the natural drainage, don't  
22 divert it, (inaudible) problems, you know. It's -- I don't  
23 know. Maybe it's just, like I say, a gut feeling that --  
24 because where you folks want to put the affordable housing  
25 is where you folks have the big culverts. Right below that

1 culverts is where the reservoir or the punawai, when the  
2 rain comes down, collects there, goes over that little  
3 waterfall and goes down in the gulch and drains across the  
4 road, you know, makai. And if you're going to divert that,  
5 the water has its own mind on what way it wants to go.

6 MR. JENCKS: Sure.

7 MR. BASIL OSHIRO: You're going to try to divert  
8 it, that lower side of Pi'ilani, problems. They're having  
9 problems over there.

10 MR. JENCKS: Okay. Well, it's worth taking a look  
11 at, then. We can certainly go back and talk about this  
12 issue and see if there's -- if there's any way we can  
13 address your concerns. Be happy to do that.

14 MS. SALLY OSHIRO: Excuse me. I think we brought  
15 this up the second meeting we had at your office.

16 MS. DE NAIE: Yeah.

17 MS. SALLY OSHIRO: We did bring all this up.

18 MR. JENCKS: In the transcript for that meeting,  
19 at the very end of the meeting, there was a discussion about  
20 this drainageway. And I believe Daniel Kanahale asked me a  
21 direct question. My response then is the same as it is  
22 today. So, yes, it was brought up at the February --  
23 February --

24 MS. SALLY OSHIRO: Yeah.

25 MR. JENCKS: -- 2015 meeting. It's in the

1 transcript. Yeah, you're right.

2 MS. SALLY OSHIRO: And is he not gonna listen,  
3 then --

4 MR. JENCKS: Well, I --

5 MS. SALLY OSHIRO: No. But I'm telling you so you  
6 can go back and explain.

7 MR. JENCKS: I'm listening -- I'm listening to you  
8 as a different group. That was a group of people we pulled  
9 together. This is a different group.

10 MS. DE NAIE: Actually, I think --

11 MR. JENCKS: Different --

12 MS. DE NAIE: I think all the same, all these  
13 people.

14 MS. SALLY OSHIRO: Except we don't have the rest.

15 MS. DE NAIE: Yeah.

16 MR. JENCKS: What I'm saying is I'll take back  
17 your concerns, see if there's something we can do. We'll  
18 talk about it.

19 MS. SALLY OSHIRO: Yeah. Because if you don't  
20 want any problems with the development --

21 MR. JENCKS: We certainly don't.

22 MS. SALLY OSHIRO: Yeah. So --

23 MR. JENCKS: I agree. I agree.

24 MS. DE NAIE: I don't know, Basil, you want to  
25 talk about the shelter along the gulch, too? Again, a few

1 pictures.

2 MR. BASIL OSHIRO: Yeah. It's cultural kind of  
3 stuff. Charlie should look at it.

4 MS. DE NAIE: Wait a second. Let me find that  
5 stuff. So if you look from --

6 MR. JENCKS: Do you have a location map, Lucienne?

7 MS. DE NAIE: Yeah. Yeah, yeah. So we have a  
8 location map --

9 MR. BASIL OSHIRO: Everyone is --

10 MS. DE NAIE: So you find 3740, Site 3740, you see  
11 there's kind of like a bend in the --

12 MR. JENCKS: Yeah, it's right here.

13 MS. DE NAIE: Okay. So just makai of that --

14 MS. SALLY OSHIRO: 3740?

15 MS. DE NAIE: Yeah.

16 MR. BASIL OSHIRO: I think the only thing we  
17 didn't find was picture of --

18 MS. DE NAIE: Yeah. So just -- just --

19 MR. BASIL OSHIRO: Somebody cleared the area out,  
20 like the homeless.

21 MS. DE NAIE: Just makai. So here's the gulch.  
22 And the gulch is about to make that -- that bend.

23 MR. JENCKS: Oh. So you're talking this area  
24 right here?

25 (Multiple speakers.)

1 MS. DE NAIE: 3740 is just a little bit mauka of  
2 that.

3 (Multiple speakers.)

4 MR. JENCKS: So this is kind of going like this?

5 MS. DE NAIE: Yeah. The gulch is going like this.

6 MR. JENCKS: Wrapping around.

7 MS. DE NAIE: Yeah, it's wrapping around. This is  
8 like a little hill above the gulch.

9 MR. JENCKS: Okay. All right.

10 MS. DE NAIE: So you see these two rocks. Then  
11 when you get near, you realize that it's actually like a  
12 little shelter that's been, you know, formed into a shelter.

13 MR. JENCKS: So did you -- when you guys did the  
14 site walk, did you point this out to Erik?

15 MS. DE NAIE: No, because we didn't go down there.  
16 We went further up.

17 MR. BASIL OSHIRO: I went up to the dam. And they  
18 didn't have enough time.

19 MR. JENCKS: Did you know about this when you did  
20 the site walk?

21 MR. KAPAHULEHUA: No.

22 MS. DE NAIE: I'm not sure if we did.

23 MR. JENCKS: So you've been back out on the  
24 property since --

25 MS. DE NAIE: Yeah. This is -- this is -- this

1 is -- yeah, because we wanted to find the thing to show --  
2 to show the archaeologist. We wanted to find -- this is the  
3 other site, the talking stone, the oracle stone, yeah.

4 MR. JENCKS: Can I make a note on this map?

5 MR. DAVIS: Yes.

6 MS. DE NAIE: Yeah.

7 MR. JENCKS: All right. So may I have this?

8 MS. DE NAIE: Yeah, you may.

9 MR. KAPAHULEHUA: Makai side of 3740.

10 MR. JENCKS: So -- so if I see --

11 MS. DE NAIE: So here's 3740. That's what 3740  
12 looks like. It's -- it's rocks stacking along the side.

13 MR. JENCKS: So these -- these rocks, the rocks  
14 you're talking about in this picture --

15 MS. DE NAIE: Yeah.

16 MR. JENCKS: -- are on the mauka side of the  
17 channel, of the drainageway, and on this side or this side?

18 MS. DE NAIE: They're on the south side. Yeah,  
19 the south side. And they're makai of this site. So this  
20 site is -- is lining --

21 MR. JENCKS: Are we looking -- are we looking  
22 makai or we're looking --

23 MS. DE NAIE: Yeah. This would be mauka, this  
24 would be makai.

25 MR. JENCKS: Okay. So we're -- so these are the

1 rocks you're talking about?

2 MS. DE NAIE: Those are the -- yeah, you see  
3 those.

4 MR. JENCKS: So if this is the drainageway, then  
5 these rocks are on this side of the drainageway, looking  
6 mauka?

7 MS. DE NAIE: They're on the south. Yeah.

8 MR. JENCKS: Okay.

9 MS. DE NAIE: Well, they're -- they're on --  
10 they're going towards Makena.

11 MR. JENCKS: On this side. Yeah, on the Makena  
12 side. So --

13 MS. DE NAIE: Yeah.

14 MR. JENCKS: Okay. So this is --

15 MS. DE NAIE: And so on -- on both sides, there's  
16 some stacking similar to this. There's a lot more stacking  
17 that's associated with this site.

18 (Multiple speakers.)

19 MS. SALLY OSHIRO: This must be at the site she  
20 talking about?

21 MS. DE NAIE: Yeah, we were taken --

22 MR. JENCKS: Is this 3740?

23 MS. DE NAIE: This is 3740. There's a flag there.  
24 We were taken to that site.

25 MR. JENCKS: Okay.

1 (Multiple speakers.)

2 MS. DE NAIE: Then the other thing is about that  
3 site is it appears --

4 MR. JENCKS: Okay, guys, we got to limit because  
5 we're recording.

6 MS. DE NAIE: Sorry.

7 MR. JENCKS: We're going to get a transcript. So  
8 we gotta limit who is talking at the same time. Okay?

9 MS. DE NAIE: So it appears that a Pueo is using  
10 this because there were droppings and then there's the  
11 pellets underneath that have all the little mice -- you  
12 know, these are typical Pueu pellets. So --

13 MR. JENCKS: And where is this?

14 MS. DE NAIE: This is -- this is the little shelf.  
15 So this site, the picture I gave you has --

16 MR. JENCKS: Oh.

17 MS. DE NAIE: -- has like a little shelf in it.

18 MR. JENCKS: That's all right here? Oh, I see the  
19 rock.

20 MS. DE NAIE: Yeah. You can see the droppings.

21 MR. JENCKS: Okay.

22 MS. DE NAIE: So that's a Pueo habitat in -- in  
23 our opinion, anyway, from --

24 MR. JENCKS: Okay.

25 MS. DE NAIE: -- from -- from seeing it. And then

1 from that site -- so here's the top of that big rock, and  
2 then there's modifications from there, too, it's filled in,  
3 leading up to Site 2740. So --

4 MR. JENCKS: 3740?

5 MS. DE NAIE: 3740. So those are -- 3740 --

6 MR. JENCKS: So these were all the same rock area?

7 MS. DE NAIE: Yeah. In other words, you had the  
8 two sides of the gulch. 3740 are stackings on two sides of  
9 the gulches -- of the same gulch.

10 MR. JENCKS: All right.

11 MS. DE NAIE: On the north side and the south  
12 side. And then this is a little bit makai of where those  
13 were recorded. Those were recorded, you know, back in  
14 the -- 1994. And then this is a little bit makai. You  
15 know, the feeling that we had is that the general area,  
16 though, should be like cleaned. And you would probably see  
17 more features because there's just, you know, a lot of -- a  
18 lot of alignments of pohaku in that particular area. And,  
19 you know, it's -- it's another wrinkle in the -- in the  
20 mystery of what -- you know, what this whole gulch was  
21 utilized for.

22 MR. JENCKS: Okay. Thank you. We'll take a look  
23 at that.

24 MS. DE NAIE: Okay.

25 MR. BASIL OSHIRO: If you see historical, we would

1 like to preserve it so we can teach, yeah, the younger  
2 generation that don't have a clue what's going on, show how  
3 our ancestors used to live.

4 MS. SALLY OSHIRO: (Inaudible).

5 MS. DE NAIE: That's the dam.

6 MR. BASIL OSHIRO: (Inaudible). It's not about  
7 trying to stop --

8 MS. DE NAIE: The one other thing that we noticed  
9 is that when you're in the gulch at that point, right below  
10 the rock, you're really looking straight at Kahoolawe, very  
11 much aligned with Kahoolawe. I mean, it's what you see, is  
12 that, you know -- yeah. So, you know, for -- for a Hawaiian  
13 sense of things, that is something to take into account,  
14 what you're seeing from a particular place.

15 MR. JENCKS: Okay. Thank you.

16 MR. BASIL OSHIRO: Like you said, it's -- it's a  
17 pathway, mauka to makai. I'm quite sure that area was a  
18 resting area. (Inaudible.)

19 (Multiple speakers.)

20 MR. BASIL OSHIRO: A circle of flat rocks, I  
21 couldn't -- I didn't have a GPS so I couldn't actually mark  
22 it. So going back, when you folks was down side, I was up  
23 there, where is that place at now, you know.

24 MS. DE NAIE: Yeah. See, Basil saw a lot of stuff  
25 on the site visit that we didn't have time to go because,

1 you know, we had so much to see already.

2 MR. BASIL OSHIRO: I didn't want to go to old  
3 sites, I wanted to go to the -- look for something, somebody  
4 was pointing where to go.

5 MS. SALLY OSHIRO: Exactly.

6 MS. DE NAIE: Well, it was good to see the other  
7 ones, too, but it would have been nice if we could have  
8 like, you know, checked out more stuff, yeah.

9 MR. JENCKS: Well, we modified the -- subsequent  
10 to that site visit, we modified the AIS to reflect things  
11 that were discovered or found or added. We added additional  
12 sites to the -- to the AIS. Correct me if I'm wrong, Brett,  
13 but we added --

14 MR. DAVIS: I don't think that we did, Charlie.

15 MR. JENCKS: Okay. But we noted them?

16 MR. DAVIS: We noted -- yeah, we noted the extra  
17 sites.

18 MR. JENCKS: And I think there are -- some of them  
19 would be included in the data recovery?

20 MR. DAVIS: I think that we -- that we agreed to  
21 that.

22 MR. JENCKS: Okay.

23 MS. DE NAIE: Okay. But I have my notes from that  
24 right here. And so we asked that Sites 3736, 3730, 3731,  
25 3732 and 3745, as well as the natural stone that Kumu Lee

1 felt was associated with eclipses, all be considered for  
2 preservation. So Daniel also asked, you know, could you get  
3 an update on what happened from that request. That's why I  
4 brought my notes.

5 MR. JENCKS: What we can do is have Brett get back  
6 to you on those. Okay?

7 MR. DAVIS: Charlie, the stone that she's  
8 mentioning is Number 1 there on my -- circled right there.

9 MR. JENCKS: Okay.

10 MR. DAVIS: And that's -- you know, that's  
11 where -- Lucienne, right before you came in, we were  
12 talking -- Charlie was talking about vertical preservation  
13 of sites.

14 MS. DE NAIE: Uh-huh.

15 MR. DAVIS: And that was the site that was really  
16 important during our site visit.

17 MR. JENCKS: Okay. All right.

18 MR. DAVIS: About keeping it in that location and  
19 bringing it straight up.

20 MR. JENCKS: And context is important.

21 MS. SALLY OSHIRO: Are you folks talking about  
22 this one?

23 MS. DE NAIE: No. No, not yet.

24 MS. SALLY OSHIRO: Different one, oh.

25 MS. DE NAIE: No. Because we never got to see

1 that one.

2 MS. SALLY OSHIRO: Oh, okay.

3 MS. DE NAIE: No. We saw the -- the eclipse  
4 stone.

5 MR. DAVIS: Eclipse.

6 MS. DE NAIE: Yeah, the -- yeah. Yeah.

7 MR. DAVIS: There was a second stone that we  
8 talked about, but we didn't visit it.

9 MS. DE NAIE: Here are pictures of it.

10 MR. DAVIS: Those are pictures?

11 MR. JENCKS: Is that Number 2 here?

12 MR. DAVIS: That is.

13 MS. DE NAIE: Sally, you like talk about that?

14 MS. SALLY OSHIRO: Okay. We went and -- we had a  
15 meeting and then we ended up going down there one night.  
16 And we had a lady with us that insisted on taking a picture.  
17 And I was telling her that, no, because she -- this rock is  
18 a female. And she was adamant about being left alone. She  
19 doesn't want to be moved. She wants to be here. And she  
20 plopped things on it and whatnot. I kept taking it off.  
21 And, finally, when she did plop it, it knocked it down,  
22 something knocked it down. So she picking everything up and  
23 redoing it and putting on top. The next time it went down,  
24 a mouse came along and ate it. That's what she said. And I  
25 said, "No."

1 MR. JENCKS: No. No.

2 MS. SALLY OSHIRO: But Daniel was playing on the  
3 rocks like a little child, because this was all childrenly,  
4 for a place where the children played. So that the adults  
5 would be around here and they were doing -- they stargazing  
6 and whatnot, and mapping out things. Okay. That's this  
7 area. So she was overly protective. Finally, in the end,  
8 she insist -- the lady that was there insisted on taking a  
9 picture. So I asked permission, and she said, "Yes, two."  
10 She already took pictures of Danny playing on the rock.

11 MR. JENCKS: Dan --

12 MS. SALLY OSHIRO: Kanahale, okay. And was cute  
13 because he was like a little child, like something just came  
14 over him and he was hopping around and enjoying himself.

15 MR. JENCKS: So, this is -- all these rocks are  
16 located in this Number -- Number 2?

17 MS. DE NAIE: No.

18 MS. SALLY OSHIRO: This is makai side.

19 MS. DE NAIE: No. This rock is --

20 MS. SALLY OSHIRO: Way down.

21 MS. DE NAIE: There's a road over here. There's a  
22 corral.

23 MR. JENCKS: Yeah.

24 MS. DE NAIE: You know there's a corral. And  
25 there's a road that kind of goes right beyond the corral.

1 MR. JENCKS: Yeah, right. Right.

2 MS. DE NAIE: And if you go a little bit beyond  
3 the corral, maybe 300 feet, something like that --

4 MR. JENCKS: Okay.

5 MS. DE NAIE: -- right to the left-hand side of  
6 that road is this little grouping of rocks. I mean, you can  
7 see 'em because it's like -- it looks different from  
8 other -- I mean, here's the -- here's kind of a picture of  
9 what they look like. So this is the lock -- the rock that  
10 Sally is referring to, but it lines up with a bunch of other  
11 rocks. Like this is that same rock and you can see that  
12 there's rocks all in a line here.

13 MR. JENCKS: So it's pretty obvious.

14 MS. DE NAIE: It's pretty obvious, yeah. And it's  
15 just right off that -- that little dirt road if you -- if  
16 you walk the dirt road right past the corral on the -- you  
17 know, on the Kihei side of the corral, you'd see this little  
18 spot. We didn't get a chance to go to it.

19 MR. JENCKS: So was this a part of the site walk  
20 that you did?

21 MS. SALLY OSHIRO: No, not with you folks.

22 MS. DE NAIE: We -- we said we were going to go  
23 back.

24 MR. JENCKS: I feel obliged to ask you --

25 MS. SALLY OSHIRO: Yes.

1 MS. DE NAIE: -- if you're going to go onto this  
2 property --

3 MS. SALLY OSHIRO: Yes.

4 MR. JENCKS: -- that you let somebody know you're  
5 going to be out there.

6 MS. SALLY OSHIRO: Oh, we always ask permission.

7 MR. JENCKS: From who?

8 MS. SALLY OSHIRO: The land.

9 MR. JENCKS: Okay. And, look, I respect that. I  
10 think that's important.

11 MS. SALLY OSHIRO: I knew that was going to  
12 happen.

13 MR. JENCKS: The problem is there's a whole bunch  
14 of attorneys who really don't care about that. I do. Okay?  
15 So if you're going to go out on this property, just so it's  
16 on record, you need to call me.

17 MS. SALLY OSHIRO: Okay.

18 MR. JENCKS: And ask permission.

19 MS. SALLY OSHIRO: All right.

20 MR. JENCKS: Okay. I'm not going to object to it.  
21 I just need to know who is going out there and when. Going  
22 on the property at night is not a good idea.

23 MS. SALLY OSHIRO: Oh, we went early evening.

24 MS. DE NAIE: This was years ago.

25 MS. SALLY OSHIRO: This was years, okay. But I

1 want to tell you that she took picture, first one, it's all  
2 black. So she said, "No. Wait, wait. Got to take one  
3 more." It didn't come out. So she took another one. It  
4 didn't come out. And I said, "Don't take any more. She  
5 already said two." And it was so funny because she took  
6 another picture later, but not of the rock, and it came out.  
7 And the two didn't come out.

8 MR. JENCKS: Interesting, yeah. Okay. Just call  
9 me, call my office, let me know when you want to go. Just  
10 so we know, so if something happens, we know people were out  
11 there. There's poachers. It's not as comfortable a place  
12 as it could be. And that's why I just -- if I know you're  
13 out there, then you're covered and I'm covered. Okay?  
14 Good. All right.

15 MS. DE NAIE: You know, they live right around the  
16 corner from here.

17 MR. JENCKS: That's fine. That's fine. They  
18 don't live on the property, though.

19 MS. DE NAIE: No, no, no, no, no. I mean,  
20 Sally -- Sally, she was telling, she goes, "I remember  
21 coming here years ago when I worked at the farm." She  
22 worked at the farm that used to be -- you know where  
23 Monsanto fields are.

24 MR. JENCKS: There are clear rights as Hawaiians  
25 for gathering, cultural practices. And I am telling you I

1 honor those rights, okay, but it's for Hawaiians.

2 Hawaiians.

3 MR. BASIL OSHIRO: What's that law that --

4 MR. JENCKS: And it's also -- it's also -- well,  
5 this is (inaudible), okay, state law, it's also for people  
6 who live in that area. I don't want to get into that. I'm  
7 just saying --

8 MS. SALLY OSHIRO: I know what you're saying.

9 MR. JENCKS: -- there's just proper protocol. And  
10 even then, you're supposed to at least discuss I want to go  
11 on the property, just respect both sides.

12 MS. SALLY OSHIRO: Okay.

13 MR. JENCKS: Okay. Any more comments, Basil?

14 MR. BASIL OSHIRO: Okay. I know Willy and I went  
15 through these, at least give us time, like, say, a couple  
16 weeks, so we can get our people together, too, you know, in  
17 the moku. So it didn't happen. Brett sent me email on  
18 Monday. So good thing that I looked at the email on that  
19 Monday. Otherwise, I wouldn't be here, because we're having  
20 other kind of crazy things happening and --

21 MR. JENCKS: Everybody is busy, Basil.

22 MR. BASIL OSHIRO: Yeah. So --

23 MR. JENCKS: Everybody.

24 MR. BASIL OSHIRO: Sometimes I don't look at my  
25 email for three or four days, and then just so happen I was

1 on the site and then it clicked on, said, ooh, somebody --

2 MR. KAPAHULEHUA: We'll give advance notice.

3 MR. JENCKS: Sorry?

4 MR. KAPAHULEHUA: We'll give advance notice.

5 MR. BASIL OSHIRO: Yeah. This way it's not a  
6 surprise.

7 MR. KAPAHULEHUA: Advance notice.

8 MR. JENCKS: Okay. I think -- I think it's a good  
9 idea that, in the context of this project, as we move on,  
10 that we probably should meet on a regular basis to discuss  
11 where we are, the status of what's going on. I think that's  
12 a good idea.

13 MR. BASIL OSHIRO: Keep us posted.

14 MR. JENCKS: And keep you posted. I think that's  
15 fine. That probably should come from Brett, actually, not  
16 this character here.

17 MR. BASIL OSHIRO: Well, he --

18 MR. JENCKS: Because he's busy. But I think if  
19 we're gonna -- if we can -- we have some things we got to  
20 get done, the process will start, whether it's design  
21 issues, even the data recovery concept that we talked about  
22 earlier, the participation on that. Giving you good notice,  
23 I think, is important. And we'll definitely do that.

24 MR. BASIL OSHIRO: Yeah, so we can actually pass  
25 the word out to the -- to the people that's involved in the

1 area. This way, they -- they got to bring out their manao.

2 MR. JENCKS: Okay. Basil, if -- instead of us  
3 shooting in the dark -- and maybe I shouldn't use that  
4 term -- if you could help us with some names and some --  
5 some contacts, that would be helpful.

6 MR. BASIL OSHIRO: The thing is the contacts, I  
7 have Brian here, Vernon Kalanikau, (Inaudible) Lani,  
8 Keaumoku, Daniel, Kay, Lucy, Timmy Bailey.

9 MS. DE NAIE: Eldon Liu --

10 MR. BASIL OSHIRO: Yeah.

11 MS. DE NAIE: -- should meet us in the moku.

12 MR. BASIL OSHIRO: Yeah. And then we'll hui with  
13 Honua`ula so (inaudible), me and Tanya, and then Aha Moku O  
14 Maui, we have Nadine, Genai.

15 MR. JENCKS: So, Basil, if you wouldn't mind, when  
16 he emails you, when Brett gets that email, send 'em back so  
17 that we have the names.

18 MR. BASIL OSHIRO: Yeah. See, all the email that  
19 Brett sent me, without -- you know, a few of us only got it.  
20 The rest of 'em, I got kinda huhu because I said  
21 (inaudible). Then Lucienne calls me and said, oh, I get one  
22 (inaudible) that's good, you know. So we're here, it's a  
23 small group, otherwise, we would be about 12 people here,  
24 not including you four guys over here.

25 MR. NAEOLE: Give us time for schedule, yeah.

1 MS. DE NAIE: Yeah, yeah, yeah.

2 MR. NAEOLE: Actually, was too fast.

3 MS. DE NAIE: Yeah, too fast.

4 MR. NAEOLE: Notification was --

5 MS. DE NAIE: Yeah. Daniel was very disappointed  
6 that he couldn't be here.

7 MR. BASIL OSHIRO: Yeah, couldn't come.

8 MS. DE NAIE: Yeah.

9 MR. NAEOLE: Auntie -- you get all that  
10 information, Brett?

11 MR. DAVIS: I'm going to ask for it.

12 MR. NAEOLE: (Inaudible).

13 MR. DAVIS: If you could email me the list, I  
14 think --

15 MR. BASIL OSHIRO: Well, the thing is if I --

16 MR. DAVIS: Or I can --

17 MR. BASIL OSHIRO: If you send me the stuff, then  
18 whatever is happening, instead of BCC that I can put these  
19 guys all on CC, then you gonna have their email. I'm quite  
20 sure they wouldn't mind. One another one, Jacob Mau, which  
21 I don't know how to get in touch with him.

22 MS. DE NAIE: Yeah, you have to call Jacob. Yeah.

23 (Multiple speakers.)

24 MS. DE NAIE: And we got -- we gotta pick him up  
25 because he cannot drive no more.

1 MR. BASIL OSHIRO: And then you can contact the  
2 other lineals that you know.

3 MS. DE NAIE: Yeah. And people keep -- keep  
4 appearing, too. I keep meeting more people. You know, you  
5 meet other folks who have the other pieces of the puzzle.

6 MR. BASIL OSHIRO: This way, Charlie, you can get  
7 the manao from the -- from the kupuna, how the -- that place  
8 was actually utilized. Once the cattle went in there, wow.

9 MR. JENCKS: Well, I remember at the meeting we  
10 had in February a year ago, we had a really good discussion.  
11 It was really interesting reading the transcript again  
12 because we had -- we had a number of people that talked  
13 about living on the ranch, some of the people that  
14 they worked with, worked for.

15 MS. DE NAIE: Fishing, gathering below.

16 MR. JENCKS: And that was, I thought, very, very  
17 helpful.

18 MR. BASIL OSHIRO: And Flo here is one of the --

19 MS. LANI: My dad.

20 MR. JENCKS: Right. I think you spent a lot of  
21 time talking on the transcript about driving up and down,  
22 getting water in Kulanihakoi Gulch and using dynamite. I  
23 didn't want to get into that too much.

24 MS. LANI: My dad.

25 MR. JENCKS: It sounded like some pretty crazy

1 things. And, also, there was a lot of discussion about what  
2 was happening on the makai side of the Pi'ilani, the  
3 gathering that was happening on the shoreline.

4 MS. DE NAIE: Yeah.

5 MR. JENCKS: You know, how that's evolved over  
6 time. So it was a really good thorough discussion. I  
7 suggest to you, when you have a chance, you know, look at  
8 that, when that document comes out, read the transcript,  
9 because it will be in the appendices. It's very  
10 interesting.

11 MS. DE NAIE: And you know what, when we was on  
12 the site visit -- and I think Brett took some notes on it --  
13 but when Michael Lee -- when we were at the eclipse stone  
14 and Michael and -- and Kimokeo were really tuning in to the  
15 view planes there and how they connected, and, you know,  
16 they were like just -- really some valuable information as  
17 far as generational knowledge kind of thing was coming out.  
18 So I hope there's a way that that can be captured, too,  
19 because people don't always remember exactly what they said.  
20 You know, in the moment sometimes you're just inspired to --  
21 to -- thoughts come through, you know. So that -- that walk  
22 was, in my opinion, very valuable because we got to hear  
23 from everybody, you know, when we went to places. And the  
24 archaeologists were so helpful. They really -- they really  
25 seemed very interested in wanting to find more things and,

1 you know, wanting to figure out how they related to one  
2 another. So it was -- it was a pleasant experience, I  
3 think, all the way around. I mean, I know Mr. Lee felt a  
4 little bit like no one was taking good notes, but, you know,  
5 I think that we found out there were some notes being taken  
6 and --

7 MR. JENCKS: Well, the interview was done.

8 MS. DE NAIE: Yeah. And then he's had an  
9 interview, too, to share more. But, anyway, I think  
10 continuing it -- Daniel definitely wanted to ask about the  
11 status of the sites. And I think people here would say that  
12 data recovery is not the answer for the sites. We want to  
13 know if there's any possibility that they are going to be  
14 preserved within any of the project design and, you know,  
15 because data recovery could even show they're very  
16 important. And if there's no intention to preserve them,  
17 it's like that's just all for nothing. So --

18 MR. JENCKS: Well -- okay.

19 MR. BASIL OSHIRO: It's a education.

20 MR. JENCKS: Prior to you arriving, I went through  
21 that.

22 MS. DE NAIE: Okay.

23 MR. JENCKS: I'll go through it one more time. We  
24 have -- we have an accepted Archaeological Inventory Survey  
25 from SHPD. That report includes a recommendation for data

1 recovery. And my recollection is that the vast majority of  
2 the sites, Brett, are gonna have data recovery.

3 MR. DAVIS: Uh-huh. That's correct.

4 MR. JENCKS: -- done. We don't know what these  
5 sites are until we do the data recovery. So to say what  
6 they are prior to doing that is really not proper. The  
7 assumption that we're making at this point is that the data  
8 recovery will be done, the documentation will be complete.  
9 The cultural community is invited to participate in that  
10 process and learn and work. It's gonna be hot, it's gonna  
11 be dusty, but it's gonna be a learning experience. And the  
12 goal here is to learn as much about -- through the data  
13 recovery process of this site, learn more about the site,  
14 and bring that knowledge vertically into the project. If  
15 that is -- and I -- you know, I think this is rather  
16 intriguing, these rocks, their location. What if we took  
17 those rocks and put them in the same configuration --

18 MS. DE NAIE: No.

19 MR. JENCKS: -- way up on the property.

20 MS. DE NAIE: No.

21 MR. JENCKS: Okay.

22 MS. DE NAIE: No.

23 MR. JENCKS: All right.

24 MS. DE NAIE: No. That is not cultural. That's a  
25 simul con. That's you're simulating Hawaiian culture.

1 Please.

2 MR. JENCKS: Moving on to another idea.

3 MS. DE NAIE: We got to move on, but I'm gonna  
4 say.

5 MR. JENCKS: That wasn't received very well.  
6 Taking the data we receive from the data recovery process,  
7 putting it all together, and, like I said earlier, taking  
8 that and bringing it vertically into the project in a way  
9 that we can recognize the cultural history on the property.  
10 This is -- this is assuming that we don't find something  
11 hugely significant to the data recovery process. We don't  
12 know what we're gonna find. We have to go through the  
13 process. But the approach right now is we gather all that  
14 material, all the documentation, the knowledge, and we bring  
15 that vertically into the project and create something in the  
16 project or in a variety of places in the project that  
17 reflect this history on the property.

18 MS. DE NAIE: Okay. Daniel asked me to say one  
19 other thing. You know, he likes the law. And he said, you  
20 know, an AIS was accepted that said six of the sites were  
21 missing and couldn't be relocated. We now know that they  
22 are relocated. So that AIS, under the law, is -- is not  
23 sufficient. It should be reopened. And someone can request  
24 that it be reopened. So if you want to go through that  
25 process, there are people who would request that it be

1 reopened, would challenge it, and so forth and so on. And  
2 if new information is available like that, the law allows an  
3 AIS to be reopened. Or we can do it the nice way and just  
4 say, look, the AIS should be amended and it should include  
5 this information that those six sites are not lost, that  
6 some of them are considered very culturally important by  
7 folks. And, yeah, you could do data recovery, whatever, but  
8 let's not like pretend that that AIS was complete when it  
9 said six sites were -- were lost and they're not lost.  
10 They're right there and we visited all of them. So,  
11 anyway --

12 MR. JENCKS: We'll --

13 MS. DE NAIE: I didn't put this as diplomatically  
14 as Daniel would have, but he said --

15 MR. JENCKS: That's fine.

16 MS. DE NAIE: -- please -- please bring this up.

17 MR. JENCKS: I -- I get it and I understand the  
18 issue and we'll work to address it.

19 MS. DE NAIE: Okay.

20 MR. JENCKS: Thank you very much for your comment.

21 MS. SALLY OSHIRO: I had explained about that  
22 rock. And you -- it went right over you. So if you're not  
23 going to pay attention to it --

24 MR. JENCKS: No. I --

25 MS. SALLY OSHIRO: Should -- should we meet with

1 Marco? Marco was very willing to --

2 MR. JENCKS: Who is Marco?

3 MS. DE NAIE: Marco is --

4 MR. KAPAHULEHUA: The archeological guy who works  
5 for --

6 MS. DE NAIE: Marco Molina. He works with Erik.  
7 He was very willing to, with your permission, schedule a  
8 re-thing to go out there with folks who knew where that site  
9 was and look at some of the stuff. Because Basil brought  
10 out about how he had seen this dam area and so forth and so  
11 on. Should we try to do that officially, and -- and show it  
12 to him so that it's not like we're showing you a picture?

13 MR. JENCKS: I think that's a possibility --

14 MS. DE NAIE: And he could GPS it on a map.

15 MR. JENCKS: -- in the future. We still have some  
16 things we're working on right now. And let's see where we  
17 go. It's a possibility.

18 MS. DE NAIE: He's -- he's your consultant, but he  
19 gave us his email, and -- and I'm seeing it right on my map  
20 here, and telephone number. And he was actually very  
21 interested in seeing these other things, but, you know --

22 MR. JENCKS: We may get -- we may get to the point  
23 where another site visit like that is needed. And  
24 certainly --

25 MR. BASIL OSHIRO: Yeah. We look forward to that

1 because --

2 MR. JENCKS: Okay.

3 MR. BASIL OSHIRO: If that thing wasn't so  
4 overgrown, I think we can see most stuff.

5 MR. JENCKS: It's pretty dry now. Pretty dry.

6 MS. DE NAIE: Yeah. So it could be a good time in  
7 the near future. And then he could check out the areas  
8 around 3740, too, and, you know, see -- see how much they  
9 had recorded in the past. I mean, they recorded, obviously,  
10 the fact that there's something there. It's just it didn't  
11 go far enough makai.

12 MR. BASIL OSHIRO: Yeah, because the water --  
13 water control with the walls and stuff.

14 MR. JENCKS: Yeah. That's how they're described.

15 MR. BASIL OSHIRO: And like I say, I'm quite sure  
16 that punawai is filled up over there through the hundreds of  
17 years of nobody doing anything to it, silt built up.  
18 Because you can't, you see, one side -- no -- mauka, higher,  
19 and then makai a little bit lower where the thing would  
20 channel out. If that punawai would get overflowed and then  
21 the dam itself, and then it goes -- from the dam, it goes  
22 pretty deep. More to mauka you go, the deeper that gulch  
23 gets.

24 MS. DE NAIE: And, Basil, do you think anything  
25 like this maybe was done because it needed to work with the

1 fisheries practices down below or anything?

2 MR. BASIL OSHIRO: I'm quite sure they wanted to  
3 control the flow of that big water.

4 MS. DE NAIE: Yeah.

5 MR. BASIL OSHIRO: That's what it's all about.

6 MS. DE NAIE: Yeah. And when you say "they," it's  
7 not maybe the ranch, it's --

8 MR. BASIL OSHIRO: No, no.

9 MS. DE NAIE: -- maybe people before the ranch  
10 that --

11 MR. BASIL OSHIRO: The ancestors.

12 MS. DE NAIE: Yeah.

13 MR. KAPAHULEHUA: They always try to control the  
14 silt.

15 MS. DE NAIE: Yeah. Because not dumb, you know,  
16 they figured it out.

17 MR. BASIL OSHIRO: They knew how to flow the water  
18 down so all that opala wouldn't go in the water.

19 MS. DE NAIE: Yeah.

20 MR. BASIL OSHIRO: And you can see in that gulch  
21 where all the old branches from the kiawe all piling up  
22 because --

23 MR. KAPAHULEHUA: Outside.

24 MR. BASIL OSHIRO: Yeah.

25 MS. DE NAIE: Yeah, the debris comes in the gulch.

1 That's -- every time I've been in that gulch, it's --

2 MR. BASIL OSHIRO: You can tell the water, you  
3 know, just recent that water that flow in the last -- you  
4 know, had a pretty good rain.

5 MS. SALLY OSHIRO: Good thing (inaudible).

6 MS. DE NAIE: Yeah, we could (inaudible).

7 MR. JENCKS: Is there anything else you want to  
8 add so we can wrap this up?

9 (Multiple speakers.)

10 MR. BASIL OSHIRO: The last thing I would kind of  
11 recommend, if leave the natural drainage for the gulches.  
12 Is it a filling in? Because I'm quite sure, you fill it in,  
13 like makai of Pi'ilani --

14 MR. JENCKS: Uh-huh.

15 MR. BASIL OSHIRO: -- you're gonna have problems  
16 up there with flood, yeah. Because Mother Nature has its  
17 own way of doing things. The Kula Hawaiian Homes, see  
18 their -- their problems -- still having their problems up  
19 there because of diversions of the water flow.

20 MR. JENCKS: Okay.

21 MR. BASIL OSHIRO: So we would very much to keep  
22 that --

23 MR. JENCKS: That's kind of a recurring theme in  
24 your desire discussion, that's been something that you've  
25 focused on in a number of ways. And so I think that's --

1 like I said earlier, we'll take a look at that.

2 MR. BASIL OSHIRO: Do good consideration on it  
3 because it probably -- I don't know if Goodfellows gonna be  
4 around yet to fix the problem if it ever happens. I can see  
5 I probably not gonna be around, but it's gonna happen when  
6 they get that big water come down.

7 MR. JENCKS: Okay.

8 MR. BASIL OSHIRO: If you fill up the area in  
9 divert the streams.

10 MR. JENCKS: Okay.

11 MR. NAEOLE: I got one question to ask.

12 MR. JENCKS: Sure.

13 MR. NAEOLE: Maybe if you look into the history of  
14 that area, like maybe with the County, you know, and like  
15 future damages, how severe it was, you know, what year, you  
16 might have a calculation of when the storms occur. Because  
17 there's findings that it happens every like 10 years, maybe  
18 less, but it all depends on the climate.

19 MR. JENCKS: As it relates to flooding and --

20 MR. NAEOLE: Correct.

21 MR. JENCKS: -- that kind thing.

22 MR. NAEOLE: Okay. Because I remember when we  
23 were little -- well, when I was a little kid, I used to go  
24 with uncle, you know, on the ranch, used to work for Henry  
25 Rice. So we used to check water, the trucks. And then

1 sometimes we cannot come home because the water is so big  
2 and you're in between two gulches and they're like tidal  
3 waves. And you gotta sleep right there. So, you know, it's  
4 good to analyze in those areas how severe it is because you  
5 don't want to build something right in that area and you're  
6 gonna have, you know, one catastrophic damage. And, you  
7 know, the -- the weather today is getting a little stronger  
8 than what it was, you know, before, yeah. If you look all  
9 around the world, what is happening, you know. And, you  
10 know, we don't want to see that -- that disaster coming in  
11 right in arm's where -- you know, arm way -- arm's way. So  
12 you, you know -- something to check into.

13 MR. JENCKS: Sure.

14 MR. BASIL OSHIRO: Yeah, historical records.

15 MR. NAEOLE: Because you can kind of get a better  
16 knowledge, you know.

17 MS. DE NAIE: Brian, what year frame was that when  
18 you and your uncle would go and do those runs?

19 MR. NAEOLE: Back in '79.

20 MS. DE NAIE: Okay.

21 MR. NAEOLE: Yeah.

22 MR. JENCKS: Seventies, huh?

23 MR. NAEOLE: The truck with Henry Rice, you know  
24 that one through radio. Once upon a time, I was fortunate  
25 to have that opportunity to work on the ranch, you know.

1 And you can -- as you grow old, where do you go, you know.  
2 So my -- my history was a meat cutter all my life, so, you  
3 know, it's good to go back to that history and remember all  
4 these, you know -- these -- these memories.

5 MR. JENCKS: Sure. That's good input, Brian.  
6 Good idea.

7 MR. BASIL OSHIRO: Gotta look for the kupuna.

8 MR. NAEOLE: Yeah.

9 MR. BASIL OSHIRO: And then the guys that used to  
10 live up the ranch that took care of the water and stuff like  
11 that, that passed already. So they would know about. The  
12 other person, I cannot remember his name, I know his first  
13 name is Joe, and had that Kaonoulu Ranch. And they're  
14 working for Ulupalakua Ranch. They're the ones that spread  
15 that Buffalo grass seed all over the place that has been  
16 invasive.

17 MR. JENCKS: Everywhere.

18 MS. DE NAIE: Thank you.

19 MR. BASIL OSHIRO: So he told me they used to ride  
20 the horses down and just throw seeds. So they were working  
21 as young kids over there, too. I cannot remember his name.  
22 They still have part of the ranch. When they gone -- dad  
23 died, there was a big hassle, so they had to get rid of half  
24 of the ranch to pay for the lawyers.

25 MR. JENCKS: Pay for the what?

1 MS. DE NAIE: Inheritance tax, probably.

2 MR. JENCKS: They get their share first.

3 MR. NAEOLE: Joseph, I don't remember his last  
4 name.

5 MR. JENCKS: They take it off the top, Basil.  
6 Attorneys get their money first and everybody gets whatever  
7 is left.

8 MS. LANI: What year was that?

9 MR. BASIL OSHIRO: Oh, this was back way in the --  
10 I guess, the fifties because he's about my age now.

11 MR. NAEOLE: You figure --

12 MR. BASIL OSHIRO: Oh, Joe Thompson. Thompson  
13 Ranch.

14 MR. JENCKS: Oh, yeah.

15 MS. DE NAIE: Oh, yeah.

16 MR. JENCKS: Huh.

17 MR. BASIL OSHIRO: And Joe's in Oahu. The  
18 brother's running the ranch now, only half of it.

19 MS. DE NAIE: That's the Akina family, too.  
20 They're related to Thompson Ranch.

21 MR. BASIL OSHIRO: Yeah.

22 MS. DE NAIE: We could get some Akinas in. I've  
23 been working with some of the Akina ohana. And Daniel --

24 MR. BASIL OSHIRO: You get meetings going better,  
25 Charlie don't mind that the lineals come in and give manao

1 from their generational knowledge of the area, that way you  
2 can work together.

3 MR. JENCKS: Well, I think that's a -- as we move  
4 on to the project, I think that's a good idea, getting the  
5 input. You know, as we move on --

6 MR. BASIL OSHIRO: Yeah.

7 MR. JENCKS: -- that's a good idea.

8 MR. BASIL OSHIRO: We gotta work together;  
9 otherwise, we gonna be bucking heads. Yeah, all the thing  
10 is we gotta save water. I don't know what kind of usage  
11 you're gonna get for that area, yeah. Because Olowalu, two,  
12 three million gallons a day. Do you have that much water?

13 MR. JENCKS: We're certainly not that much, far  
14 less.

15 MR. BASIL OSHIRO: I hope not because we --  
16 everybody's on conservation, conservation of our water  
17 supply.

18 MR. JENCKS: Okay.

19 (Recording concluded.)

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CERTIFICATE

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I further certify that I am not an employee nor an attorney for any of the parties hereto, nor in any way concerned with the cause.

DATED this 16th day of May, 2016.

/s/ Tonya McDade  
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