Bernard P. Carvalho, Jr.
Mayor

Wallace G. Rezentes, Jr.
Managing Director

OFFICE OF THE MAYOR
County of Kaua'i, State of Hawai'i
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JUL 23 2016

July 11, 2016

Director Scott Glenn
Office of Environmental Quality Control
Department of Health, State of Hawai'i
235 S. Beretania Street, Room 702
Honolulu, Hawai'i 96813

Dear Director Glenn:

With this letter, the County of Kaua'i hereby transmits the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI) for the Adolescent Treatment and Healing Center situated at TMK (4) 3-8-003:001 (portion) in the Līhu'e District on the island of Kaua'i for publication in the next available edition of the Environmental Notice.

Enclosed is a completed OEQC Publication Form, two copies of the DEA-AFONSI, an Adobe Acrobat PDF file of the same, and an electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

If there are any questions, please contact Theresa Koki at (808) 241-4925 or our consultant, John Kirkpatrick, at (808) 521-5361.

Sincerely,

Bernard P. Carvalho, Jr.
Mayor, County of Kaua'i

Enclosures

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AGENCY PUBLICATION FORM

Project Name:	Adolescent Treatment and Healing Center, Hanamāʻulu, Kauaʻi
Project Short Name:	Adolescent Treatment and Healing Center
HRS §343-5 Trigger(s):	Use of government funds and land
Island(s):	Kauaʻi
Judicial District(s):	Līhuʻe
TMK(s):	(4) 3-8-002:001 (por)
Permit(s)/Approval(s):	State Land Use Special Permit; Class IV Zoning Permit, Use Permit, Subdivision, Building
Proposing/Determining Agency:	Mayor, County of Kauai
Contact Name, Email, Telephone, Address	Theresa Koki, Coordinator, Life's Choices Kauaʻi, tkoki@kauai.gov, (808) 241-4925, 4444 Rice ST, Suite 235, Lihue, HI 96766
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	
Consultant:	Belt Collins Hawaii LLC
Contact Name, Email, Telephone, Address	John Kirkpatrick, jkirkpatrick@bchdesign.com, (808) 521-5361, Belt Collins Hawaii LLC, 2153 N. King Street, Suite 200, Honolulu, HI 96819

Status (select one)	**Submittal Requirements**
_x___ DEA-AFNSI	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.
____ FEA-FONSI	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
____ FEA-EISPN	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
____ Act 172-12 EISPN ("Direct to EIS")	Submit 1) the proposing agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
____ DEIS	Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
____ FEIS	Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.
____ FEIS Acceptance Determination	The accepting authority simultaneously transmits to both the OEQC and the proposing agency a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
FEIS Statutory Acceptance	Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
____ Supplemental EIS Determination	The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.

____ Withdrawal Identify the specific document(s) to withdraw and explain in the project summary section.

____ Other Contact the OEQC if your action is not one of the above items.

Project Summary
Provide a description of the proposed action and purpose and need in 200 words or less.

Life's Choices Kaua'i, an agency of the County of Kaua'i, proposes to develop a substance abuse treatment and healing center for adolescents. The County plans to contract with an experienced service provider or a coalition of providers to operate the facility.

The center would offer residential long-term care, outpatient treatment for youth, along with mental health/substance use assessment services. Family counseling would likely also be available. Residential treatment would be physically separate from assessment and outpatient services. Initial space plans call for approximately 10,300 square feet under roof, including housing for eight clients, classroom, kitchen, office spaces, assessment and visitor facilities. Treatment programs would include use of part of the site for agriculture.

The proposed facility would be located at a five-acre site on Maalo Road, close to Līhu'e but not to residential neighborhoods.

DRAFT ENVIRONMENTAL ASSESSMENT

Adolescent Treatment and Healing Center (ATHC)

TMK: (4) 3-8-002:001 (portion)
Mā‘alo Road Līhu‘e District, Kaua‘i County

DRAFT
July 2016

Prepared by
Belt Collins Hawaii LLC

Prepared for
Life's Choices Kaua‘i
Office of the Mayor, County of Kaua‘i

Project Profile

Proposed Action:	Adolescent Treatment and Healing Center
Street Address:	Māʻalo Road Līhue, HI 96766
Proposing Agency:	Life's Choices Kauaʻi Office of the Mayor County of Kauaʻi Lihue, HI 96766
Accepting Agency:	Mayor County of Kauaʻi Līhue, HI 96766
Tax Map Key: Land Area: Landowner:	(4) 3-8-002:001 (portion) Approximately 5.0 acres (within the 1,114.91-acre parcel) Grove Farm Company, Inc.
Existing Use: State Land Use District: Zoning: Community Plan (CP) Area: Special Management Area: Flood Insurance Rate Map (FIRM): Requirement for Environmental Assessment:	Vacant Agricultural AG Līhuʻe Not within Special Management Area Zone X: outside the 500-year flood plain Chapter 343, HRS, § 343-5(1): proposed use of State or County lands or use of State or County funds
Determination:	Anticipated Finding of No Significant Impact

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Appendix E	Archaeological Assessment and Historic Preservation Correspondence
Appendix F	Cultural Impact Assessment

Acronyms and Abbreviations

ALISH	Agricultural Lands of Importance to the State of Hawaiʻi
ATHC	Adolescent Treatment and Healing Center
BLNR	Board of Land and Natural Resources (State of Hawaiʻi)
BCH	Belt Collins Hawaii LLC
BMP	Best Management Practices
CIA	Cultural Impact Assessment
CP	Community Plan
CZM	Coastal Zone Management
CZO	Comprehensive Zoning Ordinance
DLNR	Department of Land and Natural Resources (State of Hawaiʻi)
DOE	Department of Education (State of Hawaiʻi)
DSM	Diagnostic Survey Manual (+ Roman numeral, indicating edition)
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMS	Emergency Medical Service
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GPM	gallons per minute
HAR	Hawaiʻi Administrative Rules
HRS	Hawaiʻi Revised Statutes
IAL	Important Agricultural Lands
IWS	Individual wastewater system
KDOW	Kauaʻi Department of Water
KIUC	Kauaʻi Island Utility Cooperative
KPAA	Kauaʻi Planning and Action Alliance
LCA	Land Commissions Award
LSB	Land Study Bureau
MG	million gallons
MGD	million gallons per day

mg/L	milligrams per liter
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
ND	not detected
NO_2	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
OEQC	Office of Environmental Quality Control
PM	Particulate matter
Pn	Puhi series soils
RFI	Request for Information
SCS	Scientific Consultant Services, Inc.
SDOT	State Department of Transportation
SHPD	State Historic Preservation Division
SMA	Special Management Area
SAMHSA	The Substance Abuse and Mental Health Administration
SO_2	Sulphur dioxide
TMK	Tax Map Key (system of unique identifiers for land parcels and condominium units)

1 PURPOSE AND NEED

1.1 Introduction

This environmental assessment (EA) addresses the environmental conditions for the development of a new facility on approximately five acres of land which has already been withdrawn from agricultural use. The EA identifies impacts of the proposed facility on the environment and recommends appropriate mitigation for a substance abuse treatment and healing center.

The proposed Adolescent Treatment and Healing Center (ATHC) will be located at the intersection of Mā‘alo Road and ‘Ehiku Road[1] in the rural northwest section of Hanamā‘ulu. Figure 1-1 shows the proposed location.

1.1.1 Background

Mayor Bryan J. Baptiste recognized the need for an adolescent treatment facility on Kaua‘i. By 2005, the administration had prepared land use permit applications for a facility in the coastal Hanapēpē area, reusing a site that had been occupied by an animal shelter. That proposal was met by neighbors and the Office of Hawaiian Affairs (OHA) with concern about security and impacts on the culturally significant Hanapēpē Salt Ponds. (See Figure 1-2 for location of sites).

[1] ‘Ehiku Road originates in the Isenberg section of Līhu‘e. It continues as a cane haul road to Mā‘alo Road and then to Hanamā‘ulu. As such it is sometimes labelled as ‘Ehiku Road, sometimes simply as Cane Haul Road.

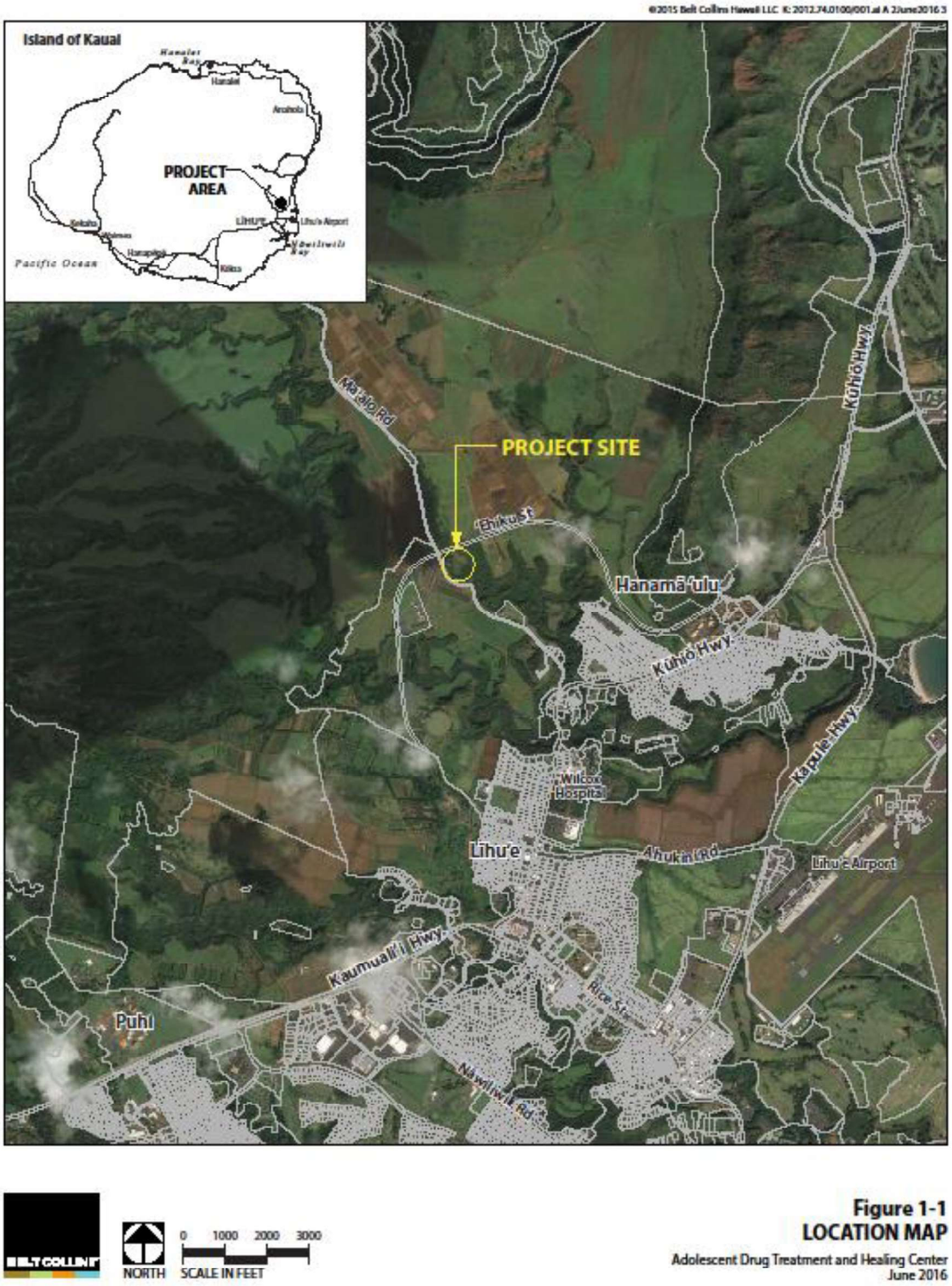
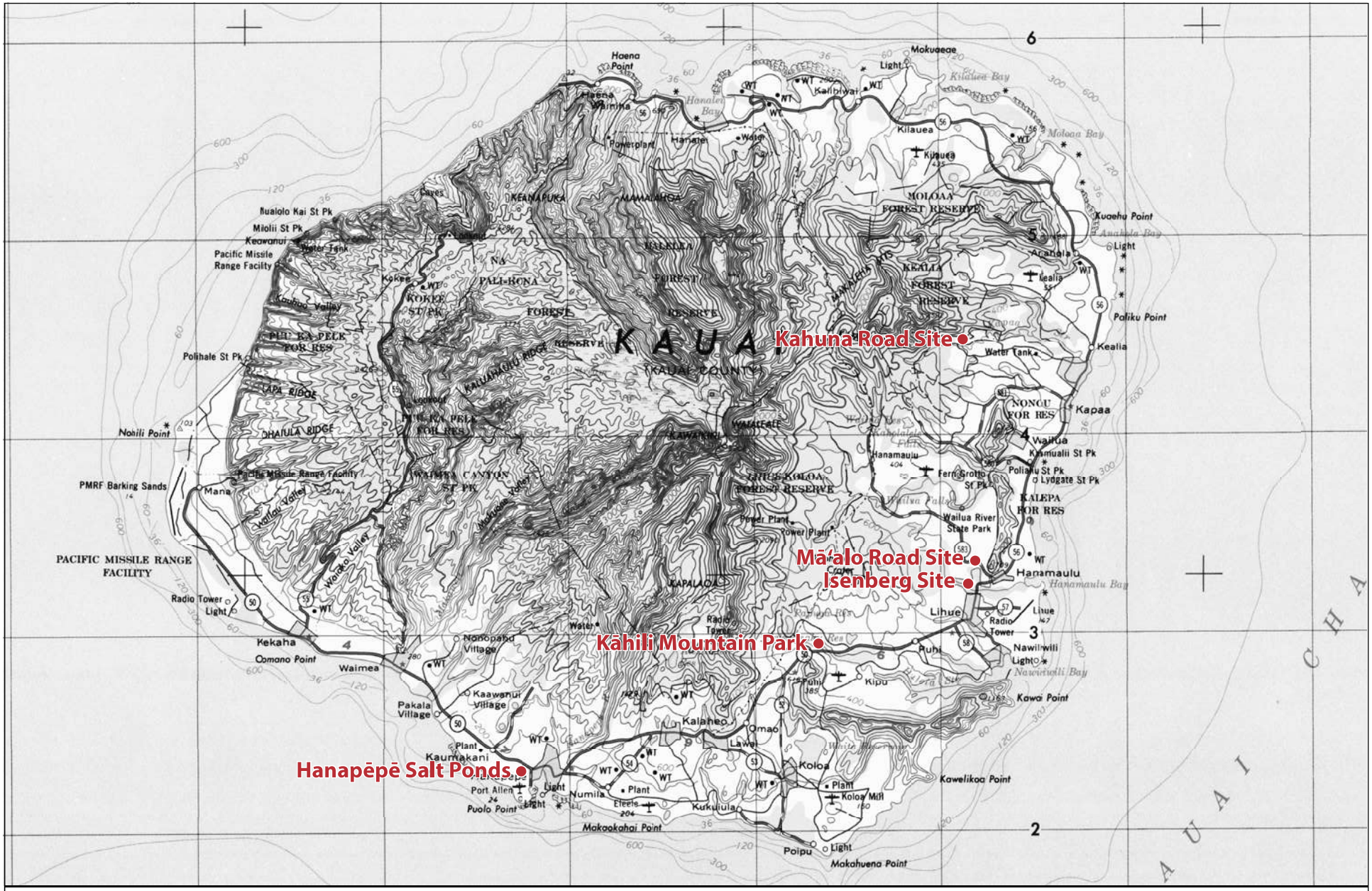


Figure 1-1 Location Map for Adolescent Treatment and Healing Center



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BELT COLLINS

NORTH

0 10 20 30 40 50

SCALE IN MILES

Figure 1-2
SITES CONSIDERED FOR THE ATHC

Adolescent Treatment and Healing Center (ATHC)
June 2016

Mayor Bernard P. Carvalho's administration accepted that the Hanapēpē site was not viable, and considered other locations, notably portions of Grove Farm land near the Isenberg subdivision of Lihu'e. Public meetings were held in 2011 and 2013. The administration contracted for a feasibility study that found a need for a residential treatment facility, identified appropriate service models, and discussed ways to develop and fund a facility. At the meetings, many residents testified on the need for a treatment facility, but many also expressed concern about the proposed location near homes in the Isenberg area. Mayor Carvalho announced at the September 2013 meeting that a site selection study would be conducted. Its results were announced by the Mayor and members of his Special Advisory Committee in November 2013.[2] (See Appendix A for the composition of the Special Advisory Committee).

The Mā'alo Road site was chosen. The County has negotiated with Grove Farm for acquisition of five acres located on the southeast side of the intersection of Ma'alo Road and 'Ehiku Road, and has contracted for the master plan described herein.

1.1.2 Request for Information from Service Providers

The County issued a Request for Information (RFI), sketching out desired services and asking service providers to express interest, estimate operating costs, and discuss critical issues and approaches that could help make the proposed center effective, manageable, affordable and financially sustainable.

The RFI described the center as follows:

> *This proposed Adolescent Treatment & Healing Center* [ATHC] *would likely consist of 10 beds with adequate facilities to support the routine residential treatment and healing services, conference rooms for group and family therapy, educational rooms, indoor recreational areas, administrative offices, and dining facility. The ATHC will include outdoor recreational, cultural and ceremonial areas, parking, and access road. The County has stated its intention of developing this center as a turnkey operation for a qualified treatment provider. Construction of this center is anticipated to begin in December 2016 and the Center is scheduled to open its doors in December 2017.*
> *The treatment and healing center may include, but is not limited to a culturally appropriate, comprehensive, integrated and coordinated systems of services as listed below.*
>
> 1. *RESIDENTIAL PROGRAM: Twenty-four hour, non-medical, non-acute care is administered in a licensed residential treatment facility that provides support, typically for more than 30 days, for persons with substance abuse problems. These programs consist of 25 hours per week of face-to-face activities, including individual and group counseling, education, skill building, recreational therapy, and family services.*

[2] D. Moriki, "Site named for drug treatment center." *The Garden Island*, November 22, 2013.

2. *DAY TREATMENT PROGRAM: Treatment services are provided in half- or full-day increments, regularly scheduled for 20 to 25 hours of face-to-face activities per week, including individual and group counseling, education, skill building, and family services. Clients participate in a structured therapeutic program while remaining in the community.*

3. *INTENSIVE OUTPATIENT PROGRAM: Outpatient alcohol and/or other drug treatment services are provided for at least three or more hours per day for three or more days per week, including individual and group counseling, education, skill building, and family services.*

4. *OUTPATIENT TREATMENT PROGRAM: Comprehensive non-residential services are provided for individuals, groups, and families, and range from one to eight hours per week for adults and adolescents with substance abuse problems.*

5. *AFTERCARE: Follow-up care and support services provided after discharge from a primary treatment program that allows the client to function using a self-directed plan, which includes minimal interaction with a counselor.*

The RFI received interested responses from three providers capable of running the ATHC. After considering the RFI and responses, the Special Advisory Committee found need for on-site assessment of adolescents as well as treatment. That service will be included in the operation of the ATHC.

1.1.3 Purpose and Need for the ATHC

Life's Choices Kaua'i, an agency of the County of Kaua'i, proposes to develop a substance abuse treatment and healing center for adolescents. The County plans to contract with an experienced service provider or a coalition of providers to operate the facility.

The center would offer residential long-term care, outpatient treatment for youth, along with mental health/substance use assessment services. Family counseling would likely also be available. Residential treatment would be physically separate from assessment and outpatient services.

Kaua'i County has viewed alcohol and other drugs as a serious problem for the island's people, families and communities, and hence a County responsibility, since 2003 when Life's Choices was established. Strategic plans have identified steps to improve prevention, treatment, enforcement and community integration.[3] The idea of an adolescent treatment center was proposed by Mayor Baptiste in 2003. The choice of a proposed site, near the Hanapēpē salt ponds, proved environmentally challenging and unacceptable to members of

[3] County of Kaua'i and Kaua'i Plannng & Action Alliance. *Kaua'i Community Drug Response Plan, 2008-2013.* Līhu'e: 2008.

the local community. Since that time, the County has clarified its plans and continued to search for an appropriate site for a residential adolescent treatment facility.

A feasibility study[4] completed in 2013 established that there was ample demand to support operation of a center with rooms to house approximately eight adolescent clients at a time, along with supervisors. Additional space would be needed for meeting rooms and offices. The ATHC would operate as a therapeutic community, a site where all spaces, relationships and activities contribute to the process of healing.

A residential treatment facility on Kaua'i can accomplish tasks important to substance abuse treatment that off-island facilities cannot provide. While clients in a Kaua'i facility will need to isolate themselves from relationships and activities that had supported substance abuse, the move to a residential program on-island will be less disruptive than a move off-island. The facility will be able to offer services to patients' families as well as to patients. The facility will be able to provide aftercare for those who have completed residential treatment. The facility will be part of a network of stakeholders committed to prevention and treatment of adolescent substance abuse problems. In contrast, residents in an off-island facility are effectively cut off from family and community. An off-island facility could not provide services to families or to ex-residents to help clients re-enter their community and continue their life course on Kaua'i.

The feasibility study by Families First Hawaii Services provided several indicators of need for residential drug treatment services on Kaua'i, notably:

- **Use of alcohol, marijuana, and other drugs**: The reported incidence of use of drugs by adolescents on Kaua'i is lower than for the State of Hawai'i as a whole.[5] However, the number of youths with problems great enough to warrant treatment of some sort for drug-related activity is large, as shown in Table 1.

  Again, the Kaua'i Family Guidance Center identified some 382 adolescents in FY 2011, and 341 in FY 2012 referred by the Mokihana Project (a prevention program in the high schools) as needing treatment for substance-use issues.

  Outpatient treatment is in most cases preferred for adolescents because it is less restrictive and disruptive than residential treatment. In 2010, 14 youth from Kaua'i were placed in off-island residential programs, and 13 in 2011. More recently, the number of admissions to off-island facilities have increased.

- **Use of residential treatment facilities off-island**: The residential placements noted above were outside Kaua'i. In the second half of 2012, some seven Kaua'i youth were at the Bobby Benson Center in Kahuku, on O'ahu.

---

[4] Families First Hawaii Services, *Feasibility Study on the Proposed Residential Substance Abuse Treatment and Healing Facility for Adolescents on Kauai: Final Report.* Prepared for County of Kaua'i. Koloa, HI: 2013.

[5] *Ibid.*, citing surveys from 2008 through 2011.

Table 1-1 Estimated Dependency on Alcohol and Other Drugs for Kaua'i Adolescents

	Need Treatment for Alcohol Abuse		Need Treatment for Substance Abuse		Need Treatment for Both		TOTAL	
County	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Kaua'i	192	3.7%	163	3.1%	237	4.5%	592	11.4%
Honolulu	1,681	2.9%	1,269	2.2%	1,678	2.9%	4,628	8.1%
Hawaii	691	5.0%	457	3.3%	765	5.6%	1,913	13.9%
Maui	475	4.7%	338	3.4%	480	4.8%	1,293	12.8%
All Public Schools, State	3,039	3.5%	2,227	2.6%	3,160	3.7%	8,426	<9.8%

NOTES: N = the number of students in public schools so dependent on alcohol or other substances that treatment is needed, following Diagnostic Survey Manual (DSM) IV criteria; **% =** the share of public high school students who need such treatment.
SOURCE: Youth Risk Behavior Survey Module, Hawaii School Health Survey (2012) as reported in Families First Hawaii, 2013.

- **Juvenile substance-related criminal offences**: In FY2012, 35 adolescent males and six adolescent females were involved in substance-abuse related offenses before the Fifth Circuit Court.

- **Young adult criminal offenders' histories:** In interviews, 18- and 19-year olds incarcerated at Kaua'i Community Correctional Facility, reported both prior drug use and some involvement with substance abuse programs. Arguably, a residential treatment program on Kaua'i might have helped some of these young adults avoid continued substance use, and hence criminal offenses as adults.

- **The burden of off-island treatment on youths and families:** Residential treatment programs should lead to re-integration of youths with their families and communities. While youth are enrolled in an off-island program, family members must pay for airfare and find a place to stay on O'ahu or other, farther, sites. After treatment, youth who return to their home island cannot continue in relationship with the treatment provider. An on-island program would be able to work towards family re-integration and to provide post-treatment services to youth and families.

The ATHC is proposed in order to address some adolescents' substance abuse problems effectively. Expected additional benefits of the facility are support for constructive involvement with youth and families at risk of drug use and a reduction in the number of young offenders who go to prison because of drug-related offenses.

The feasibility study proposed, and the County's Special Advisory Committee accepted, that the ATHC operate according to a therapeutic community model. The feasibility study proposed that the ATHC serve male in-patients only, with treatment for young women provided by others on an out-patient basis. This recommendation was based on evidence of greater demand for treatment for males than for females. However, the Advisory Committee found that the facility should be able to serve young women as well as young men, so spaces are planned that could serve clients of either gender. In addition, the Advisory Committee recommended that the facility be planned so that it could provide day treatment for adolescents and intensive outpatient treatment as well as residential treatment.

Members of the Special Advisory Committee also urged the County to provide a psychological assessment facility for adolescents with drug-related and mental health conditions. This service would tend to reduce demand for hospital spaces and help to divert young people from correctional facilities.

In sum, the purpose of the proposed action is to improve the quality of life for residents and communities by making available on Kauaʻi residential drug treatment services for adolescents diagnosed as needing these services. Such a center would work in collaboration with, and could support other health services, notably Wilcox Memorial Hospital and Kauai Medical Center (together known as Wilcox Health) and outpatient drug treatment providers. In light of this last consideration, proximity to Līhuʻe is valued.

The ATHC is being proposed by the Mayor as a County facility to be operated by a contractor with professional credentials, skills and experience. The Mayor's vision, called HoloHolo 2020, calls for all organizations, businesses, residents and visitors on Kauaʻi to be part of creating an island that is sustainable, values the native culture, has a thriving and healthy economy, cares for all – keiki to kūpuna, and has a responsible and user-friendly local government.

1.1.4 Need for this EA

Hawaii Revised Statues (HRS) Chapter 343, Environmental Impact Statement, establishes an environmental review process whereby a government agency proposing a project must prepare an environmental assessment that considers potential adverse impacts from the project. The requirement to prepare a Chapter 343 EA is triggered by the use of public funds.

2 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The proposed action is the acquisition of a site, along with development and operation of an adolescent treatment facility. Figure 2-1 shows the preliminary layout proposed for the ATHC (as of May 1, 2016).

Initial space programming calls for the spaces listed in Table 2-1**.** The facility's buildings include:

- a residential structure, with bedrooms and living area, for up to 8 adolescents;
- an administrative complex, with offices for staff, space for assessment activities and small meetings, along with a larger meeting room;
- a kitchen, dining, and laundry room space;
- a maintenance building, which could also serve as a site for classes on auto repair; and
- a separate classroom facility.

In addition, spaces will be designated for parking (approximately 45 stalls), recreation (a basketball court), gardening and landscaping.

Depending on funding, a two-phase approach might be considered for development of the Center. In the first phase, non-residential services would be offered. When the County is confident the Center will be adequately reimbursed for residential services by the State and insurers, then Phase two would be built and residential services would be offered. Given the support recently provided by the Kaua'i County Council and funds allocated by the Hawai'i State Legislature in 2016, it is likely that the County can build the entire facility in a single phase.

For planning purposes, the construction cost of the ATHC, including site development, can be estimated as $4.5 to $5.0 million.

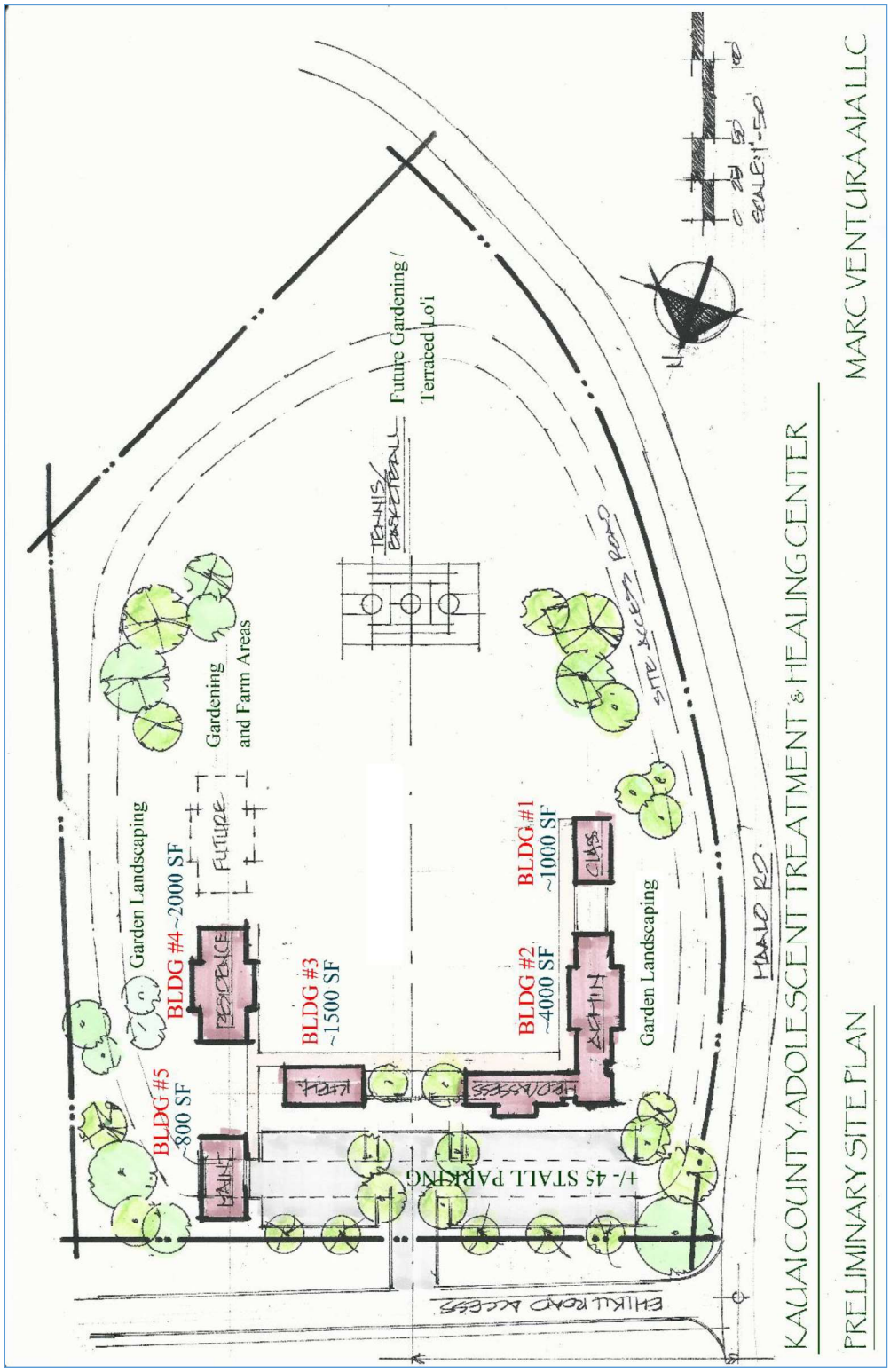

Figure 2-1 Preliminary Site Plan

Table 2-1 Architect's Preliminary Program for the ATHC

DESCRIPTION OF SPACE	W	L	SQ FT	QUANTITY	TOTAL SF
RESIDENTIAL HOUSING					
MEN'S & WOMEN'S RESIDENTIAL HOUSING	32	60	1,920	1	1,920
HOUSING SUBTOTALS					**1,920**
OPERATIONAL STAFF					
OFFICE 1 - EXECUTIVE DIRECTOR	14	12	168	1	168
OFFICE 2 - HUMAN RESOURCE MANAGER	12	10	120	1	120
OFFICE 3 - FINANCE MANAGER	12	10	120	2	240
OFFICE 4 - PROGRAM OPERATIONS MANAGER	12	10	120	1	120
CONFERENCE ROOM	30	20	600	1	600
RECEPTION / WAITING AREA	16	10	160	1	160
CUBICLE / FLEX OFFICE AREA	32	24	768	1	768
STAFF LOUNGE / KITCHENETTE	16	12	192	1	192
COPY / SUPPLIES	14	12	168	1	168
ADA BATHROOMS WITH LOCKERS	18	16	288	2	576
MISC CIRCULATION			-	15%	467
OPERATIONAL STAFF SUBTOTALS					**3,112**
ASSESSMENT					
OFFICE 5	10	10	100	1	100
OFFICE 6	10	10	100	1	100
SMALL CONFERENCE	10	20	200	1	200
ASSESSMENT SUBTOTALS					**400**
MEDICAL STAFF					
OFFICE 7 - CLINICAL DIRECTOR	12	12	144	1	144
OFFICE 8 - CASE MAN./CHEM DEPEND COORD.	12	10	120	1	120
OFFICE 9 - INTAKE THERAPIST NURSE	12	10	120	2	240
MEDICAL STAFF SUBTOTALS					**504**
CLASSROOMS					
CLASSROOM ASSEMBLY SPACE	20	40	800	1	800
CLASSROOM SUBTOTALS					**800**

DESCRIPTION OF SPACE	W	L	SQ FT	QUANTITY	TOTAL SF
KITCHEN, DINING & LAUNDRY					
CERTIFIED KITCHEN	32	24	768	1	768
LAUNDRY ROOM	10	20	200	1	200
DINING ROOM	40	20	800	1	800
KITCHEN DINING & LAUNDRY SUBTOTALS					**1,768**
VISITOR FACILITIES					
ASSEMBLY w/ COUNSELING ROOM	20	40	800	1	800
BATHROOMS	8	16	128	1	128
VISITOR FACILITIES SUBTOTALS					**928**
MAINTENANCE / UTILITY FACILITIES					
2-CAR GARAGE	24	24	576	1	576
MAINTENANCE/ STORAGE/ JANITOR SHED	12	24	288	1	288
MAINT. / UTILITY FACILITIES SUBTOTALS					**864**
BUILDING TOTALS					
SUMMARY OF ABOVE					**10,296**

2.2 Alternatives

Various alternatives have been considered and found wanting in the course of planning:

1. **Select other locations on Kaua‘i for a new ATHC**: The County has considered several locations and selected the Mā‘alo Road site because it is convenient to public facilities in Līhu‘e yet away from residential areas. The Isenberg site raised serious concerns among neighbors, while a site considered on Kahuna Road above Kapa‘a would have been harder to reach. Acquisition of Kāhili Mountain Park for the ATHC and other uses was suggested, but that 197.463-acre property was far larger than what the County needed for this purpose. It was also located farther from public safety and medical facilities than the Mā‘alo Road and Isenberg sites. As noted above, the initial Hanapēpē site was rejected because an ATHC was thought inappropriate near a unique cultural site.

   In group meetings and committee discussions, people welcomed the idea that the ATHC would have enough land and isolation to offer a serene healing experience to residential clients and their families. On the other hand, a location near the urban center in Līhu‘e was preferred in order to maximize access to public facilities and to serve clients from all parts of Kaua‘i. The Ma‘alo Road site was judged appropriate to balance these aims.

2. **Acquire an existing structure or structures and renovate for ATHC use:** The Feasibility Study urged the County to acquire a site with a large home or other housing with surrounding acreage, and to adapt it for use as an ATHC. The County searched for an appropriate facility but found none. The Kahuna Road site included some meeting facilities but lacked appropriate residential structures. Renovation and construction at that site could have involved additional costs comparable to the costs of building a new ATHC.

Development of the center at the alternative locations considered could have resulted in community and environmental impacts that made these sites inappropriate for a County facility. No structure that could be acquired and adapted for use as an ATHC has been found, so this alternative has proven not to be feasible. The alternatives listed above will not be considered further in this EA.

Hawai‘i environmental rules hold that in any EA or Environmental Impact Statement (EIS), a No Action alternative must be considered. The No Action Alternative would continue the present situation, in which adolescents needing residential treatment are sent off-island. Outpatient treatment would be available on island from private providers. This alternative will be considered in the course of the EA.

2.3 OPERATION OF THE ATHC

After environmental review and permitting, the County expects to proceed with both construction and selection of a management agency. The management agency could be a facility operator with experience in providing treatment to adolescents or a consortium of operators and stakeholders that would then oversee operation of the center.

The RFI describes much of the activity proposed for the ATHC. Two aspects of day-to-day operations deserve additional emphasis:

- **Assessment:** The ATHC will serve adolescents, their families, and agencies by providing a site for assessment away from other institutions. The Blue Ribbon Panel agreed that this function was important for Kaua'i as an island community.

- **Agricultural activity:** Treatment will follow evidence-based models.[6] The Blue Ribbon Panel and County sponsors agree that clients' involvement in agriculture will be important for encouraging personal responsibility and connection to the land of the island. Clients will be able to feed themselves from their own efforts, with support from staff, and may be able to contribute food to others in need. Inclusion of healing plants in the landscape, including ones in traditional Hawaiian healing practices, has been urged.[7] Examples of healing plants that could be integrated into the project landscape are in Figure 2-2.

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[6] The Substance Abuse and Mental Health Administration (SAMHSA) compiles a nationwide registry of programs for which well-documented or promising outcomes have been found: http://www.samhsa.gov/nrepp.

[7] For an overview and examples of healing garden design, see M. Furgeson, "Healing Gardens." Sustainable Urban Landscape Information Series, University of Minnesota Extension, http://www.extension.umn.edu/garden/landscaping/design/healinggardens.html, viewed on May 31, 2016.

A Farm in Wai'anae

Dryland Kalo

Mamaki

'Ōhi'a Lehua

Plantings in Anahola

'Awa

'Olena

Dragonfruit

Figure 2-2 Initial Agricultural and Healing Plant Concepts

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 PHYSIOGRAPHY

3.1.1 Existing Conditions

The project site is located within the Līhuʻe plain, which lies on Koloa lava. The lava flowed less than 1.5 million years ago, long after the series that formed the west and center of the island. The area appears to be an eroded caldera on the flank of the main Kauaʻi island shield.[8] It has extensive soil cover.

Annual rainfall at the nearest weather station, Lihue Plantation Camp nine, averaged 56.55 inches during sixty years' time.[9] At Līhuʻe Airport, the average rainfall was 41.76 inches, and average annual temperatures ranged from 69.8 degrees to 81.1 degrees Fahrenheit.[10]

The surrounding area is fairly flat, but surrounded by the central Kauaʻi mountain massif and smaller features, such as Kālepa, northeast of the site.

As the topographic map (see Figure 3-1) shows, the site slopes gradually from north to south. A small berm is located along the Māʻalo Road side of the property. Hanamāʻulu Stream is east of the site, running through culverts under both ʻEhiku Road and Māʻalo Road.

3.1.2 Impacts and Mitigation Measures

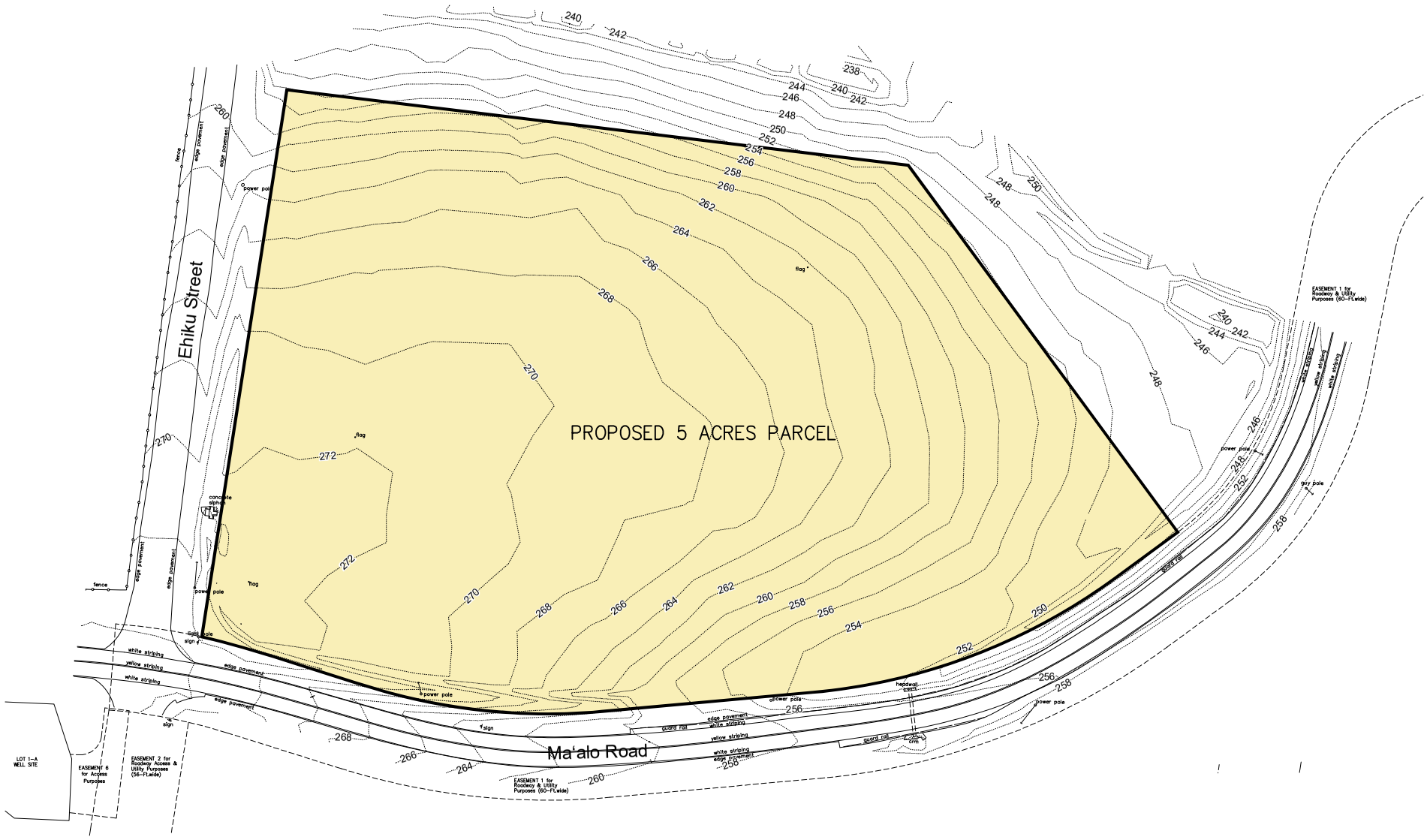
Clearing of the site and development of the ATHC will result in a reduction of the site's ground cover, with a resulting increase in potential ponding on-site. With management of the site's ground cover through landscaping, dedication of part of the area for agricultural activities by ATHC clients, and control over drainage, no significant impact is expected on-site, and no off-site impacts to the land use would occur.

---

8 G.A. Macdonald, A.T. Abbott, and F.L. Peterson, *Volcanoes in the Sea: The Geology of Hawaii.* 2nd edition. Honolulu: 1970, pp. 457-465.

9 Rainfall data are from 1924 to 1985. Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delparte, 2013: Online Rainfall Atlas of Hawaiʻi. Bull. Amer. Meteor. Soc. 94, 313-316, doi: 10.1175/BAMS-D-11-00228.1.

10 Data series: 1950 to 2005, posted by Western Regional Climate Center at http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?hilihu.



NOTE: Elevations transferred from County Benchmark "Lihue P. O." Elev = 207.03

BELT COLLINS

NORTH

0 25 50 100

SCALE IN Miles

Figure 3-1
TOPOGRAPHIC SURVEY

Adolescent Treatment and Healing Center (ATHC)
June 2016

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3.2 LAND USE

3.2.1 Existing Conditions

The project site is on Māʻalo Road, about one mile north of its terminus near Līhuʻe, at the southeast side of its intersection with ʻEhiku Road. The site covers approximately five acres, and is within Tax Map Key (TMK) (4) 3-8-002:001, a parcel of 1,114.913 acres. Nearly all the parcel consists of land that had been used for sugar cultivation. The site is both designated by the State and zoned by the County of Kauaʻi as Agricultural.

The TMK parcel is the property of Grove Farm, a major landowner. Grove Farm has agreed to donate the five-acre lot to the County for the ATHC on the condition that the County prepare the necessary EA and permits for the subdivision. (See Appendix B.)

The site is not currently in use and was overgrown until mid-2015. It has been cleared for surveying for the ATHC, but continues to lie fallow.

Much of the surrounding area is fallow land once used for agriculture. On the west side of Māʻalo Road, about 0.15 mile from the project site, is a facility for developing biofuel from algae. The farm land surrounding the project site is used for pasturage. A mortuary is about 0.5 miles to the south on Māʻalo Road, and the Immaculate Conception Cemetery is even farther south. Māʻalo Road extends about three miles beyond the project site to a view point above Wailua Falls. Other uses off Māʻalo Road include the Kapaia Power Station -- a major generating facility for the Kauaʻi Island Utility Cooperative (KIUC), -- Kauaʻi Eco Sporting Clays and various farm and pasture operations. Homes in Hanamāʻulu are about 0.7 mile or more to the east of the site.

A solar farm on land west of Māʻalo Road has also been proposed.

Land Use Classifications

The project site is designated by the State as Agriculture. Similarly, the County's General Plan identifies the site and surrounding area as Agriculture.

The parcel includes lands treated for tax purposes as Agricultural and as Industrial. The area to be subdivided for the ATHC is entirely zoned as Agricultural.

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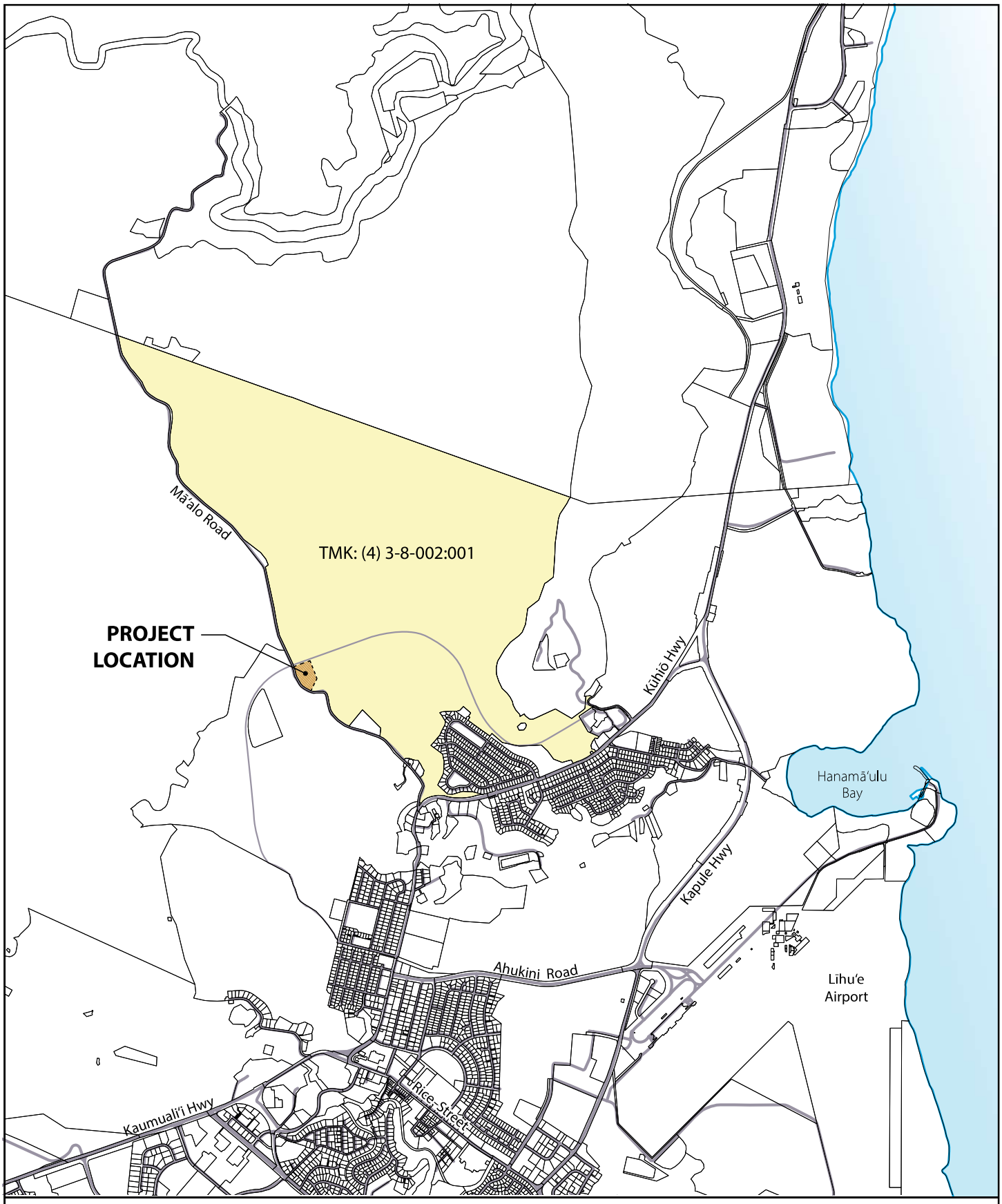

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NORTH

0 1000 2000 3000
SCALE IN FEET

Figure 3-2
TMK MAP OF PARCEL (4) 3-8-002:001

Adolescent Treatment and Healing Center (ATHC)
June 2016

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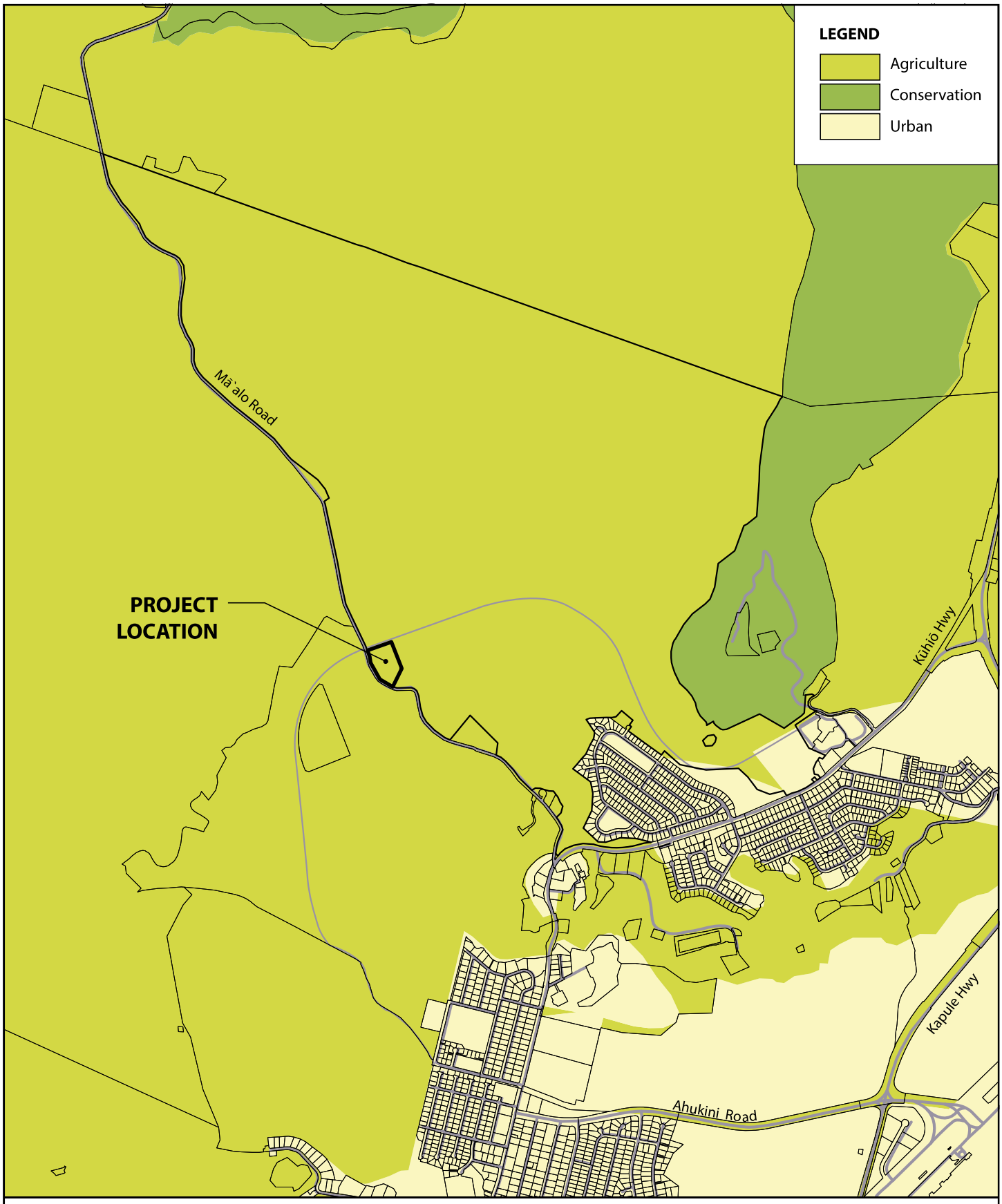

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SCALE IN FEET

Figure 3-3
STATE LAND USE DISTRICTS

Adolescent Treatment and Healing Center (ATHC)
June 2016

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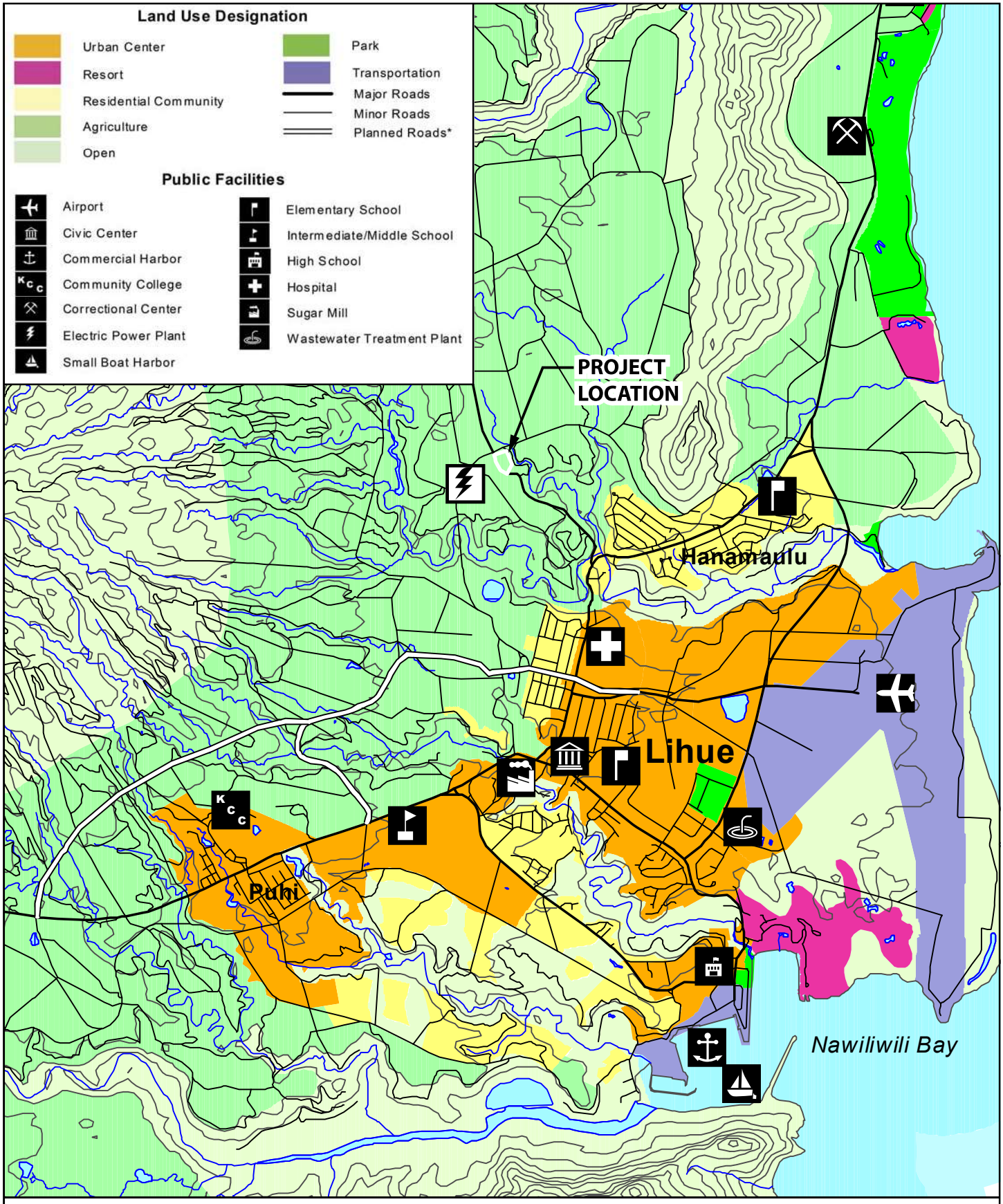

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NORTH

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SCALE IN FEET

Figure 3-4
GENERAL PLAN LAND USE MAP
Adolescent Treatment and Healing Center (ATHC)
June 2016

SOURCE: County of Kaua'i, General Plan. Līhu'e, HI, 2000.

Agricultural Productivity Ratings

Assessment of the value of agricultural lands has been a concern in Hawaiʻi for decades, and several tools have been developed to classify productivity of agricultural lands. Recently, the focus has shifted from attempts at comprehensive classification to identifying land that is now and in the future could well be important for Hawaiʻi's agriculture. With this shift and the larger economic shift from plantation agriculture to diversified agriculture have come an appreciation of the various factors that contribute to agricultural "importance." Criteria considered in nominating lands as Important Agricultural Lands (IAL) include:

1. Land currently in agricultural use;
2. Land with soil qualities and growing conditions that support food, fiber, or energy crops;
3. Land identified under previous soil productivity rating systems, such as the Agricultural Lands of Importance to the State of Hawaiʻi (ALISH) system;
4. Land associated with traditional Hawaiian crops or with distinctive agricultural ventures (including coffee cultivation, vineyards, aquaculture and energy production)
5. Land with sufficient water for viable agriculture;
6. Land for which designation as IAL is consistent with general, development and community plans;
7. Land that contributes to a critical land mass for agricultural operations; and
8. Land with or near infrastructure conducive to agricultural productivity.

Kauaʻi has approximately 140,000 acres of agricultural land, of which some 128,000 acres have sufficient water for farm uses. [11] The stakeholder group and analysts working from 2009 to 2011 identified approximately 53,500 acres on island as meeting all of these criteria to some extent. Currently, less than 10,000 acres are dedicated to food and timber production.[12] An estimated total of 21,200 acres would be needed to achieve food self-sufficiency for the County's population. In sum, the land area analyzed as IAL has 2.5 times the acreage need to support the island's people.

Large areas in southeastern Kauaʻi have been identified as IALs by Grove Farm and associated firms, and dedicated for agricultural use. Figure 3-5 shows the Līhuʻe section of the major Grove Farm dedication (Land Use Commission docket 12-48), involving more than 11,000 acres. The project site is outside the dedicated area. Landowners may petition to urbanize some of their land while dedicating larger areas for agriculture, but Grove Farm waived this right.

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[11] County of Kauaʻi. *Important Agricultural Lands Study: Final Study.* Līhuʻe, HI: 2015. Posted at https://sites.google.com/site/kauaiial. Planners and stakeholders worked to operationalize and rank the criteria for designating important agricultural lands Act 183 (Session Laws of Hawaiʻi 2005. The water criterion was ranked as first.

[12] This analysis (ibid.) deals with local self-sufficiency, and excludes export crops such as seed crops.

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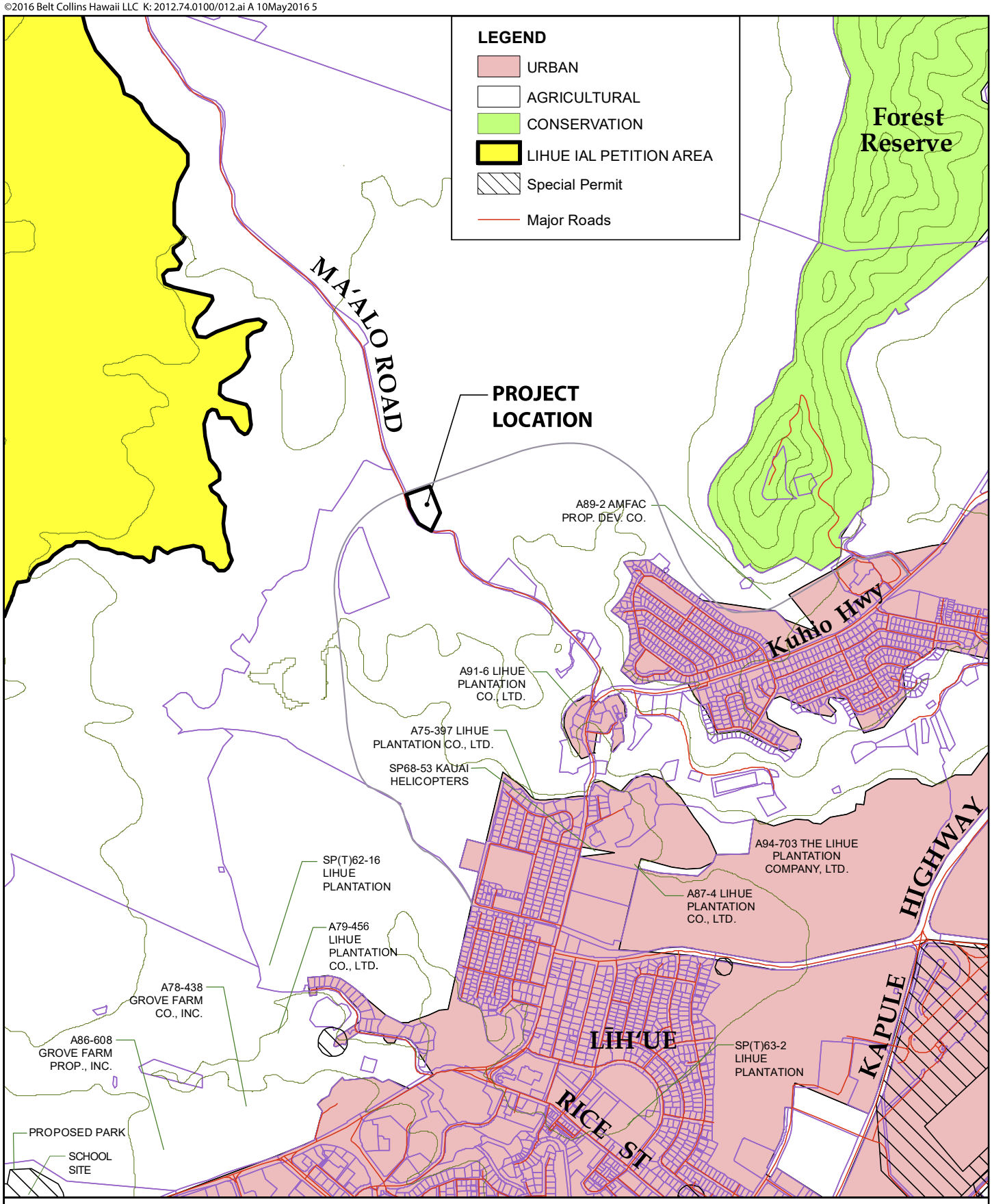

BELT COLLINS

NORTH

0 500 1000 2000
SCALE IN FEET

Figure 3-5
LAND IN THE REGION DEDICATED AS IMPORTANT AGRICULTURAL LANDS

Adolescent Treatment and Healing Center (ATHC)
June 2016

The ATHC site has clay loam soils, like much of the surrounding land area. (See Figure 3-6.) The Puhi series soils (Pn) are well drained and generally flat.[13] They have been cultivated for sugarcane, pineapple, truck crops, orchards and pasturage. The soils on-site are:

- PnB: Puhi silty clay loam, three to eight percent slopes. On these slopes, runoff is slow and erosion hazard is slight.
- PnC: Puhi silty clay loam, eight to 15 percent slopes. Again, runoff is slow and erosion hazard is slight.
- PnD: Puhi silty clay loam, 15 to 25 percent slopes. On this soil, runoff is medium and erosion hazard is moderate.

Photographs of the soils on site are included in the Archaeological Inventory Survey for this report (Appendix E). They show a thick top layer of disturbed loam with some introduced elements, and a firmer layer, also of moist loam, below that.

The site is Prime agricultural land, according to the ALISH rating system. That system has been effectively superceded by the legislation and procedures for identifying important agricultural lands.

3.2.2 Impacts and Mitigation Measures

The proposed ATHC will bring a new use to a site that is already accessible by County roads and close to the urban center. While the parcel is a remnant of past agricultural activities, the site is currently not in agricultural use. Infrastructure facilities are nearby, and warehouses are located over a quarter mile to the east on ʻEhiku Road. The site is separated from both the Līhuʻe and Hanamāʻulu residential areas, and not expected to affect land uses in those areas. No impact on off-site land use is anticipated.

Due to the abundance of agricultural land on Kauaʻi, the site's size and its current fallow condition, conversion of the site to a treatment and healing center will not affect agriculture, except that some program participants may become involved in agricultural work as a result of their experience of work on the land.

[13] Soil Conservation Service, U.S. Department of Agriculture. *Soil Survey of Islands of Kauaʻi, Oʻahu, Maui, Molokaʻi, and Lānaʻi, State of Hawaiʻi.* Washington, DC, 1972.

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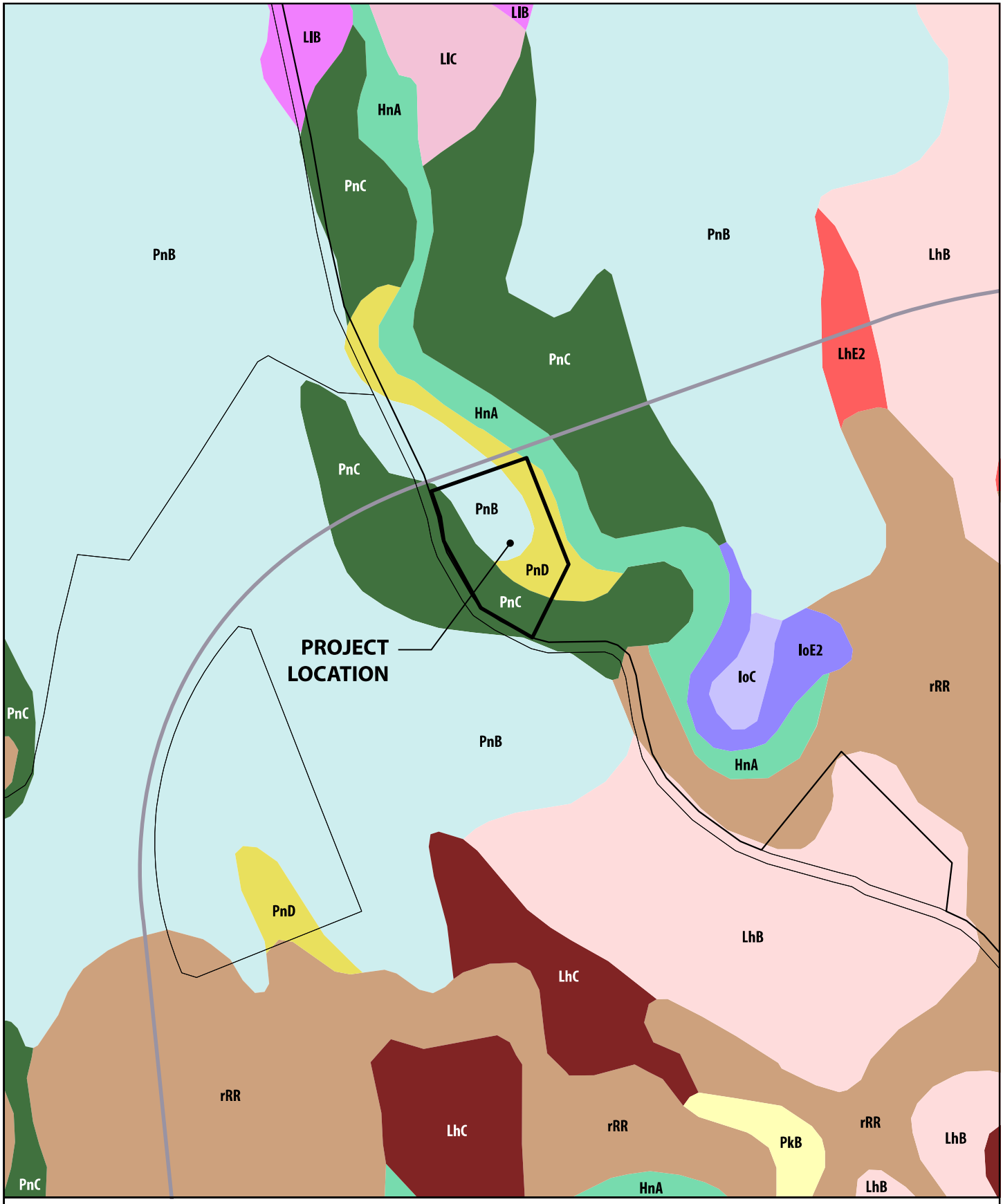

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NORTH

0 100 200 300 400 500
SCALE IN FEET

Figure 3-6
SOILS MAP

Adolescent Treatment and Healing Center (ATHC)
June 2016

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NORTH

0 500 1000 2000
SCALE IN FEET

Figure 3-7
AGRICULTURAL LANDS OF IMPORTANCE TO THE STATE OF HAWAII

Adolescent Treatment and Healing Center (ATHC)
June 2016

3.3 FLORA AND FAUNA

3.3.1 Existing Conditions

Once part of Līhuʻe Plantation's crop lands, the site has been fallow and covered by grasses and brush for years. It was cleared by the County of Kauaʻi in mid-2015. Before it was cleared, a biological survey was conducted by SWCA Environmental Consultants.

The plant and wildlife species identified in the survey are typical of those found in disturbed areas on Kauaʻi.

The vegetation consists of a mixed non-native forest characterized by various non-native trees, shrubs, and herbaceous understory. Two species in particular, parasol tree (*Macaranga tanarius*) and koa haole (*Leucaena leucocephala*), are abundant in the overstory throughout the survey area. The understory consists primarily of Guinea grass (*Urochloa maxima*), with other herbaceous species scattered throughout. The vine maunaloa *(Canavalia cathartica*) is also dominant, climbing over trees and shrubs. Other common species in the survey area include: Christmas berry (*Schinus terebinthifolius*), albizia (*Falcataria moluccana*), Java plum (*Syzygium cumin*i), and lākana (*Lantana camara*).

The survey area did not include any designated or proposed critical habitat for threatened or endangered species. The vegetation type and species identified during the survey are not considered unique, and none of the plant species recorded at the site are native to Hawaiʻi. No threatened or endangered plants, proposed listed plants, or candidate plants were found.

Twelve non-native bird species were identified in the course of the survey and no native birds were found. Of the species identified, only one, the cattle egret (*Bulbulcus ibis*) is identified under the Migratory Bird Treaty. While no nēnē (*Branta sandvicensis*) were observed during the survey, these have been seen nearby, and the site includes areas suitable for nesting. Similarly, the site included trees suitable for foraging and roosting by the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), but none were observed. Three seabirds—Band-Rumped Storm Petrel, Hawaiian Petrel, and Newell's Shearwater—may fly over the survey area to and from inland nesting sites.

3.3.2 Impacts and Mitigation Measures

Potential impacts can be addressed through Best Management Practices (BMPs) and installation of only shielded external lighting.

The BMPs are recommended during construction to avoid impacts to nēnē:

- All regular on-site staff should be trained to identify nēnē, and should know the appropriate steps to take if nēnē are present on-site.

- If a nēnē is found in the area during ongoing activities, all activities within 100 feet (30m) of the bird should cease, and the bird should also not be approached. If a nest is discovered, the U.S. Fish and Wildlife Service should be contacted. If a nest is not discovered, work may continue after the bird leaves the area on its own accord.

To avoid potential impacts on hoary bats, the following BMPs are proposed:

- Any fences erected as part of the project should have barbless top-strand wire to prevent entanglements of the Hawaiian hoary bat on barbed wire. (During the survey, no barbed wire fences were observed.)

  No barbed wire fence is proposed for the perimeter of the site. This recommendation is noted with regard to possible fencing of agricultural areas.

- No trees taller than 4.6m (15 feet) should be trimmed or removed as a result of this project between June 1 and September 15, when juvenile bats could be roosting in the trees.

Bright lights can attract adult and newly fledged juvenile seabirds while flying between their nest sites and the ocean. Juvenile birds are particularly vulnerable to light attraction and are sometimes grounded when they become disoriented. Many of these grounded birds are vulnerable to mammalian predators or to being struck by vehicles. The following recommendations are provided to avoid and minimize light attraction of these seabirds to the project area:

- Construction activity should be restricted to daylight hours during the seabird peak fallout period (September 15–December 15) to avoid the use of nighttime lighting that could attract seabirds.

- All outdoor lights should be shielded to prevent upward radiation. This has been shown to reduce the potential for seabird attraction (Reed et al. 1985; Telfer et al. 1987). A selection of acceptable seabird-friendly lights can be found online at the Kauai Seabird Habitat Conservation website (2013).

- Outside lights that are not needed for security and safety should be turned off from dusk through dawn during the fledgling fallout period (September 15–December 15).

The measures identified here are precautionary; no impact on threatened or endangered species is anticipated.

3.4 AIR QUALITY

3.4.1 Existing Conditions

The U.S. Environmental Protection Agency (EPA) sets National Ambient Air Quality Standards (NAAQS) to protect public health and welfare from harmful effects of certain pollutants. The EPA requires states to monitor the ambient air to determine attainment of the NAAQS and regulate industries that emit these and other pollutants.

On Kaua‘i, a monitoring station has been established at Niumalu, near Nāwiliwili harbor. It tracks nitrogen dioxide (NO_2), Sulphur dioxide (SO_2) and particulate matter ($PM_{2.5}$). At that site, NO_2 measures sometimes reach 0.03 parts per million (ppm), well below the Hawai‘i standard for annual average emissions (0.04 ppm).[14] This station was established to monitor cruise ship emissions; it records pollutants associated with ship arrivals and departures.

A monitoring station for PM_{10} operated in Līhu‘e until 2007; it recorded no exceedances of the National or State standards. Currently, the only State-run air monitoring station on Kaua‘i is at Niumalu, where it can identify emissions from harbor activities. No exceedances of national air quality standards were recorded on Kaua‘i in 2013 or 2014; in those years, all exceedances in Hawai‘i were on the island of Hawai‘i, and involved SO_2 associated with volcanic emissions.[15]

3.4.2 Impacts and Mitigation Measures

The treatment center would have no activities or facilities that would affect air quality. No impact is anticipated, so no mitigation is needed.

3.5 ACOUSTICAL ENVIRONMENT

3.5.1 Existing and Anticipated Conditions

The surrounding area is farmland currently in a fallow state. The closest neighboring land uses are a biofuel plant to the west and a mortuary, Kaua‘i Garden Mortuary, approximately a half mile to the south along Mā‘alo Road. These do not have a significant effect on the normally tranquil rural conditions. Kaua‘i Eco Sporting Clays is a clay pigeon shooting range on ‘Ehiku Road, located south west of the project, in a low spot in the local topography.

The County of Kaua‘i is considering plans for a resource recovery facility and a new landfill approximately a mile to the north. Some of the traffic for those facilities could pass along Mā‘alo Road. A motocross track has also been proposed for a location off the west side of

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[14] Hawai‘i Department of Health, Clean Air Branch webpages on standards and data from the Niumalu air monitoring station, consulted July 17, 2015. http://health.hawaii.gov/cab/files/2013/05/naaqs_jan_2013.pdf and http://emdweb.doh.hawaii.gov/air-quality/ and *State of Hawai‘i Annual Summary 2014 Air Quality Data*, http://health.hawaii.gov/cab/files/2015/09/aqbook_2014.pdf viewed oin May 20, 2016.

[15] http://health.hawaii.gov/cab/notification-of-exceedance-of-a-national-ambient-air-quality-standard/

Māʻalo Road, approximately a half mile north of the project site. Motocross activity would be scheduled for weekend hours if this project is realized.

3.5.2 Impacts and Mitigation Measures

The treatment center is located well away from sensitive receptors such as homes and hospitals. While construction activities and residents' behavior may occasionally be noisy, they will not disturb any neighbors. No mitigation is needed.

3.6 NATURAL HAZARDS

3.6.1 Existing Conditions

3.6.1.1 Flood

The site is in District X, an area determined to have less than a 0.2% annual chance of flooding.

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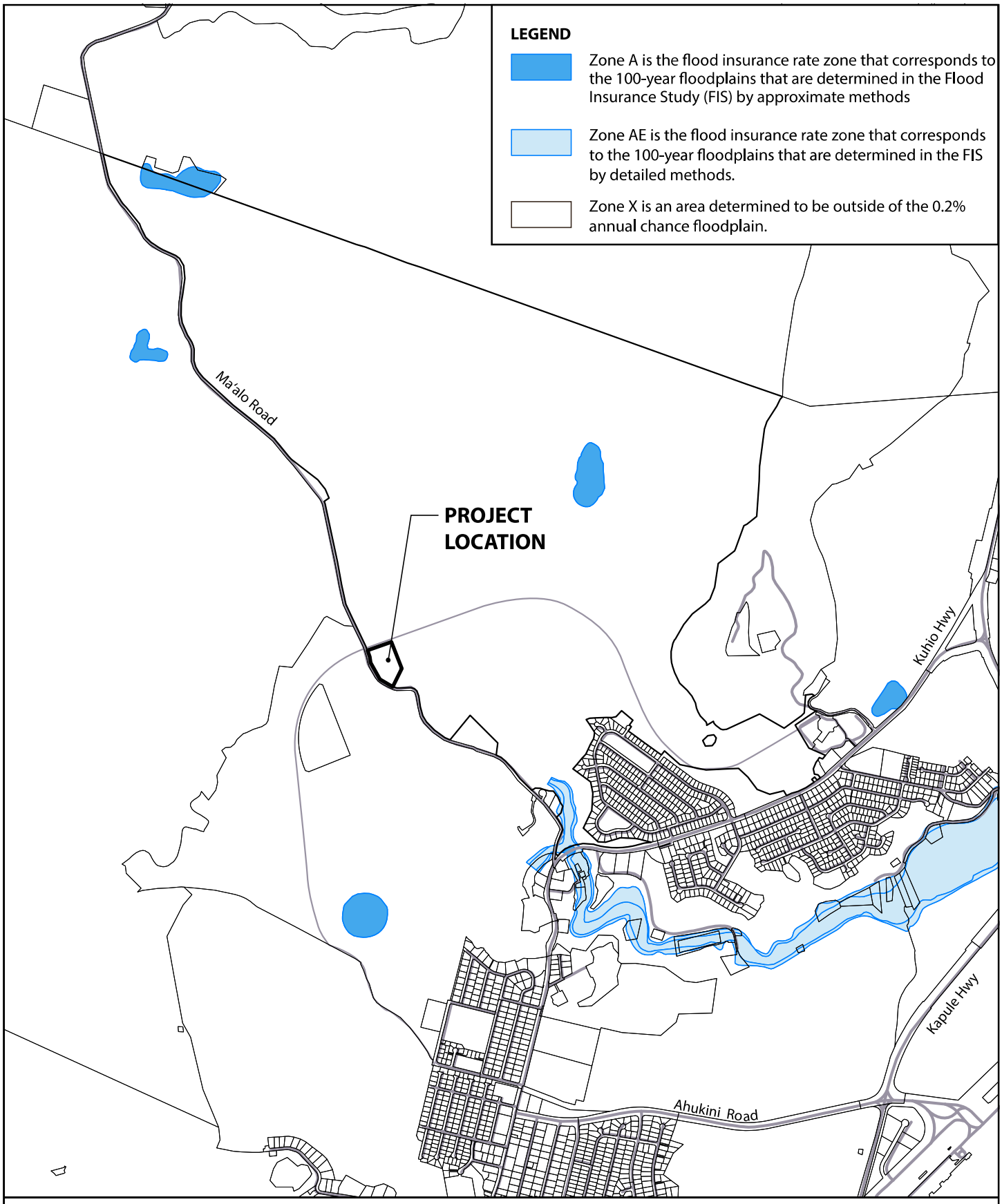

BELT COLLINS

NORTH

0 500 1000 2000
SCALE IN FEET

Figure 3-8
FLOOD HAZARD MAP

Adolescent Treatment and Healing Center (ATHC)
June 2016

3.6.1.2 Earthquakes

The oldest of the main Hawaiian islands, Kaua'i has not experienced earthquakes in recorded history, unlike the islands to the south and east.

3.6.1.3 Hurricanes

Kaua'i sustained damages due to Hurricanes Dot (1959), 'Iwa (1982) and 'Iniki (1992). The latter two passed from south of the island across its center and north shore. Hurricane 'Iniki damaged more than 14,000 homes on the island and caused six deaths. [16]

Hurricanes' specific paths are only predicted after they form. Located inland, the project site is protected from coastal surge and flooding. Along with nearly all structures on the island, the project could be subject to high winds when another hurricane passes over Kaua'i.

3.6.1.4 Tsunami

The project site is well inland of the zone of potential tsunami damage identified by Federal, State and County agencies (shown on interactive map at http://tsunami.csc.noaa.gov/#/, viewed on May 20, 2016).

3.6.1.5 Wildfires

Recent wildfires on Kaua'i have been located in Waimea Canyon, near the beach at Kapa'a, and in Miloli'i on the North Shore.

The project site is in a flat, open area. Much of the land nearby is covered with high grass and bushes, so some danger of wildfires exists in the area. It is located in the vicinity of reservoirs which could provide water to fight fires in the region. It is adjacent to a paved road to the west and an unpaved one on its northern side, so fire fighters and equipment could reach the site easily.

3.6.2 Impacts and Mitigation Measures

The project involves clearing an area once used for plantation agriculture and building a few single-story structures. Clearing will reduce the likelihood of wildfires on the site. New structures will be built in conformity with the Kaua'i County Building Code. That Code incorporates the 2003 International Building Code, and includes criteria adopted in light of the impact of Hurricane 'Iniki on Kaua'i. The proposed use of the site will not increase risk of damage from natural hazards. No adverse impact is expected, and hence no mitigation is needed.

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[16] National Weather Service, "The 1992 Central Pacific Tropical Cyclone Season." Posted at http://www.prh.noaa.gov/cphc/summaries/1992.php (consulted on April 28, 2014).

3.7 SCENIC RESOURCES

3.7.1 Existing Conditions

The area surrounding the ATHC site is open and fairly flat, with a view of the mountains to the northwest. Mā‘alo Road is identified in the General Plan as a scenic corridor.

Photos taken from Mā‘alo Road beside the project site show a view of the area (in Figure 3-9). The most impressive view is of the mountain to the northeast. The central massif, beyond the biofuel facility and power station, is less evident from the site.

3.7.2 Impacts and Mitigation Measures

Figure 3-10: shows an elevation drawing for the preliminary plan, as seen from the far side of Mā‘alo Road. The facility consists of single-story buildings, with landscaping.

The proposed action will have little effect on the scenic qualities of the region. The structures would be set back from Mā‘alo Road by 20 feet or more. On the ‘Ehiku Road side, an entry and parking area would separate project buildings from other future uses. Landscaping and gardens are planned on much of the site. The facility will not impede views from any public corridor. No impact is anticipated, so no mitigation is needed.

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View from site to the north

View from Mā'alo Road to the west

Figure 3-9
VIEWS FROM MĀ'ALO ROAD NEAR THE ATHC SITE

Adolescent Treatment and Healing Center (ATHC)
June 2016

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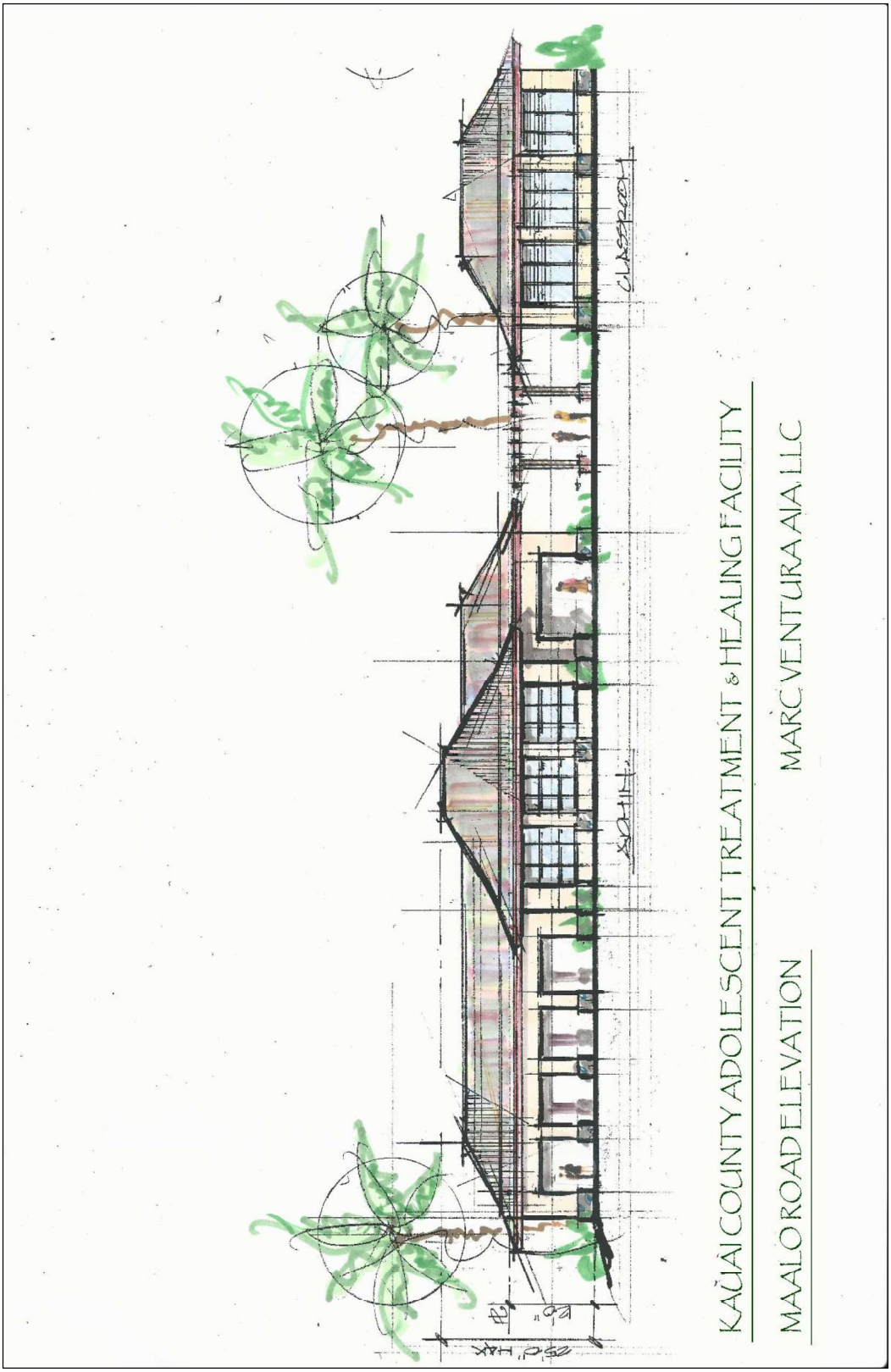

Figure 3-10 Proposed Facility, Viewed from Mā'alo Road

3.8 CULTURAL AND ARCHAEOLOGICAL RESOURCES

3.8.1 Existing Resources

3.8.1.1 History

Traditionally, land within the Hanamāʻulu ahupua`a near the project area was primarily used as loʻi kalo, taro lands. Here, dryland taro cultivation was probably practiced while coconut, sweet potato, and breadfruit were also likely grown. Due to the concentration of lo`i lands, settlement stretched along the coast to a few miles inland. The Māhele records of the Hanamāʻulu area tell of native tenants living in the valleys and by the shoreline. House sites, taro pond fields, irrigation systems, dryland agricultural parcels, fishponds, pastures, and other features were constructed across the landscape. Many of these lands were cleared during the plantation years, thus masking or erasing much evidence for these sites.

During the Great Mahele of 1848, the traditional land system was replaced by a new system that separated the rights of the king, high ranking chiefs, and konohiki (lesser chiefs who were in charge of the king's lands). All the lands were considered as either Crown Lands, Government Lands, or Konohiki Lands and petitioned as Land Commissions Awards (LCA). Many LCAs are present in the Hanamāʻulu area. Several LCAs are noted along Hanamāʻulu Stream, just to the east of the current project area. These contained lo`i as well as coconut, sweet potatoes and bread fruit planting areas The current lands were owned by the Lihue Plantation Company, Ltd, and no part of the project site was in a separate LCA. (See Appendices E and F for more historical detail.) In 1861, the bulk of Hanamāʻulu Ahupuaʻa was granted to Princess Victoria Kamāmalu as LCA 7713:2, under Royal Patent 4481.

At the end of the 19th century and into the 20th century, the project area was part of a much larger land area being cultivated for sugar cane by the Lihue Sugar Plantation. The project area remained in sugar cane until the 1980s and has laid fallow since.

Archaeological Studies

An archaeological firm, Scientific Consultant Services, Inc. (SCS), has conducted a detailed study of the site and considered the record of archaeological finds in the surrounding area. Once the site had been cleared, SCS conducted a pedestrian survey and dug eight trenches. No artifacts were discovered. Subsurface testing found previously disturbed soil layers from many years of cane cultivation, as well as imported coral and sand mixed fill. The coral and sand were most likely used for soil preparation and mixed by mechanical tillers during past cane production years. No further archaeological work is recommended for this parcel by the consultant. After reviewing the study, the State Historic Preservation Division (SHPD)'s Kauaʻi office concurred that no further work was needed.

A review of the previous archaeological studies for the Hanamāʻulu Ahupuaʻa discovered sites that are both from the Pre-Contact and Historical Eras. The pre-contact finds were mainly heiau, cultural deposits, prehistoric habitational complexes, agricultural walls and terraces, and a burial ground. The historical sites were mostly related to the Plantation Era that include: roads, bridges, dock, trash site, and cemeteries. There were no sites found

within a half-mile radius of the project area. The closest sites are two burial sites (SIHP # 50-30-08-746 and SIHP # 50-30-08-1827) located to the northwest of the project area on Kālepa Ridge.

Appendix E includes both the Final Archaeological Assessment and the SHPD concurrence letter.

A concrete siphon (part of a larger drainage and irrigation system) is located alongside ʻEhiku Road, between the roadway and the project site. The siphon is not currently in use.

Traditional Cultural Practices

A Cultural Impact Assessment was conducted by SCS to identify cultural resources and cultural practices occurring within or in proximity of the project area. SCS conducted background research using historical documents, Land Commission Awards (LCAs), Royal Patent Grants, and other archaeological studies. Community members and those with knowledge or interest relating to the project area were encouraged to respond to mailed letters, newspaper advertisements, and bulletins. Native Hawaiian Organizations (NHOs), the SHPD and OHA were invited to participate and asked to comment.

SCS's consultation efforts concluded with one response via e-mail from S.C. Kaahiki Solis, a cultural historian with the SHPD. Ms. Solis suggested contact with Kauanoe Hoʻomanawanui, Kauaʻi Island Burial Site Specialist with the SHPD. Other than the reference, Ms. Solis could not offer any concerns regarding the proposed project.

3.8.2 Impacts and Mitigation Measures

The site consists of fields used for many years to grow sugar, and does not include gulches that might have escaped cultivation. The archaeological survey conducted for the project (Appendix C to this report) included sub-surface trenching along with surface observation of the cleared site, but found no archaeological sites.[17] The State Historic Preservation Division has reviewed that survey and concurred that no further archaeological study is appropriate.

If Grove Farm agrees, it would be prudent to plug the siphon next to ʻEhiku Road, so that it cannot drain into the project site. SHPD has been asked to review this issue, and will identify any necessary mitigation.

Use of the site will not adversely affect cultural resources or practices, so no mitigation is needed.

[17] The archaeological study was designed to meet the criteria for an Archaeologial Inventory Survey. It was titled an Archaeological Assessment for lack of items to inventory.

3.9 SOCIO-ECONOMIC CONSIDERATIONS

3.9.1 Existing Conditions

3.9.1.1 Island and Region

Kaua'i County has had steady population growth over time in recent decades. As of mid-2014, the resident population was 70,475. The annual rate of growth – 1.33 percent from 2000 to 2014 – is lower than for Maui and Hawai'i Counties but above the State average (1.13 percent).[18]

Hurricane 'Iniki, in September 1992, disrupted the local economy, bringing high unemployment. The local labor force declined in size. A similar pattern occurred during the recent recession (as shown in Table 3-1). Unemployment has declined to 3.6 percent as of April 2016.[19]

Table 3-1 Civilian Labor Force and Unemployment, Kaua'i County, 1990-2013

	Civilian Labor Force			
Annual	Total	Employed	Unemployed	Percent of Labor Force
1990	26,100	25,200	950	3.6
1991	28,050	26,900	1,150	4.1
1992	28,950	26,150	2,800	9.6
1993	28,150	24,500	3,650	13.0
1994	28,550	25,050	3,500	12.2
1995	28,850	25,750	3,100	10.7
1996	29,000	25,750	3,250	11.3
1997	28,800	25,850	2,950	10.3
1998	29,050	26,400	2,600	9.0
1999	29,500	27,450	2,050	6.9
2000	30,350	29,000	1,350	4.5
2001	30,450	28,950	1,550	5.0
2002	30,350	29,050	1,350	4.4
2003	31,300	30,050	1,250	4.0
2004	31,550	30,500	1,050	3.4
2005	31,900	31,050	850	2.7
2006	32,250	31,450	800	2.4
2007	32,600	31,750	850	2.6
2008	32,850	31,350	1,500	4.6
2009	32,200	29,200	3,000	9.3
2010	32,900	30,000	2,900	8.8
2011	33,300	30,450	2,850	8.5
2012	32,700	30,350	2,350	7.2
2013	32,400	30,550	1,850	5.7

SOURCE: Hawai'i State Department of Labor and Industrial Relations, Local Area Unemployment Statistics Series, posted at https://www.hiwi.org/gsipub/index.asp?docid=417; downloaded April 25, 2014.

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[18] U.S. Census data, from DBEDT, *State of Hawai'i Data Book 2014.*

[19] Hawai'i State Department of Labor and Industrial Relations press release, posted at https://www.hiwi.org/admin/gsipub/htmlarea/uploads/LFR_LAUS_PR_current.pdf and viewed on May 23, 2016.

The U.S. Census' *American Community Survey* collects samples for areas throughout the country each year. For each year, one-, three- and five-year data sets are published. Only the five-year data sets include information for areas smaller than the county of Kauaʻi. The following Census tables are from the 2008 to 2012 five-year sample.

The Līhuʻe region is divided for enumeration purposes into an urban center, Līhuʻe Census Civil Division, and the surrounding rural and suburban district. (See Figure 3-11.) The two areas together make up the County's Līhuʻe Community Plan (CP) Area.

The town of Līhuʻe includes about 45 percent of the region's population. The median age was younger in Līhuʻe than in the surrounding area, with more children less than ten years old. The share of middle-aged adults, from age 45 through 60, was low in the urban area.

The average household size in both parts of the region was higher than the County and State averages. The share of households with children or youth was higher in Līhuʻe than in the surrounding area. Also, the share of households with grandparents responsible for their grandchildren was much higher in Līhuʻe.

Table 3-2 Population Characteristics, American Community Survey, 2008-2012

	Kauai County	Lihue CCD	Puhi-Hanamaulu CCD
POPULATION			
Total population	67,113	7,310	8,916
Male	33,799	3,402	4,620
Female	33,314	3,908	4,296
Under 5 years	4,337	724	472
5 to 9 years	4,291	835	369
10 to 14 years	3,829	469	542
15 to 19 years	3,993	493	437
20 to 24 years	3,730	335	662
25 to 34 years	8,147	784	1,126
35 to 44 years	8,241	917	1,149
45 to 54 years	10,257	867	1,586
55 to 59 years	5,415	324	631
60 to 64 years	4,725	404	494
65 to 74 years	5,451	453	663
75 to 84 years	3,035	462	434
85 years and over	1,662	243	351
Median age (years)	41.5	35.3	42.6

NOTE: CCD = Census Civil Division. In this report, the Līhuʻe Community Plan Area, including both of the two CCDs listed in the table, is termed the Līhuʻe region or CP area. The Līhuʻe CCD may be termed the Līhuʻe urban area.

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NORTH

0 1 2 4
SCALE IN Miles

Figure 3-11
ISLAND AND CCD MAP

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June 2016

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Table 3-3 Household Characteristics, American Community Survey. 2008-2012

	Kauai County	Lihue CCD	Puhi-Hanamaulu CCD
HOUSEHOLDS			
Total households	22,092	2,156	2,613
Population in households	66,109	7,172	8,479
Average household size	2.99	3.33	3.24
Percent; Households with one or more people under 18 years	33.1	40.3	34.9
Percent; Households with one or more people 65 years and over	30.5	33.8	32.4
Family households (families)	15,438	1,482	1,934
Family households (families) - With own children under 18 years	5,693	688	715
Married-couple family - With own children under 18 years	4,086	526	543
Male householder, no wife present, family - With own children under 18 years	675	79	51
Female householder, no husband present, family - With own children under 18 years	932	83	121
Number of grandparents living with own grandchildren under 18 years	3,108	578	505
Grandparents - Responsible for grandchildren	828	323	66

The share of the population living below the poverty line was higher in the Līhuʻe urban area than island-wide. As Table 3-4 shows, this difference affected all age groups.

Table 3-4 Poverty Status, American Community Survey, 2008-2012

	Kauai County	Lihue CCD	Puhi-Hanamaulu CCD
POVERTY			
Population for whom poverty status is determined	66,073	7,227	8,440
Percent below poverty level	11.0	15.9	10.2
Percent below poverty level; AGE - Under 18 years	14.0	18.7	17.4
Percent below poverty level; AGE - 18 to 64 years	10.5	14.3	9.2
Percent below poverty level; AGE - 65 years and over	8.3	15.6	5.2
Percent below poverty level; Less than high school graduate	14.4	16.4	8.1
Percent below poverty level; High school graduate (includes equivalency)	11.8	16.1	14.8
Percent below poverty level; Some college, associate's degree	8.2	9.9	4.7
Percent below poverty level; Bachelor's degree or higher	7.1	6.9	1.5

Census information shows school attendance to be lower in the teen years for residents of the Līhuʻe urban area than residents of the surrounding area or of the island as a whole. The attendance rate for 18- and 19-year olds, shown in Table 2-5, is strikingly low.

Table 3-5 School Attendance, 2008-2012 American Community Survey

	Kauai County	Lihue CCD	Puhi-Hanamaulu CCD
SCHOOL ATTENDANCE			
Population 3 years and over enrolled in school	14,682	1,790	2,065
Percent of enrolled population - In public school	84.9	88.9	89.9
Percent of enrolled population - In private school	15.1	11.1	10.1
Percent of age group enrolled in school -- - 3 and 4 years	53.3	73.2	55.6
Percent of age group enrolled in school -- - 5 to 9 years	96.7	96.6	96.7
Percent of age group enrolled in school -- - 10 to 14 years	96.8	85.5	98.0
Percent of age group enrolled in school -- - 15 to 17 years	92.9	85.8	93.7
Percent of age group enrolled in school -- - 18 and 19 years	50.6	15.2	100.0

3.9.1.2 Project Site and its Surroundings

The immediate area includes few residential or commercial structures. Residential areas of Hanamaʻulu are 0.7 mile or more from the site, but the road is currently closed to traffic. A few tourists take Māʻalo Road to reach a scenic view point over Wailua Falls. The trip is mentioned in tour guides for Kauaʻi. Māʻalo Road has been designated as a scenic route by the County.

3.9.1.3 Anticipated Future Conditions

State forecasts anticipate slow to moderate demographic and economic growth for Kauaʻi County through 2035. An allocation model developed by SMS Research anticipates continuing population growth in the Līhuʻe Community Plan Area. The region housed 21.9 percent of the island population in 2010; the share would grow to 26.6 percent by 2035. The region's resident population would then reach nearly 23,500 persons.[20] The number of housing units in the region would grow from 5,296 in 2010 to approximately 9,900 in 2035. Areas for new residential subdivisions have been identified in Līhuʻe and Hanamāʻulu. None of those proposed areas are close to the project site.

Far more jobs are located in Līhuʻe District than in any other region of Kauaʻi. Līhuʻe is expected to remain the economic center of the island, with about 16,400 jobs – about 47 percent of the projected island total – by 2035.

[20] SMS Research & Marketing Services, Inc. *Kauaʻi General Plan Update: Socioeconomic Analysis and Forecasts.* Honolulu, HI, 2014.

These projections suggest that Līhuʻe District will remain the heart of the island for residents. Few new visitor units are anticipated.

New infrastructure near the project site could bring increased traffic but the immediate area along Māʻalo Road and ʻEhiku Road is not expected to see changes in land use. New residential development is planned for other areas of the Līhuʻe Community Plan Area.

A motorsports park for dirt bikes has been proposed to be relocated to a site on Māʻalo Road about one mile north of the project site.

3.9.2 Impacts and Mitigation Measures

3.9.2.1 Social Impacts.

The ATHC is proposed to serve Kauaʻi residents. It is not expected to affect either resident or visitor population numbers, except by allowing a few persons in treatment to stay on-island and to help their re-integration into the local community after treatment.

With an ATHC on-island, families and communities of persons needing treatment will experience less stress and expense during the treatment and re-integration processes. Families will likely be encouraged to be involved in counseling appropriate to their situation.[21]

The on-site population would consist of 20 or fewer persons (i.e., normally up to eight residential clients, up to six staff members – with possible eventual growth of the residential population). During the day time, visitors on-site for treatment and counseling could number as many as 12 at a time. None of these people would be new to Kauaʻi. At the County and State levels, the project has no impact on population.

Residents of Līhuʻe expressed concern that the ATHC, if located at Isenberg, would bring drugs and crime to their neighborhood. In meetings, some participants responded that the drugs and crime were probably already present; the ATHC would bring treatment and perhaps increased police presence. This response did not satisfy the concerned residents. With the move to the Māʻalo Road site, the ATHC is at greater distance from residential neighborhoods. While a similar concern was voiced, the response from Chief Perry, that the Kauaʻi Police Department would be responsible for security of the area, appeared to be accepted. In addition, staff would provide 24-hour monitoring of the facility, and would be able to call for support if needed.

3.9.2.2 Economic and Fiscal Impacts.

Economic impacts of the project are small in relation to the island's economy. Construction would support a small workforce for less than a year. Operation of the facility would

[21] Programs involving family members could be located on-site or elsewhere, depending on future decisions by the County of Kauaʻi and the facility operator.

involve approximately 15 full-time equivalent positions, with an annual payroll of approximately $500,000.[22]

Both the Mayor's Office and members of the County Council have expressed concern about possible impacts of the ATHC on the County budget. This issue is complex. The County has taken steps to assure that the costs associated with the proposed action and the operation of the ATHC would be shared, but the details of future cost-sharing will depend on emerging federal policies and state budgeting. Elements of the financial strategy underlying the ATHC include:

- The County has funded initial studies and will fund permitting and construction management of the Center.
- The County Council passed Resolution 16-36 in March 2016, supporting the construction of the ATHC and pledging the Council's willingness to meet future operations shortfalls as necessary.
- Grove Farm is donating the land for the Center on the condition that the County take responsibility for permits, including subdivision and a waiver of the one-time agricultural subdivision rule (per a Memorandum of Agreement dated in June 2015).
- The State Legislature has approved the issuance of General Obligation bonds for five million dollars for construction of the ATHC (SB 2035 of the 2016 Legislature, incorporated into the budget approved by the Legislature).
- The County, along with the eventual operator, will work to obtain financial support from the State of Hawai'i and from insurers for treatment services provided at the Center. The County is discussing operations funding with the State Department of Health, Child and Adolescent Mental Health Division.

Development of the ATHC is expected to have consequences that reduce costs for people on Kaua'i and government institutions:

- Youth in residential treatment programs can be visited by members of their families without the cost of airfare to and from O'ahu or other locations.
- When youth are treated on-island, they do not need medical evacuation by air.
- With an assessment center and residential treatment site for adolescents on Kaua'i, youth in police custody do not need to be housed in correctional facilities.

[22] Estimate based on pro forma developed by County of Kaua'i after review of comparable operations elsewhere.

- The long-term consequences of effective intervention and treatment for adolescents are expected to include reductions in the frequency of young adults using drugs, of substance-abuse connected crime, and of the need to incarcerate those who commit such crimes.

The State's Juvenile Justice Working Group reported in 2013 that a majority of the youth admissions in the Hawai'i Youth Correctional Facility were for misdemeanors, not felony offenses, that some 45 percent of admissions were youth from the Neighbor Islands, and that 75 percent of released youth were reconvicted or re-adjudicated within three years. The cost of a bed at that facility was estimated at approximately $200,000 per year. The Working Group recommended that the State invest in local alternatives to youth incarceration and refocus efforts on substance abuse programs. The ATHC exemplifies the change in policy recommended by the Working Group as both more cost-effective for the State and likely to reduce recidivism.

3.10 TRANSPORTATION

3.10.1 Existing Conditions

Mā'alo Road is a two lane paved road (Route 583) extending about eight miles from its southern end at Kūhīō Highway (Route 56) between Līhu'e and Hanamā'ulu to an endpoint overlooking Wailua Falls. There are no major intersections on the road. 'Ehiku Road crosses Mā'alo Road next to the project site, but it is currently blocked by a gate just east of the project site. Traffic counts from 2009 on Mā'alo Road showed daily traffic totaling 418 vehicles in each direction. A traffic study based on 2013 traffic counts shows afternoon peak hour traffic on Kūhiō Highway as less than 1,500 vehicles, with about 100 vehicles either turning into or coming out of Mā'alo Road. At that time, the overall intersection level of service (LOS) is coded as "C," but vehicles making left turns into or out of Mā'alo Road could experience long wait times, estimated as LOS "E."[23]

Mā'alo Road is reached by an unsignalized intersection on Kūhiō Highway. Due to congestion on that road, vehicles may have long wait times before they can make left turns from Mā'alo Road to the northbound highway.

Currently, rental cars and vans take tourists to the scenic overview at the end of Mā'alo Road (with parking for less than 20 vehicles). Large trucks use Mā'alo Road to reach sites where fuel feedstock is collected inland. Smaller trucks and cars are used by farmers and others visiting pastures and other sites along the road.

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[23] AECOM Technical Services. *Draft (Rev.1) New Kaua'i Landfil Traffic and Roadways Engineering Feasibility Study.* Prepared for County of Kaua'i Department of Public Works. http://www.kauai.gov/Portals/0/PW_SolidWaste/Draft_TREFS_Report-rev1.pdf. LOS calculations are produced in the Synchro 8 report included in the study for existing conditions (cited above) and future conditions with or without the landfill.

The Kauaʻi Bus operates fixed route public transportation and door-to-door paratransit services on the island. No fixed route bus travels on Māʻalo Road.

Planning is ongoing for a Līhuʻe Bypass route, between Puhi and Hanamāʻulu, shown in Figure 3-12. While various routes are under consideration, an open public road connection between Hanamāʻulu and Māʻalo Road could be built at some time after 2020.[24]

Sites for a new landfill and a resource recovery center have been selected to the northeast of the project site. At this time, various routes to the landfill are being considered (as shown in Figure 3-13). Māʻalo Road could be used to haul refuse, but the Māʻalo Road route to the landfill and resource recovery center are longer and would be costlier to build than alternative routes via Hanamāʻulu. Even if Māʻalo Road is not selected as a truck route, the new facilities seem likely to bring additional traffic along the roads that front the project site.

In sum, traffic on Māʻalo Road is modest under current conditions. In the future, new roadways and uses could bring a possible increase and a different mix of traffic.

[24] A feasibility study was conducted by the County of Kauaʻi, but any bypass road would be built by the State of Hawaiʻi. No firm date for this road has been proposed by the State Department of Transportation. The current *Statewide Transportation Improvement Plan* covers work through 2018, along with possible projects to 2020; the Līhuʻe Bypass is not listed (http://hidot.hawaii.gov/highways/files/2016/04/160428-15-18-R5-APPROVED.pdf viewed on May 23, 2016).

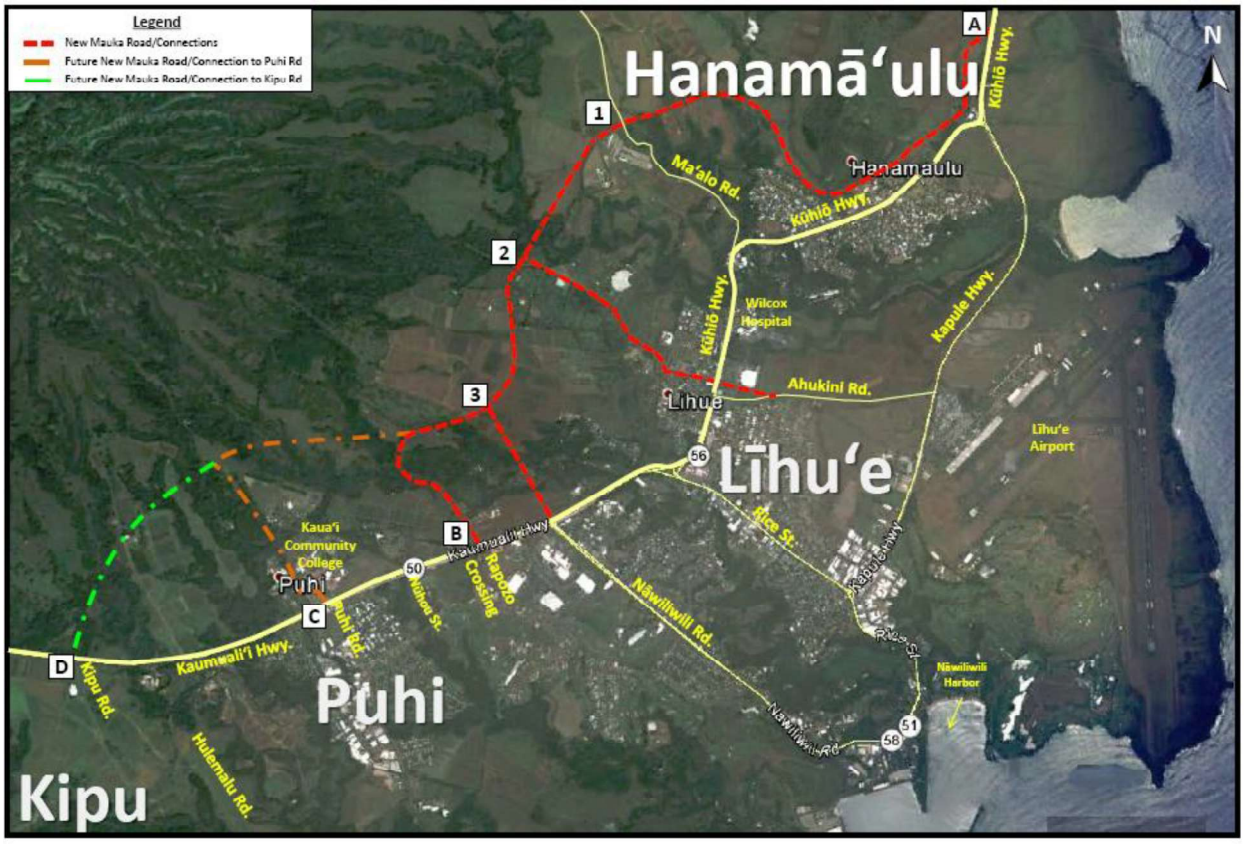

Figure 3-12 Proposed Bypass Route

NOTE: Project site is near the "1" on the map, at the junction of Mā'alo Road and' Ehiku Road.
SOURCE: County of Kaua'i, materials for review at May 2014 public meeting.

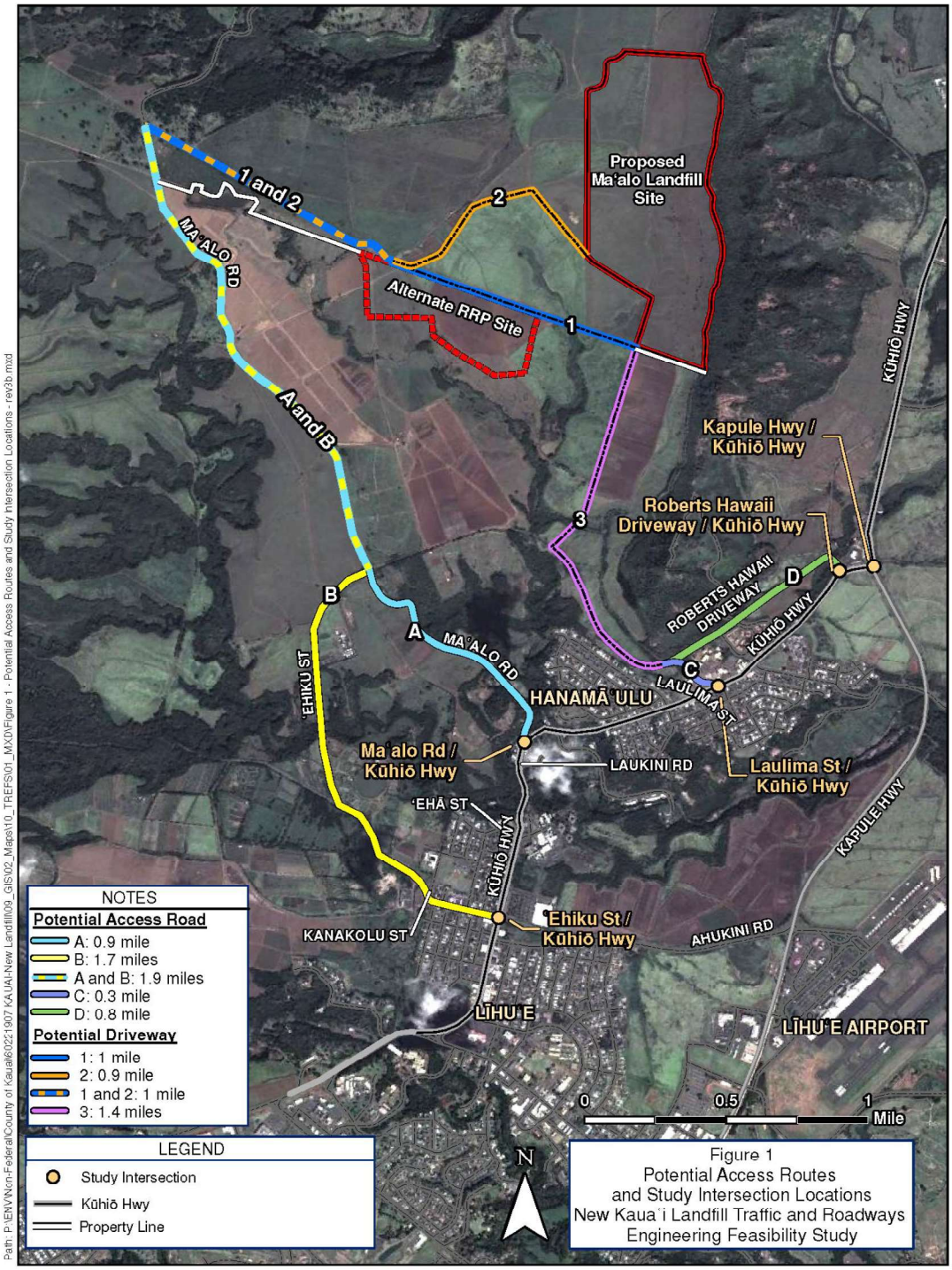

Figure 3-13 Alternative Approaches to Proposed Solid Waste Facilities Being Studied by the County of Kaua'i.

Source: County of Kaua'i website on new landfill
http://www.kauai.gov/Portals/0/PW_SolidWaste/PotentialAccessRoutesMap.pdf

3.10.2 Impacts and Mitigation Measures

During construction, transportation of materials and the workforce would add to traffic along Māʻalo Road, but not lead to congestion. After the ATHC is built, project traffic would be due to workers' commuting and visits by a few professionals and families – a total of perhaps 50 round trips per day. This impact is modest in light of the road's capacity and both current and potential usage.

The intersection of Māʻalo Road and Kūhiō Highway might be signalized in the future for reasons of safety and increased demand. The demand would be associated with other facilities reached by Māʻalo Road; the ATHC would likely not contribute enough traffic to warrant any mitigation.

Construction of the proposed Bypass Road could convert ʻEhiku Road into a limited access route. The proposed access to the ATHC is on ʻEhiku Road, as are entries to several other industrial and agricultural operations. For the Bypass Road to be built, all of these users would need to be provided alternative access routes. In the case of the ATHC, development of an alternative access from Māʻalo Road would involve some changes in the location of buildings and parking, but will not significantly affect operations.

No mitigation of transportation infrastructure is needed due to the ATHC project.

3.11 WATER

3.11.1 Existing Conditions

The Waiahi Water Treatment Plant, which processes approximately three million gallons per day, serves the Līhuʻe and Kapaʻa areas. The Kauaʻi Department of Water (DOW) has planned a horizontal drilling project to increase its groundwater supplies, but that project is now on hold. The DOW installed a 16-inch ductile iron water main within Māʻalo Road; however, there are no fire hydrants fronting the project's property. There is no water main within ʻEhiku Road.

Belt Collins Hawaii LLC (BCH) is currently coordinating with DOW to establish whether there are water system problems in the vicinity, and whether providing the required fire flow with 20 psi residual pressure will require off-site improvements.

3.11.2 Impacts and Mitigation Measures

The Department of Water has indicated:

> Any actual subdivision or development of this area will be dependent on the adequacy of the source, storage and transmission facilities existing at that time. At the present time, these facilities are adequate for the proposed Adolescent and Treatment and Healing Center on TMK: (4) 3-8-002:001 (portion), which includes a

ten bed residential facility, conference and educational rooms, administrative offices, kitchen and dining facility and other appurtenant amenities.[25]

As part of this project's improvements, the DOW requested that a fire hydrant be installed within the Māʻalo Road easement; and the DOW noted that both a domestic and a fire meter would typically be installed to provide water service to the property.

Water demand calculations and land use designation will be provided to DOW to determine preliminary meter sizes. Upon DOW's review of the water demand calculations the water meter size will be established and DOW will evaluate the adequacy of the source, storage and transmission facilities. Preliminarily, the DOW has indicated that the existing water system is adequate for the proposed development.

The fire flow, and consequently fire meter size, is dependent on the Planning Department's designation/classification of the land use. Current zoning is for Agriculture. The corresponding fire flow requirement is 250 gpm for 1 hour with 500-foot fire hydrant spacing. Depending on the building's fire sprinkler requirements, a 3-inch or 4-inch fire meter is probable.

The Fire Department's Prevention Bureau noted that, if any portion of the building's exterior wall was not within 350 feet of the new fire hydrant within Māʻalo Road, an additional fire hydrant would need to be installed on-property. A new on-property fire hydrant is proposed.

3.12 WASTEWATER

3.12.1 Existing Conditions

The Department of Public Works (DPW) operates the wastewater service for much of Līhuʻe and Hanamāʻulu, with a treatment plant near the Līhuʻe airport. However, the closest public sewer system is at the intersection of Māʻalo Road and Kuhio Highway, approximately 1 mile from the project site.

Per discussion with the DPW Wastewater Management Division, there are no wastewater projects currently being planned, designed or constructed within the project vicinity.

3.12.2 Impacts and Mitigation Measures

As allowed by the Department of Health, the project proposes to install an individual wastewater system (IWS) as a means of wastewater disposal. Preliminary IWS sizing is provided below:

[25] Letter, E. Doi to T. Koki, July 11, 2016.

Table 3-6: Proposed Size for Individual Wastewater System

Description	No. People	Gallons/Person	Subtotal (gallons)
School, Boarding	16	100	1,600
Workers	15	20	300
Visitors	100	5	500
TOTAL			2,400
Minimum Size for IWS			3,000
Proposed IWS Size			3,000

Note: Minimum IWS size is computed as 1,000 + (Total – 800) * 1.25. Source: Hawai‘i Administrative Rules (HAR), Title 11, Chapter 62, Subchapter 3 and Appendix D, Table 1.

The IWS will be located so as to exceed the minimum distances indicated in HAR, Title 11, Chapter 62, Appendix D, Table II:

- The DOW confirmed that the closest water source is more than 1,000 feet from the project site.
- The IWS will be located more than 50 feet from a stream or other surface water body.

3.13 Drainage

3.13.1 Existing Conditions

There is an existing 24” culvert crossing Mā‘alo Road, approximately 500 feet south of the ‘Ehiku Road intersection; and an existing siphon across ‘Ehiku Road, approximately 100 feet east of the Mā‘alo Road intersection. Additionally, Hanamā‘ulu Stream is located approximately 50 feet from the eastern property boundary.

The siphon was installed to irrigate the sugar cane fields. As the land is no longer being used for crop production and the project site is not contiguous to land that could be used for crop production, the siphon is no longer required. Per discussion with Grove Farm, abandoning the siphon is acceptable. As the siphon was probably constructed over 50 years ago, it may qualify as an archaeological resource; and as such, demolition of this structure is not currently proposed. [26]

The State Department of Transportation (SDOT) maintains Mā‘alo Road. Per discussion with SDOT, there are no projects currently being planned, designed or constructed within the project vicinity.

[26] SHPD Kaua‘i Lead Archaeologist Mary Jane Naone conducted a site visit in June 2016 and recorded this plantation-era feature.

3.13.2 Impacts and Mitigation Measures

To address the increase in rainfall runoff due to the proposed addition of hard surfaces (i.e., roofs and pavements); the project proposes to install a detention basin near the southern property boundary. The project also proposes to plug the siphon at both ends to prevent runoff from crossing ʻEhiku Road and flowing into the project site. (This plan has been discussed with the SHPD Kauaʻi archaeologist. Per that discussion, no further alteration of the siphon site and its construction is planned.)

3.14 SOLID WASTE

3.14.1 Existing Conditions

Solid waste on Kauaʻi is collected at transfer stations and sent to the landfill at Kekaha. A new landfill is being planned for a site north of the project site.

3.14.2 Impacts and Mitigation Measures

The project will generate solid waste from residential, kitchen and office uses. The resulting waste will be hauled to transfer stations by the contracted operator or a refuse handling firm hired by the ATHC operator, following all applicable County regulations.

3.15 ELECTRICITY AND COMMUNICATIONS

3.15.1 Existing Conditions

Electrical power is supplied along Māʻalo Road on overhead lines by KIUC which serves the entire island. Telecommunications and internet services are provided on Kauaʻi by Hawaiian Telcom and by Oceanic Time Warner Cable.

3.15.2 Impacts and Mitigation Measures

The project will connect to electric and telecommunication lines on Māʻalo Road. No mitigation is needed.

3.16 PUBLIC FACILITIES AND SERVICES

3.16.1 Existing Conditions

Medical Facilities: Wilcox Health Center is located about 1.4 miles from the ATHC site, south of the terminus of Māʻalo Road at Kūhiō Highway. It includes a 72-bed hospital and clinics that serve residents and visitors. It is the largest medical facility on the island. Since 2011, it has been recognized as a Level III trauma center, where patients can be treated and, if necessary, stabilized prior to evacuation.

Emergency Services: Emergency Services on Kauaʻi are provided by the Fire Department.

Public Safety: The Kauaʻi Police Department headquarters is on Kaʻana Street, just south of the airport. The distance between the ATHC site and the station is approximately 3.3 miles.

The Department has 207 officers and staff.[27] The Kaua‘i Community Correctional Center is a 130-bed facility in Līhu‘e. It serves as a holding facility and also has programs, including substance abuse treatment, for convicted felons.

Fire Protection: The Līhu‘e Fire Station is on Rice Street. The distance between the ATHC site and the station is approximately 2.7 miles.

Education: The site is within the area served by Kaua‘i High School. That school is located on Nāwiliwili Road, about 4.7 miles from the ATHC site. Kawaikini school, a K-12 public charter school emphasizing use of the Hawaiian language and Hawaiian culture, is also in Lihu‘e.

The Department of Education (DOE) has been involved in planning for the ATHC, and it expects to supply a teacher for youth at the facility.

Recreation: Recreation areas in Līhu‘e include Isenberg Park, with a lighted softball field, and the Vidinha Stadium complex with more than 30 acres and the largest concentration of play fields on the island. Nearby beaches are found at Kapapakī and Hanama‘ulu. The former is a white sand beach with a small surf break offshore. The latter is a sheltered bay, but the beach park is used more as a picnic area than for swimming. Neighborhood parks are located in both Līhu‘e and Hanamā‘ulu.

Wailuā River State Park, at the northern end of Mā‘alo Road, offers trails for hiking.

Kaua‘i Eco Sporting Clays is a private facility on ‘Ehiku Road, about a half mile west of the project site. It provides clay pigeon shooting for members and visitors. Operations are designed to minimize offsite impacts. Guns are kept in safes inside a locked facility, with cameras and alarms set to react to any unauthorized entry.

3.16.2 Impacts and Mitigation Measures

The ATHC would not have a significant negative impact on any public facilities or services.

It could have positive impacts. If adolescents with drug and mental health crises can be assessed at the ATHC, they would not need to go to Honolulu (or beyond) automatically. Since only one medical evacuation service is available, this reduction in demand means that others, with more pressing medical problems, would not have to wait for a flight to Honolulu.[28] To the extent that it can help students remain in the public educational system during or after treatment, it may help to reduce slightly the drop-out rate for high school students.

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[27] FY 2014 Police Department Annual Report, viewed at http://www.kauai.gov/Portals/0/Mayor/Reports/2014-15/Police_FY14-15.pdf?ver=2015-12-02-140026-317 on July 7, 2016.

[28] On one occasion, a patient with a severe heart condition had to wait over eight hours for a flight, because a youth had been sent to O‘ahu on the medevac plane (Personal communication, Kevin Myrick, Wilcox Hospital Emergency Room Administrator, April 2016).

The Juvenile Justice Working Group found that programs that address youth problems in local communities and divert youth from correctional institutions were likely to reduce the number of youth incarcerated for minor offenses and to reduce recidivism by youthful offenders. As an example of such programs, the ATHC can be expected to reduce demand for public safety services and facilities over time.

3.17 CUMULATIVE IMPACTS

3.17.1 Existing and Anticipated Conditions

As noted earlier, the major proposed projects in the area are the Līhuʻe Bypass Road and the new landfill and resource recovery center. The former may involve transformation of ʻEhiku Road next to the project site, from an agricultural road (currently gated) into a major connector roadway linking Hanamaʻulu with the Puhi area.

3.17.2 Impacts and Mitigation Measures

Because the future width and usage of ʻEhiku Road are not certain, it will be prudent to locate the facility on the site away from both roadways, to allow possible use of an alternative access to the project on Māʻalo Road. The project will be a destination with limited traffic movement towards Līhuʻe, Hanamāʻulu , and, if available, Puhi. Even with additional infrastructure development, the project's contribution will be modest, so no significant cumulative impacts are anticipated.

4 RELATIONSHIP TO PUBLIC AND LAND USE POLICIES

4.1 STATE POLICIES

4.1.1 Hawaii State Plan

The Hawaiʻi State Planning Act (Planning Act) has served as a guide for the long-range development of the State since its adoption into law in 1978 as HRS Chapter 226. The Planning Act identifies goals, objectives, and policies for the State to: (1) provide a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; (2) improve coordination of Federal, State, and County plans, policies, programs, projects, and regulatory activities; and (3) establish a system for plan formulation and program coordination to provide for integration of all major State and County activities. The Planning Act identifies three basic goals:

> *(1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations.*
>
> *(2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable, natural systems, and uniqueness, that enhances the mental and physical wellbeing of the people.*
>
> *(3) Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life. (HRS §226-4).*

The project contributes directly to the third goal. Furthermore, it is consistent with the objectives and policies stated in HRS §226-20 - Objectives and Policies for the Socio-Cultural Advancement – Health, which include:

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

> *(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.*
>
> *(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.*
>
> *(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.*

(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.

The project is planned to advance all four of the above policies. To the extent that clients receiving services at the ATHC can find and respond to treatment on Kaua'i, and not need to go off-island, the project will work to reduce health care costs for those clients and associated costs for their families.

4.1.2 State Environmental Policy

The proposed action is consistent with the State Environmental Policy, as stated in HRS Chapter 344, to "enhance the quality of life" by "creating opportunities for the residents of Hawai'i to improve their quality of life through diverse economic activities which are stable and in balance with the physical and social environments." The proposed action will provide needed treatment facilities to help and encourage clients rejoin their communities as clean and sober citizens, improving the quality of life for themselves and others.

4.1.3 State Land Use Classification

State Land Use Districts are established by the State Land Use Commission in accordance with HRS Chapter 205. There are four classifications of land under this districting system: Agricultural, Conservation, Rural, and Urban. The purpose of the districts is to regulate the use of lands within the State to accommodate population growth and development as needed, and to protect important agricultural and natural resources areas. The ATHC site is located within the Agricultural district. Activities or uses within the Agricultural district are regulated by the State, but applications for Boundary Changes or Special Permits for areas of 15 acres or less are handled by the Counties.

The Adolescent Treatment and Healing Center will benefit from being located in an area with much open land. Center participants may engage in farming activities as part of their therapeutic milieu. However, the Center is not proposed as an agricultural enterprise or as adjunct to agricultural enterprises. The project would not conflict with the pursuit of agricultural activities on the surrounding lands. Accordingly, an application for a Special Permit will be submitted to allow the Center to operate within the Agricultural District.

4.1.4 Coastal Zone Management/Special Management Area

Hawaii's Coastal Zone Management (CZM) Program was enacted in 1977 (HRS Chapter 205A) through the passage of the Federal CZM Act of 1972. The CZM program protects and manages Hawai'i's coastal resources through land and water use regulations. The entire land area of Hawai'i is within the CZM area, so new development must further or be in compliance with CZM objectives and policies. Those objectives[29] are:

(1) Recreational resources;

(A) Provide coastal recreational opportunities accessible to the public.

[29] HRS 205A-2.

(2) Historic resources;

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

(3) Scenic and open space resources;

(A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

(4) Coastal ecosystems;

(A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

(5) Economic uses;

(A) Provide public or private facilities and improvements important to the State's economy in suitable locations.

(6) Coastal hazards;

(A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

(7) Managing development;

(A) Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

(8) Public participation;

(A) Stimulate public awareness, education, and participation in coastal management.

(9) Beach protection;

(A) Protect beaches for public use and recreation.

(10) Marine resources;

(A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Development of a new residential drug treatment center more than two miles inland from the coastline is in compliance with CZM objectives and policies.

The Special Management Area (SMA) has been established throughout the State under the CZM Program. Land use rules and regulations for those specially designated areas are administered by the individual county planning authorities. The project area is located outside of the SMA and does not require an SMA Use Permit.

4.2 COUNTY POLICIES

4.2.1 General Plan

The Kaua‘i General Plan was updated and adopted by the County in November 2000. The plan includes policies that guide future growth on the island with the welfare of the physical environment, public, culture, and island’s historical rural character in mind. The General Plan does not explicitly address health issues and substance abuse treatment.

The General Plan recognizes need for a process to locate potentially controversial public facilities. The County is directed to sponsor and participate in the process, and to engage all parties in discussion, so the siting decision reflects the widest possible agreement. The process developed by the County for the ATHC follows the General Plan recommendation. (General Plan pages 1-13)

The Land Use Map of the General Plan designates the project area as Agricultural. (See Figure 2-4.) It shows public infrastructure that was being considered in the 1990s. A more current account of the County’s land use planning is provided by the updated Līhu‘e Community Plan, described below.

4.2.2 Comprehensive Zoning Ordinance

The County of Kaua‘i Comprehensive Zoning Ordinance (CZO) establishes regulations and standards for land development and land use on the island of Kaua‘i. The CZO consists of six major land use districts and two special districts, each having its own set of permitted uses and structures, and development standards. A comprehensive update to the CZO is currently being prepared and reviewed.

The project site is in the Agricultural District. The County will apply for the project to be considered a Special Use within the Agricultural district.

The CZO includes protections for scenic corridors (Kaua‘i County Code, 8-11.7.). Mā‘alo Road is such a corridor, both as passing through a scenic rural environment and as the route towards a scenic overlook, above the Wailua River Falls. The proposed ATHC will be designed and landscaped so as not to obtrude on the surrounding environment.

4.2.3 Līhu‘e Community Plan

The Līhu‘e Community Plan was recently revised through studies of parts of the urban area. The updated plan was passed in 2015. The update emphasizes the development of the urban area as a series of walkable communities. (The Plan is posted at http://lihuecp.com.)

The ATHC is mentioned in the Plan as a future facility in the Hanamā‘ulu community area, and as part of the HoloHolo 2020 initiatives sponsored by the County to improve the quality of life for residents of Līhu‘e and other districts.

The ATHC is proposed as a facility serving the entire island, not a specific community. Its residents will at times need to be separate from everyday interactions with other youth.

These considerations lead to the choice of a location for the ATHC at some distance from current and anticipated communities but in easy reach of the urban center. Consequently, it is consistent with the Plan's objectives.

4.3 SUMMARY OF REQUIRED PERMITS AND APPROVALS

The permits listed in Table 4-1 will be sought by the County of Kaua'i:

Table 4-1 Permits and Approvals for the ATHC

Permit or Approval	Source of Permit or Approval
State Land Use District Special Permit	Kaua'i County Planning Commission
Use Permit	Planning Commission
Class IV Zoning Permit	Planning Commission
Subdivision	Planning Commission
Building permits	Building Division, Public Works Department

5 PRELIMINARY DETERMINATION

This Draft EA demonstrates that the proposed action will have no significant adverse impact on the environment and that an EIS is not warranted. A FONSI is anticipated for this project.

6 FINDINGS AND REASONS SUPPORTING THE PRELIMINARY DETERMINATION

The following findings and reasons indicate that the proposed action will have no significant adverse impacts on the environment based on the 13 significance criteria as provided in HAR 11-200-12.

1) *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.*

   Construction of the proposed facility would not result in significant loss or destruction of any natural or cultural resources. The facility will be built on land which has been previously disturbed. Other related improvements, such as utility connections, will also be done in previously disturbed areas. The project is not anticipated to affect any threatened or endangered species or their habitat.

2) *Curtails the range of beneficial uses of the environment.*

   No curtailment of beneficial uses of the environment is anticipated. There are no known alternative beneficial uses of the site other than agriculture, for which a surplus of land exists.

3) *Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.*

   As noted in Section 341.2 of this document, the proposed action is consistent with the State's long-term environmental policies and guidelines as expressed in HRS, Chapter 344.

4) *Substantially affects the economic or social welfare of the community or state.*

   The proposed project is expected to improve the well-being of the Kaua'i community. It will provide a long-needed service for its clients, and also serve their families.

5) *Substantially affects public health.*

   Development and operation of the facility will follow State Department of Health (DOH) regulations intended to protect air and water quality and

control noise. The proposed action would not result in the uncontrolled and unsupervised use of hazardous materials or construction methods that could detrimentally affect the area's public health and safety. The construction contractor will be required to comply with applicable permit requirements to avoid or minimize impacts on air and water quality, in accordance with HAR Title 11, Chapter 60.1, Air Pollution Control. Construction noise will be in compliance with HAR Chapter 11-46, Community Noise Control.

6) *Involves substantial secondary impacts, such as population changes or effects on public facilities.*

The facility will not affect the size of the population and, with its small on-site population, will not have significant impacts on public services and facilities. To the extent it provides an appropriate on-island venue for adolescent drug treatment, it is expected to reduce demands on the police, hospitals, and other substance abuse providers.

7) *Involves a substantial degradation of environmental quality.*

The proposed action would not involve degradation of environmental quality during construction or operations. Temporary construction-related impacts will be avoided or minimized through compliance with applicable Department of Health permit requirements.

8) *Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger action.*

The proposed project is not expected to have a cumulative or considerable effect on the environment or a commitment for larger actions.

9) *Substantially affects a rare, threatened, or endangered species, or its habitat.*

No rare, threatened, or endangered species or their habitat have been identified on or in the immediate vicinity of the project site. Management measures to avoid harm to seabirds will be used for lighting, following standard practice on Kaua'i.

10) *Detrimentally affects air or water quality or ambient noise levels.*

The anticipated impacts associated with project construction will be temporary. These impacts will be avoided or minimized by the implementation of BMPs and mitigation measures in accordance with

applicable permit requirements. Long-term detrimental impacts to air, water quality, or ambient noise levels are not expected.

11) *Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.*

The project area is located about two miles from the shoreline. It is not in the vicinity of an estuary or coastal waters. It is not located in a flood plain or tsunami zone, and it is not in an area subject to erosion or geologic hazards. The site is outside the SMA. The proposed action is not expected to impact freshwater resources.

12) *Substantially affects scenic vistas and view planes identified in county or state plans or studies.*

The proposed action will not affect identified scenic vistas or view planes. The site abuts a scenic corridor, and will be landscaped so as not to disrupt views from the roadway.

13) *Requires substantial energy consumption.*

The facility will be designed to comply with the International Energy Code and the Kaua‘i County building codes. In addition, various energy efficient design strategies will be utilized to further minimize energy consumption. Some energy resources will be consumed during project construction but the amount of those resources will be small, in keeping with the modest size of the facility.

7 CONSULTATION

Public outreach and community discussion of the ATHC project began in 2003, when Mayor Baptiste proposed creating the facility in Hanapēpē. It has continued through community meetings in Līhuʻe, in 2013 through 2015, in discussions with individuals, and in presentations before the County Council. A special advisory committee was convened to review the feasibility study and plans for the ATHC. Its members are listed in Appendix A.

The County of Kauaʻi has presented preliminary plans for the facility at community meetings in Līhuʻe and in Hanamāʻulu. BCH attended two of these meetings.

BCH has conducted discussions with County agencies in 2016, and will circulate the Draft EA to County and State agencies, along with local stakeholders, for comment. A meeting with members of the Kauaʻi community with questions or perspectives on the proposed action will be scheduled for late July 2016. The discussion at that meeting will be summarized in the Final EA. Comments received on the EA will be included in the Final EA along with responses to the comments. If any changes are required in the EA because of comments received, the EA will be revised accordingly.

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APPENDIX A: SPECIAL ADVISORY COMMITTEE

Life's Choices Kaua'i is guided by committees on Prevention, Enforcement, and Treatment and Community Integration. For the Adolescent Treatment and Healing Center, a Special Advisory Committee was convened. The members were:

- Dr. Gerald McKenna of Ke Ala Pono McKenna Recovery Center
- Kevin Myrick, RN, TNS, Wilcox Hospital Emergency Room Manager
- David Hipp, Executive Director of Office of Youth Services, Hawaii Youth Correctional Facility
- David Lam, Chief Court Administrator of the Fifth Circuit
- Madeleine Hiraga-Nuccio, Child & Adolescent Mental Health Division, Family Guidance Center
- Alan Johnson, Hina Mauka Treatment Center Director
- William Arakaki, District Superintendent, Department of Education
- Kimberly Cummings, Certified Substance Abuse Counselor/Program Director of Women in Need
- Arvin Montgomery, Chief Executive Office of Love the Journey
- Chief Darryl Perry, Chief of Kaua'i Police Department
- Justin Kollar, County of Kaua'i Prosecutor

APPENDIX B: LETTER FROM GROVE FARM

July 8, 2016

The Honorable Mayor Bernard P. Carvalho, Jr.
County of Kaua'i
4444 Rice St., Suite 235
Lihue, HI 96766

Dear Mayor Carvalho:

This letter is for inclusion in the environmental and permit submittals for the Adolescent Treatment and Healing Center to be located on a five-acre lot beside Ma'alo Road, in a portion of TMK (4) 3-8-002:001.

Grove Farm Company, Inc. ("Grove Farm"), the owner of that lot, entered into a Memorandum of Agreement with the County of Kaua'i in June 2015 whereby the County will prepare environmental documents and seek to subdivide the five-acre parcel from the larger lot, without affecting Grove Farm's rights to subdivide the rest of the lot in the future. Upon subdivision, Grove Farm will convey the five-acre lot to the County of Kaua'i for the purpose of developing an adolescent treatment facility.

By that Memorandum, to which this letter attests, Grove Farm authorizes the County of Kaua'i to submit environmental documents, a subdivision map, and permit applications as needed to develop the adolescent treatment facility.

Sincerely,

Warren H. Haruki
President & Chief Executive Officer
Grove Farm Company, Inc.

c: Theresa Koki, Coordinator, Life's Choices Kauai

3-1850 Kaumualii Highway Lihue, HI 96766-8609
P 808.245.3678 F 808.246.9470
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APPENDIX C: PUBLIC INVOLVEMENT

The County of Kauaʻi has sought to create the ATHC since 2003, as described in Chapter 1. The proposals to develop sites in Hanapēpē and Līhuʻe have been presented at public meetings. The Special Advisory Committee has received the Feasibility Study and provided ideas that shaped the RFI and the current plans for the ATHC.

The choice of the Māʻalo Road site has been presented to the Hanamāʻulu Community Association in March and May 2016. Participants in those meetings generally welcomed the ATHC facility, and asked questions about security.

A public meeting is planned for July 2016, to review the Draft EA.

APPENDIX D: BIOLOGICAL RESOURCES SURVEY REPORT

SWCA®
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Biological Resources Survey Report for the Kaua‘i Adolescent Treatment and Healing Center, Kaua‘i, Hawai‘i

Prepared for

Belt Collins Hawaii LLC

Prepared by

SWCA Environmental Consultants

October 2015

BIOLOGICAL RESOURCES SURVEY REPORT FOR THE KAUAʻI ADOLESCENT TREATMENT AND HEALING CENTER, KAUAʻI, HAWAIʻI

Prepared for

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Prepared by

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SWCA Project No. 34126

October 27, 2015

EXECUTIVE SUMMARY

Belt Collins Hawai‘i LLC requested that SWCA Environmental Consultants (SWCA) perform a basic flora and fauna survey in support of an environmental assessment for a proposed Adolescent Treatment and Healing Center, which is to be located on a 5-acre parcel owned by Grove Farm, located off Ma‘alo Road (Highway 583) at the intersection with Ehiku Street in Hanamā‘ulu, Island of Kaua‘i (Figure 1).

This report summarizes the findings of the flora and fauna survey conducted by SWCA Biologists Danielle Frohlich and James Breeden on July 21, 2015. A pedestrian survey was conducted to record all vascular plant species and their relative abundance, as well as vegetation types. Fauna surveys consisted of 1) three 8-minute variable circular plot count surveys around the survey area perimeter approximately 200 meters (656 feet) apart and 2) a pedestrian survey in the survey area interior in the morning hours (before 11:00 am), when wildlife was most likely to be active.

In general, the plant and wildlife species assemblages are typical of those found in disturbed areas on Kaua‘i. The survey area does not encompass any designated or proposed critical habitat for threatened or endangered species.

The vegetation type and species identified during the survey are not considered unique, and none of the plant species recorded at the site are native to Hawai‘i. No threatened or endangered plants, proposed listed plants, or candidate plants were found. Therefore, the proposed project is not expected to have a significant, adverse impact on botanical resources.

Based on current distribution and habitat requirements, two federally and state listed species—the Hawaiian goose or nēnē (*Branta sandvicensis*) and the Hawaiian hoary bat or ‘ōpe‘ape‘a (*Lasiurus cinereus semotus*)—have a high potential of using the habitat of the survey area. Three listed seabird species—the endangered Hawaiian petrel or ‘ua‘u (*Pterodroma sandwichensis*), threatened Newell’s shearwater or ‘a‘o (*Puffinus auricularis newelli*), and recently proposed endangered band-rumped storm petrel or ‘ake‘ake (*Oceanodroma castro*)—may also fly over the survey area at night while travelling to and from their upland nesting sites to the ocean. Recommendations to avoid and minimize impacts to these species are provided. All other listed species with potential to occur on the Island of Kaua‘i are not likely to occur in the survey area because it is either outside the range of the species or appropriate habitat does not occur.

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1. INTRODUCTION

Belt Collins Hawai‘i LLC requested that SWCA Environmental Consultants (SWCA) perform a basic flora and fauna survey in support of an environmental assessment for a proposed Adolescent Treatment and Healing Center, which is to be located on a 5-acre parcel owned by Grove Farm, located off Ma‘alo Road (Highway 583) at the intersection with Ehiku Street in Hanamā‘ulu, Island of Kaua‘i (Figure 1).

This report summarizes the findings of the flora and fauna survey conducted by SWCA Biologists Danielle Frohlich and James Breeden on July 21, 2015.

2. DESCRIPTION OF THE SURVEY AREA

The survey area is located in Hanamā‘ulu southeast of the intersection of Ma‘alo Road (Highway 583) and Ehiku Street (Figure 1). It occurs within a portion of Tax Map Key: (4) 3-8-002:001. The elevation of the survey area is approximately 260 feet (79 meters) above sea level and the topography is generally flat. The area contains a Puhi soil series that consists of silty clay loam. Hanamā‘ulu tributary occurs to the east of the survey area. The survey area is completely surrounded by agricultural land.

Mean annual rainfall for this area is approximately 55 inches (1,400 millimeters [mm]). Rainfall is typically highest in November and lowest in June (Giambelluca et al. 2013). The closest rainfall gage to the site experienced slightly below average rainfall for July 2015 (National Oceanic and Atmospheric Administration/National Weather Service, Weather Forecast Office Honolulu 2014) when the survey took place.

3. METHODS

SWCA reviewed available scientific and technical literature regarding natural resources in and near the survey area. This literature review encompassed a thorough search of refereed scientific journals, technical journals and reports, environmental assessments and environmental impact statements, relevant government documents, and unpublished data that provide insight into the natural history and ecology of the area. SWCA also reviewed available geospatial data, aerial photographs, and topographic maps of the survey area.

A field reconnaissance of the survey area was conducted by two SWCA biologist on July 21, 2015. Representative portions of the area were walked.

3.1. Flora

A pedestrian survey was conducted at the survey area to record all vascular plant species and their relative abundance, as well as vegetation types. Areas more likely to support native plants (e.g., rocky outcrops and shady areas) were more intensively examined.

Plants recorded during the survey are indicative of the season (“rainy” vs. “dry”) and the environmental conditions at the time of the survey. It is likely that additional surveys conducted at a different time of the year would result in minor variations in the species and abundances of plants observed.

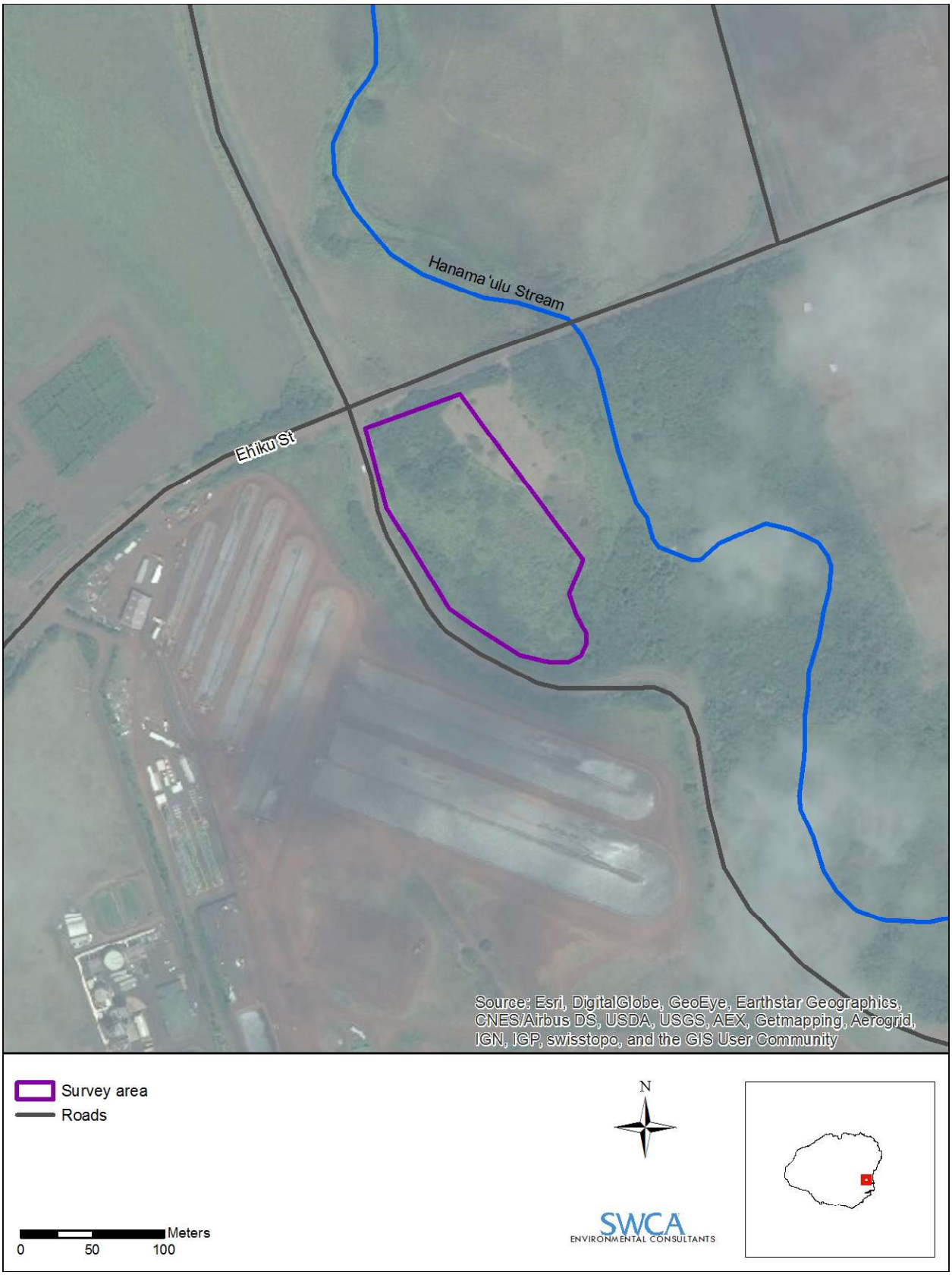

Figure 1. Location of survey area.

3.2. Fauna

Fauna surveys consisted of 1) three 8-minute variable circular plot count surveys around the survey area perimeter approximately 200 meters (656 feet) apart and 2) a pedestrian survey in the survey area interior in the morning hours (before 11:00 am), when wildlife was most likely to be active. All observed birds, mammals, reptiles, amphibians, fish, and invertebrate species were noted during the survey. Fauna were detected by sight (using the naked eye or using 10 × 42–millimeter binoculars), by ear, or by sign (e.g., scat and tracks).

Formal field surveys for the endangered Hawaiian hoary bat or ‘ōpe‘ape‘a (*Lasiurus cinereus semotus*) were not conducted; however, areas of suitable habitat for foraging and roosting were noted when present.

4. RESULTS

In general, the plant and wildlife species assemblages are typical of those found in disturbed areas on Kaua‘i. Although not observed during the survey by SWCA, two federally and state listed species may occur in the survey area: the Hawaiian goose or nēnē (*Branta sandvicensis*) and the Hawaiian hoary bat or ‘ōpe‘ape‘a. Three listed seabird species—the endangered Hawaiian petrel or ‘ua‘u (*Pterodroma sandwichensis*), threatened Newell’s shearwater or ‘a‘o (*Puffinus auricularis newelli*), and recently proposed endangered band-rumped storm petrel or ‘ake‘ake (*Oceanodroma castro*)—may also fly over the survey area at night while travelling to and from their upland nesting sites to the ocean. The survey area does not encompass any designated or proposed critical habitat for threatened or endangered species.

4.1. Flora

No state or federally listed threatened, endangered, proposed, or candidate plant species, or rare native Hawaiian plant species were observed in the survey area. In all, 33 plant species were recorded in the survey area during the survey, none of which are native to the Hawaiian Islands. Appendix A provides a list of all plant species observed by SWCA biologists in the survey area during the survey.

The vegetation in the survey area consists of a Mixed Non-native Forest characterized by various non-native trees, shrubs, and herbaceous understory. Two species in particular, parasol tree (*Macaranga tanarius*) and koa haole (*Leucaena leucocephala*), are abundant in the overstory throughout the survey area. The understory consists primarily of Guinea grass (*Urochloa maxima*), with other herbaceous species scattered throughout. The vine maunaloa (*Canavalia cathartica*) is also dominant, climbing over trees and shrubs. Other common species in the survey area include: Christmas berry (*Schinus terebinthifolius*), albizia (*Falcataria moluccana*), Java plum (*Syzygium cumini*), and lākana (*Lantana camara*).

4.2. Fauna

4.2.1. Birds

The bird species observed in the survey area are species typically found in disturbed lowland areas. In all, 12 bird species were documented, including the cattle egret (*Bubulcus ibis*), which is federally protected by the Migratory Bird Treaty Act (MBTA) (Table 1). All of the species are introduced to the Hawaiian Islands.

Table 1. Birds Observed by SWCA in and near the Survey Area

Common Name	Scientific Name	Status*	Protected by the MBTA
Cattle egret	*Bubulcus ibis*	NN	X
Common myna	*Acridotheres tristis*	NN	
Domestic chicken	*Gallus*	NN	
House finch	*Haemorhous mexicanus*	NN	
Hwamei	*Garrulax canorus*	NN	
Japanese bush warbler	*Cettia diphone*	NN	
Japanese white-eye	*Zosterops japonicus*	NN	
Red-crested cardinal	*Paroaria coronata*	NN	
Ring-necked pheasant	*Phasianus colchicus*	NN	
Rock pigeon	*Columbia livia*	NN	
Spotted dove	*Streptopelia chinensis*	NN	
Zebra dove	*Geopelia striata*	NN	
	Total species	**12**	**1**

* NN = non-native permanent resident. MBTA = Migratory Bird Treaty Act.

Although not observed during this fauna survey, nēnē have been seen in the immediate vicinity by SWCA biologists during previous surveys. Suitable nesting habitat for nēnē is also present in the survey area.

Seabirds, particularly the endangered Hawaiian petrel, threatened Newell’s shearwater, and proposed endangered band-rumped storm petrel, may fly over the survey area at night while travelling to and from their upland nesting sites to the ocean. These species nest inland in the mountainous interior of Kaua‘i (Ainley et al. 1997; Mitchell et al. 2005). No suitable nesting sites for these species are present in the survey area.

4.2.2. Hawaiian Hoary Bat

The endangered Hawaiian hoary bat is the only native terrestrial mammal species that is still extant within the Hawaiian Islands (U.S. Fish and Wildlife Service [USFWS] 1998). Surveys for Hawaiian hoary bats were not conducted, but any areas of suitable habitat for roosting and foraging were noted during the survey. Hawaiian hoary bats forage in open, wooded, and linear habitats with a wide range of vegetation types. These animals are insectivores and are regularly observed foraging over streams, reservoirs, and wetlands up to 300 feet (100 m) offshore (U.S. Department of Agriculture [USDA] 2009). Just outside of the survey area, the stream/river corridor to the east and Ehiku Street to the north, could be suitable bat foraging habitat.

Hawaiian hoary bats typically roost in dense canopy foliage or in the subcanopy when canopy is sparse, with open access for launching into flight (personal communication, Frank Bonaccorso, U.S. Geological Survey). Several of the tree species within the survey area—albizia, swamp mahogany (*Eucalyptus robusta*), and silk oak (*Grevillea robusta*)—could be used by Hawaiian hoary bats for foraging and roosting.

4.2.3. Other Mammals

No mammals were observed during the survey; although, pig tracks (*Sus scrofa*) were abundant through the area. Other mammals that can be expected in the survey area include cat (*Felis catus*), mouse (*Mus musculus*), and rat (*Rattus* spp.).

4.2.4. Reptiles and Amphibians

No reptiles were seen or heard during the survey. Two species of amphibians were detected, but were both outside of the survey area: the American bullfrog (*Rana catesbeiana*) was heard calling from the nearby tributary, and the cane toad (*Rhinella marina*) was observed. None of the terrestrial reptiles or amphibians in Hawai‘i are native to the islands.

4.2.5. Invertebrates

All insects seen in the survey area during the survey are non-native to the Hawaiian Islands and include the Sonoran carpenter bee (*Xylocopa sonorina*), mosquitos (*Aedes* sp.), and an unidentified blue butterfly.

5. DISCUSSION AND RECOMMENDATIONS

5.1. Flora

The vegetation type and species identified during the survey are not considered unique, and none of the plant species recorded at the site are native to Hawai‘i. No threatened or endangered plants, proposed listed plants, or candidate plants were found. Therefore, the proposed project is not expected to have a significant, adverse impact on botanical resources.

Weedy non-native plant species are common throughout the survey area. Most of these weedy species are widespread on Hawai‘i, and their control is not expected to result in a significant decrease in their number or distribution. However, construction activities are known to spread invasive species to new areas through the movement of vehicles and materials. For this reason, SWCA recommends the following invasive species minimization measures in order to avoid the unintentional introduction or transport of new terrestrial invasive species to Kaua‘i:

- All construction equipment and vehicles arriving from outside Kaua‘i should be washed and inspected before entering the project area.
- Construction materials arriving from outside of Kaua‘i should also be washed and/or visually inspected (as appropriate) for excessive debris, plant materials, and invasive or harmful non-native species (plants, amphibians, reptiles and insects).
- When possible, raw materials (e.g., gravel, rock, soil) should be purchased from a local supplier on Kaua‘i to avoid introducing non-native species not present on the island. Inspection and cleaning activities should be conducted at a designated location.
- The inspector needs to be a qualified botanist and/or entomologist that is able to identify invasive species that are of concern relevant to the point of origin of the equipment, vehicle, or material.

If portions of the project area are landscaped as a result of the project, SWCA recommends that native Hawaiian plants be employed for landscaping around the project area to the maximum extent possible. Potential native species that may be appropriate for landscaping at the project area include koa (*Acacia koa*), maiapilo (*Capparis sandwichiana*), O‘ahu sedge (*Carex wahuensis*), naio (*Myoporum*

sandwicense), munroidendron (*Polyscias racemosa*), alahe‘e (*Psydrax odorata*), and ‘ohai *(Sesbania tomentosa*). If native plants do not meet landscaping objectives, plants with a low risk of becoming invasive may be substituted. Additional information on selecting appropriate plants for landscaping can be obtained from the following online sources:

- Plant Pono: http://www.plantpono.org/
- Native Plants Hawai‘i: http://nativeplants.hawaii.edu/

5.2. Fauna

5.2.1. Federally and State Listed Species

Based on current distribution and habitat requirements, two federally and state listed species—the Hawaiian goose and Hawaiian hoary bat—have a high potential of using the habitat of the survey area. Three seabirds—band-rumped storm petrel, Hawaiian petrel, and Newell's shearwater—have a low potential to occur in the survey area because they may fly over the survey area while en route to inland nesting sites. These species are summarized in Table 2 and discussed further below. Recommendations to avoid and minimize impacts are also provided. All other listed species with potential to occur on the Island of Kaua‘i are not likely to occur in the survey area because it is either outside the range of the species or appropriate habitat does not occur.

Table 2. Federally and State Endangered, Threatened, and Proposed Species that Could Occur in the Survey Area

Species	Status	Potential for Occurrence in the Survey Area
Hawaiian goose, nēnē (*Branta sandvicensis*)	Federally and state endangered	Likely to occur in the survey area. Suitable foraging and nesting habitat is present.
Hawaiian stilt (*Himantopus mexicanus knudseni*)	Federally and state endangered	Unlikely to occur in the survey area. The survey area habitat consists of an overstory of non-native tree and shrub species; open mudflat habitat does not occur. Avoid creating standing water during construction.
Band-rumped storm petrel (*Oceanodroma castro*)	Proposed endangered	Unlikely to occur in the survey area. Band-rumped storm petrels may fly over the area while transiting between nest sites and the ocean, but they are not likely to land or use habitat because nesting habitat does not exist in the survey area.
Hawaiian petrel *(Pterodroma sandwichensis)*	Federally and state endangered	Unlikely to occur in the project area. Hawaiian petrels may fly over the project area while transiting between nest sites and the ocean, but they are not likely to land or use habitat because nesting habitat does not exist in the project area.
Newell's shearwater (*Puffinus auricularis newelli*)	Federally and state threatened	Unlikely to occur in the project area. Newell's shearwater may fly over the project area while transiting between nest sites and the ocean, but they are not likely to land or use habitat because nesting habitat does not exist in the project area.
Hawaiian hoary bat (*Lasiurus cinereus semotus*)	Federally and state endangered	May occur in the project area. Hawaiian hoary bats have been documented roosting in tree species that occur in the survey area.

Nēnē

Although not observed during the fauna survey, nēnē have been seen in the immediate vicinity by SWCA biologists during previous surveys. Suitable nesting habitat for nēnē is present in the project area. Nēnē are adapted to a terrestrial and largely non-migratory lifestyle in the Hawaiian Islands, with negligible dependence on freshwater habitat. Nēnē use various habitat types ranging from beach strand, shrubland, and grassland to lava rock (Banko 1988; Banko et al. 1999). Hydroseeding can attract nēnē to feed. The total population of nēnē on Kaua'i was estimated at 525 birds in 2002 and 620 birds in 2003 (Telfer 2003; USFWS 2004).

The following best management practices (BMPs) are recommended during construction to avoid impacts to nēnē:

- All regular on-site staff should be trained to identify nēnē, and should know the appropriate steps to take if nēnē are present on-site.
- If a nēnē is found in the area during ongoing activities, all activities within 100 feet (30 m) of the bird should cease, and the bird should also not be approached. If a nest is discovered, the USFWS should be contacted. If a nest is not discovered, work may continue after the bird leaves the area of its own accord.

Hawaiian Hoary Bat

Hawaiian hoary bats have been documented roosting in tree species that occur at the site, and they may roost in other foliose trees at the site. However, direct impacts to bats would only occur if a juvenile bat that is too small to fly, but too large to be carried by a parent, were present in a tree that was cut down. Although the chances of adversely affecting Hawaiian hoary bats as a result of the proposed project are likely small, the following BMPs are recommended as impact avoidance measures:

- Any fences that are erected as part of the project should have barbless top-strand wire to prevent entanglements of the Hawaiian hoary bat on barbed wire. During the survey, no barbed wire fences were observed; however, if barbed wire fences are present, the top strand of barbed wire should be removed or replaced with barbless wire.
- No trees taller than 4.6 m (15 feet) should be trimmed or removed as a result of this project between June 1 and September 15, when juvenile bats that are not yet capable of flying may be roosting in the trees.

Implementation of these guidelines, which have been promulgated by USFWS (1998), is expected to avoid all direct impacts to Hawaiian hoary bats.

Seabirds

Major threats to the seabirds include the attraction of adults and newly fledged juveniles to bright lights while transiting between their nest sites and the ocean. Juvenile birds are particularly vulnerable to light attraction and are sometimes grounded when they become disoriented by lights (Mitchell et al. 2005). Many of these grounded birds are vulnerable to mammalian predators or to being struck by vehicles. The following recommendations are provided to avoid and minimize light attraction of these seabirds to the project area:

- Construction activity should be restricted to daylight hours during the seabird peak fallout period (September 15–December 15) to avoid the use of nighttime lighting that could attract seabirds.

- All outdoor lights should be shielded to prevent upward radiation. This has been shown to reduce the potential for seabird attraction (Reed et al. 1985; Telfer et al. 1987). A selection of acceptable seabird-friendly lights can be found online at the Kauai Seabird Habitat Conservation website (2013).
- Outside lights that are not needed for security and safety should be turned off from dusk through dawn during the fledgling fallout period (September 15–December 15).

5.2.2. Migratory Bird Treaty Act

SWCA observed one non-native bird species federally protected under the MBTA during this survey (see Table 1). Construction in the project area may temporarily displace this bird species, but long-term impacts are not expected. This bird species (likely limited to a few individuals) is expected to find abundant foraging habitat at nearby areas. The temporary displacement of individuals of this species in the project area is not expected to affect the individuals' survival or the overall species' populations.

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Appendix A

Checklist of Plants Observed at the Kaua‘i Adolescent Treatment and Healing Center in Hanamā‘ulu, Kaua‘i on July 21, 2015

Table A1 provides an inventory checklist of plant species observed by SWCA on July 21, 2015 at the proposed Kaua‘i Adolescent Treatment and Healing Center, in Hanamā‘ulu, Kaua‘i. The plant names are arranged alphabetically by family and then by species into two groups: monocots and dicots. Taxonomy and nomenclature are in accordance with Wagner et al. (1999), Wagner and Herbst (2003), and Staples and Herbst (2005). Recent name changes are those recorded in Wagner et al. (2012).

Table A1. Checklist of Plants Observed at July 21, 2015 at the proposed Kaua‘i Adolescent Treatment and Healing Center in Hanama‘ulu, Kauai

Scientific Name and Author	Common/Hawaiian Name(s)	Status*	Relative Site Abundance†
MONOCOTS			
ARECACEAE			
Roystonea regia (Kunth) O.F.Cook	royal palm	X	R
POACEAE			
Andropogon glomeratus var. *pumilus* (Vasey) L.H.Dewey	bluestem, beardgrass	X	U
Urochloa maxima (Jacq.) R.D.Webster	Guinea grass	X	A
DICOTS			
ACANTHACEAE			
Thunbergia fragrans Roxb.	white thunbergia, sweet clock-vine	X	U
ANACARDIACEAE			
Schinus terebinthifolius Raddi	Christmas berry, wilelaiki, nani o Hilo (Moloka‘i)	X	C
ARALIACEAE			
Schefflera actinophylla (Endl.) Harms	octopus tree, umbrella tree	X	R
ASTERACEAE			
Conyza canadensis var. *pusilla* (Nutt.) Cronquist	horseweed, lani wela, ilioha, ‘awï‘awï, pua mana	X	U
Emilia fosbergii Nicolson	pualele (Ni‘ihau)	X	U
Sphagneticola trilobata (L.) Pruski	wedelia	X	U
EUPHORBIACEAE			
Euphorbia hirta L.	hairy spurge, garden spurge, koko kahiki	X	U
Euphorbia hyssopifolia L.	spurge	X	U
Macaranga tanarius (L.) Müll.Arg.	parasol tree	X	A

Table A1. Checklist of Plants Observed at July 21, 2015 at the proposed Kaua'i Adolescent Treatment and Healing Center in Hanama'ulu, Kauai

Scientific Name and Author	Common/Hawaiian Name(s)	Status*	Relative Site Abundance†
Ricinus communis L.	castor bean, pā'aila, ka'apehā, kamākou, kolī, lā'au 'aila	X	U
FABACEAE			
Canavalia cathartica Thouars	maunaloa	X	A
Desmanthus pernambucanus (L.) Thell.	slender mimosa, virgate mimosa	X	U
Desmodium intortum (Mill.) Urb.	tick trefoil, tick clover	X	U
Falcataria moluccana (Miq.) Barneby & J.W.Grimes	albizia	X	C
Indigofera suffruticosa Mill.	indigo, 'inikō, 'inikoa, kolū	X	U
Leucaena leucocephala (Lam.) de Wit	koa haole, ēkoa, lilikoa	X	A
Macroptilium atropurpureum (DC.) Urb.		X	U
Mimosa pudica var. *unijuga* (Duchass. & Walp.) Griseb.	sensitive plant, sleeping grass, pua hilahila	X	U
Neonotonia wightii (Wight & Arn.) Lackey		X	U
MYRTACEAE			
Eucalyptus robusta Sm.	swamp mahogany	X	U
Psidium guajava L.	common guava, kuawa, kuawa ke'oke'o, kuawa lemi, kuawa momona, puawa	X	R
Rhodomyrtus tomentosa (Aiton) Hassk.	downy myrtle, rose myrtle	X	R
Syzygium cumini (L.) Skeels	Java plum, jambolan plum	X	C
PASSIFLORACEAE			
Passiflora laurifolia L.	yellow granadilla, yellow water lemon, bell apple	X	U
POLYGALACEAE			
Polygala paniculata L.	milkwort	X	R
PROTEACEAE			
Grevillea robusta A.Cunn. ex R.Br.	silk oak, silver oak, he oak, 'oka kilika, ha'ikū ke'oke'o	X	R
RUBIACEAE			
Spermacoce assurgens Ruiz & Pav.	buttonweed	X	U

Table A1. Checklist of Plants Observed at July 21, 2015 at the proposed Kaua'i Adolescent Treatment and Healing Center in Hanama'ulu, Kauai

Scientific Name and Author	Common/Hawaiian Name(s)	Status*	Relative Site Abundance†
SAPOTACEAE			
Chrysophyllum oliviforme L.		X	U
VERBENACEAE			
Lantana camara L.	lākana, lā'au kalakala, lanakana (Ni'ihau), mikinolia hihiu, mikinolia hohono, mikinolia kukū	X	C
Stachytarpheta cayennensis (Rich.) Vahl	ōwï, oï	X	U

* Status:

E = endemic (native only to the Hawaiian Islands).

I = indigenous (native to the Hawaiian Islands and elsewhere).

P = Polynesian (introduced by Polynesians).

X = introduced/ alien (plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact [Cook's arrival in the islands in 1778]).

† Relative Site Abundance:

A = Abundant (forming a major part of the vegetation within the survey area).

C = Common (widely scattered throughout the area or locally abundant within a portion of it).

U = Uncommon (scattered sparsely throughout the area or occurring in a few small patches).

R = Rare (only a few isolated individuals within the survey area).

APPENDIX E: ARCHAEOLOGICAL ASSESSMENT AND HISTORIC PRESERVATION CORRESPONDENCE

SCS Project Number 1767-Final

AN ARCHAEOLOGICAL ASSESSMENT FOR COUNTY OF KAUA`I ADOLESCENT DRUG TREATMENT FACILITY, HANAMĀ‘ULU AHUPUA`A, PUNA DISTRICT, ISLAND OF KAUA`I, HAWAI`I [TMK (4) 3-8-002:001 por.]

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January 2016
Final

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ABSTRACT

At the request of Belt Collins Hawaii LLC., Scientific Consultant Services, Inc. (SCS) conducted an Archaeological Inventory Survey for the proposed Kaua`i County Adolescent Drug Treatment Facility in Hanamā‘ulu Ahupua`a, Puna District, Island of Kaua`i, Hawai`i [TMK (4) 3-8-002:001 por.]. Full pedestrian survey and the excavation of eight representative trenches (ST-1 through ST-8) were completed on the 5 acre parcel. The project area consists of a single, undeveloped lot of former sugar cane field land.

No archaeological sites were identified during fieldwork. As such, this report is being written as an Archaeological Assessment, an abbreviated Inventory Survey report. Subsurface testing predominantly revealed previously disturbed soil layers from many years of cane cultivation, as well as imported coral and sand mixed fill throughout. The coral and sand were most likely used for soil preparation and mixed by mechanical tillers during past cane production years. No further archaeological work is recommended for this parcel.

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INTRODUCTION

At the request of Belt Collins Hawaii LLC, Scientific Consultant Services, Inc. (SCS) conducted Archaeological Inventory Survey for the proposed County of Kauai Adolescent Drug Treatment Facility in Hanamāʻulu Ahupua`a, Puna District, Island of Kaua`i, Hawai`i [TMK (4) 3-8-002:001 por.] (Figures 1 through 3). Full pedestrian survey and representative trenching were completed on the parcel, which consists of a single, undeveloped lot of former sugar cane land. The land is currently owned by Grove Farm Co., Inc. The project will not be utilizing federal funding.

The current study was conducted due to the potential for the presence of historic properties on the parcel. There was also the possibility that cultural deposits associated with pre-Contact and/or historic times were present, particularly the latter, given the long historic use of the land for sugar cane cultivation. As no historic properties were identified on the surface or in subsurface contexts, this report is being written per SHPD rules (13-284-5 and 13-276) as an Archaeological Assessment, with a more limited background section and focus on the methods and results.

Archaeological Inventory Survey-level fieldwork was conducted on August 20 and 21, 2015 by SCS archaeologist Philip Smith B.A. and James Powell, B.A., under the direct supervision of Michael F. Dega, Ph.D., Principal Investigator. The purpose of the archaeological investigation was to identify and document all historic properties within the project area and to gather sufficient information to evaluate the significance of each historic property in accordance criteria established for the Hawai`i State Register of Historic Places (HAR§13-275-6).

PROJECT BACKGROUND AND SETTING

The project area encompassed approximately 5 acres and is located next to Ma`alo Road at the intersection of Ehiku Street and a cane haul road leading to Hanamāʻulu. The current location reflects the entire project area for the Kauai Adolescent Drug Treatment Facility. The parcel is situated at an elevation of 260 feet above mean sea level (amsl.) and is c. five kilometers from the coastline, on lands that very gently slope from north to south. Hanamāʻulu Stream occurs several kilometers to the west of the project area.

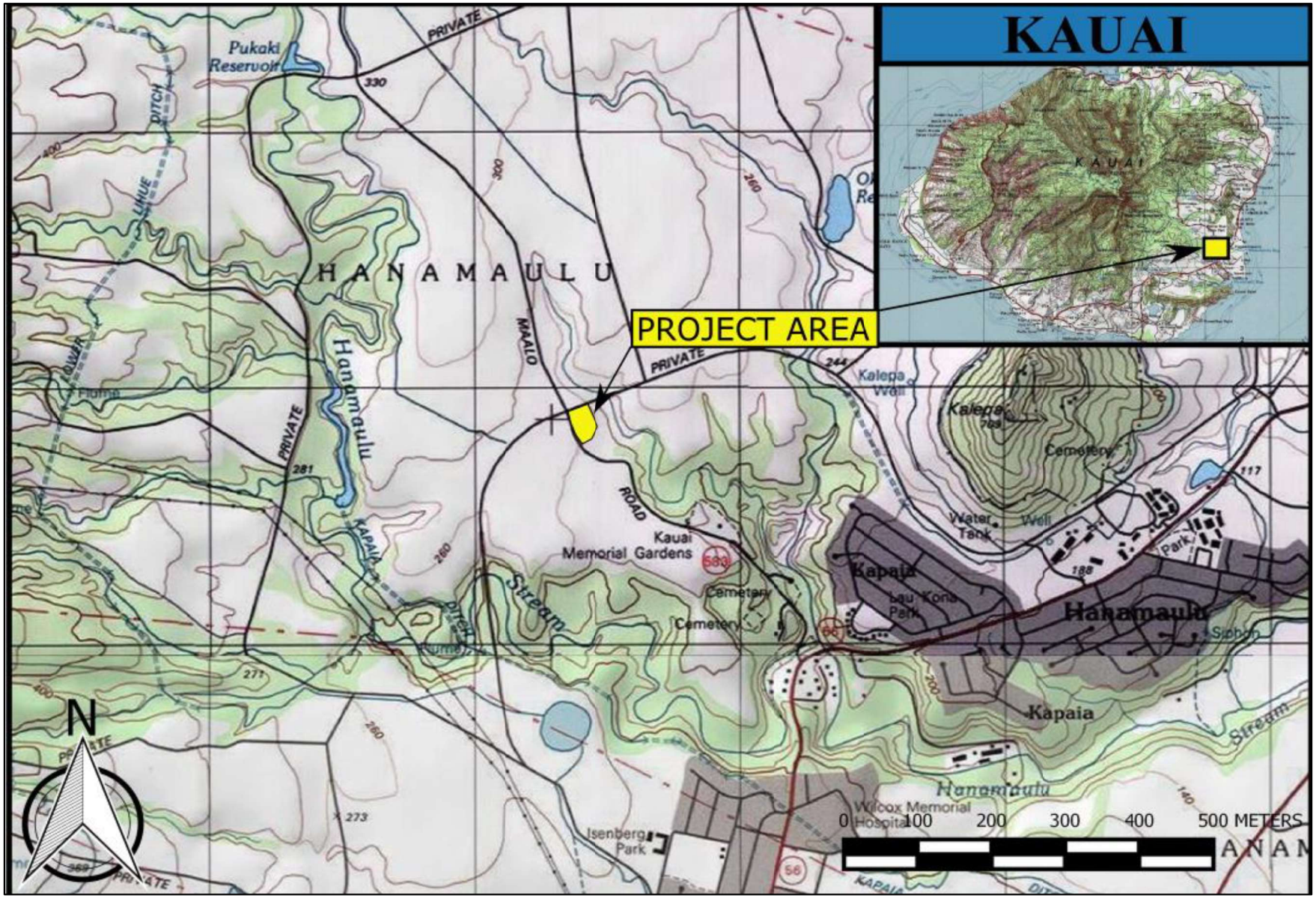

Figure 1: USGS Quadrangle showing project area.

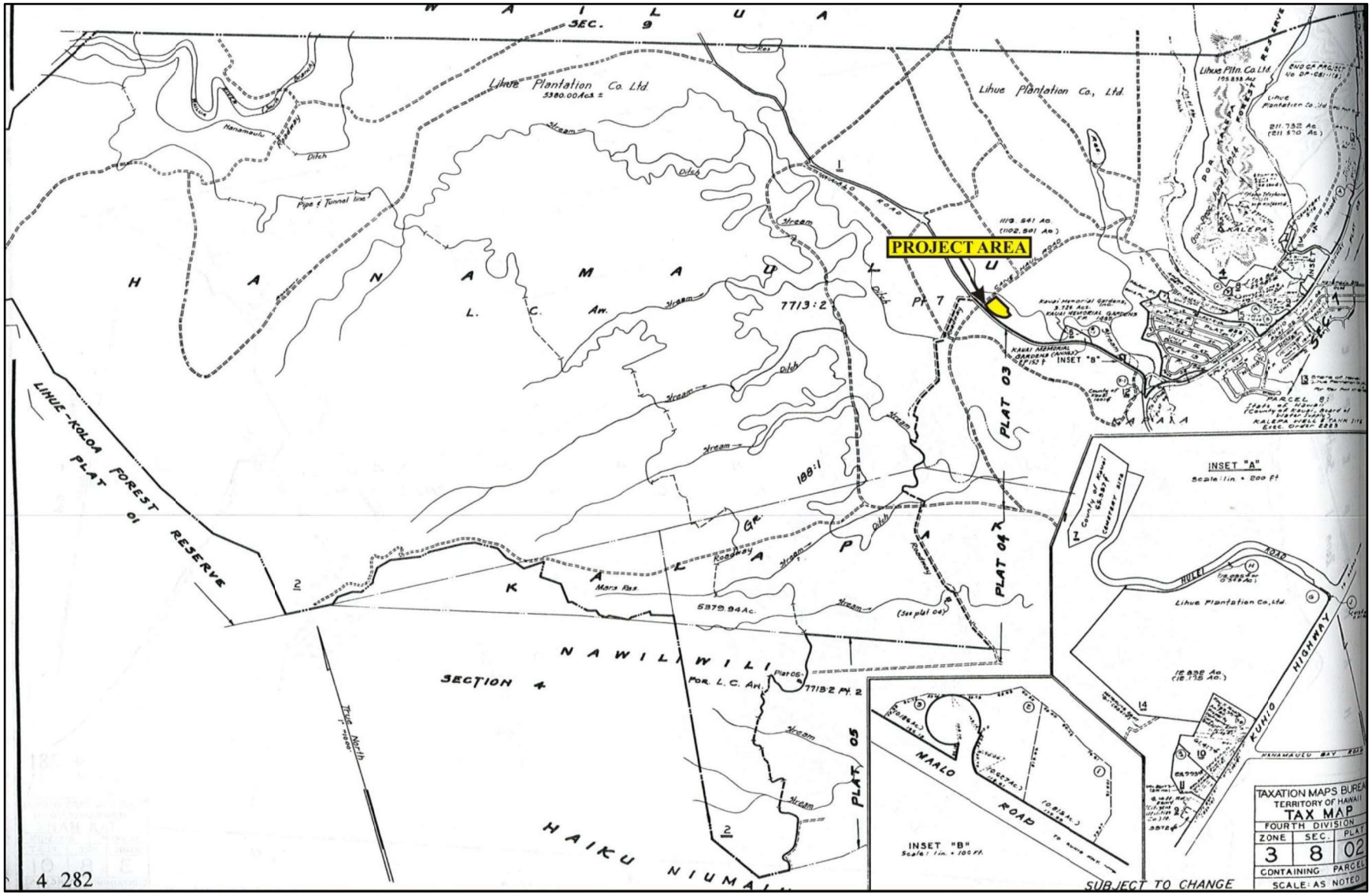

Figure 2: Tax Map Key [TMK (4) 3-8-002:001 por.] showing project area.

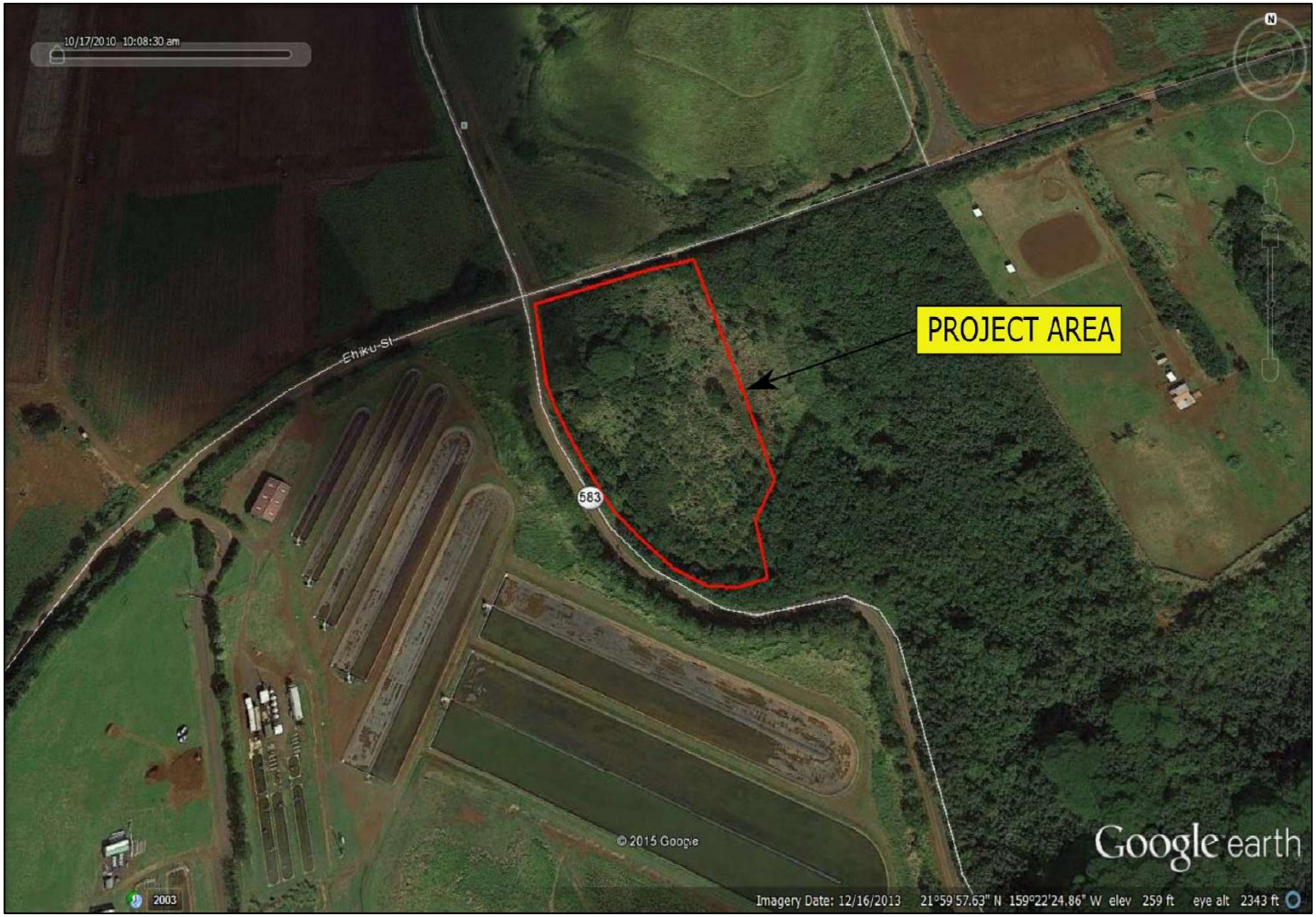

Figure 3: Aerial Photograph (source: Google Earth) showing project area.

RAINFALL, SOILS, AND VEGETATION

The current project area is located on the east flank of Kaua`i, which is exposed to the prevailing Northeast trade winds. This general location receives approximately 50 inches of precipitation annually (Juvik and Juvik 1998). The farther inland and to the west of the project, a more mountainous landscape produces much greater quantities of rainfall, at c. 100 inches annually (*Ibid*.).

Soils in the project area primarily consist of Lihue silty clay (LhB and LhC) as well as a Lihue gravelly silty clay (LIB) (Foote *et al*. 1972). Sugarcane has been the preferred crop for this location, and because of this, the soil has been heavily worked mechanically through time. This re-occurring soil preparation, year upon year for sugarcane production, has resulted in mixed strata as well as the inclusion of none-native soils, such as sand and coral, being imported for soil health.

Tall invasive grasses as well as *koa haole (Leucaena leucocephala)* covered the project area that was once used for sugarcane cultivation. At present, prior to pedestrian survey, the project area had been completely cleared of all invasive grasses and all trees, which made ground surface visibility very high (Figures 4 and 5).

TRADITIONAL BACKGROUND

Per this Archaeological Assessment, an abbreviated background section is presented herein. It is not exhaustive and only presents basic, seminal data on the project area and environs, and goes much further than required for an Archaeological Assessment (see 13-284-5(b)(5)(A) and 13-276-5 various).

The island of Kaua`i was divided into five separate districts (*moku*) in ancient times, Halele‘a, Ko‘olau, Puna, Kona and Nā Pali. Just beyond where Hulē‘ia Stream crosses under Half-way Bridge, at Kahoaea, marks the boundary between Puna and Kona. Much of the Puna District is a flat plain nestled between the Hā‘upu mountain range to the south and the Makaleha mountain range on the north. Puna is fed by four main water sources, the Hulē‘ia River, the Hanamā‘ulu River, Keālia River and the Wailua River. Some stories say that the district of Puna was settled by the chief Punanuikaianaina, who came to Hawai'i from the Marquesas around A.D. 1000–1100 (Fornander 1969:45-46).

Figure 4: Project area view to South

Figure 5: Project area view to North.

PRE-CONTACT

Traditionally within the Hanamāʻulu Ahupua`a near the project area, the land was primarily used as *lo`i* lands (taro fields; Corbin *et al*. 2002). Here, dryland taro cultivation was probably practiced while coconut, sweet potato, and breadfruit were also likely grown. Due to the concentration of *lo`i* lands, the largest population of inhabitants stretched along the coast to a few miles inland. The Mahele records of the Hanamāʻulu area tell of native tenants living in the valleys and by the shoreline. House sites, taro pond fields, irrigation systems, dryland agricultural parcels, fishponds, pastures, and other features were constructed across the prehistoric-traditional landscape. Many of these lands were cleared during Plantation days, thus masking or erasing much evidence for these sites.

The *moʻolelo* of Kawelo includes many references to Hanamāʻulu. Kawelo-lei-makua was born at Hanamāʻulu. After having become the paramount chief of Kaua'i, he returned to Hanamāʻulu, where he lived with his parents and his wife, Kanewahineikiaoha (Fornander 1918, Rice 1974). The hero of this legend lived in the last half of the seventeenth and early decades of the eighteenth century (Hommon 1976:135).

POST-CONTACT

During the Great Mahele of 1848, the traditional land system was replaced by a western style system. The lands were divided between the king, high ranking chiefs, and *konohiki* (lesser chiefs who were in charge of the king's lands). All the lands were considered as either Crown Lands, Government Lands, or Konohiki Lands and petitioned as Land Commissions Awards (LCA). Many LCAs are present in the Hanamāʻulu area and throughout Puna District. Several LCAs are noted along Hanamāʻulu Stream, just to the west of the current project area, and contained *lo`i* (irrigated taro), as well as coconut, sweet potatoes and breadfruit planting areas (Corbin *et al*. 2002:20). The current lands were owned by the Lihue Plantation Company, Ltd and no LCA's present in the project area (Note: A Cultural Impact Assessment for the project area is currently being undertaken and will shed more light on LCA's in the area).

At the end of the 19th century and into the 20th century, the project area was part of a much larger land swath being cultivated for sugar cane by the Lihue Sugar Plantation. The project area remained in sugar cane until the 1980s and has laid fallow since.

PREVIOUS ARCHAEOLOGY

There have been at least 15 archaeological projects conducted in this general area from Thrum in 1907 to more contemporary studies (Dega and Powell 2006). Thrum (1907) compiled an inventory of *heiau* throughout the islands and in the Hanamaulu area, he "recorded" two *heiau*: Ahukini and Kalauokamanu. These *heiau* were not marked on maps but were simply described. Both *heiau* were destroyed as of 1855. During Bennett's (1931) island-wide survey in 1928-1929, the two *heiau*, now known as Site 101 and Site 102 were also noted. Ahukini Heiau was built near Ahukini Point on a bluff overlooking the sea while the location of Kalauokamanu was never identified. Bennett (1931) did also note that both *heiau* were previously destroyed. Bennett makes first mention of Site 103, a burial ground in this area: "in the sand dunes that run along the shore half way between Hanamāʻulu and Wailua River are many burials."

As summarized below by Dega and Powell (2006), at least eleven known archaeological sites are present in the Hanamāʻulu area toward the Wailua Golf Course. As one moves from south to north, or Ahukini Point toward Wailua, several sites are present of both a historic and prehistoric nature (see Dega and Powell 2006). First, Ahukini landing itself, a probable late 19th construction, is present inside the breakwall of the bay. Plantation housing for sugar cane workers has been noted just to the south of the point. Foundations still exist in remnant state. Moving inland to the west, several more sites are present (Figures 6 and 7).

Site 1845 is the historic Hanamāʻulu Railroad Bridge. This bridge is being preserved and represents the plantation era.

Site 2066 consists of multiple features: an upright, historic road, and historic house foundation.

Site 2067 consists of a historic cemetery perhaps dating to the 1880s. The cemetery is present on the *mauka* side of the highway on the edge of former sugar cane lands.

Site 1843: prior to construction of Ahukini Landing, an old wharf was present on the northern flank of the bay. This is Site 1843 and consists of a concrete wall, foundation, and sugar cane road. This represents the location of the old wharf.

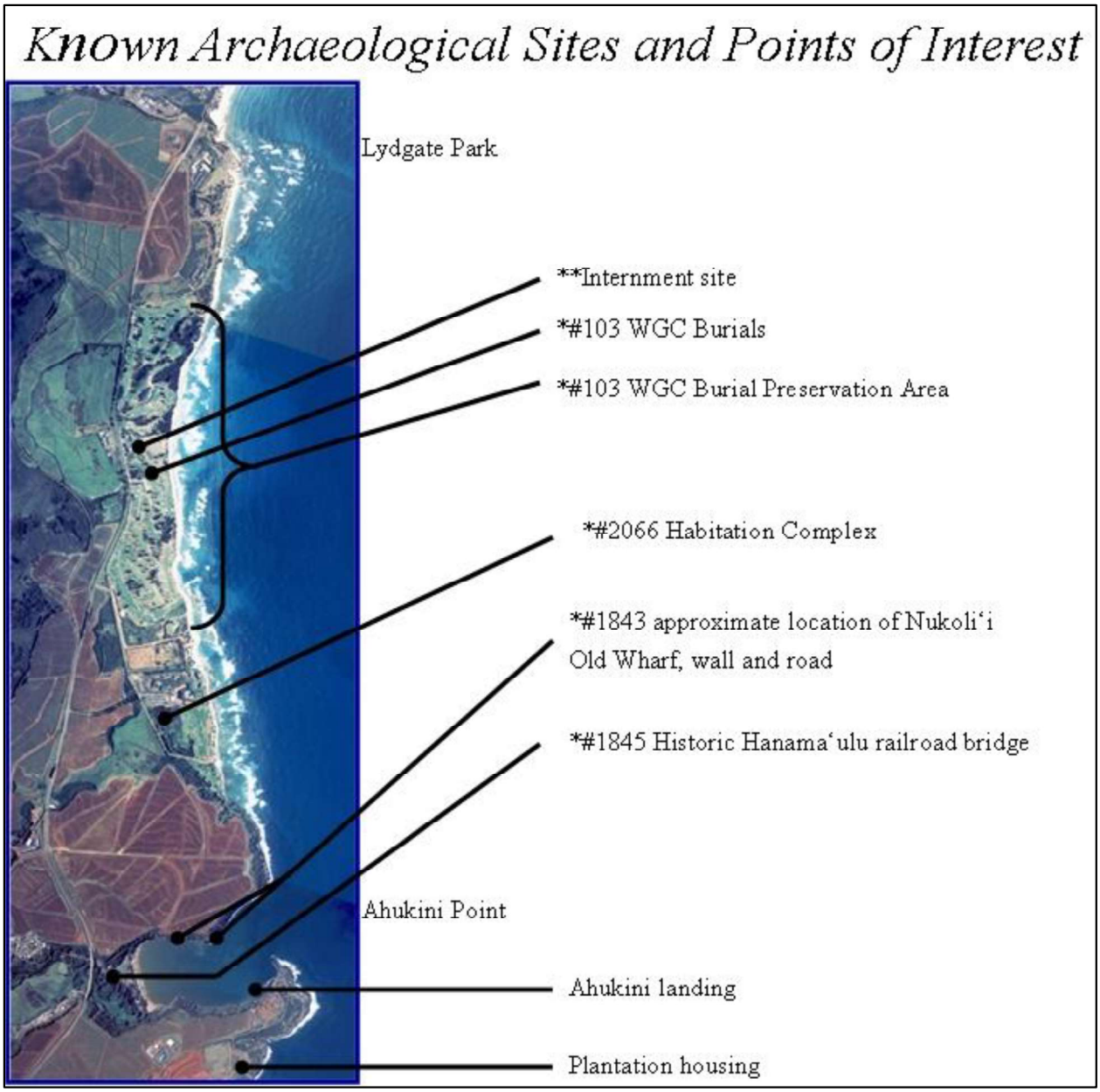

Figure 6: Archaeological Sites from Ahukini to Lydgate Park (Dega and Powell 2006)

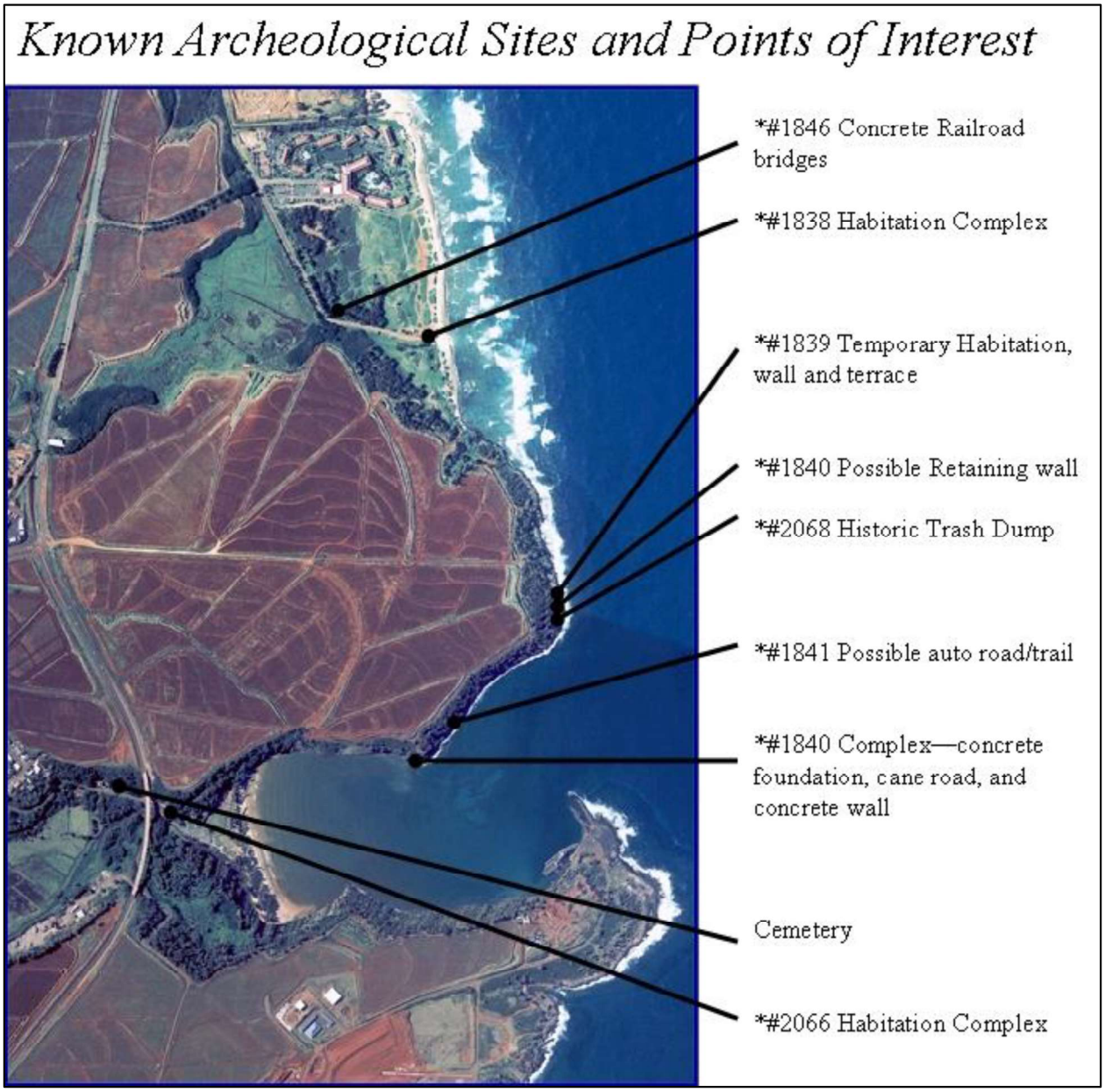

Figure 7: Archaeological Sites in the Hanamaula Area (Dega and Powell 2006)

Site 1841 occurs just to the north and also represents the historic period: a road and trail running along the coast. It is possible this trail has some time depth from prehistoric times but it has not yet been dated.

As one rounds the point to the north, three archaeological sites are present above the rocky coastline. Site 2068 consists of a looted, historic-period trash dump dating between 1880 and 1910. Datable artifacts include glass and ceramic fragments that were recovered from the bluff, at the edge of plantation lands. Site 1840, nearby, consists of a historic-period retaining wall related to sugar cane or military transport; Site 1839, occurring about 25 m to the east of the trash dump represents the first fully known prehistoric site in this coastal area. This site is a prehistoric complex occurring on the flats and composed of a wall and terrace suspected to be related to temporary habitation. No carbon dates are available for this site.

Proceeding to the north, around the point and onto the flat coastal plains toward Wailua, both historic and prehistoric sites are present (see Dega and Powell 2006). Site 1838 consists of a prehistoric cultural deposit partially eroding out of modified sand dunes. The layers contained charcoal, shells, and coral fragments; this type of discovery is expected so near to the coastline. The site had been disturbed during military training exercises in the 1940s. The cultural deposit, now a small remnant, was dated to AD 1170-1400, and represents temporary habitation of the area. This pattern of remnant cultural deposits and temporary activities near the coast holds through the Kealia area and beyond, and is one concern for the present work. The final historic site in this area is Site 1846, two historic railroad bridges used for hauling sugar cane from the fields to Lihue. This site is present more inland and south of the Radisson Hotel.

Site 885, also occurring just to the south of the Raddison hotel, represents a possible traditional Native Hawaiian burial ground. Multiple burials have been documented in this sandy location, from the Raddison through Wailea Golf Course and Lydgate Park.

Several archaeological projects were identified near Hanamaulu town, just to the east of the current project area (Figure 8; adapted from Hazlett and Spear 2015).

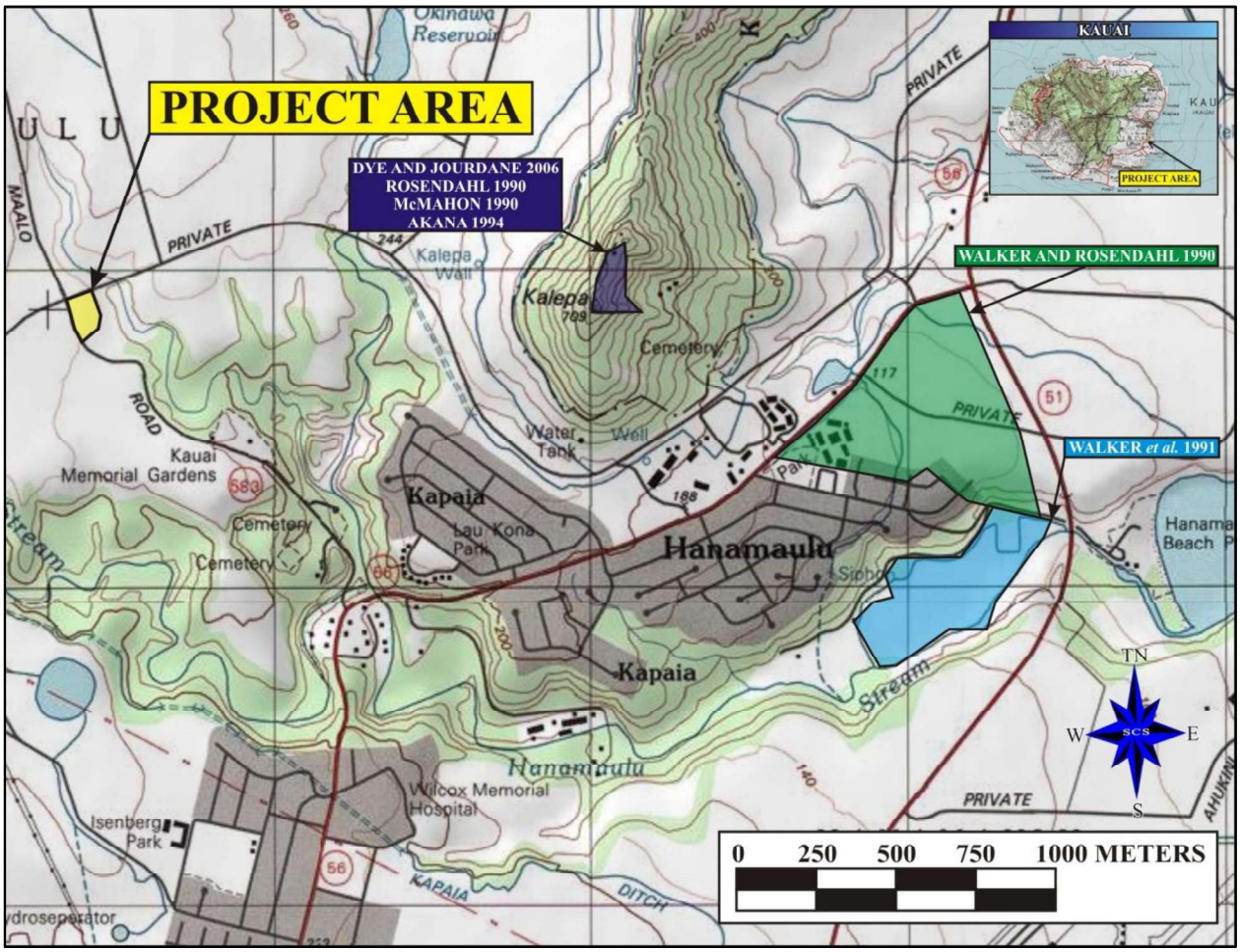

Figure 8: USGS Map of Previous Archaeology in the Hanamaulu Town Area.

In 1990 SHPD archaeologist Nancy McMahon conducted limited excavation to disinter an inadvertent burial discovery found during installation of a Hawaiian Telephone tower in the Kalepa Radio Station property on Kalepa ridge, northwest of the current project area. McMahon found historic glass beads associated with the burial, as well as one additional set of human remains, a waterworn basalt hammer stone and numerous basalt flakes (State Site No. 50-30-08-1827).

In December 1990, Paul H. Rosendahl conducted an archaeological field inspection at the Kalepa Radio Station and along Kalepa Road, to identify any archaeological remains on or adjacent to the road or within the Kalepa Radio Station grounds. No additional sites (other than the previously identified State Site No. 50-30-08-1827) were identified (Rosendahl 1990: 1-3).

In 1990, Walker and Rosendahl conducted an archaeological inventory survey of the Hanamaulu Affordable Housing project area, to provide information for the preparation of an Environmental Assessment (EA). Nine backhoe trenches were excavated; archaeological or cultural finds were limited to "several small isolated coral fragments". No further archaeological work was recommended for the project area, which was determined to have been entirely disturbed to a significant depth below surface by historic sugar cane operations (Walker and Rosendahl 1990:ii).

In 1991, Walker, Kalima, and Goodfellow (Walker et al. 1991) conducted an archaeological inventory survey near the mouth of the Hanamāʻulu Stream (one portion of this study area lies within the one-half mile radius of the project area), which identified 10 sites; three of these date from pre-Contact times: a subsurface cultural deposit associated with a traditional living site area (SIHP No. 1838 A & B), an agricultural wall and terrace of unknown function (SIHP No. 1839 A & B), and a terraced river valley of some 50 acres (SIHP No. 1847). SIHP No. 1839 provided a radiocarbon date of 1170-1400 A.D. Other sites documented by Walker et al. (1991) north of the subject project area include plantation-era structures, and a historic cemetery (SIHP No. 1844 Japanese-Buddhist and Filipino-Catholic cemetery). No archaeological or cultural sites were identified within the one-half mile radius of the project area (the sites were located downstream, closer to the beach, or upstream, outside of the current study's half-mile search radius.

In 1994 K. Akana conducted archaeological monitoring for driveway improvements and the construction of a rock wall revetment in the Kalepa Radio station property, after human

skeletal remains (State Site No 50-30-08-746) were inadvertently discovered during the road construction. Additional skeletal fragments were identified during monitoring; the remains were reinterred near the original discovery point (Dye and Jourdane 2006:6).

In 2006, Dye and Jourdane conducted an archaeological assessment of a parcel at Kalepa for a Cingular Wireless cell tower installation. No new archaeological or cultural sites were identified during this study.

With the exception of the two burial sites (Sites 50-30-08-746 and 50-30-08-1827) found atop Kalepa Ridge, no archaeological sites or cultural resources were identified during the six archaeological studies conducted within a half-mile radius of the current project area.

Overall, these sites point to the importance of Hanamāʻulu Ahupua`a in both pre-contact and post-contact times. Many of these sites are present nearer the coastline and have been somewhat preserved as most they are historic-era structures and also did not occur within sugar cane fields.

METHODOLOGY

FIELD METHODOLOGY

Archaeological fieldwork was conducted on August 20 and 21, 2015 by SCS Archaeologists Philip Smith, B.A. and James Powell, B.A., under the direct supervision of Michael F. Dega, Ph.D., Principal Investigator. The purpose of the archaeological investigation was to identify and document all archaeological historic properties on the parcel and to gather sufficient information to evaluate the significance of each historic property in accordance criteria established for the Hawai`i State Register of Historic Places (HAR§13-275-6). In addition to 100% pedestrian survey of the entire project area, conducted by two persons walking 3-5 m north-south transects, eight locations were selected for representative testing vis stratigraphic trenches. These locations were chosen as being representative of the overall project area, accessible, and not disturbed as other areas of the parcel. The SHPD was not consulted as to the testing strategy prior to fieldwork. The trenches were mechanically excavated by a mini excavator at 1 meter wide and 5-10 meters long, to a depth of approximately 1 meter below surface (SEE Figure 6). All sediments were documented with photographs, stratigraphic profiles*, and Munsell soil descriptions. Standard excavation and recording procedures were used during the project. As no cultural deposits or subsurface features were identified, excavated matrices were not screened.

LABORATORY METHODOLOGY

All field notes and digital photographs have been curated at the SCS laboratory in Honolulu. Representative stratigraphic profiles have been drafted for presentation within this report. True north compass orientation was also employed. All measurements were recorded in metric. All materials gathered during this project (including documentation) are ultimately the property of the client, who may request their transfer. The final steps of laboratory work consisted of digitizing photographs, drafting stratigraphic profiles, and reporting.

FIELDWORK RESULTS

Full pedestrian survey of the project area was completed but did not lead to the identification of any historic properties. The surface of the project area was completely cleared of vegetation. No surface architecture of any time period was present on the parcel, and no artifact/midden scatters were identified during the pedestrian sweeps. During survey, representative areas for testing were selected, to provide general coverage to the parcel.

Eight stratigraphic trenches were mechanically excavated in the project area (see Figure 6). No traditional or historic-period cultural deposits, artifacts, midden, or skeletal materials were identified during the testing. Stratigraphy consisted of Lihue silty clay (LhB and LhC) as well as Lihue gravelly silty clay (LIB) (see Foote *et al*. 1972). Sugarcane has been the preferred crop for this location and because of this, the soil has been heavily worked through time. This reoccurring soil preparation year upon year for sugarcane production, has resulted in mixed strata. The stratigraphic sequence also showed the inclusion of non-naturally occurring soils, such as sand and coral, being imported to this location for soil health. These occurred in three of the trenches. The following provides trench descriptions and stratigraphic profiles and photographs for all excavated trenches (Figures through 7 through 25). Trench locations are shown in Figure 6 above.

STRATIGRAPHIC TRENCH-1 (ST-1)

Stratigraphic Trench-1: (ST-1; Length=10 m, Width=1 m, Depth=1.2 m). ST-1 was orientated at 120°/300° and the surface of ST-1 was level and cleared of all vegetation. ST-1 contained two stratigraphic layers. No traditional or historic artifacts were present.

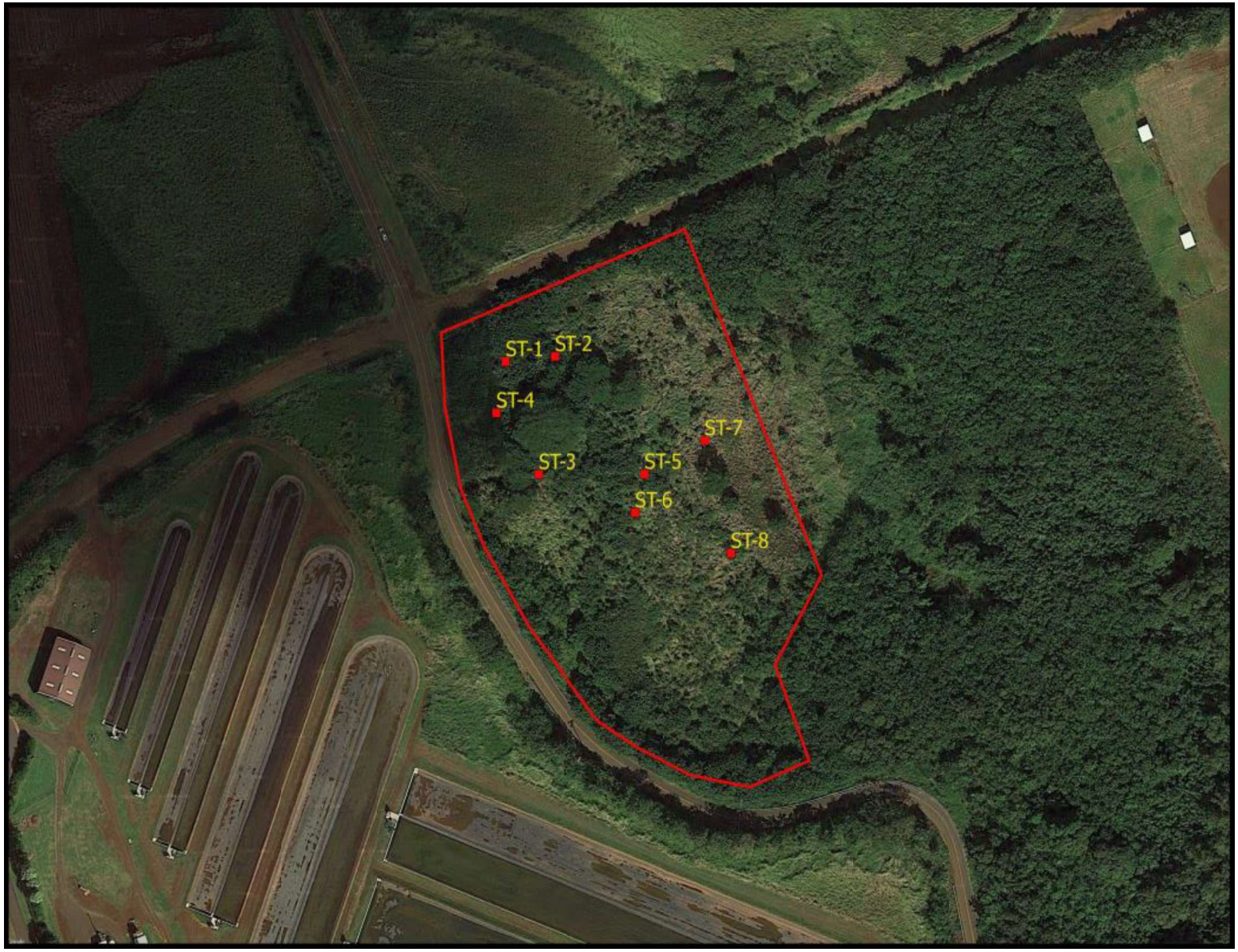

Figure 9: Aerial view of Stratigraphic Trench Sites (ST-1 through ST-8)

Figure 10: Stratigraphic Trench 1 Sidewall photographic profile, view to South. August 21, 2015

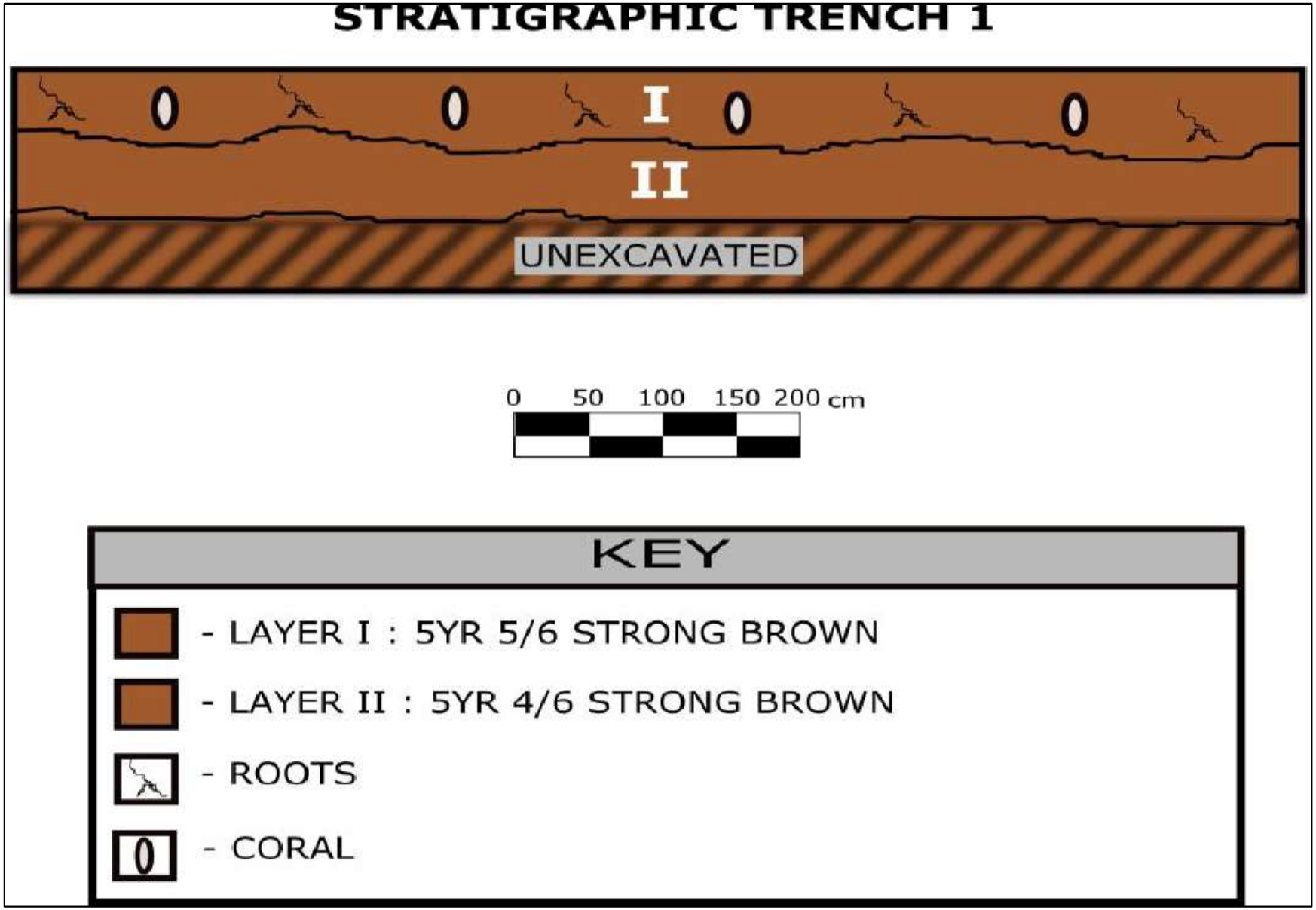

Figure 11: Stratigraphic Trench 1 Profile

Figure 12: Stratigraphic Trench 2 Sidewall photographic profile, view to Southeast. August 21, 2015

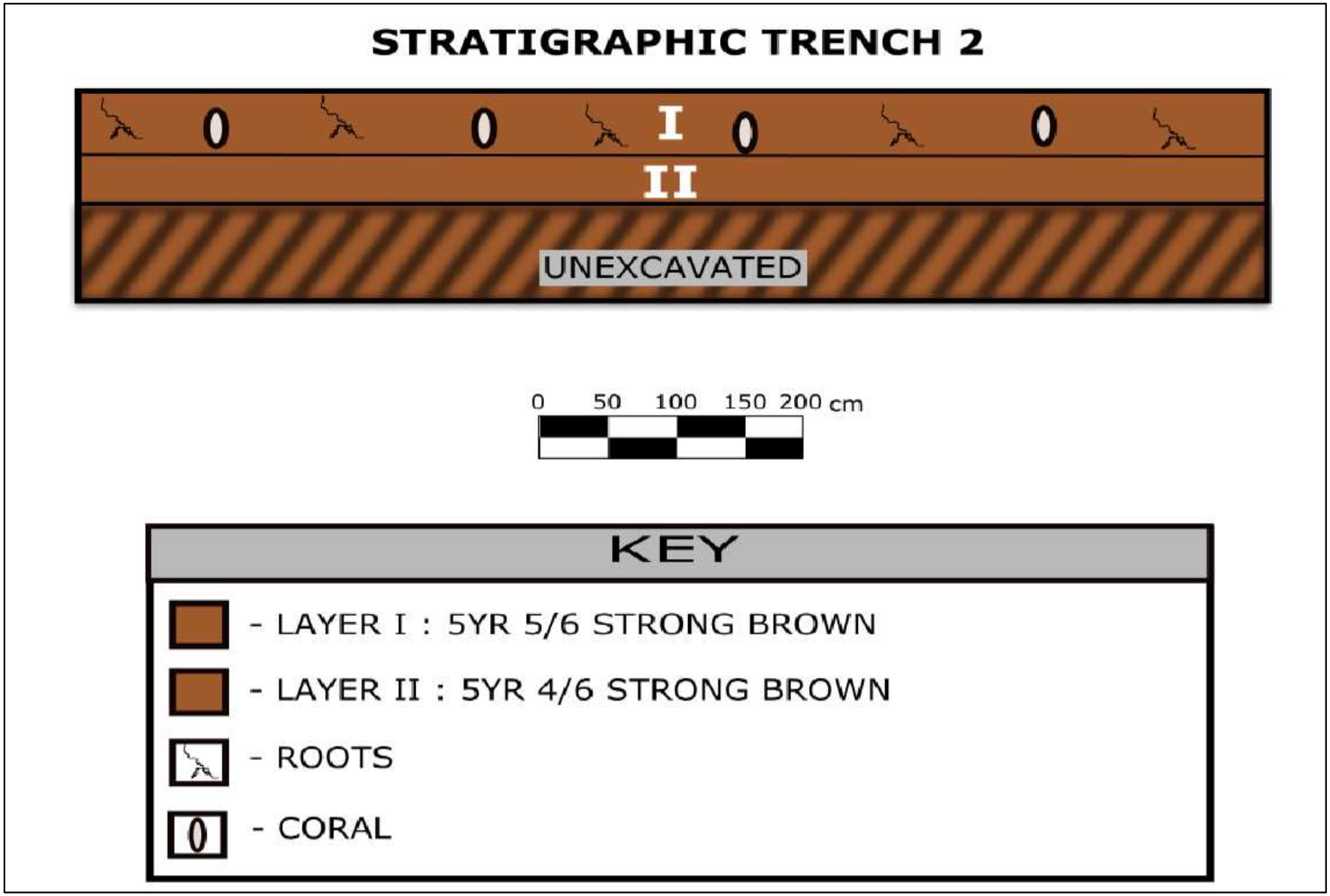

Figure 13: Stratigraphic Trench 2 Profile

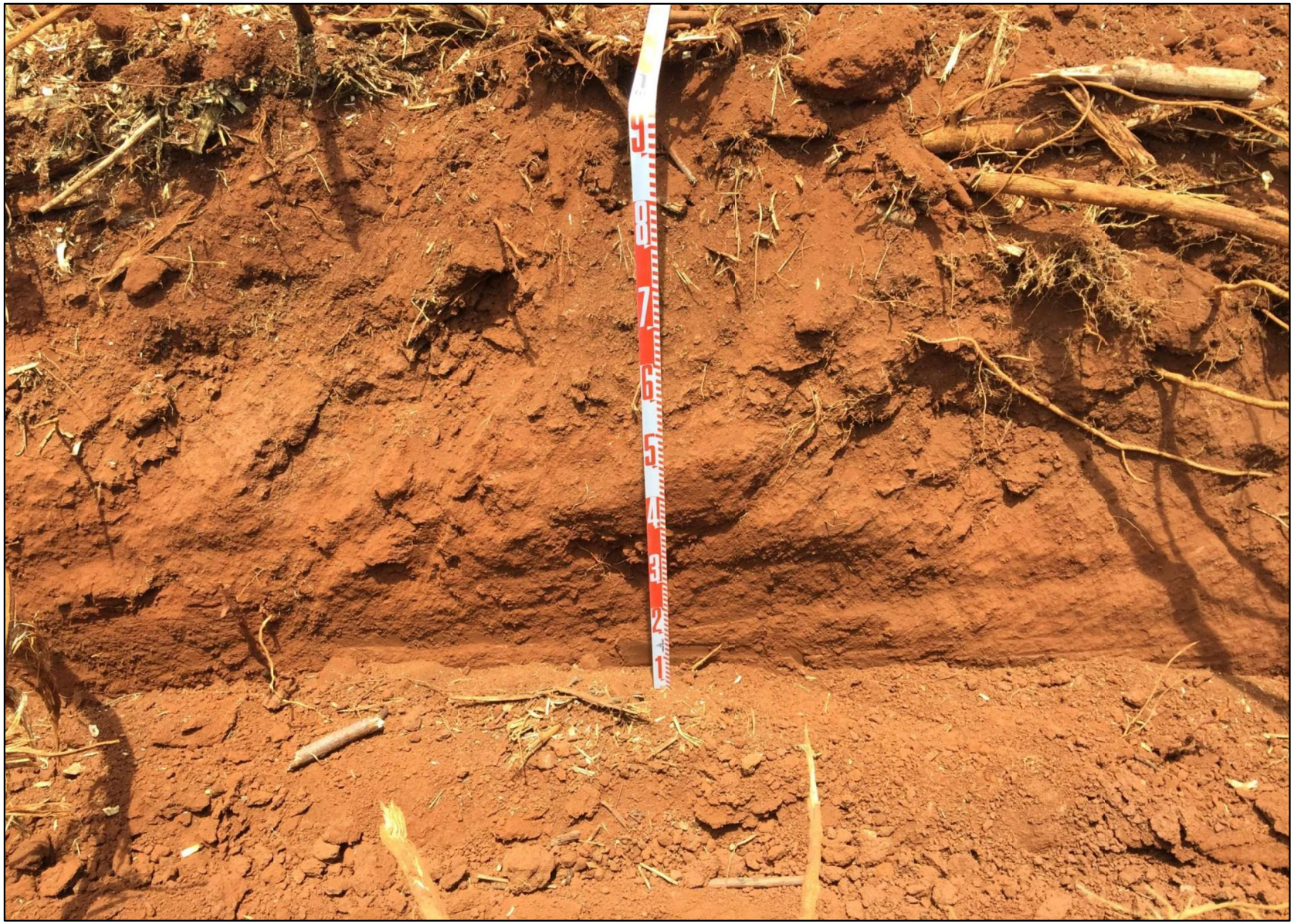

Figure 14: Stratigraphic Trench 3 Sidewall photographic profile, view to Northwest. August 21, 2015

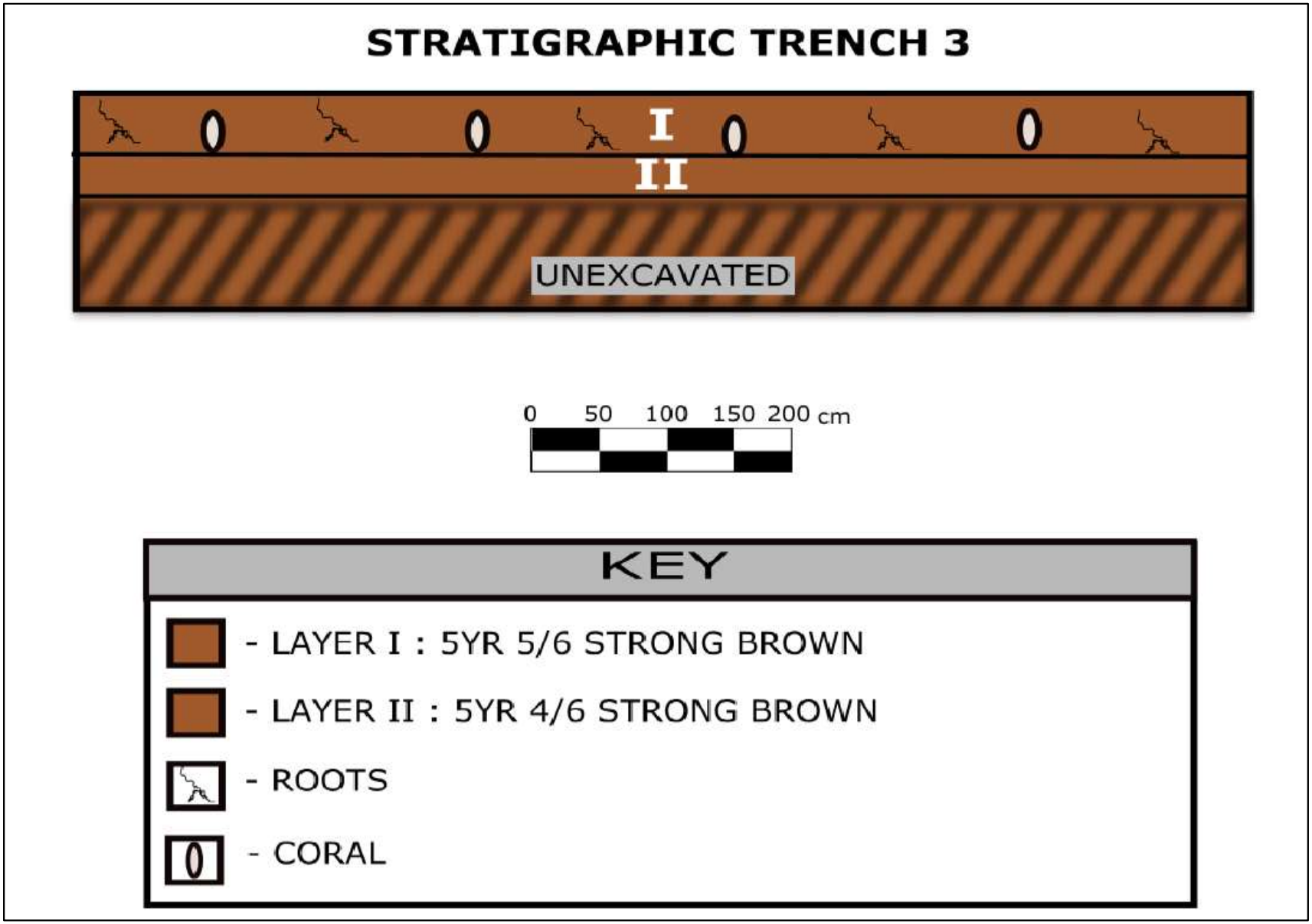

Figure 15: Stratigraphic Trench 3 Profile

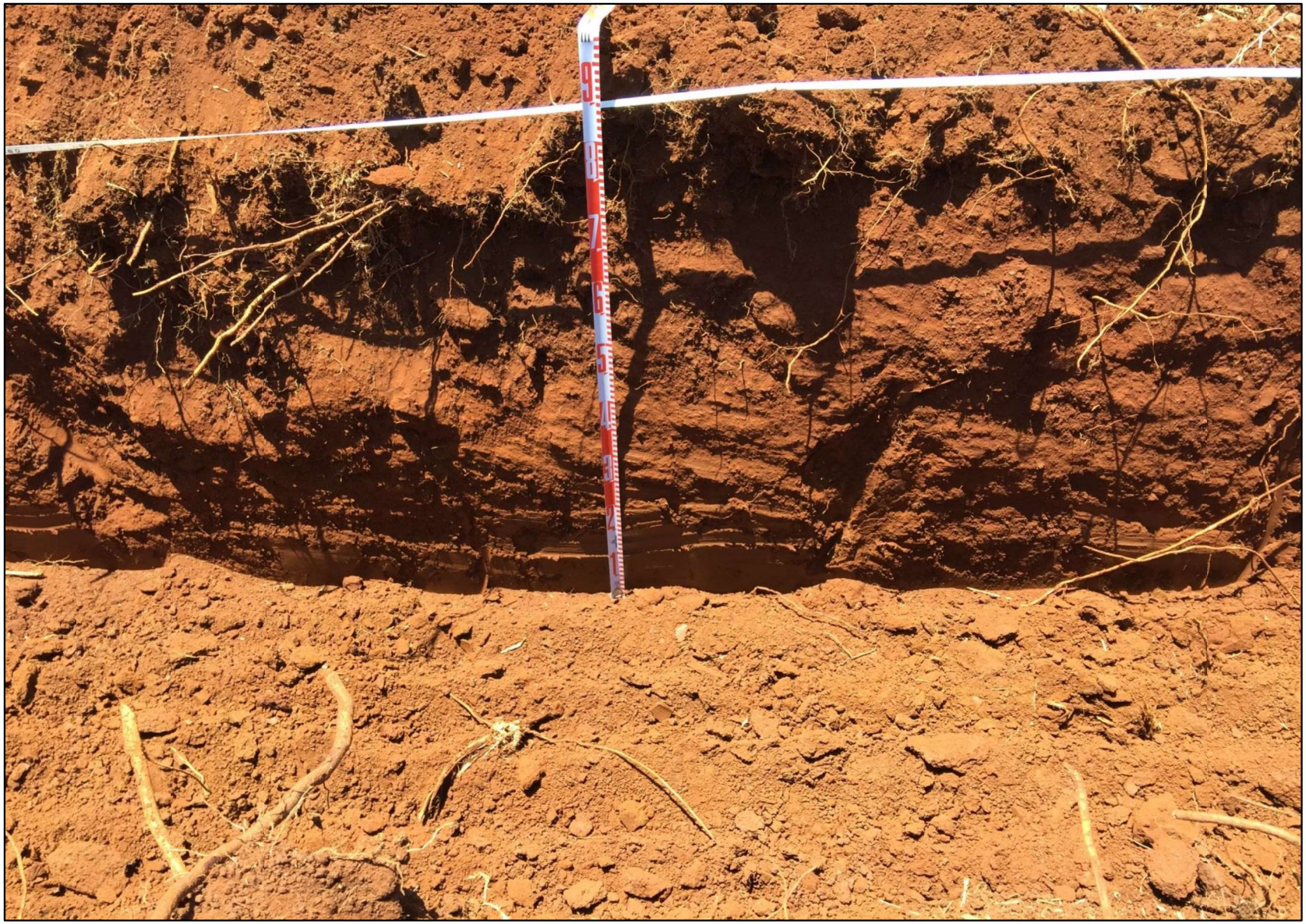

Figure 16: Stratigraphic Trench 4 Sidewall photographic profile, view to West. August 21, 2015

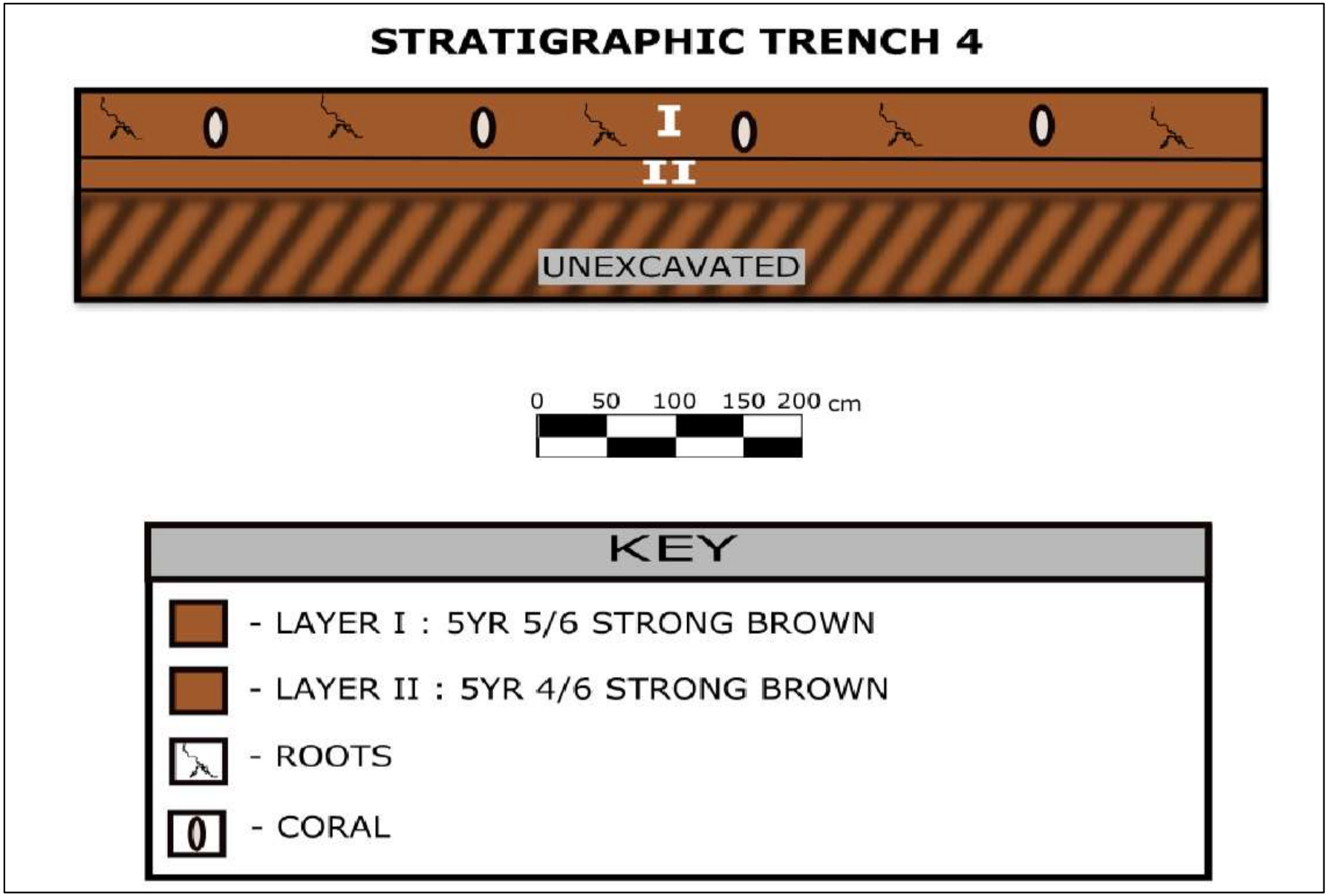

Figure 17: Stratigraphic Trench 4 Profile

Figure 18: Stratigraphic Trench 5 Sidewall photographic profile, view to Northeast. August 21, 2015

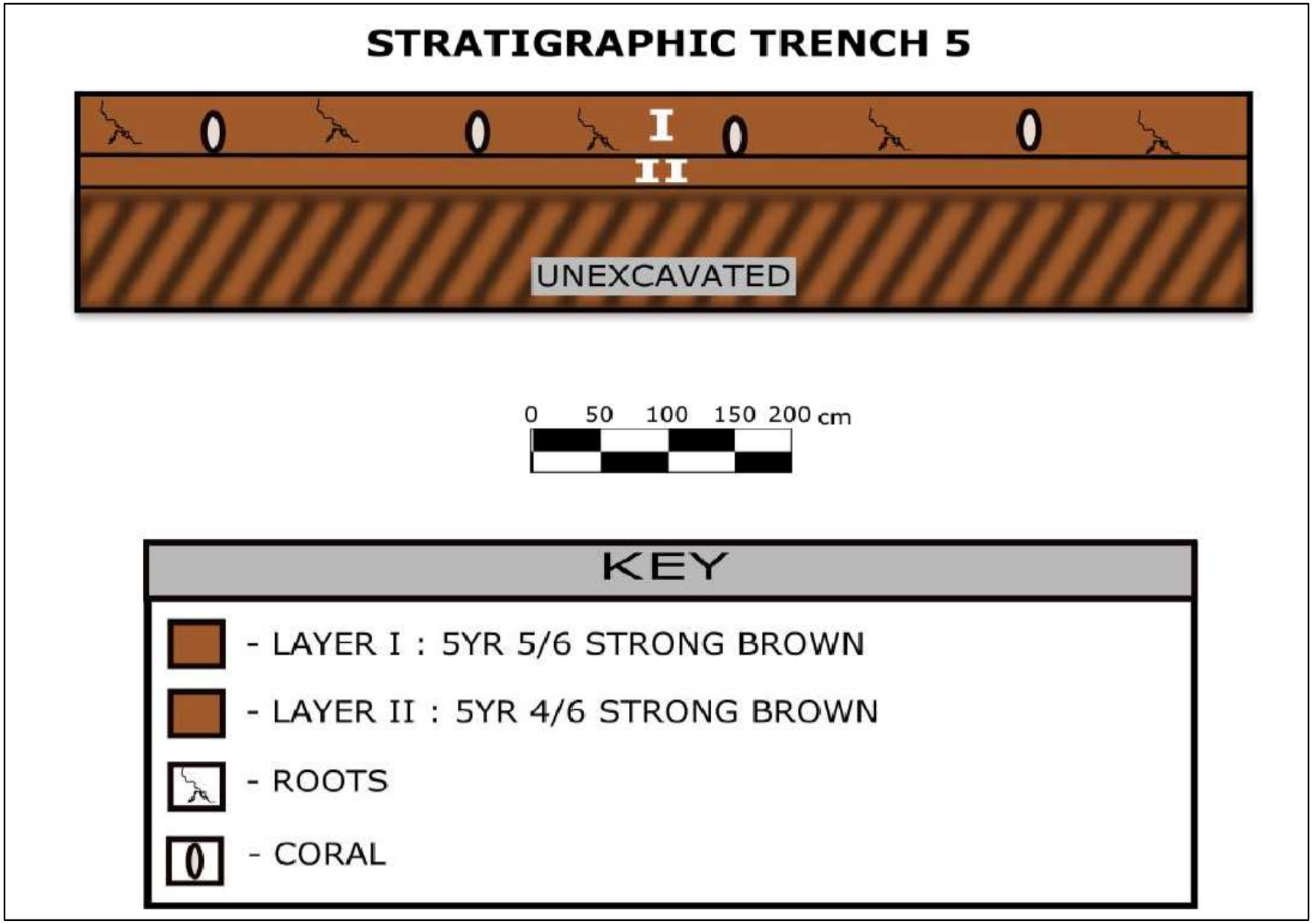

Figure 19: Stratigraphic Trench 5 Profile

Figure 20: Stratigraphic Trench 6 Sidewall photographic profile, view to East. August 21, 2015

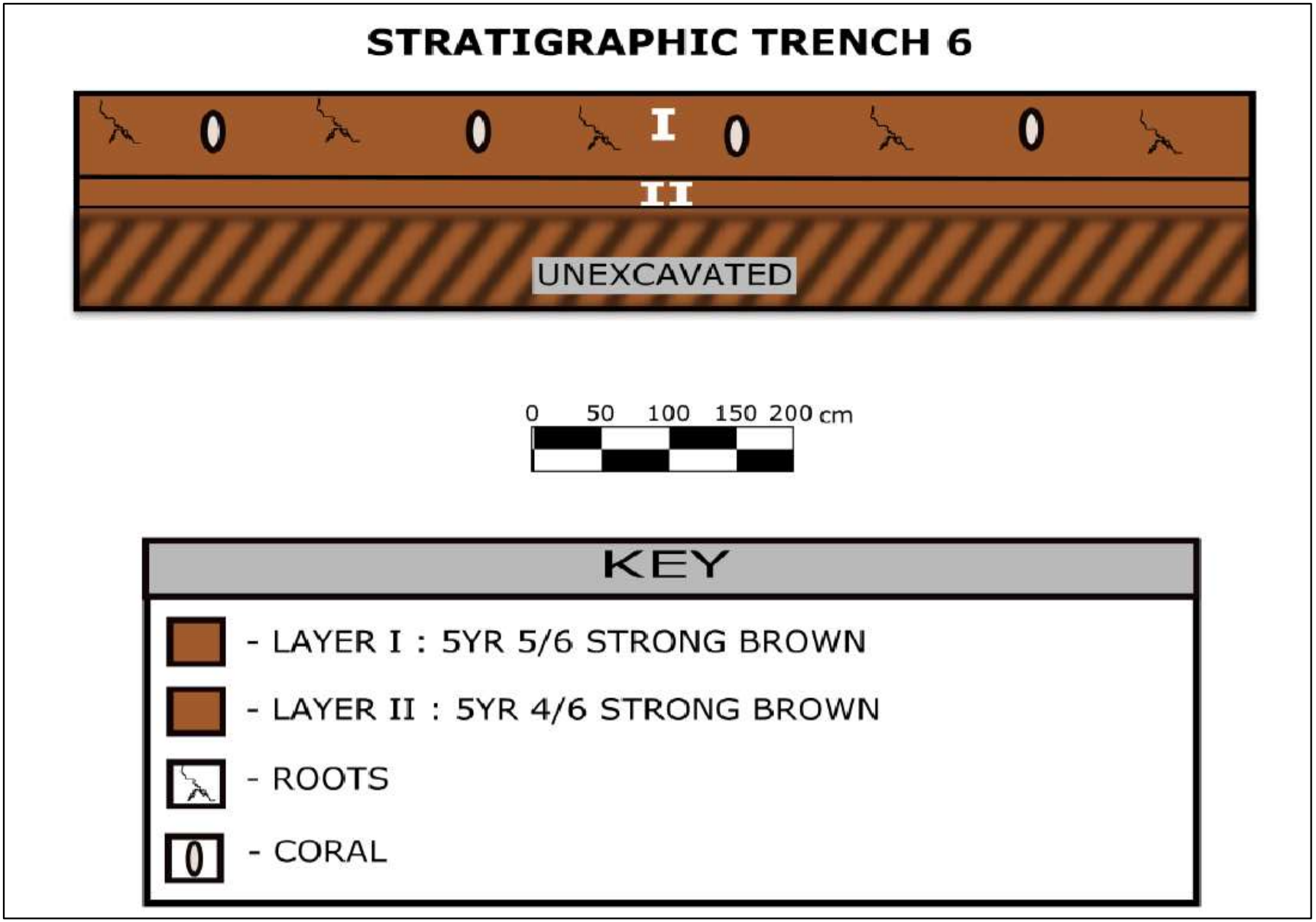

Figure 21: Stratigraphic Trench 6 Profile

Figure 20: Stratigraphic Trench 7 Sidewall photographic profile, view to South. August 21, 2015

Figure 22

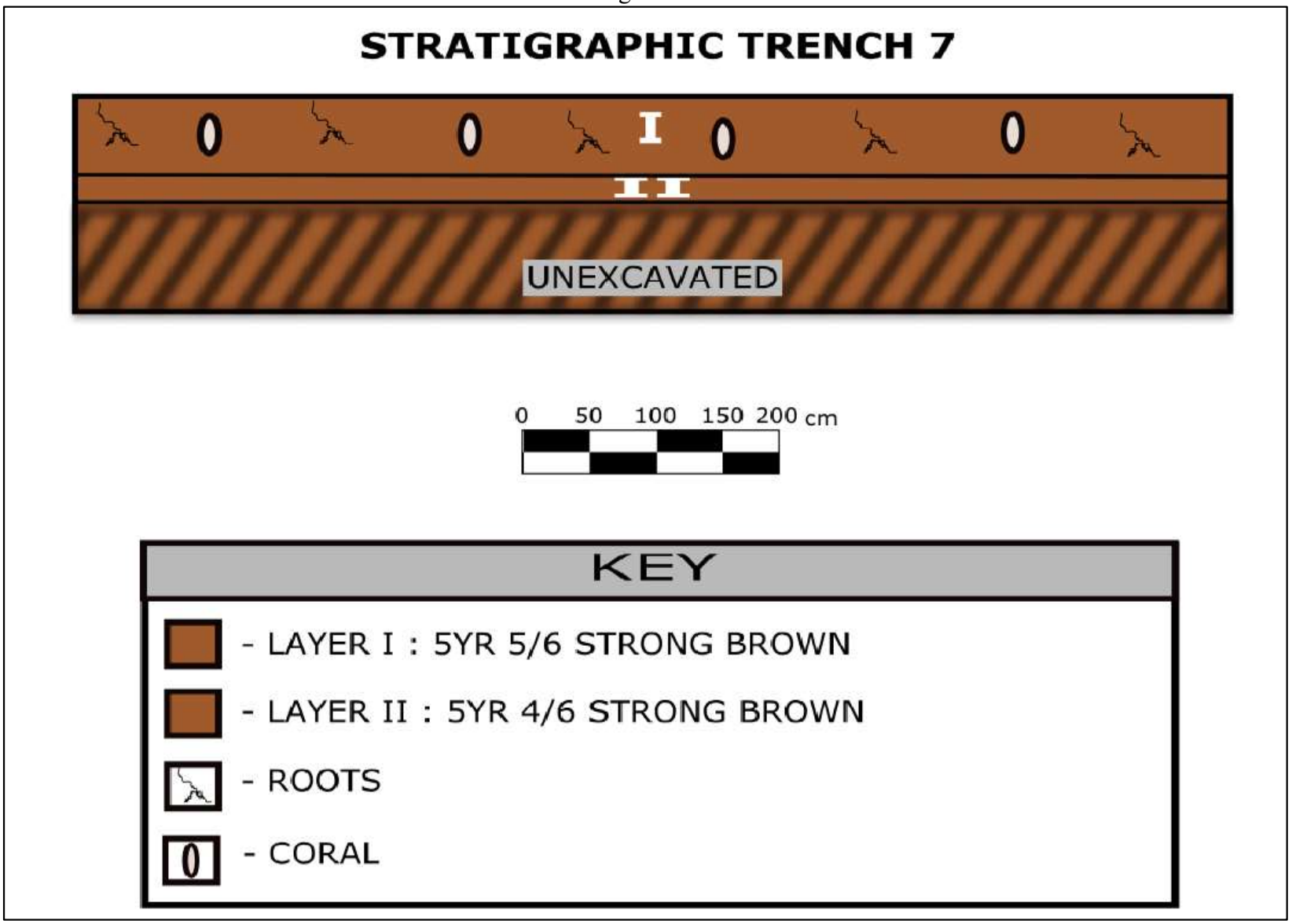

Figure 21: Stratigraphic Trench 7 Profile

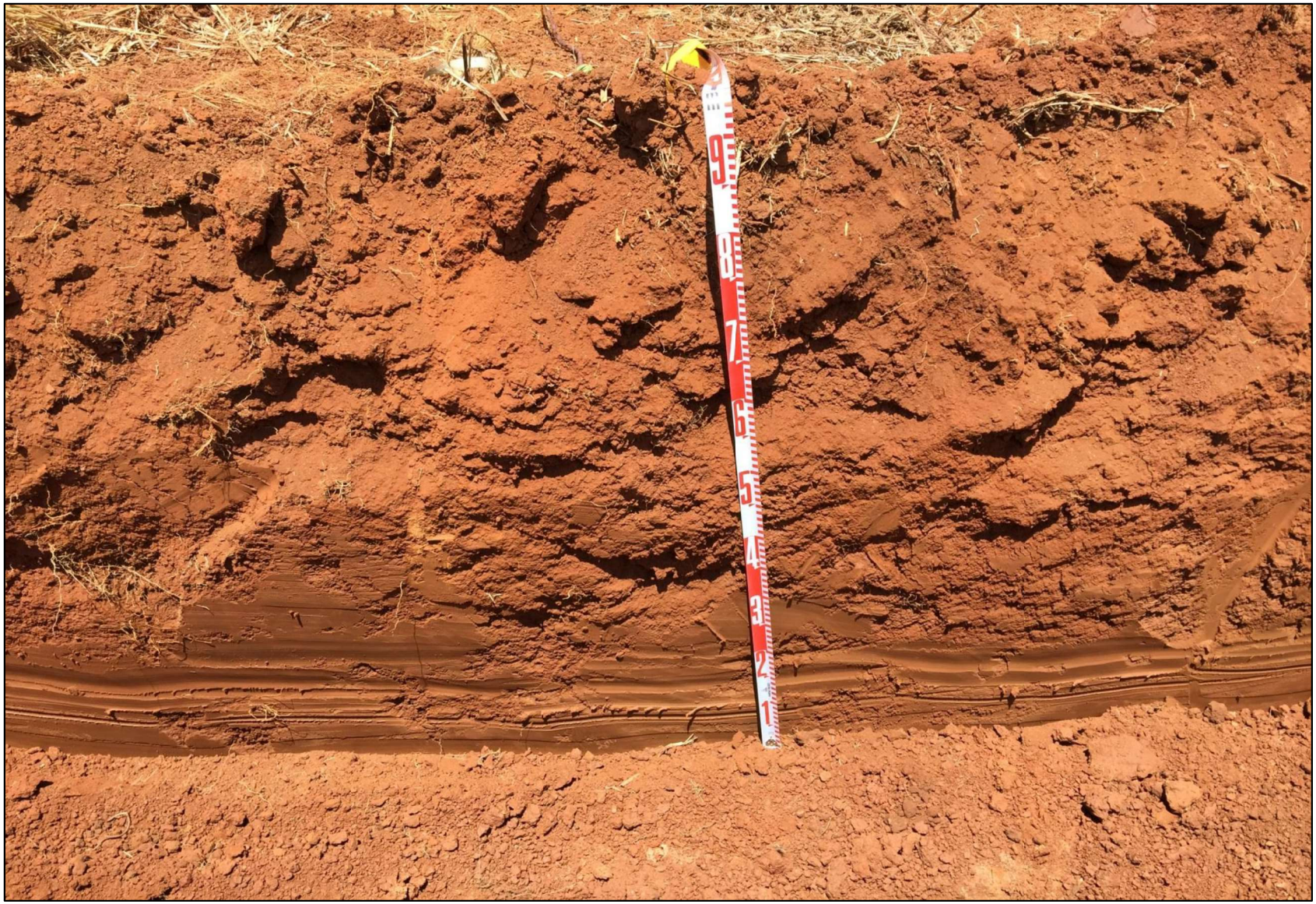

Figure 22: Stratigraphic Trench 8 Sidewall photographic profile, view to Southwest. August 21, 2015

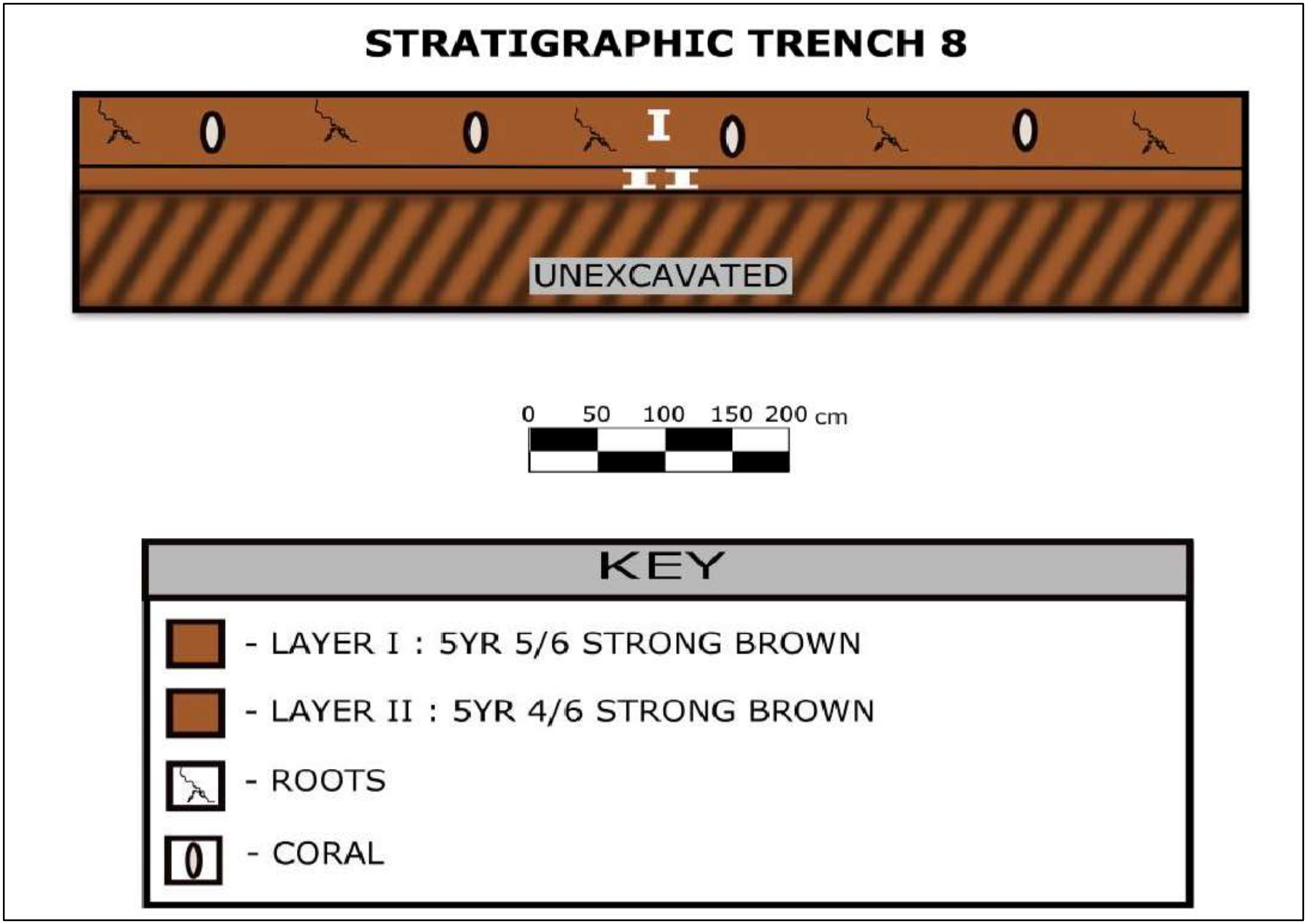

Figure 23: Stratigraphic Trench 8 Profile

Layer I: (0-50 cmbs) (5YR, 5/6 Strong Brown)
-Moist, previously disturbed, silty clay and sand, structureless, weak, very fine crumb, some weathered coral, firm, slightly plastic, common coarse roots
-Clear wavy boundary at 50 centimeters below surface (cmbs) to 53 cmbs

Layer II: (53-120 cmbs) (5YR 4/6 Strong Brown)
-Moist, silty clay, structureless, weak, very fine, very firm, slightly plastic, very few roots to 120 cmbs

STRATIGRAPHIC TRENCH-1 (ST-2)

Stratigraphic Trench-2: (ST-2) (Length=8 m, Width=1 m, Depth=0.80 m). ST-2 was orientated @ 80°/260°. The surface of ST-2 was level and cleared of all vegetation. ST-2 contained two stratigraphic layers. No traditional or historic artifacts were present.

Layer I: (0-70 cmbs) (5YR, 5/6 Strong Brown)
-Moist, previously disturbed, silty clay and mixed sand fill, structureless, weak, very fine crumb, some weathered coral, firm, slightly plastic, common coarse roots
-Clear boundary at 70 cmbs

Layer II: (70-80 cmbs) (5YR 4/6 Strong Brown)
-Moist, silty clay, structureless, weak, very fine, very firm, slightly plastic, very few roots to 80 cmbs

STRATIGRAPHIC TRENCH-1 (ST-3)

Stratigraphic Trench-3: (ST-3) (Length=6 m, Width=1 m, Depth=0.9 m). ST-3 was orientated @ 140°/320° and the surface of ST-3 was level and cleared of all vegetation. ST-3 contained two stratigraphic layers and no traditional or historic artifacts.

Layer I: (0-70 cmbs) (5YR, 5/6 Strong Brown)
-Moist, previously disturbed, silty clay, structureless, weak, very fine crumb, some weathered coral, firm, slightly plastic, common coarse roots
-Clear boundary at 70 cmbs

Layer II: (70-90 cmbs) (5YR 4/6 Strong Brown)
-Moist, silty clay, structureless, weak, very fine, very firm, slightly plastic, very few roots to 90 cmbs

STRATIGRAPHIC TRENCH-1 (ST-4)

Stratigraphic Trench-4: (ST-4) (Length=6 m, Width=1 m, Depth=0.9 m). ST-4 was orientated @ 85°/265° and the surface of ST-4 was level and cleared of all vegetation. ST-4 contained two stratigraphic layers and no traditional or historic artifacts.

Layer I: (0-80 cmbs) (5YR, 5/6 Strong Brown)
-Moist, previously disturbed, silty clay, structureless, weak, very fine crumb, some weathered coral, firm, slightly plastic, common coarse roots
-Clear boundary at 80 cmbs

Layer II: (80-90 cmbs) (5YR 4/6 Strong Brown)
-Moist, silty clay, structureless, weak, very fine, very firm, slightly plastic, very few roots to 90 cmbs

STRATIGRAPHIC TRENCH-1 (ST-5)

Stratigraphic Trench-5: (ST-5) (Length=5 m, Width=1 m, Depth=0.9 m). ST-5 was orientated @ 130°/310° and the surface of ST-5 was level and cleared of all vegetation. ST-5 contained two stratigraphic layers and no traditional or historic artifacts.

Layer I: (0-70 cmbs) (5YR, 5/6 Strong Brown)
-Moist, previously disturbed, silty clay, structureless, weak, very fine crumb, some weathered coral, firm, slightly plastic, common coarse roots
-Clear boundary at 70 cmbs

Layer II: (70-90 cmbs) (5YR 4/6 Strong Brown)
-Moist, silty clay, structureless, weak, very fine, very firm, slightly plastic, very few roots to 90 cmbs

STRATIGRAPHIC TRENCH-1 (ST-6)

Stratigraphic Trench-6: (ST-6) (Length=5 m, Width=1 m, Depth=1.2 m). ST-6 was orientated @ 190°/30° and the surface of ST-6 was level and cleared of all vegetation. ST-6 contained two stratigraphic layers and yielded no traditional or historic artifacts.

Layer I: (0-100 cmbs) (5YR, 5/6 Strong Brown)
-Moist, previously disturbed, silty clay and sand mix fill, structureless, weak, very fine crumb, some weathered coral, firm, slightly plastic, common coarse roots
-Clear boundary at 100 cmbs

Layer II: (100-120 cmbs) (5YR 4/6 Strong Brown)
-Moist, silty clay, structureless, weak, very fine, very firm, slightly plastic, very few roots to 120 cmbs

STRATIGRAPHIC TRENCH-1 (ST-7)

Stratigraphic Trench-7: (ST-7) (Length=5 m, Width=1 m, Depth=1.1 m). ST-7 was orientated @ 170°/350° and the surface of ST-7 was mostly level and also cleared of all vegetation. ST-7 contained two stratigraphic layers. No traditional or historic artifacts were present.

Layer I: (0-100 cmbs) (5YR, 5/6 Strong Brown)
-Moist, previously disturbed, silty clay, structureless, weak, very fine crumb, some weathered coral, firm, slightly plastic, common coarse roots
-Clear boundary at 100 cmbs

Layer II: (100-110 cmbs) (5YR 4/6 Strong Brown)
-Moist, silty clay, structureless, weak, very fine, very firm, slightly plastic, very few roots to 110 cmbs

STRATIGRAPHIC TRENCH-1 (ST-8)

Stratigraphic Trench-8: (ST-8) (Length=5 m, Width=1 m, Depth=1 m). ST-8 was orientated @ 80°/260° and the surface of ST-8 was level and cleared of all vegetation. ST-8 contained two stratigraphic layers. No traditional or historic artifacts were present.

Layer I: (0-90 cmbs) (5YR, 5/6 Strong Brown)
-Moist, previously disturbed, silty clay, structureless, weak, very fine crumb, some weathered coral, firm, slightly plastic, common coarse roots
-Clear boundary at 90 cmbs

Layer II: (90-100 cmbs) (5YR 4/6 Strong Brown)
-Moist, silty clay, structureless, weak, very fine, very firm, slightly plastic, very few roots to 90 cmbs

DISCUSSION AND SUMMARY

Archaeological Inventory Survey-level investigations were conducted on an undeveloped 5 acre land parcel in Hanamāʻulu where a County of Kauai Adolescent Drug Treatment Facility is proposed. No historic properties were identified during survey or testing of eight locations within the project area. A majority of the sediments were naturally occurring silty clays derived from the decomposition of underlying bedrock. Mixed fill consisting of sand and coral, often utilized to supplement sugarcane soil preparation, was identified in three of the trenches. Previous grading during past construction was also noted as common in the area.

RECOMMENDATIONS

No historic properties were identified during the current research. Given the sterile nature of the encountered soils, as well as the massive landscape modifications occurring on the parcel over time (sugar cane cultivation), no further work is recommended for the project area.

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APPENDIX F: CULTURAL IMPACT ASSESSMENT

SCS Project Number 1768 CIA-1

A CULTURAL IMPACT ASSESSMENT FOR COUNTY OF KAUA'I ADOLESCENT TREATMENT AND HEALING CENTER (ATHC)

HANAMĀ'ULU AHUPUA'A, PUNA DISTRICT, ISLAND OF KAUA'I, HAWAI'I [TMK (4) 3-8-002:001 por.]

Prepared by:
Cathleen A. Dagher, B.A.
and
Michael F. Dega., Ph.D.

July 2016
DRAFT

Prepared for:
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Honolulu, HI 96819

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HAWAII

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INTRODUCTION

At the request of Belt Collins Hawaii LLC, Scientific Consultant Services, Inc. (SCS) prepared a Cultural Impact Assessment (CIA) in advance of the proposed County of Kauai Adolescent Treatment and Healing Center (ATHC) in Hanamā'ulu Ahupua'a, Puna District, Island of Kaua'i, Hawai'i [TMK (4) 3-8-002:001 por.] (Figures 1 through 3).

Archaeological Inventory Survey-level fieldwork was conducted on August 20 and 21, 2015 by SCS archaeologist Philip Smith B.A. and James Powell, B.A., under the direct supervision of Michael F. Dega, Ph.D., Principal Investigator. The purpose of the archaeological investigation was to identify and document all historic properties within the project area and to gather sufficient information to evaluate the significance of each historic property in accordance criteria established for the Hawai'i State Register of Historic Places (HAR§13-275-6).

The Constitution of the State of Hawai'i clearly states the duty of the State and its agencies is to preserve, protect, and prevent interference with the traditional and customary rights of Native Hawaiians. Article XII, Section 7 (2000) requires the State to "protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupua'a* tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778." In spite of the establishment of the foreign concept of private ownership and western-style government, Kamehameha III (Kauikeaouli) preserved the peoples traditional right to subsistence. As a result in 1850, the Hawaiian Government confirmed the traditional access rights to Native Hawaiian *ahupua'*a tenants to gather specific natural resources for customary uses from undeveloped private property and waterways under the Hawaiian Revised Statutes (HRS) 7-1. In 1992, the State of Hawai'i Supreme Court, reaffirmed HRS 7-1 and expanded it to include, "native Hawaiian rights…may extend beyond the *ahupua'a* in which a Native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner" (Pele Defense Fund v. Paty, 73 Haw.578, 1992).

Articles IX and XII of the State constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs and practices, and resources of Native Hawaiians as well as other ethnic groups. Act 50 also requires state agencies and other developers to assess the effects of proposed land use or shoreline developments.

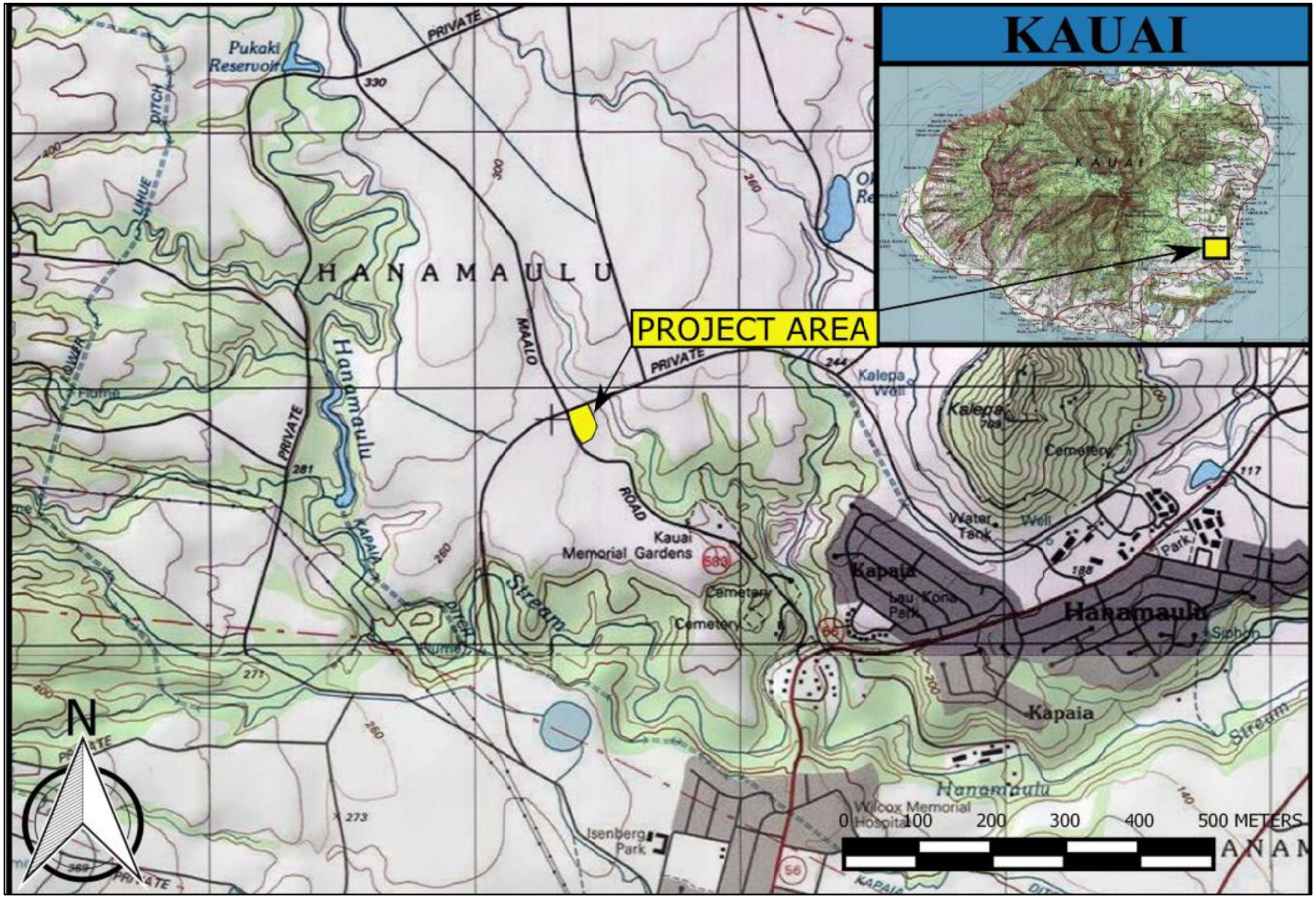

Figure 1: USGS Quadrangle (Lihue 1996; 1:24,000) Showing Project Area Location.

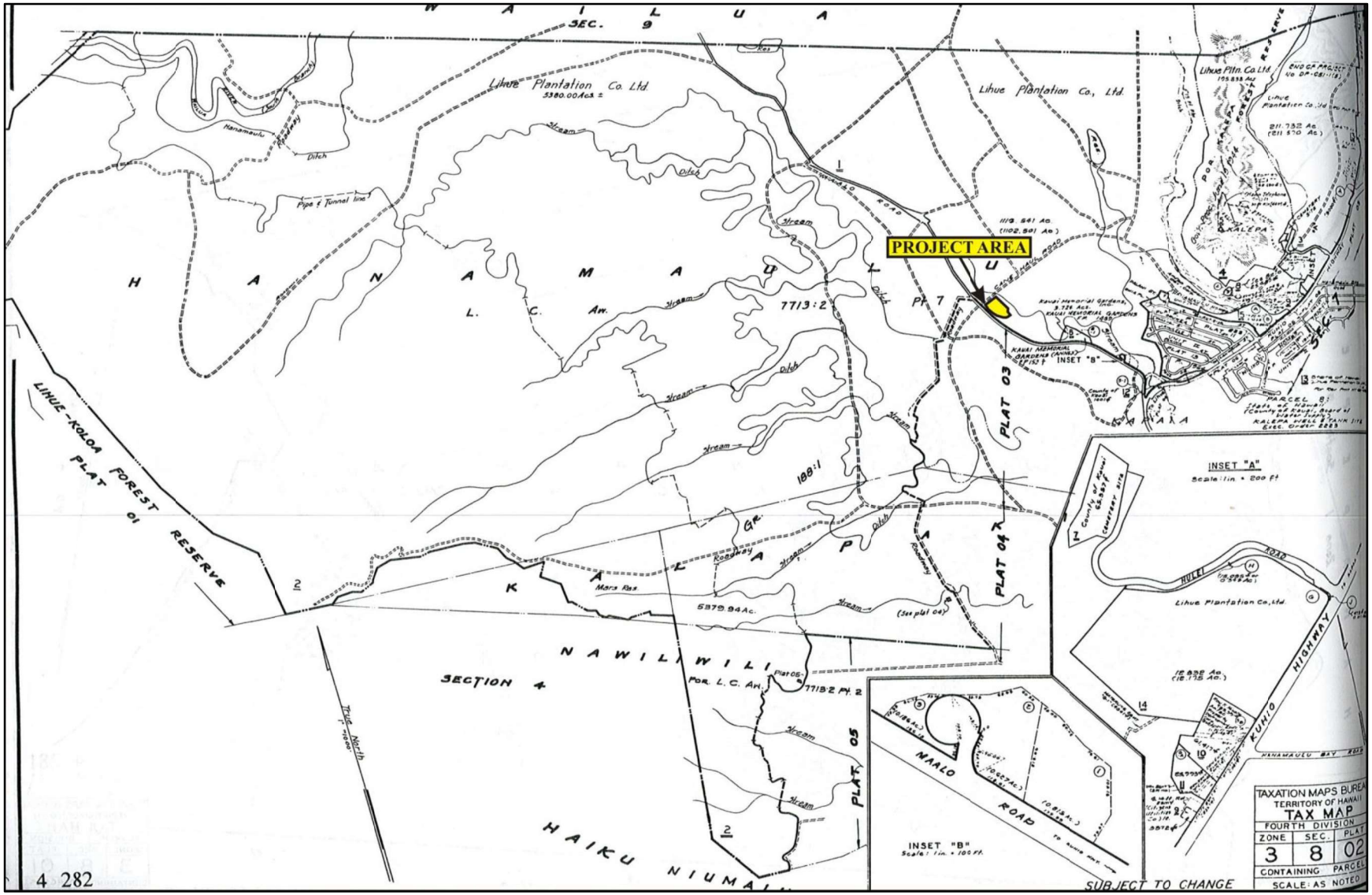

Figure 2: Tax Map Key [TMK (4) 3-8-002] Showing Project Area Location.

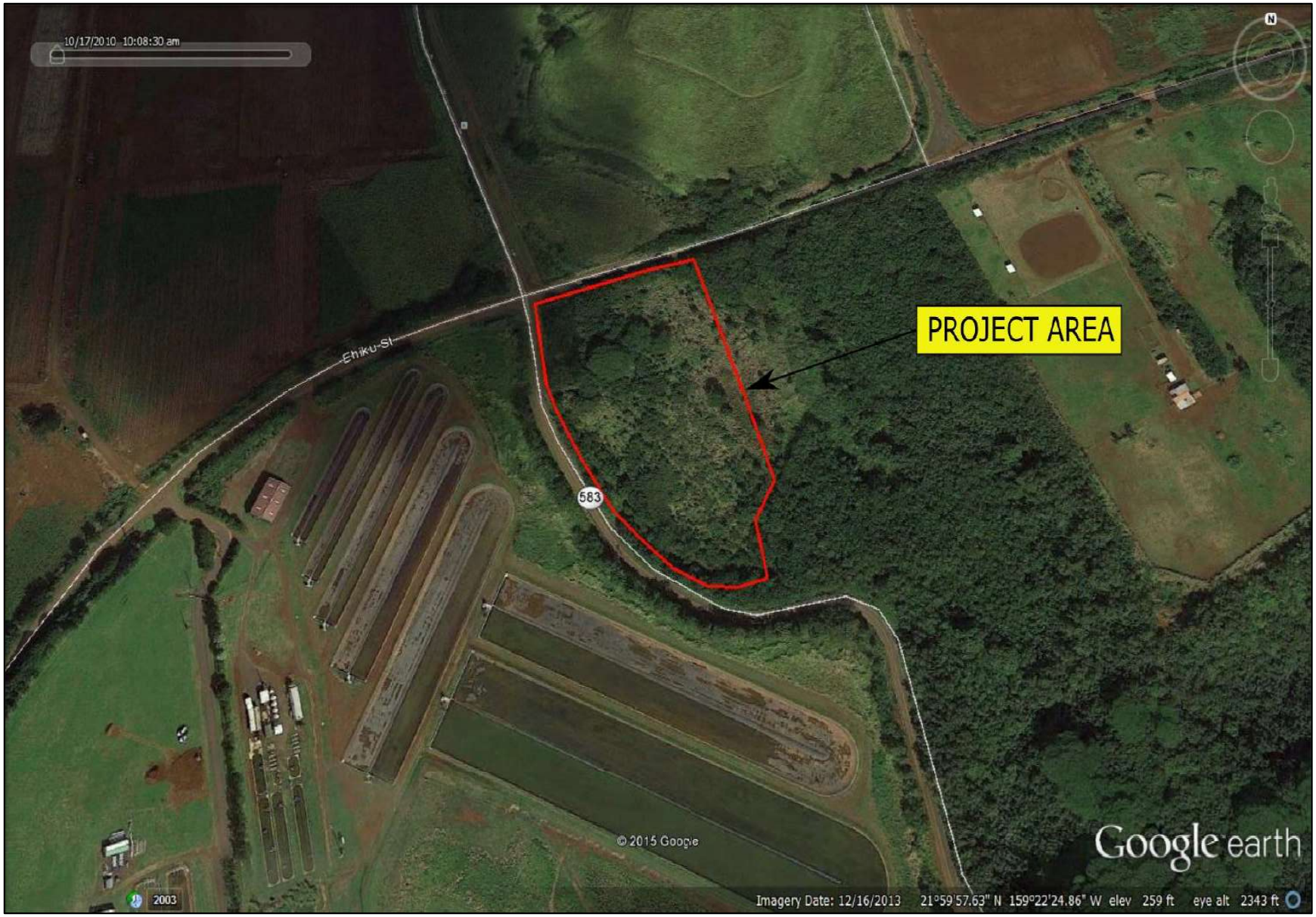

Figure 3: Aerial Photograph (Google Earth Image Dated 12/16/2013) showing project area.

Act 50, enacted by the Legislature of the State of Hawai'i (2000) with House Bill (HB) 2895, relating to Environmental Impact Statements, proposes that:

> …there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii's culture, and traditional and customary rights… [H.B. NO. 2895].

Thus, Act 50 requires that an assessment of cultural practices and the possible impacts of a proposed action be included in Environmental Assessments and Environmental Impact Statements, and to be taken into consideration during the planning process. As defined by the Hawaii State Office of Environmental Quality Control (OEQC), the concept of geographical expansion is recognized by using, as an example, "the broad geographical area, e.g. district or *ahupua'a*" (OEQC 2012:12). It was decided that the process should identify 'anthropological' cultural practices, rather than 'social' cultural practices. For example, *limu* (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice.

Therefore, the purpose of a CIA is to identify the possibility of ongoing cultural activities and resources within a project area, or its vicinity, and then assessing the potential for impacts on these cultural resources. The CIA is not intended to be a document of in-depth archival-historical land research, or a record of oral family histories, unless these records contain information about specific cultural resources that might be impacted by a proposed project.

According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 2012:12):

> The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both manmade and natural, which support such cultural beliefs.

The meaning of "traditional" was explained in *National Register Bulletin*:

> "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property then is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. . . . [Parker and King 1990:1]

METHODOLOGY

This CIA was prepared as much as possible in accordance with the suggested methodology and content protocol in the Guidelines for Assessing Cultural Impacts (OEQC 2012:11-13). In outlining the "Cultural Impact Assessment Methodology," the OEQC (2012:11) states that:

> "…information may be obtained through scoping, community meetings, ethnographic interviews and oral histories…"

This report contains archival and documentary research, as well as communication with organizations having knowledge of the project area, its cultural resources, and its practices and beliefs. An example of the letters of inquiry is presented in Appendix A. Copies of the posted legal notice and affidavit are presented in Appendix B. An example of the follow-up letter of inquiry is presented in Appendix C. The single response received for this project is presented in Appendix D. This CIA was prepared in accordance with the suggested methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 2012:13), whenever possible. The assessment concerning cultural impacts may include, but not be limited to:

A. Discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.

B. Description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.

C. Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.

D. Biographical information concerning the individuals and organizations consulted their particular expertise and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.

E. Discussion concerning historical and cultural source materials consulted, the institutions and repositories searched and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.

F. Discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area

in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.

G. Discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area affected directly or indirectly by the proposed project.

H. Explanation of confidential information that has been withheld from public disclosure in the assessment.

I. Discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.

J. An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

K. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

If ongoing cultural activities and/or resources are identified within the project area, assessments of the potential effects on the cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

ARCHIVAL RESEARCH

Archival research focused on a historical documentary study involving both published and unpublished sources. These sources included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps; land records, such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts; and previous archaeological reports.

INTERVIEW METHODOLOGY

Interviews are conducted in accordance with Federal and State laws and guidelines when knowledgeable individuals are able to identify cultural practices in, or in close proximity to, the project area. If they have knowledge of traditional stories, practices and beliefs associated with a project area or if they know of historical properties within the project area, they are sought out for additional consultation and interviews. Individuals who have particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area are invited to share their relevant information concerning particular cultural resources. Often people are recommended for their expertise, and indeed, organizations, such as Hawaiian Civic Clubs, the Island Branch of Office of Hawaiian Affairs (OHA), historical societies, Island Trail

clubs, and Planning Commissions are depended upon for their recommendations of suitable informants. These groups are invited to contribute their input and suggest further avenues of inquiry, as well as specific individuals to interview. It should be stressed again that this process does not include formal or in-depth ethnographic interviews or oral histories as described in the OEQC's *Guidelines for Assessing Cultural Impacts* (2012). The assessments are intended to identify potential impacts to ongoing cultural practices, or resources, within a project area or in its close vicinity.

If knowledgeable individuals are identified, personal interviews are sometimes taped and then transcribed. These draft transcripts are returned to each of the participants for their review and comments. After corrections are made, each individual signs a release form, making the interview available for this study. When telephone interviews occur, a summary of the information is usually sent for correction and approval, or dictated by the informant and then incorporated into the document. If no cultural resource information is forthcoming and no knowledgeable informants are suggested for further inquiry, interviews are not conducted.

ENVIRONMENTAL SETTING

PROJECT AREA

The project area encompassed approximately 5 acres and is located next to Ma'alo Road at the intersection of `Ehiku Street and a cane haul road leading to Hanamā'ulu. The current location reflects the entire project area for the Kauai Treatment and Healing Center (ATHC). The parcel is situated at an elevation of 260 feet above mean sea level (amsl.) and is c. five kilometers (km) from the coastline, on lands that very gently slope from north to south. Hanamā'ulu Stream occurs several kilometers to the west of the project area.

SOILS

Soils in the project area primarily consist of Lihue silty clay (LhB and LhC) as well as a Lihue gravelly silty clay (LIB) (Foote et al. 1972). Sugarcane has been the preferred crop for this location, and because of this, the soil has been heavily worked mechanically through time. This re-occurring soil preparation, year upon year for sugarcane production, has resulted in mixed strata as well as the inclusion of non-native soils, such as sand and coral, being imported for soil health.

CLIMATE

The current project area is located on the east flank of Kaua'i, which is exposed to the prevailing northeast trade winds. This general location receives approximately 50 inches of precipitation annually (Juvik and Juvik 1998). The farther inland and to the west of the project, a

more mountainous landscape produces much greater quantities of rainfall, at c. 100 inches annually (ibid.).

Fahrenheit temperatures in the area range from the high 40s to the low 50s during the winter months and from the low 60s to the high 80s in the summer, occasionally reaching the low 90s (Armstrong 1980:64).

VEGETATION

Tall invasive grasses as well as *koa haole (Leucaena leucocephala)* covered the project area that was once used for sugarcane cultivation. At present, the project area appears to have been completely cleared of all invasive grasses and all trees, which made ground surface visibility very high.

TRADITIONAL BACKGROUND

PAST POLITICAL BOUNDARIES

The island of Kaua'i was divided into five separate districts (*moku*) in ancient times, Halele‘a, Ko‘olau, Puna, Kona and Nā Pali. Just beyond where Hulē‘ia Stream crosses under Half-way Bridge, at Kahoaea, marks the boundary between Puna and Kona. Much of the Puna District is a flat plain nestled between the Hā‘upu mountain range to the south and the Makaleha mountain range on the north. Puna is fed by four main water sources, the Hulē‘ia River, the Hanamā'ulu River, Keālia River and the Wailua River. Some stories say that the district of Puna was settled by the chief Punanuikaianaina, who came to Hawai'i from the Marquesas around A.D. 1000–1100 (Fornander 1969:45-46).

In general, several terms, such as *moku*, *ahupua'a*, *'ili* or *'ili 'āina* 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 therefore, 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).

TRADITIONAL AND HISTORIC SETTING

Early settlement and agricultural development is thought to have been first established on the windward sides of the Hawaiian Islands sometime in the A.D. 900-1000 range on Kaua'i during what is known as the Colonization Period (Kirch 2011:22). Most likely arriving from east Polynesia, these early inhabitants brought with them a variety of tools, fishing gear, and household goods. Dogs, pigs and chickens were brought by these Polynesian voyagers for food. The Polynesian rat also arrived with the voyagers. Considering that every food crop cultivated by the Hawaiians arrived with them shows a considerable knowledge not only of the planting and harvesting of these crops but the ability to transport their seeds, cuttings, and roots.

Prior to European Contact (1778), Hawaiians cultivated taro in both irrigated and dry fields. Other dryland agriculture crops included '*uala* (sweet potato), *uhi* (yams), *mai'a* (bananas), *ipu* (gourds), and *kō* (sugar cane). Grasses were utilized for thatching the roofs of structures and covering floors, which were then covered by *hala* mats. Important arboreal crops included *niu* (coconut) and '*ulu* (breadfruit). Other trees were utilized for the construction of canoes, house frames, tools, and weapons, matting, and sails from *hala* (pandanus). *Kapa* cloth from *wauke* (paper mulberry) was also cultivated. There was a variety of medicinal plants utilized and plants such as *olonā*, grown to provide fibers for making cordage (Handy and Handy 1972:13).

Hawaiian aquaculture was extensive, with the construction and maintenance of coastal and riverine fish ponds. Their fishing ranged from shoreline to pelagic with different strategies for each. In order to maintain and benefit from all of these resource zones, Hawaiian polities were organized into *ahupua'a* which gave residents access to a wide array of resources extending from mountain top forests to deep sea fishing zones. *Ahupua'a* boundaries could expand, contract, appear, and disappear, as dependent upon political events.

Traditionally within the Hanamāʻulu Ahupua'a near the project area, the land was primarily used as *lo'i* lands (taro fields; Corbin et al. 2002). Here, dryland taro cultivation was probably practiced while coconut, sweet potato, and breadfruit were also likely grown. Due to the concentration of *lo'i* lands, the largest population of inhabitants stretched along the coast to a few miles inland. The Māhele records of the Hanamā'ulu area tell of native tenants living in the valleys and by the shoreline. House sites, taro pond fields, irrigation systems, dryland agricultural parcels, fishponds, pastures, and other features were constructed across the

prehistoric-traditional landscape. Many of these lands were cleared during Plantation days, thus masking or erasing much evidence for these sites.

PRE-CONTACT PERIOD (PRE-1778)

Initial Polynesian settlement of Kaua'i occurred in the resource-rich regions surrounding Wailua River, on the east coast, the equally verdant Waimea River region on the southern coast, and the Hanalei region on the north coast (Joesting 1984). As with all the Hawaiian Islands, each district and region was eventually settled. These settlements developed into polities which allied, warred, and co-existed with one another until Kaua'i came under unified rule of a single king. This process occurred in different stages on different islands. Because of the distance of Kaua'i from O'ahu, Moloka'i, Maui, Lāna'i, and Hawai'i Island, the politics of Kaua'i and her neighbor Ni'ihau became their own entity, while chiefs of the other islands struggled first for internal control and later, for the conquest and rule of several, and ultimately all, the islands.

The primary residence of the high king was in the Wailua River region of Kaua'i, with miles of cultivated lands, mountain resources, religious sites, and shoreline to pelagic fishing. Broad stretches of beach allowed for canoe landings but there was no deep water anchorage, despite the presence of the Wailua River.

As discussed more below, pre-Contact sites have been most commonly identified in coastal or near coastal areas, locations removed from intensive sugar cane production. Initial settlement is presumed near the coastline in the A.D. 1000 to1200 range, with expansion inland during the A.D. 1400 to 1600s, as was typical across the islands (see Kirch 1985). Agricultural field systems were created at these inland areas, closer to fresh water resources and soil more amenable to *kalo* and sweet potato production. Permanent habitation locales were present from the coast to this more inland area, with ceremonial sites, walls, and other associated structures being built.

In early 1778 Captain James Cook and the two ships under his command, H.M.S. *Resolution* and H.M.S. *Discovery* arrived off of Kaua'i. Finding that they could not make land fall at Wailua, Cook continued westward until reaching Waimea. This would be the beginning of contact between Europeans and Hawaiians (Salmon 2003).

WAHI PANA (LEGENDARY PLACES)

According to Pukui et al. (1974:41), “Hanamā'ulu” literally translated means “tired (as from walking) bay.” Wichman (1998: 60, 61) explains that the bay was given this name because of its location. Hanamā’ulu Bay was located away from the main trail that extended around the

island and a traveler would have to "walk extra miles" to reach the remote bay (ibid: 60). There is also a saying about the people of Hanamā'ulu: "*No Hanamā'ulu ka ipu pueho*" which means "At Hanamā'ulu the calabash is empty" (ibid: 61). According to Wichman (ibid), the saying comes from a story about some travelers from the district of Kona:

> … [who] reached the valley rim where they saw people peeling taro and heard the sound of *poi* pounders coming from the village. The travelers were pleased to know there would be fresh *poi* at the end of the journey, so they hurried down the path. When they arrived at the village, they found no *poi* at all, only villagers with sad faces apologizing for the lack of food. The visitors went hungry that night. Of course the story was spread and from that time on the Hanamā'ulu people were known as stingy and miserly.

The *mo'olelo* of Kawelo includes many references to Hanamā'ulu. Kawelo-lei-makua was born at Hanamā'ulu. Following the birth of Kawelo-lei-makua, his mother's parents, who were skilled in predicting what the future holds for a child by feeling its arms and legs, examined Kawelo-lei-makua. Following his examination, the grandparents summoned Kawelo-lei-makua's parents and told them, "…This child of yours is going to be a soldier; he is going to be a very powerful man and shall rule someday as king" (Fornander 1918:2). As Kawelo-lei-makua possessed these distinctive traits, the grandparents decided they should be the ones to raise the boy and took him to live with them. Shortly thereafter, the grandparents and Kawelo-lei-makua relocated to Wailua where Kawelo-lei-makua was brought up with Aikanaka, the son of the King of Kaua'i, and Kauahoa of Hanalei (ibid.).

The future Kawelo's grandparents prophesied at the time of his birth came to pass. After having become the paramount chief of Kaua'i, Kewalo returned to Hanamā'ulu, where he lived with his parents and his wife, Kanewahineikiaoha (Fornander 1918, Rice 1974). The hero of this legend lived in the last half of the seventeenth and early decades of the eighteenth century (Hommon 1976:135).

Legendary landmarks at Hanamā'ulu include Ahukini, (literally the "altar [for] many [blessings]", which overlooks the bay (Pukui et al. 1974:6; Wichman 1998:61). According to Wichman (Pukui et al.), the shrine was "…named for a son of La'a-mai-Kahiki, who came from Tahiti." Ka-lau-o-ka-manu (tip of the endpiece of a canoe) Heiau, located at the foot of Kālepa (a peak 709 feet amsl.), was also of legendary significance. The *luakini heiau* was extremely feared by the *maka'āinana* (commoners) because of the numerous human sacrifices that were made there. According to Wichman (1998:61), the smell of the human offerings to the gods was so strong "…that travelers would hurry past holding their noses." The *heiau* was subsequently

destroyed in 1855 and the rocks were used to construct the foundation of the sugar mill at Hanamā'ulu.

HISTORIC PERIOD (POST-1778)

The third voyage commanded by Captain Cook was undertaken primarily to discover the fabled Northwest Passage, which supposedly linked the Pacific, Arctic, and Atlantic Oceans. As he had during previous journeys, Cook visited Tahiti and it was from there that he set out for the northern Pacific coast of North America.

The voyage put him within sight of the island of O'ahu, but adverse winds prevented his arrival. Continuing on to Kaua'i, he sighted Wailua, but could not make landfall. The ships continued southwest and then westward. Both were sketched and drawn by expedition artist John Webber, the first European artwork to depict a Hawaiian Island.

Cook found a manageable anchorage at the mouth of Waimea River. Several trips ashore by him and a select group of his officers, marines, and crew led to generally good relations with the Hawaiians. It is unclear what Cook and the others learned about the politics of Kaua‘i and her eastern neighbor. It is probable that at this time (1778) Kaeokulani was ruler of Kaua'i. He was of high rank, a chief born on Maui, and the half-brother of the paramount king of Maui, Kahekili.

After a short time on Kaua'i in the early months of 1778, Cook departed to continue the search for the Northwest Passage. A year passed after which Cook returned to the Hawaiian Islands. This time, Maui was briefly visited by Captain Cook and his crew, but the island of Hawai‘i became the focus of the remainder of the voyage of Cook and ultimately of his demise, at Kealakekua Bay (Salmond 2003).

After the death of Cook, the journey continued, now under the command of Captain Clerke. The ship passed O'ahu, and returned to Waimea, Kaua'i. After their departure a short time later, it would not be until 1786 that Europeans returned to the Hawaiian Islands, with Waimea (Kaua'i) receiving her share of British and American vessels focusing on the lucrative fur trade in the Pacific Northwest. These visits coincided with, and perhaps accelerated, the growing conflict for control of the eastern islands. Beginning in approximately 1790, battles on and around Maui, Moloka'i, and Hawai'i Island between several rulers occurred with increasing ferocity. Safely in control of Kaua'i, Kaeokulani became a participant, bringing fleets of warriors to assist his half-brother on

Maui. Many European and American ship captains had contact with all the rivals, and a fairly coherent chronology of events is known. What certainly is known is that Kaeokulani was killed during a battle in Honolulu in 1794 while fighting his nephew Kalanikupule, who had taken rule of Maui and O'ahu upon the death of his father Kahekili in Waikīkī, several years earlier in 1791 (Ridley 2010).

The son of Kaeokulani was Kaumuali'i. Born around 1780, the young king went through a period where a Regent (an older relative) made the decisions, but Kaumuali'i eventually came to rule on his own. The remainder of his days was spent trying to keep Kamehameha, who had consolidated the rule of the other islands, from bringing Kaua'i in as well.

Kamehameha had difficulty solidifying his rule. Rebellions, plague, and appeasing subordinates all kept him from mounting more than two serious efforts at physical conquest of Kaua'i. The first effort to fail occurred in 1796 when Kamehameha sailed with an invasion fleet for Kaua'i. Hit by a heavy storm, the fleet turned back to O'ahu (Kamakau 1961). The second effort failed in 1804 when Kamehameha mustered his forces on Oahu. The army fell victim to *oku'u*, a smallpox epidemic. Kamehameha himself almost died, and far too many of his troops, counselors, and their families did succumb (Kamakau 1961). In 1810 Kamehameha used diplomacy, suggesting that he rule the eastern islands in name and deed, while Kaumuali‘i acknowledge his suzerainty but continue to rule Kaua‘i and Ni'ihau. It was agreed that the arrangement would end with the death of Kaumuali'i and that rule would then pass to the heirs of Kamehameha. It was an arrangement that Kamehameha and Kaumuali'i would honor, but that the heirs of Kamehameha would not (Joesting 1984).

This arrangement lasted between 1810 and 1822. It endured the death of Kamehameha the Great in 1819. During these 12 years, Kaumuali'i solidified rule of his kingdom and engaged in efforts to gain foreign weapons and support from the Russian Fur Company (Mills 2002). Also during this time, the trade in sandalwood flourished. Harvested in the Hawaiian Islands, traded for goods to European and American captains, and sold in the Chinese trade ports of Macao and Canton, sandalwood became the first Hawaiian cash crop (Ridley 2010). The Hawaiians called it *lā'au 'ala* (sweet wood) or '*iliahi* (fiery surface) for its reddish blooms. They used this wood for scenting bark cloth, making dyes, and for medicinal purposes (Ridley 2010).

At first, the sandalwood revenue went solely to the paramount chiefs, Kamehameha and Kaumuali'i. However, with the death of Kamehameha, nearly all of his chiefs called upon the young heir, Liholiho, and the Regents, among who was Ka'ahumanu, the favorite wife of Kamehameha but not mother of his heirs, to allow the chiefs to harvest sandalwood for their own profit. This practice would affect and disrupt the rule of Hawai‘i and the welfare of the common people for decades.

The upland forests were scoured, crops were neglected, commoners suffered malnutrition and disease, chiefs went into debt to foreigners, and Liholiho was hard pressed to find new resources for his chiefs to exploit. Kaua'i appeared to be the answer. While continuing to honor the arrangement made by his father, Liholiho arrived on Kaua'i in 1822, visited with Kaumuali'i, and then kidnapped him, returning to O'ahu with his captive. In order to secure the rule of Kaua'i, Kaumuali'i was forced to marry not an heir of Kamehameha, but his wife, Ka'ahumanu. To ensure her hold, she also wed her new husband’s son, Keali'iahonui. This second marriage was later dissolved. However, ties between dynasties stayed strong as Keali'iahonui married a granddaughter of Kamehameha, named Kekauōnohi (Mills 2002).

Ka'ahumanu had been instrumental in the overthrow of the *kapu* system of Hawaiian governance and social behavior, as well as one of the earliest and most prominent proponents of conversion to Christianity. That she utilized polyandry to achieve control of Kaua'i is just one example of her abilities to utilize both traditional and introduced ways of life to achieve her goals (Joesting 1984).

While still titular ruler, the king did not exercise any power. Governors were appointed by the Regents, the first of these being the brother of Ka'ahumanu, named Kahekili Ke'eaumoku. Beginning with this Governor, land acquisitions beneficial not just to the Kamehameha line but to their powerful subordinates started.

The practice of allowing individual chiefs to harvest sandalwood was carried over to Kaua'i. How many Kaua'i chiefs retained their lands is not certain. What was certain is that the mountains of Kaua'i yielded the valuable resource. And practically the only place that it could be shipped was from the only secure anchorage at Waimea River. Waimea also served as a provisioning port of call to the growing number of whaling ships that began to appear in the Pacific.

The independent rule of Kaua'i came to an end in 1824 with the death of Kaumuali'i. This same year, the heir of Kamehameha, Liholiho Kamehameha II also died. The kingdom of Hawai‘i would now be ruled by a queen.

THE REGENCY OF KA'AHUMANU

Ka'ahumanu was one of Kamehameha’s primary wives, his favorite in fact, but not of sufficient rank to be mother of his heirs. It appears she never bore the king, or anyone else, any children. From her actions following his death in 1819, it is apparent that Ka'ahumanu considered herself Kamehemeha’s heir. The mother of the heirs, Keōpuolani, died in 1823. Her first son was Liholiho, born in 1796, made king in 1819, and died visiting London in 1824. Her second son was Kauikeaouli, Kamehameha III, born in 1813. Her daughter, Nahienaena was born in 1815 (Day 1984). With the death of Liholiho and his mother, Ka'ahumanu became Regent of the kingdom until Kauikeaouli would come of age. Her rule of Hawai'i in general, and Kaua'i specifically, was adroit, intelligent, and shrewd.

King George Kaumuali'i and a number of Kaua'i chiefs forcefully resisted the rule of the Kamehameha line, and their revolt was crushed. As with many events in Hawaiian history, some Kaua'i chiefs stood with the old, while others stood with the new. In this case, as with any other, people chose what they thought would benefit them most. Those who rebelled had their lands and lives taken, while those who did not benefitted.

The first long term governor during the regency was Kaikioewa, a high chief born at Waimea, Kaua'i. He was a first cousin and brother in law of Kamehameha, a guardian of Kamehameha III, and a principal leader in crushing the 1824 rebellion (Mills 2002). He reigned as governor from 1825 until his death in 1839.

Ka'ahumanu ruled as Regent until her death in 1831. A daughter of Kamehameha, Kīna'u, took over as regent until 1834 at which time Kauikeaouli Kamehameha III took the throne. He had lived on Kaua‘i as a boy under the protection of Kaikioewa but had spent the majority of his youth on O'ahu. Ruling until his own early death in 1854, his reign was admirable for its civil rights, efficiency, and the creation of the Māhele, by which land awards to commoners and granting ownership to the disenfranchised was achieved. During his reign, there was an increase in the number of immigrants from Europe, the United States, and China. Missionaries, merchants, laborers, and farmers of multiple nationalities added to the diversity and complexity of the Kingdom.

MĀHELE

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on western law. While it is a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kauikeaouli (Kamehameha III) established laws changing the traditional Hawaiian economy to that of a market economy (Kame'eleihiwa 1992:169-70, 176; Kelly 1983:45, 1998:4; Daws 1962:111; Kuykendall 1938 Vol. I: 145). The Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were thus made available and private ownership was instituted, the *maka'āinana* (commoners), if they had been made aware of the procedures, were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but 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). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16).

Once Article IV of the Board of Commissioners to Quiet Land Titles was passed in December 1845, the legal process of private land ownership was begun. The land division, called the Māhele, began in 1848. As stated above, the lands of the kingdom of Hawai'i were divided among the king (crown lands), the *ali'i* and *konohiki*, and the government.

Many LCAs are present in the Hanamāʻulu area and throughout Puna District. Several LCAs are noted along Hanamāʻulu Stream, just to the west of the current project area, contained *lo'i* (irrigated taro), as well as coconut, sweet potatoes and breadfruit planting areas (Corbin et al. 2002:20). A search of the Waihona 'Aina (2016) database produced a list of 20 LCAs within Hanamā'ulu Ahupua'a, which were claimed during the Māhele.

According to current records, individual LCAs do not appear to have been claimed or awarded within the project area (see Figure 2). However, LCA 7713: 2, which included the 9177 acres comprising Hanamā'ulu Ahupua'a, in its entirety (Appendix E), was claimed by and awarded to Princess Victoria Kamamalu (daughter of Kīna`u and Kekuanaoa and sister of Kamehameha IV, Alexander Lihiliho, and Kamehameha V, Lot) in 1861, under Royal Patent 4481.

At the end of the 19th century and into the 20th century, the project area was part of a large area of land which was primarily cultivated in sugar cane by the Lihue Sugar Plantation. The project area remained in sugar cane until the 1980s and has laid fallow since.

PREVIOUS ARCHAEOLOGY

There have been at least 15 archaeological projects conducted in this general area from Thrum in 1907 to more contemporary studies (Dega and Powell 2006). Thrum (1907) compiled an inventory of *heiau* throughout the islands and in the Hanamāʻulu area, he "recorded" two *heiau*: Ahukini and Kalauokamanu. These *heiau* were not marked on maps but were simply described. Both *heiau* were destroyed as of 1855. During Bennett's (1931) island-wide survey in 1928-1929, the two *heiau*, now known as Site 101 and Site 102 were also noted. Ahukini Heiau was built near Ahukini Point on a bluff overlooking the sea while the location of Kalauokamanu was never identified. Bennett (1931) did also note that both *heiau* were previously destroyed. Bennett makes first mention of Site 103, a burial ground in this area: "in the sand dunes that run along the shore half way between Hanamāʻulu and Wailua River are many burials."

As summarized below by Dega and Powell (2006), at least eleven known archaeological sites are present in the Hanamā'ulu area toward the Wailua Golf Course. As one moves from south to north, or Ahukini Point toward Wailua, several sites are exhibit both a pre- and post—Contact component (see Dega and Powell 2006). First, Ahukini landing itself, a probable late 19th construction, is present inside the breakwall of Hanamā'ulu Bay. Plantation housing for sugar cane workers has been noted just to the south of the point. Foundations still exist in remnant state. Moving inland to the west, several additional previously identified sites are present (Figures 4 and 5):

1. State Site 50-30-08-1845 is the historic Hanamāʻulu Railroad Bridge. This bridge is being preserved and represents the plantation era.

2. State Site 50-30-08-2066 consists of multiple features: an upright, historic road, and historic house foundation.

3. State Site 50-30-08-2067 consists of a historic cemetery perhaps dating to the 1880s. The cemetery is present on the *mauka* side of the highway on the edge of former sugar cane lands.

4. State Site 50-30-08-1843: prior to construction of Ahukini Landing, an old wharf was present on the northern flank of the bay. This is Site 1843 and consists of a concrete wall, foundation, and sugar cane road. This represents the location of the old wharf.

5. State Site 50-30-08-1841 occurs just to the north and also represents the Historic Period: a road and trail running along the coast. It is possible this trail has some time depth from prehistoric times but it has not yet been dated.

As one rounds the point to the north, three archaeological sites are present above the rocky coastline. State Site 50-30-08-2068 consists of a looted, historic-period trash dump dating between 1880 and 1910. Datable artifacts include glass and ceramic fragments that were recovered from the bluff, at the edge of plantation lands. State Site 50-30-08-1840, nearby, consists of a historic-period retaining wall related to sugar cane or military transport; State Site 50-30-08-1839, occurring about 25 m to the east of the trash dump represents the first fully known prehistoric site in this coastal area. This site is a prehistoric complex occurring on the flats and composed of a wall and terrace suspected to be related to temporary habitation. No carbon dates are available for this site.

Proceeding to the north, around the point and onto the flat coastal plains toward Wailua, both historic and prehistoric sites are present (see Dega and Powell 2006). State Site 50-30-08-1838 consists of a prehistoric cultural deposit partially eroding out of modified sand dunes. The layers contained charcoal, shells, and coral fragments; this type of discovery is expected so near to the coastline. The site had been disturbed during military training exercises in the 1940s. The cultural deposit, now a small remnant, was dated to AD 1170-1400, and represents temporary habitation of the area. This pattern of remnant cultural deposits and temporary activities near the coast holds through the Kealia area and beyond, and is one concern for the present work. The final historic site in this area is State Site 50-30-08-1846, two historic railroad bridges used for hauling sugar cane from the fields to Lihue. This site is present more inland and south of the Radisson Hotel.

State Site 50-30-08-885, located just south of Raddison Hotel, represents a possible traditional Native Hawaiian burial ground. Multiple burials have been documented in this sandy location, from the Raddison through Wailea Golf Course and Lydgate Park.

Several archaeological projects were identified near Hanamā`ulu town, just to the east of the current project area (Figure 6; adapted from Hazlett and Spear 2015).

In 1990, Nancy McMahon (1990) conducted limited excavation to disinter an inadvertent burial identified during installation of a Hawaiian Telephone tower in the Kalepa Radio Station property on Kalepa Ridge, northwest of the current project area. During excavation, historic glass beads associated with the burial, as well as one additional set of human remains, a

waterworn basalt hammer stone and numerous basalt flakes were identified. The site was subsequently designated State Site 50-30-08-1827.

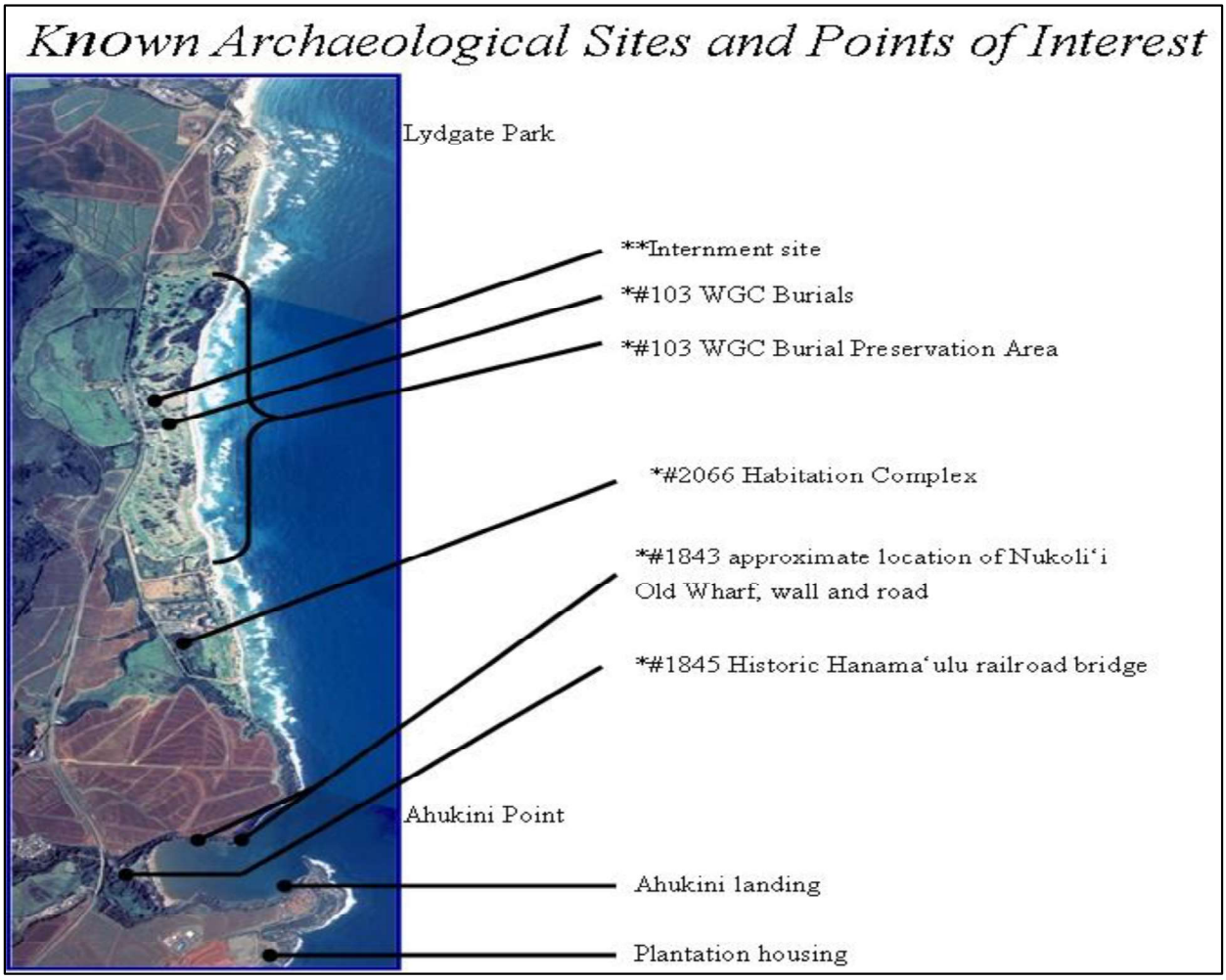

Figure 4: Archaeological Sites from Ahukini to Lydgate Park (Dega and Powell 2006).

In December 1990, Paul H. Rosendahl (1990) conducted an archaeological field inspection at the Kalepa Radio Station and along Kalepa Road, to identify any archaeological remains on or adjacent to the road or within the Kalepa Radio Station grounds. No additional sites (other than the previously identified State Site 50-30-08-1827) were identified (Rosendahl 1990: 1-3).

In 1990, Walker and Rosendahl conducted an archaeological inventory survey of the Hanamaulu Affordable Housing project area, to provide information for the preparation of an Environmental Assessment (EA). Nine backhoe trenches were excavated; archaeological or cultural finds were limited to "several small isolated coral fragments". No further archaeological

work was recommended for the project area, which was determined to have been entirely disturbed to a significant depth below surface by historic sugar cane operations (Walker and Rosendahl 1990:ii).

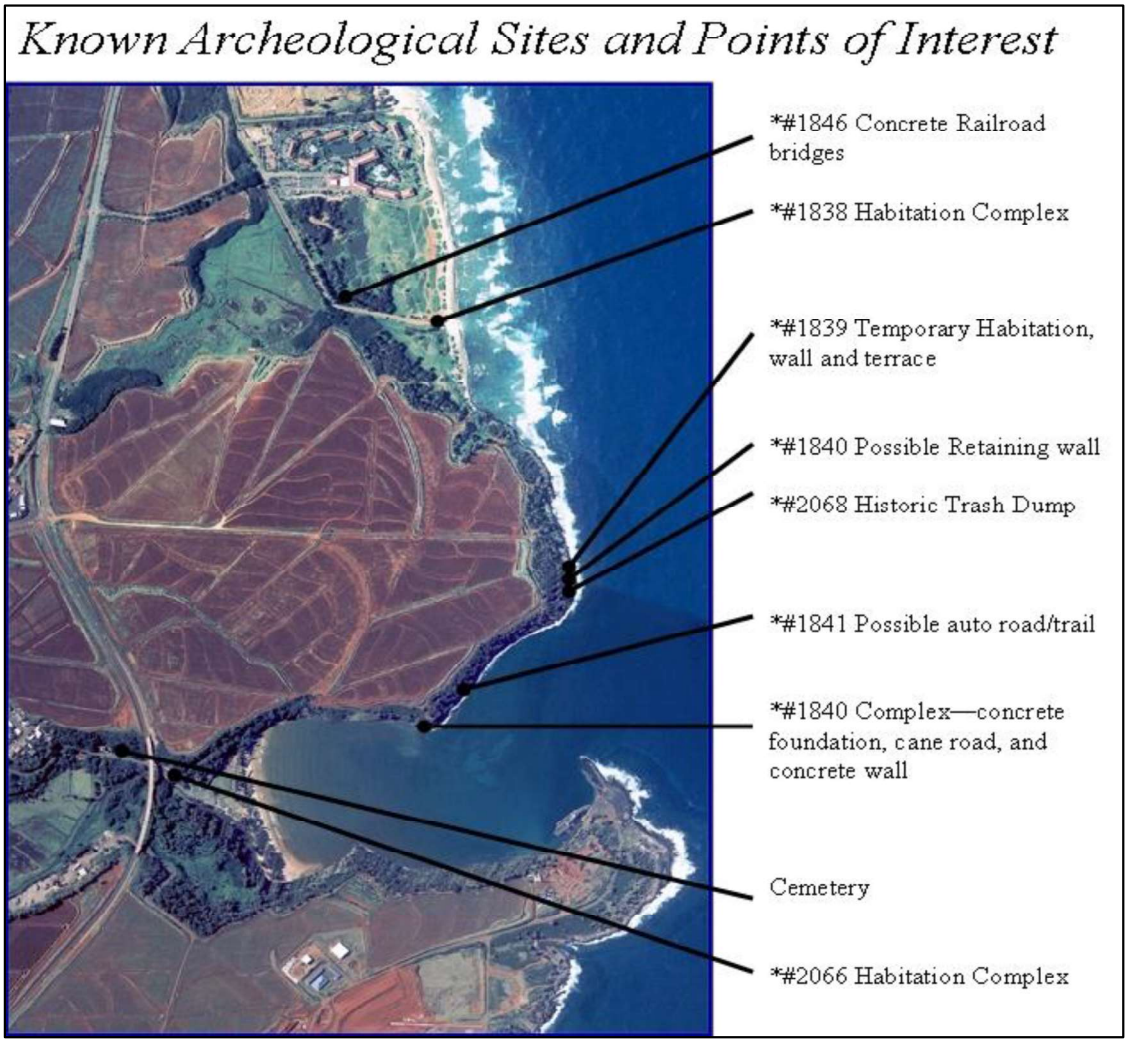

Figure 5: Archaeological Sites in the Hanamā'ula Area (Dega and Powell 2006).

In 1991, Walker, Kalima, and Goodfellow (Walker et al. 1991) conducted an archaeological inventory survey near the mouth of the Hanamāʻulu Stream (one portion of this study area lies within the one-half mile radius of the project area), which identified 10 sites; three of these date from pre-Contact times: a subsurface cultural deposit associated with a traditional living site area (State Site 50-30-08-1838, A and B), an agricultural wall and terrace of unknown function (State Site 50-30-08-1839 A & B), and a terraced river valley of some 50 acres (State Site 50-30-08- 1847). State Site 50-30-08-1839 provided a radiocarbon date of 1170-1400 A.D. Other sites documented by Walker et al. (1991) north of the subject project area include plantation-era structures, and a historic cemetery (State Site 50-30-08-1844 Japanese-Buddhist

and Filipino-Catholic cemetery). No archaeological or cultural sites were identified within the one-half mile radius of the project area (the sites were located downstream, closer to the beach, or upstream, outside of the current study's half-mile search radius.

In 1994 K. Akana (1994) conducted archaeological monitoring for driveway improvements and the construction of a rock wall revetment in the Kalepa Radio station property, after human skeletal remains (State Site 50-30-08-746) were inadvertently discovered during the road construction. Additional skeletal fragments were identified during monitoring; the remains were reinterred near the original discovery point (Dye and Jourdane 2006:6).

In 2006, Dye and Jourdane (2006) conducted an archaeological assessment of a parcel at Kalepa for a Cingular Wireless cell tower installation. No new archaeological or cultural sites were identified during this study.

With the exception of the two burial sites (State Site 50-30-08-746 and State Site 50-30-08-1827) found atop Kalepa Ridge, no archaeological sites or cultural resources were identified during the six archaeological studies conducted within a half-mile radius of the current project area.

Overall, these sites point to the significance of Hanamāʻulu Ahupua'a in both the pre- and post-Contact Periods. Many of these sites are present nearer the coastline and have been somewhat preserved as most they are Historic-era structures and also did not occur within sugar cane fields.

Scientific Consultant Services (Wasson and Dega 2016) conducted an archaeological inventory survey for the current project area. Full pedestrian survey and the excavation of eight representative trenches (ST-1 through ST-8) were completed on the 5 acre parcel. The project area consists of a single, undeveloped lot of former sugar cane field land. No historic properties were identified.

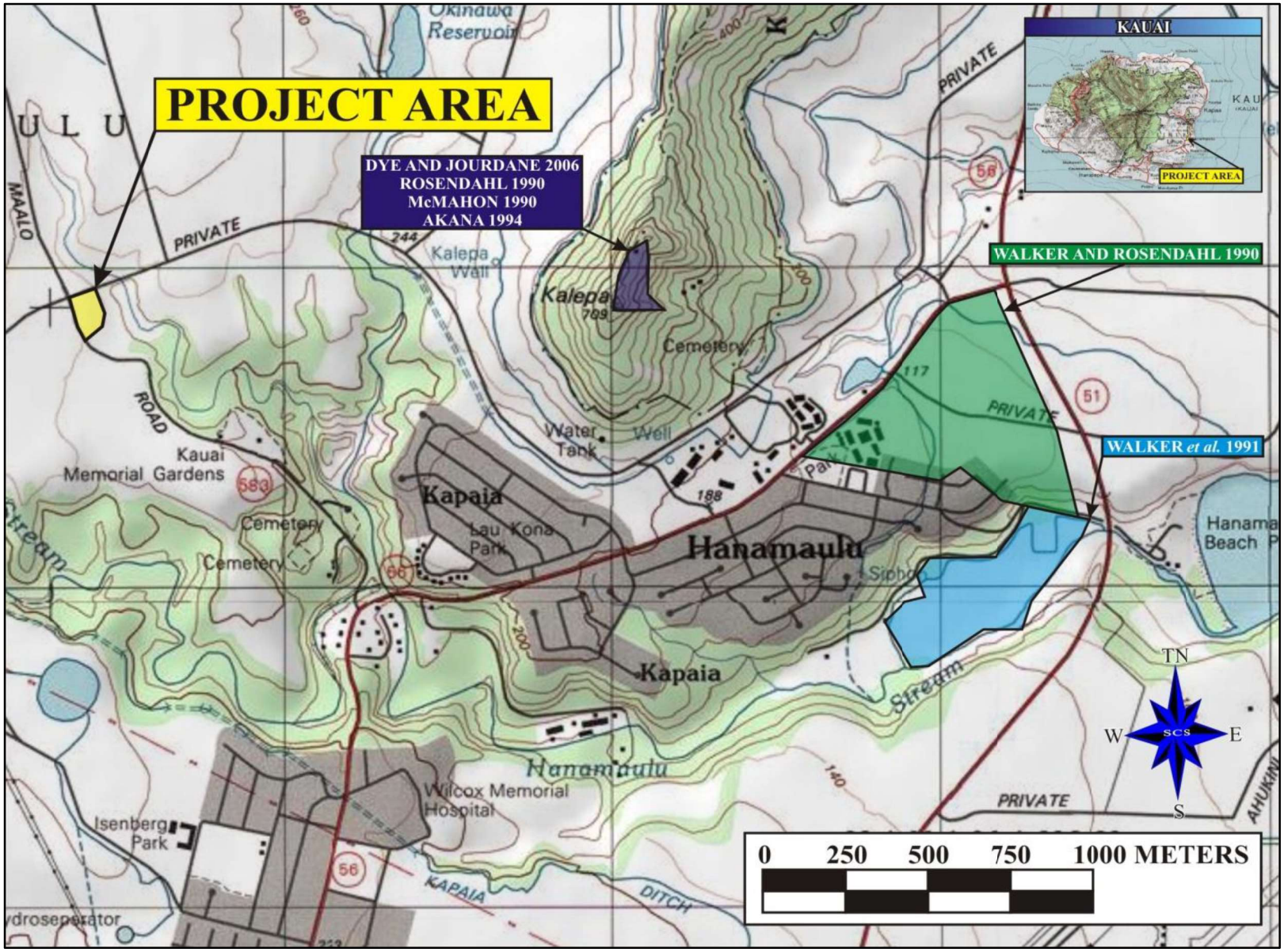

Figure 6: USGS Map of Previous Archaeology in the Hanamā'ulu Town Area.

CONSULTATION

Consultation was conducted via telephone, e-mail, and the U.S. Postal Service. Consultation was sought from Missy Kamai, Na Kuleana Oiwi; Randy Wichman, President, Kaua'i Historical Society; Jane Kamahaokalani Gray, Director, Kaua'i Museum; Kauilani Kahalekai, cultural practitioner; Charles R. (Chipper) Wichman, President, Chief Executive Officer, and National Tropical Botanical Garden Director, National Tropical Botanical Garden; Mary Jane Naone, Kaui Lead Archaeologist, State Historic Preservation Division; Milton Ching, community member; William Ho'ohuli, community member; S.C. Kaahiki Solis, Cultural Historian, State Historic Preservation Division; Dr. Kamana'opono M. Crabbe, Chief Executive Officer, Office of Hawaiian Affairs; Leimana Da Mate, Executive Director, Aha Moku Advisory Board; Kauanoe Ho'omanawanui, Kaua'i Island Burial Sites Specialist; and Liberta Hussey Albao, Queen Deborah Kapule Hawaiian Civic Club, President.

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In addition, a Cultural Impact Assessment Notice was published on April 17, 19, and 20, 2016, in *The Honolulu Star-Advertiser* and in *The Garden Isle News*, which published on the same dates on Maui, and the May 2016 issue of the OHA newspaper, *Ka Wai Ola* (see Appendix B). These notices requested information of cultural resources or activities in the area of the proposed project, stated the Tax Map Key (TMK) number, and where to respond with pertinent information. Based on the responses, an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

CULTURAL IMPACT ASSESSMENT INTERVIEWS AND CONCERNS

Analysis of the potential effect of the project on cultural resources, practices or beliefs, the potential to isolate cultural resources, maintain practices or beliefs in their original setting, and the potential of the project to introduce elements that may alter the setting in which cultural practices take place is a requirement of the OEQC (2012:13). As stated earlier, this includes the cultural resources of the different groups comprising the multiethnic community of Hawai'i.

During the consultation process, SCS received one response to the inquiries pertaining to any information that individuals or organizations may have which might contribute to the knowledge of traditional cultural activities that were, or are currently, conducted in the vicinity of the proposed County of Kauai Adolescent Treatment and Healing Center (ATHC) in Hanamā'ulu Ahupua'a, Puna District, Island of Kaua'i, Hawai'i [TMK (4) 3-8-002:001 por.]. S.C. Kaahiki Solis, Cultural Historian, State Historic Preservation Division, responded. Ms. Solis

responded via e-mail and suggested that SCS contact Kauanoe Ho'omanawanui, the SHPD Kaua'i Island Burial Sites Specialist. In addition, Ms. Solis offered to comment on the current CIA document and did not express any concerns regarding the proposed undertaking (see Appendix D).

SUMMARY

The "level of effort undertaken" to identify potential effect by a project to cultural resources, places or beliefs (OEQC 2012) has not been officially defined and is left up to the investigator. A good faith effort can mean contacting agencies by letter, interviewing people who may be affected by the project or who know its history, researching sensitive areas and previous land use, holding meetings in which the public is invited to testify, notifying the community through the media, and other appropriate strategies based on the type of project being proposed and its impact potential. Sending inquiring letters to organizations concerning development of a piece of property that has already been totally impacted by previous activity and is located in an already developed industrial area may be a "good faith effort." However, when many factors need to be considered, such as in coastal or mountain development, a good faith effort might mean an entirely different level of research activity.

In the case of the current undertaking, letters of inquiry were sent to individuals and organizations that may have knowledge or information pertaining to the collection of cultural resources and/or practices currently, or previously, conducted in close proximity to the proposed County of Kauai Treatment and Healing Center (ATHC) to be located in Hanamā'ulu Ahupua'a, Puna District, Island of Kaua'i, Hawai'i [TMK (4) 3-8-002:001 por.].

Historical and cultural source materials were extensively used and can be found listed in the References Cited portion of this report. Such scholars as Samuel Kamakau, Martha Beckwith, Jon J. Chinen, Lilikalā Kame'eleihiwa, R. S. Kuykendall, Marion Kelly, E. S. C. Handy and E.G. Handy, and Mary Kawena Puku'i and Samuel H. Elbert continue to contribute to our knowledge and understanding of Hawai'i, past and present. The works of these and other authors were consulted and incorporated in this report where appropriate. Land use document research was supplied by the Waihona 'Aina Database (2016).

CULTURAL ASSESSMENT AND RECOMMENDATIONS

Analysis of the potential effect of the project on cultural resources, practices or beliefs, its potential to isolate cultural resources, practices or beliefs from their setting, and the potential of

the project to introduce elements which may alter the setting in which cultural practices take place is a suggested guideline of the OEQC (2012). Based on the above research and the limited number of comments received from the community, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to traditional cultural practices do not have the potential to be impacted by the proposed undertaking.

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APPENDIX A: EXAMPLE LETTER OF INQUIRY

APPENDIX B: NEWSPAPER NOTICE AND AFFIDAVIT

APPENDIX C: EXAMPLE FOLLOW-UP LETTER

APPENDIX D: RESPONSES

APPENDIX E: LCA 7713