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DEPARTMENT OF EDUCATION
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OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

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QUALITY CONTROL

December 7, 2016

TO: Scott Glenn
Director, Office of Environmental Quality Control
Department of Health

FROM: Duane Y. Kashiwai
Public Works Administrator, Facilities Development Branch

SUBJECT: **Draft Environmental Assessment for Kaleiopuu Elementary School, New Classroom Building,Village Park (Ewa), Oahu, Hawaii**
Job Number: Q86002-15

Attached is the Department of Education's submittal of the Draft Environmental Assessment (EA) for the proposed classroom building at Kaleiopuu Elementary School in Village Park, located in the district of Ewa, on the island of Oahu, situated at TMK 9-4-107:98, for publication of a notice of availability for public comment for 30 days in the next available edition of the Office of Environmental Quality Control (OEQC), *The Environmental Notice* bulletin.
The EA includes the comments received during the pre-consultation for the project, which were addressed. Also accompanying this letter is the EA distribution list, which contains the recipients of the document. Lastly, a hard copy and electronic files of the OEQC Publication Form and the EA accompany this packet. A copy of the submittal materials have been sent to the Governor's Office as the Accepting Authority for the project.

Should you have any questions, please contact EA preparer, Kristen Nishimura of AECOM, at 356-5306.

Thank you.

DYK:tto
Enclosures

c: Facilities Development Branch

#17-272

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AGENCY PUBLICATION FORM

Project Name:	Kaleiopuu Elementary School Classroom Building Environmental Assessment
Project Short Name:	Kaleiopuu Elementary School Environmental Assessment
HRS §343-5 Trigger(s):	Use of State lands and State funds
Island(s):	Oahu
Judicial District(s):	Ewa
TMK(s):	9-4-107:98
Permit(s)/Approval(s):	City and County of Honolulu, Department of Planning and Permitting: Construction Pland; Building Permit; Grubbing, Grading, and Stockpiling. State of Hawaii, Department of Health: Community Noise Permit for Construction Activities; and Community Noise Variance. Disability and Communication Access Board: Conformance with Accessibility Guidelines.
Proposing/Determining Agency:	Department of Education
Contact Name, Email, Telephone, Address	William George, William.George/FacilDev/HIDOE@notes.k12.hi.us, 808.586.0465, State of Hawaii, Department of Education, 1151 Punchbowl Street, Room 431, Honolulu, Hawaii 96813
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	
Consultant:	AECOM
Contact Name, Email, Telephone, Address	Kristen Nishimura, kristen.nishimura@aecom.com, 808-356-5306, 1001 Bishop Street, Suite 1600, Honolulu, Hawaii 96813

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

The Department of Education proposes to construct a two-story classroom building at Kaleiopuu Elementary School on the site of existing portable structures, some of which are used as classrooms. The classroom building contains eight classrooms and shared functional spaces, such as a conference room, a science room, and a special education room. Building design optimizes natural resources for cooling, but also designed to be PV-ready for use of air conditioners for an added level of comfort for the students and teachers. The proposed building is proposed to meet Hawaii Collaborative for High Performance Schools (HI-CHPS) Verified Recognition Level through a mixed mode of ventilation and cooling infrastructure.

Impacts from the proposed project are related to construction activities and the resultant building. Those directly affected would be the students and teachers in Buildings F and G, which face the project area. Although the impacts would not outlast the construction duration, the project applicant (Department of Education), in addition to abiding by the provisions set forth in Title 11, Chapter 46 of the Hawaii Administrative Rules, Community Noise Control, should work with Kaleiopuu Elementary School and the community on reaching a solution to minimize the impacts to the well-being of the students.

KALEIOPUU ELEMENTARY SCHOOL CLASSROOM BUILDING

DRAFT Environmental Assessment

DOE JOB NO. Q86002-15

Prepared for CDS International

December 2016

AECOM

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ACRONYMS AND ABBREVIATIONS

%	percent
$\mu g/m^3$	microgram per cubic meter
BMP	best management practice
CDP	census-designated place
CO	carbon monoxide
CZM	Coastal Zone Management
DOE	Department of Education, State of Hawaii
DOH	Department of Health, State of Hawaii
EA	environmental assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HAR	Hawaii Administrative Rules
HECO	Hawaiian Electric Company, Inc.
HI-CHPS	Hawaii Collaborative for High Performance Schools
HRS	Hawaii Revised Statutes
MuC	Molokai silty clay loam, 7 to 15 percent slopes
MuD	Molokai silty clay loam, 15 to 25 percent slopes
PV	photovoltaics

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1.0 PROPOSED PROJECT

1.1 PROJECT SITE

Kaleiopuu Elementary School is located in the town of Village Park on the mauka side of H-1 Queen Liliuokalani Freeway, north of Waipahu town (see Figure 1). The main access to Kaleiopuu Elementary School is from Kaaholo Street via Kupuna Loop. Kupuna Loop surrounds the project area vicinity and serves as a collector road for the local streets that provide circulation for Village Park. Outside of Village Park, the project site can be reached by way of Kunia Road, Naval Access Road, and the H-1 Freeway.

1.2 PURPOSE OF THE PROJECT

The purpose of this project is to modernize the learning environment for students currently using the portable structures. The building will be designed to operate as a naturally ventilated space or fully air conditioned space by the building's orientation and fenestration.

1.3 PROJECT DESCRIPTION

Located in the community of Village Park in central Oahu, Kaleiopuu Elementary School was constructed in 1988 along with the adjoining Hoaeae Community Park through the approval of a conditional use permit (City and County of Honolulu, Department of Planning and Permitting 2016). The school is administered by the State of Hawaii Department of Education (DOE) for grades kindergarten to fifth grade.

Classrooms at Kaleiopuu Elementary School are situated in five permanent buildings, Buildings D, E, F, G, and H, and in eight of the 12 portable structures on the southern tip of the campus. A two-story classroom building is proposed on the site of portable structures P-1 through P-4, P-7, and P-8 to modernize the learning setting. Figure 2 shows the proposed layout of the new classroom building over the existing portable structures. Following the existing campus building design, the new building will be tied into a central spine on both the first and second floors. Access to the second floor will be provided by an elevator, as well as through a connected walkway to Buildings F and G. The new classroom building will contain six rooms, including general classrooms and special purpose rooms for special education, art/science, conference room, and curriculum room. Restrooms for the students and faculty will be located on both floors. Figure 3 and Figure 4 show the proposed layouts of the new classroom building.

It is not currently known at this time where the six portable structures will be relocated. Because of general shortage of classroom spaces throughout the DOE, the portable structures are likely to be relocated to another campus and repurposed. The existing playground set will also remain in the vicinity of the project, although it may be relocated during construction.

The new classroom building is proposed to be designed to meet Hawaii Collaborative for High Performance Schools (HI-CHPS) Verified Recognition Level and will contain a mixed mode of ventilation and cooling infrastructure. HI-CHPS is a resource used to design and construct healthy, high-performance, green schools. These qualifying schools are approved by the Board of Directors of the CHPS, a national non-profit organization that brings local high-performance school rating programs to states across the United States.

Document Path: S:\Projects\CDS\60504855_Kaleiopuu\900-CAD-GIS\920-GIS or Graphics\02_Maps\Fig1_SiteLocMap_rev.mxd

Legend

- Subject Property
- Subject Parcel
- Non-Perennial Stream

Figure 1
Site Location Map
Kalei'opu'u Elementary School
Waipahu, Hawai'i

AECOM

N

0 350 700 Feet

1.4 PROJECT INFORMATION SUMMARY

This section presents a summary of key project information.

Project Name:	Kaleiopuu Elementary School New Classroom Building DOE Job: Q86002-15
Project Tax Map Key (TMK):	9-4-107: 98
Project Address:	Kaleiopuu Elementary School 94-665 Kaaholo Street Waipahu, Hawaii 96797
Land Area:	Six acres; project area is approximately 0.85 acres, or 6,534 square feet.
State Land Use District:	Urban
Land Use Ordinance Zoning:	RS-5, Residential
Special Management Area:	The project area is located outside of the SMA.
Flood Zone Designation:	Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Zone D, an area of undetermined but possible flood hazards.
Proposing Agency:	State of Hawaii Department of Education Project Management 1151 Punchbowl Street, Room 431 Honolulu, Hawaii 96813 Contact*:* William George Phone*:* 808.586.0465 Email*:* William.George/FacilDev/HIDOE@notes.k12.hi.us
Prepared by:	AECOM Technical Services, Inc. 1600 Bishop Street, Suite 1600 Honolulu, Hawaii 96813
Accepting Authority:	Governor, State of Hawaii Hawaii State Capitol, 5th Floor 415 South Beretania Street Honolulu, Hawaii 96813

1.5 PROJECT SCHEDULE

The project duration is approximately 16 months.

1.6 PROJECT FUNDING

The project is anticipated to be funded by State monies as appropriated by the Hawaii State Legislature.

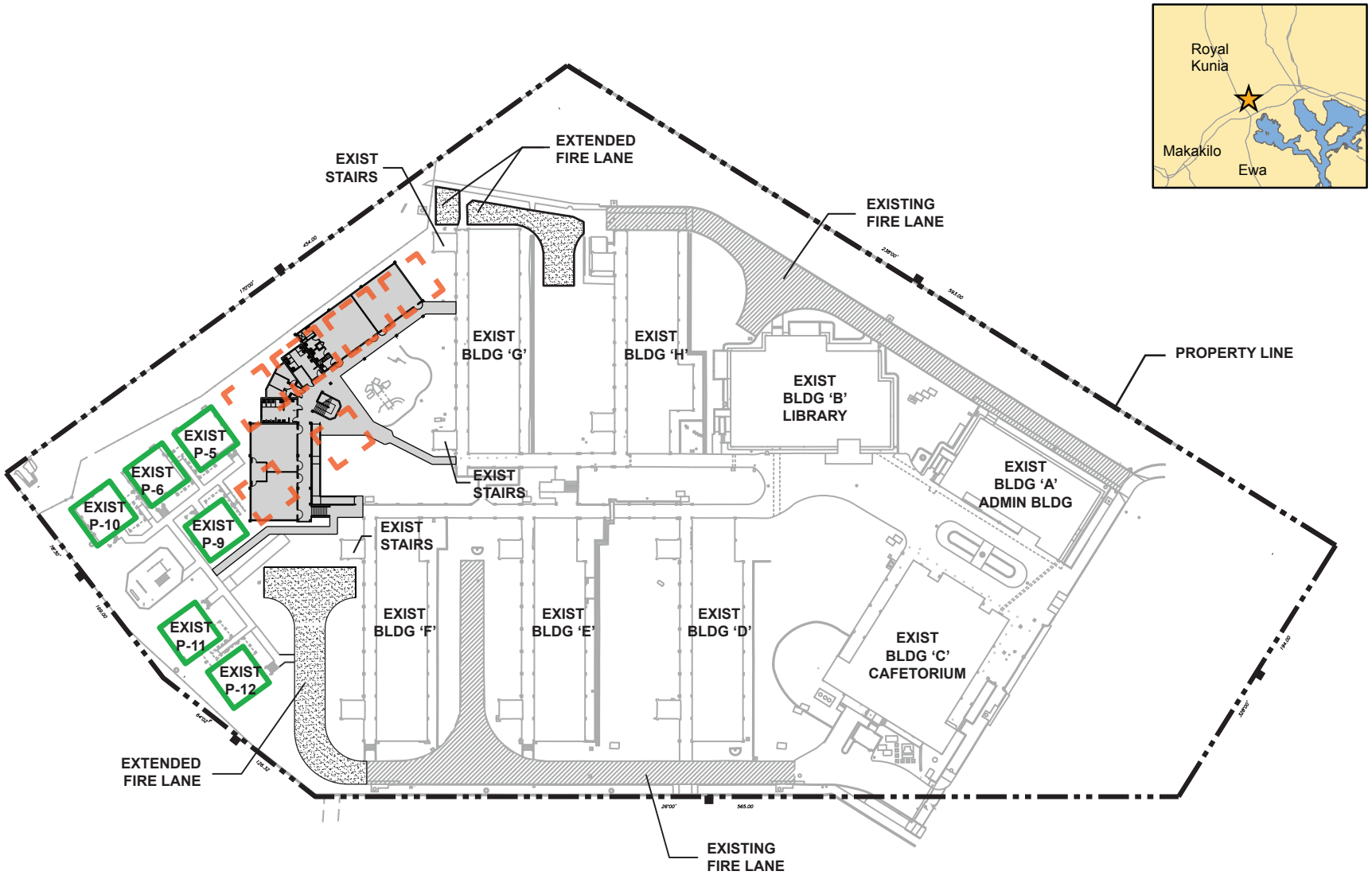

Figure 2. Site Plan

Legend

- Proposed Building to Be Constructed
- Existing Portable Buildings to Be Relocated Off-campus
- Existing Portable Buildings to Remain

Date: 7/20/2016

AECOM

Scale" 1/32" = 1'-0"

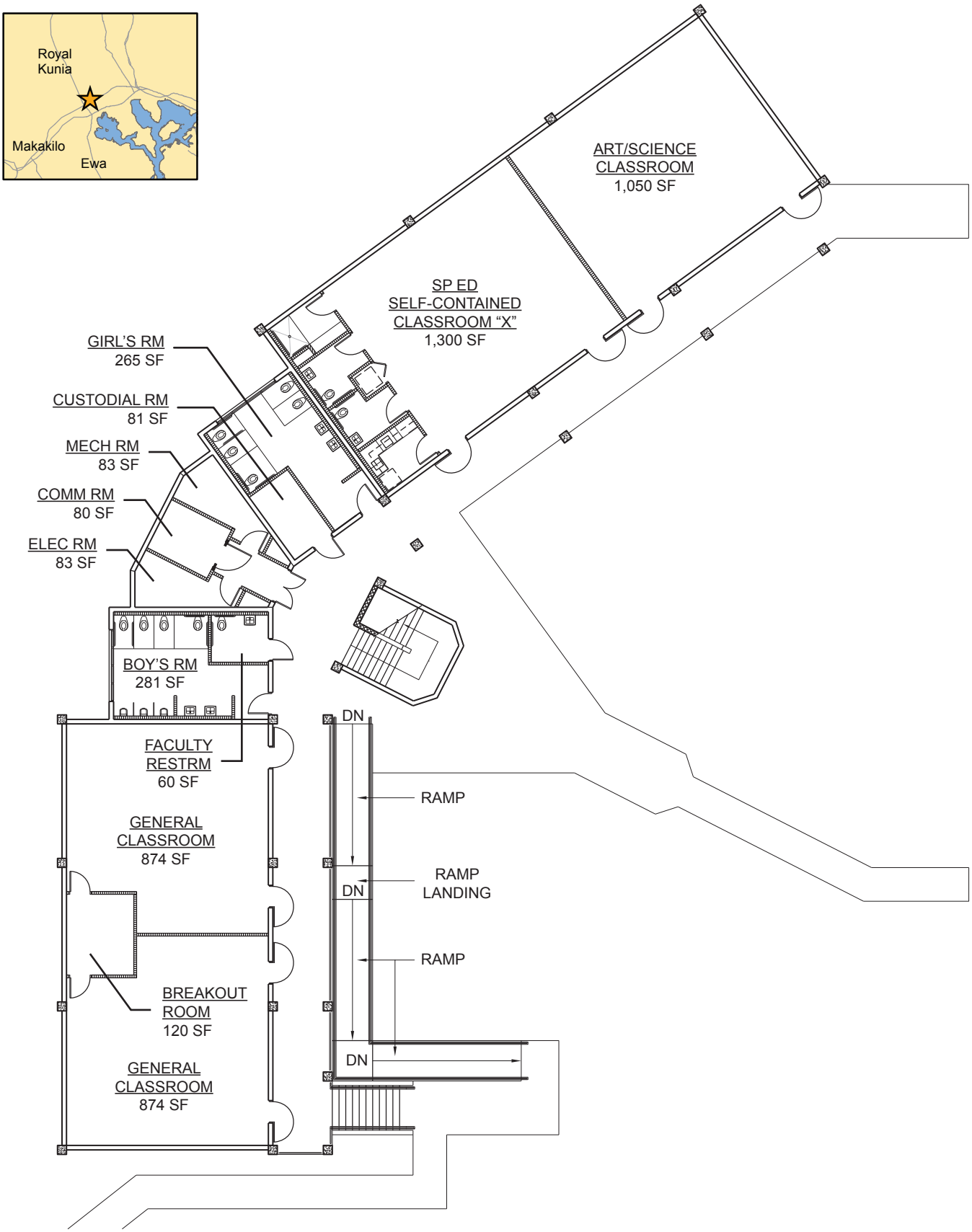

Figure 3. First Floor Plan

Date: 8/30/2016

AECOM

Scale" 1/8" = 1'-0"

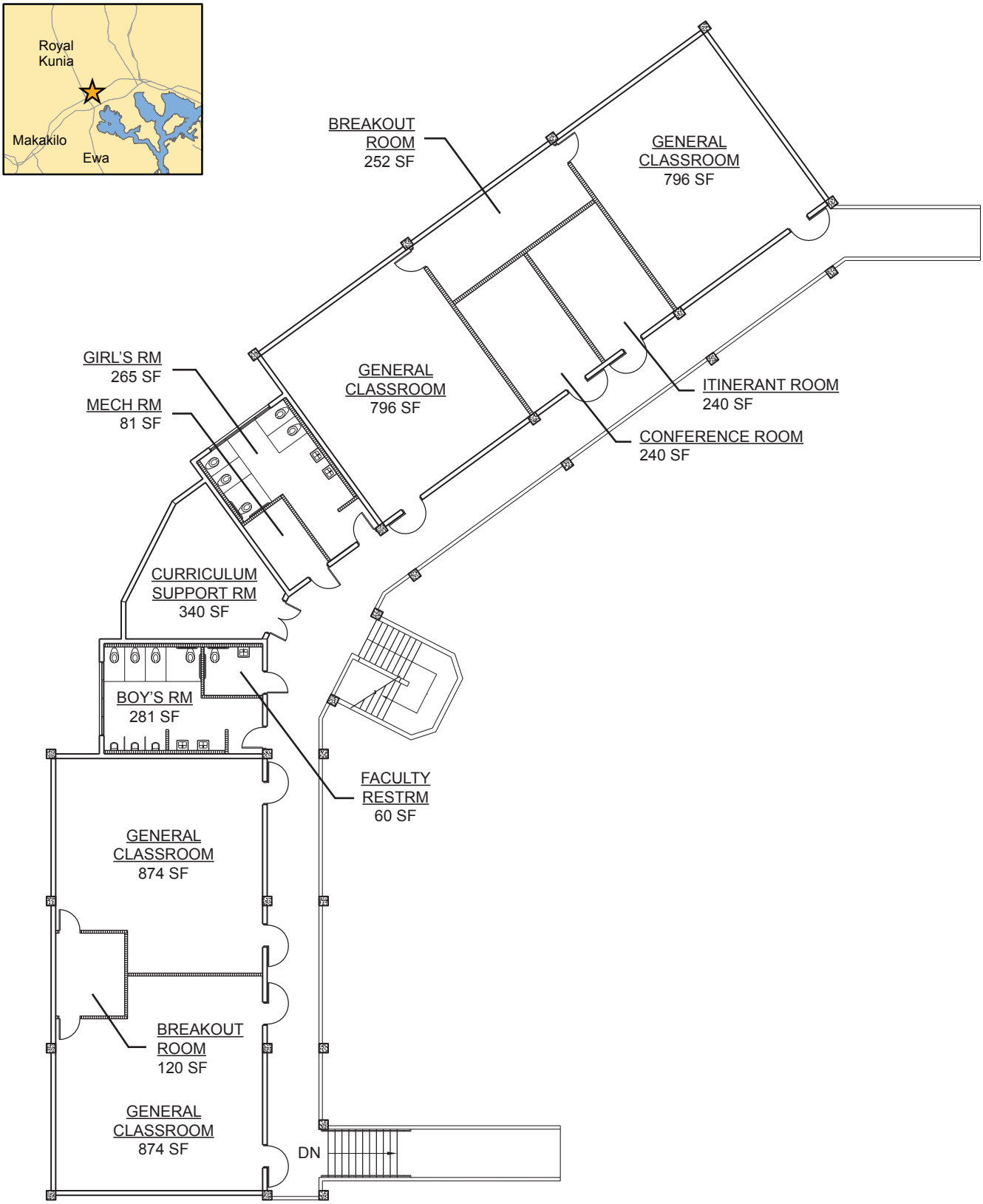

Figure 4. Second Floor Plan

Date: 8/30/2016

AECOM

Scale" 1/8" = 1'-0"

1.7 THE NEED FOR AN ENVIRONMENTAL ASSESSMENT

The use of State funds to improve property on State land to execute the proposed project is a trigger for the preparation of an Environmental Assessment (EA). An EA is prepared or commissioned by the project owners to disclose the potential environmental, social, and economic impacts of the project on the public land. The public, as stakeholders, is provided due process to comment on these potential impacts.

Any comments received are used to fully analyze alternatives and propose mitigation measures. The EA determines if an environmental impact statement would be required through public comment and stakeholder identification. This EA was prepared in accordance with the requirements of Chapter 343, *Hawaii Revised Statutes* (HRS), Chapter 200 of Title 11, *Hawaii Administrative Rules* (HAR).

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2.0 AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the affected environment of the project vicinity. Resources discussed include: social environment including demographical information; climate; geology or soils; topography; tsunami; fauna and flora; archaeological resources with cultural elements; noise; air quality; land use; traffic; visual resources; landownership; public services including police, fire, and medical institutions; and utility infrastructures.

Where applicable, potential impacts caused by the proposed project to any of the resources by the project are discussed. Where deemed appropriate to minimize such potential impacts to the resources, mitigation measures are suggested for consideration and acceptance by the proposing agency.

2.1 SOCIAL ENVIRONMENT

According to the United States Census Bureau, the town of Village Park is a census-designated place (CDP) in the City and County of Honolulu with a recorded population of 9,625 in 2,628 households and 2,281 families in the 2000 census. Subsequently, the Village Park CDP was replaced by the neighboring Royal Kunia CDP. The racial makeup of the CDP was 57.9 percent (%) Asian, 9.36% white, 7.57% Pacific Islander, 2.24% African American, and 21.45% from two or more races. Of the 2,628 households, 49.8% had children under the age of 18 living with them, 70.9% were married couples living together, 13.2% were non-families, and 8.3% of all households were made up of individuals. Approximately 30.4% of the population was under the age of 18, 10% were from 18 to 24, 32.3% were from 25 to 44, 21.9% from 45 to 64, and 5.3% were 65 years of age or older, making the median age 31 years. For every 100 females, there were 101.1 males. The median income for a household was $70,302; for a family, the median income was $72,422. Approximately 5% of the population were below the poverty line (United States Census Bureau, 2010). The socio-economic aspect of the project vicinity is not expected to be affected by the proposed project since little to no population change is anticipated.

2.2 NATURAL ENVIRONMENT

2.2.1 Climate

The climate of the project area—leeward, central Oahu—is characterized by mild temperatures, abundant sunshine, infrequent severe storms, moderate humidity, and persistent northeasterly trade winds (an average of 8.8–12.5 mph). The average annual precipitation is less than 25 inches annually. Temperatures range between 63 to 83 degrees Fahrenheit from November to April and rises to 66 to 87 degrees Fahrenheit from May to October. No change in climate is anticipated as a result of the project execution.

2.2.2 Geology and Soils

The United States Department of Agriculture Web Soil Survey map identifies three soil types within the project boundaries:

- Molokai silty clay loam, 7 to 15% slopes (MuC)
- Molokai silty clay loam, 15 to 25% slopes (MuD)
- Helemano silty clay

The MuC and MuD soils are well-drained soils formed in material weathered from basic igneous rock. The project area primarily consists of MuC soils at 99.3%. The MuD soil occurs on the southwest corner of the project area. Helemano silty clay, a well-drained soil developed in alluvium and colluvium derived from basic igneous rock, is found at elevations ranging from 500 to 1,200 feet above sea level, and on the sides of V-shaped gulches abutting the project area. This soil type is found at the west/northwest side of the school property boundary, along the gulch/bank of Hoaeae Stream (USDA

SCS 1972). No imported fill or embankment is anticipated to be used, and no short-term, long-term, or cumulative adverse effects to soils at the project site are anticipated.

2.2.3 Topography

The elevations of the project area range from 240 feet to 270 feet above sea level. The topography consists of flat to gentle slope (0-10% rise), moderate slope (10–20% rise), and steep slope (above 20% rise). The steep slopes occur along the school property boundaries on the west side beyond the fence line along the bank of Hoaeae Stream, as well as on the landscape strip dividing the school and the residential developments uphill. Moderate slopes are found at the landscaped areas between existing buildings. The area at which the new classroom building would be constructed is generally flat. No alteration to the topography is anticipated as a result of the project.

2.2.4 Tsunami

Almost all coastal areas on Oahu are within tsunami zones, and should a tsunami or any other storm-generated event hit the shoreline, flow would generally be in the mauka direction. The project site is located in the Safe Zone, an area of evacuation, according to the City and County of Honolulu Department of Emergency Management. The designated Tsunami Refuge Center for the project area is located at Patsy T. Mink Central Oahu Regional Park. The project site is located at least 240' uphill and approximately 1.5 miles away from the nearest coastline at West Loch. The project is not anticipated to be impacted by a tsunami event.

2.2.5 Fauna

Within the project area, fauna is limited to birds and mammals that have adapted to urban environment. There are no known endangered or threatened species occurring in the project area and no identified critical habitats within the project area. The closest bird habitat can be found at Pearl Harbor West Loch. No adverse impacts to fauna at the project site are anticipated from the proposed project. No endangered fauna is known to exist at the project area. Adapted species are the dominant components of the animal communities within the project limit.

2.2.6 Flora

The project area is a highly modified urban environment with no significant naturally occurring vegetation. There is no wetland in or adjacent the project area. The Hoaeae stream bank, which runs along the west boundary of the project area, is dominated by *Leucaena leucocephala* (Koa haole, shrub or small tree), a vigorous invasive species commonly seen in lowlands. The closest wetland is Waikele Stream more than ½-mile away. Kaleiopuu Elementary School is landscaped with grassed lawns, shrubs, and trees. No adverse impacts to flora at the project site are anticipated from the proposed project. No endangered flora is known to exist at the project area. Adapted species are the dominant components of the vegetation communities within the project limit.

2.3 BUILT ENVIRONMENT

This section presents the human environment surrounding the project site.

2.3.1 Archaeological Resources

There is no evidence of cultural resources at the project site. See Appendix A, *Archaeological Literature Review and Field Inspection with Cultural Component for the Kaleiʻopuʻu Elementary School EA Project, Hōʻaeʻae Ahupuaʻa, ʻEwa District, Oʻahu, TMK: [1] 9-4-107:098*.

2.3.2 Noise

Kaleiopuu Elementary School is in R-5 Residential District and is surrounded by residential development to the north, a community park to the east, and a gully to the south and west. As such, typical sources of noise within the project area are elementary school kids and activities, and park users. The State of Hawaii Department of Health (DOH) monitors noise issues in accordance with

HRS 19-342F and noise permits are issued when excessive noise levels are expected. The Occupational Safety and Health Act of 1970 was established to "assure the safe and healthful working conditions for working men and women" (OSHA 1970). Table 2-1 summarizes the maximum permissible sound levels for various noise durations. During the construction phase of the project, the students and teachers would be exposed to construction noise for prolonged periods of time.

Table 2-1: Permissible Noise Exposures

Duration (Hours/Day)	Permissible Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

Source: CFR, Title 29, Section 1910.95, "Occupational Noise Exposure," 2016.
dBA decibel (A-weighted scale)

2.3.2.1 Potential Impacts and Mitigation Measures

Intermittent elevated noise levels from certain types of construction activities are expected. Continued use of construction equipment and activities involving excavation, grading, and other construction activities may increase short-term noise levels. Pile drivers and rock drills, as well as earthmoving equipment (e.g., bulldozers) are anticipated to be the loudest equipment during construction. Among those largely impacted would be students and teachers in Buildings G and Y, which are located closest to the project area, where some parts of the buildings are located less than 50' from the construction site. While other buildings on campus would be shielded from the direct noise impact, the classroom buildings are clustered in close proximity of each other and would be subject to noise pollution.

2.3.2.2 Mitigation Measure

In accordance with provisions set forth in Title 11, Chapter 46, HAR, Community Noise Control, measures set forth by the permit issuer—DOH—should be adhered to, ensuring that noise impacts from the project site are reduced to less than significant. Moreover, the DOE is highly recommended to meet with Kaleiopuu Elementary School and Village Park community at large to find creative solutions to minimize noise impact for the students and teachers during construction period.

2.3.3 Air Quality

Vehicular traffic on the H-1 freeway, Kunia Road, Kaaholo Street, and Kupuna Loop are major roadways that impact the air quality of the project area. During times of unfavorable meteorological conditions (e.g., low wind speed) and heavy traffic, carbon monoxide (CO) can reach relatively high levels in the immediate vicinity of major traffic corridors, but long-term persistence of air pollution is rare.

DOH operates two monitoring stations for CO, none of which are near the project area. Data from the monitoring stations in downtown Honolulu and Kapolei indicate that CO concentrations are also well below state and federal standards, even in areas with heavy vehicular traffic. From the 7,628 one-hour readings taken in Kapolei, the highest maximum CO reading recorded was 3,090 micrograms per cubic meter ($\mu g/m^3$), which is substantially lower than the 10,000 $\mu g/m^3$ and 40,000 $\mu g/m^3$ for Hawaii and federal standards, respectively (State of Hawaii, Department of Health, Annual Summary 2014 Air Quality Data, 2015).

2.3.3.1 Potential Impacts and Mitigation Measures

Any impacts on air quality from the project would likely be related to construction activities. Impacts may include: fugitive dust from vehicle movement and soil excavation, and exhaust emissions from construction equipment operation. The project is not expected to produce long-term air quality impacts, nor would any state or federal thresholds be exceeded. Short-term air quality impacts may result from construction activities.

2.3.3.2 Mitigation Measures

To minimize impacts to air quality, the following best management practices (BMPs) should be applied:

- Water active work areas and disturbed dust sources frequently.
- Plan different phases of construction to limit the area of disturbance.
- Apply mulching, chemical soil stabilizers, or wind screens to minimize wind erosion.
- Cover open-bodied, dirt-hauling trucks.
- Adopt a road cleaning and/or tire washing program.
- Pave areas and/or establish landscaping early in the construction schedule.

2.3.4 Land Use

The project area is designated as Urban District according to the State Land Use Ordinance; thereby, the jurisdiction of the project area lies primarily with the respective county, the City and County of Honolulu. The City and County of Honolulu zoning designation for the project area is R-5 (residential). Other zoning designations in the vicinity of the project area include: A-1 (low density apartment), AG-1 (restricted agriculture), B-1 (neighborhood business), B-2 (community business), and P-2 (general preservation). Adjacent to the project area are the Hoaeae stream channel and the Hoaeae Community Park under P-2 zoning. The proposed project is in conformance with the applicable zoning code, R-5, for the project site. A height variance approval is needed since the classroom building would exceed the height limitation for a typical development (i.e., a residence).

2.3.5 Traffic

Because the school is located in a residential area, and Kaaholo Street contains one lane each way, traffic congestion is a daily occurrence during the drop off time between 7:30 am and 7:45 am and pick up time of 2 pm, and 1:10 pm on Wednesdays. In order that the traffic congestion is not exacerbated by the proposed project, the construction-related travel is urged to take place outside of these peak periods. After the completion of construction activity, the traffic demand is expected to revert to the pre-construction conditions, especially since additional enrollment is not expected to occur due to the classroom building construction. See Appendix B, *Transportation Impact Assessment Report, Kaleiopuu Elementary School Classroom Building, Village Park, Hawaii*.

2.3.6 Visual Resources

Kaleiopuu Elementary School is located at least 240’ above the sea level. From certain locations on campus, such as the southeast corner abutting Hoaeae Park, a sweeping view of Waipahu Town and Pearl Harbor West Loch can be seen. The project area is located away from the aforementioned viewing location by approximately 150 feet towards west, and is populated with the existing portable structures. Standing in the project area, it is difficult to see past the portable structures to gauge a view of the area outside of Kaleiopuu Elementary School. Therefore, the project area does not have protected views.

2.3.7 Land Ownership

The project area is wholly owned by the State. The proposed project does not alter this.

2.4 PUBLIC SERVICES

Because the increase in enrollment is not anticipated, the level of service for the current public services will remain unchanged.

2.4.1 Police

The law enforcement service for the project area is provided by the City and County of Honolulu, Police Department District 3 in Pearl City.

2.4.2 Fire

The fire protection service is provided by the City and County of Honolulu, Fire Department. The nearest fire station for the project area is Honolulu Fire Department Station 12, Waipahu Station (Engine 12, Quint 12, and Tanker 12), 1 mile south of the School. The vehicular fire protection access will be provided on both sides of the new building. The fire land extensions will be 20' wide per current fire code. The existing fire lanes are 15' wide and will remain unchanged.

2.4.3 Hospitals

The nearest medical service is provided at Kunia Urgent Care on Kupuohi Street. A more comprehensive medical service is provided by the Queen's Medical Center-West Oahu on Fort Weaver Road, approximately 1.4 miles south of the project area.

2.5 INFRASTRUCTURE AND UTILITIES

This section describes existing conditions of infrastructure and utilities that serve Kaleiopuu Elementary School. The existing conditions are based on available information. The existing conditions that are not clearly documented and need to be investigated further will be identified during the public commenting phase of the EA.

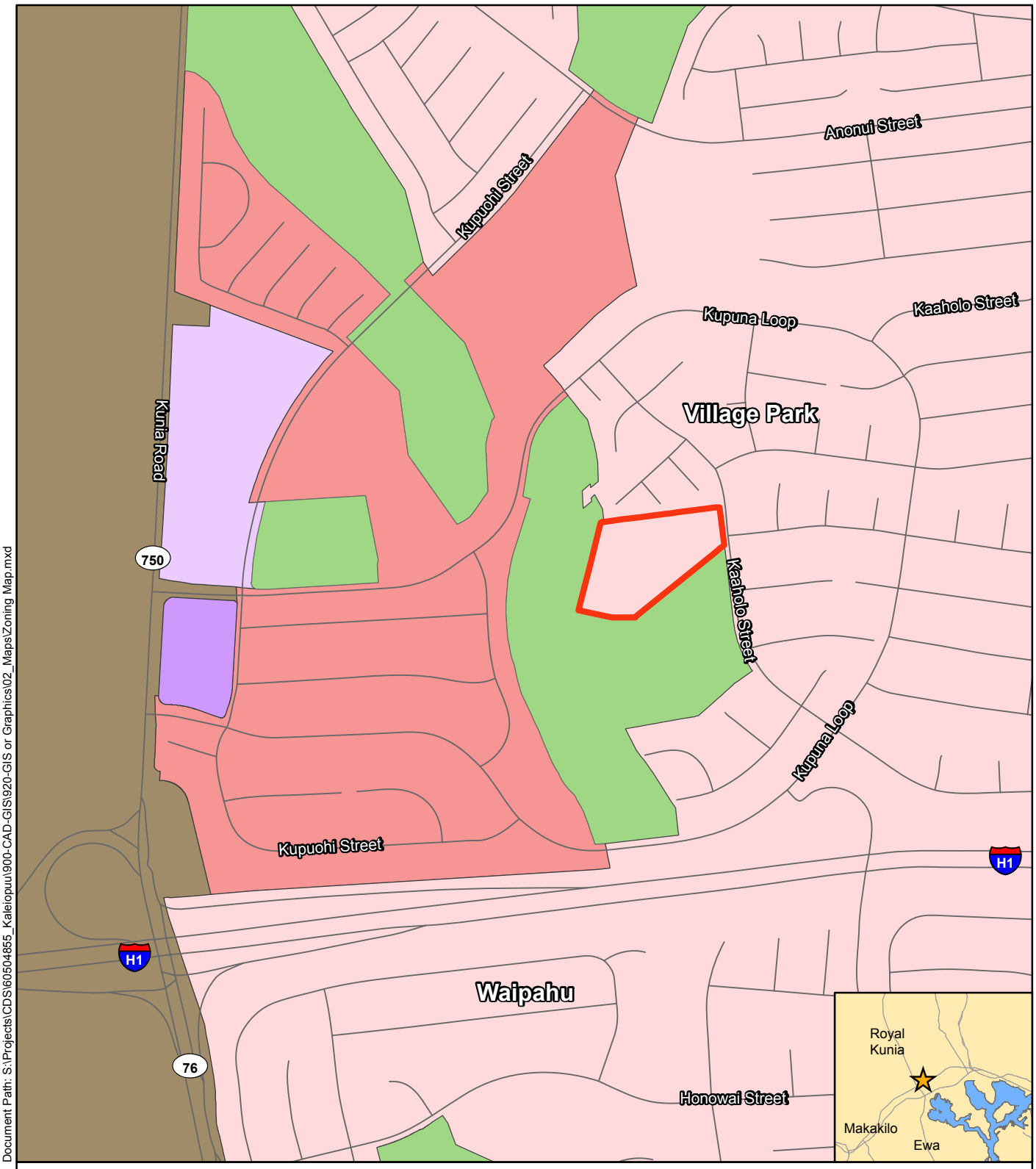
2.5.1 Water Systems

The project area sits above the Waipahu aquifer of the Pearl Harbor aquifer sector, an unconfined flank aquifer. A flank aquifer is normally horizontally extensive and usually carries basalt water (fresh water in contact with sea water). Because the Waipahu aquifer is unconfined, there is little protection to shield the groundwater from surface water runoff. As such, the water is highly vulnerable to contamination. The Waipahu aquifer groundwater is considered fresh water (low in salinity) and is currently being used for drinking water (Mink and Lau 1990).

The water system will be designed per the Board of Water Supply and Honolulu Fire Department standards. All water service will come from the existing domestic water service from the school's water meter. Domestic water service will be provided off the existing 3" BWS water meter. Irrigation water service will be provided through the same water meter used for the domestic service. An additional backflow prevention device will be utilized to ensure that the domestic service is protected from the irrigation service. Fire protection water will be provided directly off the school's fire protection system. Three new fire hydrants will be added to provide adequate coverage for the new and existing buildings. The hydrants will be located adjacent to the fire apparatus access lanes.

2.5.2 Sewer System

Existing sewer lines serving the portable structures may need to be relocated to accommodate the new building. The sewer system will be designed per the standards set forth by the Department of Planning and Permitting, Wastewater Branch. The sewage will be conveyed into the existing school system, which discharges into the municipal sewage system. No grease trap or oil interceptor is required as there is no kitchen or industrial activity proposed.



Document Path: S:\Projects\CDS\60504855_Kaleiopuu\900-CAD-GIS\920-GIS or Graphics\02_Maps\Zoning Map.mxd

Figure 5. Zoning Map

Legend

Project Parcel

Honolulu Zoning

A-1 Low Density Apt.

AG-1 Restricted Agriculture

B-1 Neighborhood Business

B-2 Community Business

P-2 General Preservation

R-5 Residential

Date: 8/30/2016

AECOM

0 300 600 Feet

2.5.3 Surface Water and Flood Hazard

According to the FEMA FIRM, the project area and its vicinity areas are located in Zone D. The Zone D designation is used for areas where there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. The designation of Zone D is also used when a community incorporates portions of another community's area where no map has been prepared. Concurrently, the project area is located in the Safe Zone as determined by the City and County of Honolulu, Department of Emergency Management. With the project execution, the project site will remain in Zone D.

2.5.3.1 Potential Impacts and Mitigation Measures

Permanent erosion control measures and BMPs will be implemented to minimize the impact to the groundwater and drainage.

2.5.4 Drainage

Whereas the existing portable structures are placed on the lawn (i.e., no poured foundation), the proposed project, through building construction, will increase the impervious surface, which will leave the project site with less on-site drainage.

2.5.4.1 Potential Impacts

Likely pollutants from construction activities include sediments from the disturbance of ground cover—vegetation, paving and structures—clearing and grubbing, excavation, and embankment. If not properly treated, sediments and other materials generated can enter the existing drainage system via runoff during rainy periods or sprinkling activities.

2.5.4.2 Mitigation Measures

As per County standards, the increase in storm water runoff generated from the increased impervious surface will be contained on-site. The user of water retention tactics, such as drywells, will be utilized to allow percolation of the collected runoff into the ground. Roof areas will be collected in gutters and downspouts and will be directly connected to drywells. Where possible, open drainage will be used to minimize the maintenance requirements. Discharge of runoff will be directed towards the gully in the rear, which is consistent with the existing drainage patterns. Water quality of runoff, which will be discharged off-site into the swale, will be pre-treated for reduction in pollutants, total suspended solids, and sediment by use of ground percolation and vegetative measures to filter runoff before it leaves the site. A drainage report is being prepared for the project and will explore the drainage tributary areas and calculations for the on-site retention of storm water runoff.

2.5.5 Electrical

There is an existing 300KVA Hawaiian Electric Company, Inc. (HECO) transformer location outside of main electrical room in Building C (Kitchen and Dining). The main switchboard inside the main electrical room is rated for 1200 ampere, 208/120 volts, three phase, and four wires.

2.5.5.1 Potential Impacts

The existing main switchboard does not have enough power to include the new air conditioner system for the new building. If the air conditioner system needs to be connected to HECO, the main switchboard and the transformer will need to be upgraded.

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3.0 ALTERNATIVES TO THE PROPOSED ACTION

This section describes the alternative to the proposed action.

3.1 NO-ACTION ALTERNATIVE

Under the No-Action Alternative, a permanent classroom building would not be constructed and classes for certain students at Kaleiopuu Elementary School would continue out of portable structures.

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4.0 STAKEHOLDER CONSULTATION

4.1 PRE-ASSESSMENT CONSULTATION JULY 7, 2016 – AUGUST 5, 2016

The pre-assessment consultation was performed to provide the presumed stakeholders an early notice of the proposed project, as well as to solicit feedback to better shape the proposed alternative, if needed. The list of entities and persons contacted is shown below.

State of Hawaii

Department of Education, Board of Education
Department of Education, Hawaii State Library, Hawaii Document Center
Department of Land and Natural Resources, State Historic Preservation Division
Department of Health, Environmental Health Administration
Department of Health, Environmental Planning Office
Department of Health, Indoor and Radiological Health Branch, Noise Section
Department of Transportation
University of Hawaii, Environmental Center

City and County of Honolulu

Department of Planning and Permitting
Department of Transportation Services

Elected and Other Officials

United States Senator Mazie Hirono
United States Senator Brian Schatz
United States Representative Tulsi Gabbard
Hawaii State Senator for District 18 Michelle Kidani
Hawaii State Representative for District 39 Ty Cullen
City Councilmember for District 9 Ron Menor
Waipahu Neighborhood Board 22 Chairperson Rito Saniatan

Utility Companies Distribution List

Hawaii Gas
Hawaiian Electric Company
Hawaiian Telcom

Community

Cadmus Properties Corporation, Managing Agent for Village Park Community Association

Comments from the following entities/persons were received:

Department of Planning and Permitting
Department of Health, Environmental Planning Office
Department of Health, Indoor and Radiological Health Branch, Noise Section
Department of Transportation Services
Department of Transportation

The responses to comments are provided in Appendix C of this report.

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5.0 RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS

This section describes the proposed project in relation to the applicable policies and controls of the State of Hawaii and the City and County of Honolulu.

5.1 STATE PLANS, POLICIES, AND CONTROLS

5.1.1 Hawaii State Plan

The Hawaii State Plan, embodied in Chapter 226, HRS, serves as a guide for goals, objectives, policies, and priority guidelines for the State. The State Plan provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities.

The new classroom building project conforms to most applicable goals, objectives, and priority guidelines of the Hawaii State Plan. The following elements describe the project's relationship and compatibility to relevant State Plan goals, objectives, policies, and priority guidelines.

§226-14 Facility Systems-In General:

> (a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.

The proposed project would accommodate the needs of Hawaii's people (i.e., students at Kaleiopuu Elementary School) through coordination of facility systems and capital improvement priorities in consonance with state and county plans. By designing the building to be photovoltaics (PV)-ready and orientating the building to maximize trade winds and sun energy, the proposed project demonstrates flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities. The proposed classroom building can be supported within the resources' capacities and at reasonable cost to the user.

§226-21 Socio-Cultural Advancement-Education:

> (a) Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.

The proposed project fulfills this goal by providing an adequate and accessible learning environment for the students.

5.1.2 Hawaii State Functional Plans

State Functional Plans are prepared by various state agencies, with community input and focus on specific areas including agriculture, conservation lands, education, employment, energy, health, historic preservation, housing, human services, recreation, tourism, and transportation.

5.1.2.1 STATE EDUCATION FUNCTIONAL PLAN

The twelve goals of the State Education Functional Plan are grouped into three clusters:

- Cluster A
  - A(1): Academic Excellence
  - A(2): Basic Skills

  - A(3): Education Workforce
  - A(4): Facilities and Services
- Cluster B
  - B(1): Alternatives for Funding and Delivery
  - B(2): Autonomy and Flexibility
  - B(3): Increased Use of Technology
  - B(4): Personal Development
  - B(5): Students with Special Needs
- Cluster C
  - C(1): Early Childhood Education
  - C(2): Hawaii's Cultural Heritage
  - C(3): Research Programs and (Communication) Activities

The proposed project is most applicable to Cluster A(4): Facilities and Services by ensuring that adequate and accessible educational facilities are being provided to meet individual and community needs. The new classroom building is sufficient in number, functional, well-paced, and compatible with the physical surroundings.

5.1.3 Coastal Zone Management Program

The entire State is included in the State Coastal Zone Management (CZM) Program, which was approved by the National Oceanic Atmospheric Administration in 1978. The relationship of the CZM objectives and policies are summarized below.

(1) Recreational resources;
   a. Provide coastal recreational opportunities accessible to the public.

   The project is not located in a costal location and this objective is not applicable.

(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.

   A cultural impact assessment for this project has been conducted and found no evidence of cultural resources of importance.

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

   The project does not contain visual resource, although other parts of the campus contain viewing areas. Those visual resources would not be impacted by the proposed project.

(4) Coastal ecosystems;
   a. Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

   The project is not located in a coastal area. During construction activities, mitigation measures to minimize runoffs will be implemented.

(5) Economic uses;
   a. Provide public or private facilities and improvements important to the State's economy in suitable locations.

This project does not contain public or private facilities and improvement of importance to the State's economy.

(6) Coastal hazards;
   a. Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Best management practices will be incorporated into construction activities to minimize potential erosion and runoffs.

(7) Managing development;
   a. Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

The proposed project does not involve coastal resources and hazards, nor the management of these.

(8) Public participation;
   a. Stimulate public awareness, education, and participation in coastal management.

The proposed project does not involve coastal management.

(9) Beach protection;
   a. Protect beaches for public use and recreation.

The proposed project is not located in a beach.

(10) Marine resources;
   a. Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Marine resources are not a part of this project, which is located outside of coastal area.

5.1.4 State 2050 Sustainability Plan

The Hawaii 2050 Sustainability Plan was created by the Hawaii 2050 Sustainability Task Force led by the State Legislature with a group of 25 citizens with a diverse range of experience in planning, community, business, the environment and government. The Hawaii 2050 Sustainability Plan is the State's first long-range plan in 30 years, and places the wisdom of the communities as a focal point. The Plan has five goals that integrates philosophies that express the sustainable future of Hawaii. The following five goals were developed and reflect the "triple bottom line" that resonated from the stakeholder meetings and reflect a deeply held sense of where Hawaii should be headed.

1. Goal One: Living sustainably is part of our daily practice in Hawaii
2. Goal Two: Our diversified and globally competitive economy enables us to meaningfully live, work and play in Hawaii
3. Goal Three: Our natural resources are responsibly and respectfully used, replenished and preserved for future generations
4. Goal Four: Our community is strong, healthy, vibrant and nurturing, providing safety nets for those in need
5. Goal Five: Our Kanaka Maoli and island cultures and values are thriving and perpetuated

With the exception of Goal Two, which is not applicable as the project attains goals related to education and not the economy, the proposed classroom building meets the State 2050 Sustainability Plan. The new classroom building integrates the use of naturally occurring resources, such as trade wind, with building orientation to maximize a comfortable learning setting for the students and teachers at Kaleiopuu Elementary School. Providing dedicated facilities such as a science room or a special education room helps to elevate the standards for learning environment for the students and teachers. Also, the proposed project will include building design and fenestration that integrate naturally occurring resources, such as trade wind and sunlight, can be captured to create a comfortable environment for the students and teachers

5.2 COUNTY PLANS, POLICIES, AND CONTROLS

5.2.1 Oahu General Plan

The proposed project resonates with policies set forth in Objective B of Section IX, Health and Education of the Oahu General Plan, which states: “To provide a wide range of educational opportunities for the people of Oahu”. The proposed project encourages the construction of school facilities that are designed for flexibility and high levels of use (Oahu General Plan, 1992).

5.2.2 Central Oahu Sustainable Communities Plan

Kaleiopuu Elementary School is located in Central Oahu where a multitude of new residential development has resulted in the opening of several new schools. Consequently, resources are constrained and the Central Oahu Sustainable Communities Plan calls for shared uses where applicable. The following principles are encouraged to be followed:

- Schools as Community Centers
- Co-location with Parks
- Shared Facilities
- Fair Share Contribution

The project area has been developed with the adjoining Hoaeae Community Park. The co-location of the two sites facilitates the sense of community and promotes safety within the Village Park community. The proposed project contains components that can be utilized by other users outside of business hours and during school year (i.e., as a meeting space, for a fee, during a school break) at the authorization by the school and the DOE.

5.3 REQUIRED PERMITS AND APPROVALS

Table 5-1 lists the required permits and approvals.

Table 5-1: Required Permits and Approvals

Permit/Approval	Authority
Building Permit	Department of Planning and Permitting
Construction Plans Approval	Department of Planning and Permitting
Grubbing, Grading, and Stockpiling Permit	Department of Planning and Permitting
Dewatering Permit	Department of Planning and Permitting
Conformance with Accessibility Guidelines	Disability and Communication Access Board
Community Noise Permit for Construction Activities	Department of Health (Chapter 11-46, HAR)
Community Noise Variance	Department of Health (Chapter 11-46, HAR)
Air Conditioning and **Ventilating Permit**	Department of Health (Chapter 11-39, HAR)

Source: AECOM 2016

6.0 DETERMINATIONS AND FINDINGS

6.1 ANTICIPATED DETERMINATION PURSUANT TO CHAPTER 343, HRS

Based on the information and analysis disclosed in this document, the project would not result in a significant impact on the environment. As such, a Finding of No Significant Impact (AFONSI) will be issued with a recommendation that an environmental impact statement is not required.

6.2 CHAPTER 343, HRS, SIGNIFICANCE CRITERIA

In determining whether an action may have significant impact on the environment, the applicant must consider all phases of the project, its expected primary and secondary consequences, the cumulative impacts with other projects, and its short and long-term effects. Section 11-200-12, HAR (revised 1996) established 13 significance criteria to be used as a basis for identifying whether significant environment will result.

An applicant or agency will determine an action may have a significant impact on the environment if it meets any of the following criteria:

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;

The proposed classroom building is on the site of the existing portable structures. No cultural or natural resources that warrant protection have been found at the project site.

2. Curtail the range of beneficial uses of the environment;

The construction of the classroom building would not curtail the range of beneficial uses of the environment. Among the more notable beneficial uses of the project area is that Kaleiopuu Elementary School is a place of learning for the children in the town of Village Park. Situating the students in a permanent classroom building setting instead of in temporary structures would not alter the functionality of the school.

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;

The proposed project does not deviate from the established long-term environmental policies or goals. The project execution does not warrant any revision to the guidelines set forth in Chapter 344, HRS.

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

The new classroom building has no effect on either the economic or social welfare of the community or state.

5. Substantially affects public health;

The new classroom building has no effect on public health.

6. Involves secondary impacts such as population changes or effects on public facilities;

The proposed project is an alteration of the existing learning environment for the students at Kaleiopuu Elementary School. No increase in enrollment is anticipated and it is not believed that there would be secondary impacts in which population changes or capacities on public facilities would be challenged.

7. Involves a substantial degradation of environmental quality;

Among the concerns present during construction phase of the project are sediment and stormwater runoffs entering the groundwater, and noise pollution for the students and teachers in adjoining classroom buildings. The application of BMPs and adherence to rules and regulations governing to construction activities—limiting construction activities to set hours, shielding the students and teachers from the noise pollution to the extent possible—would help to curtail the potentially adverse impacts resulting from project execution.

8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The proposed project is limited to the project site and is not anticipated to have an effect on the environment at large.

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

No rare, threatened, or endangered species or habitat would be impacted by the project. The project is highly urbanized and there are no significant resources located where the improvements are proposed.

10. Detrimentally affects air or water quality or ambient noise levels;

The proposed project would result in fugitive dust and noise generation during construction. These impacts would be minimized by applying the BMPs identified, as well as by adhering to the applicable controls.

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, freshwater, or coastal waters;

The project area is not located in an environmentally sensitive area.

12. Substantially affects scenic vista and view plane identified in county or state plans or studies;

There is no publicly available scenic vista that warrants protection. This fact notwithstanding, the existing view planes are obscured by the existing portable structures.

13. Requires substantial energy consumption.

The proposed project would not require substantial energy consumption. The building is designed to take advantage of the trade winds and natural sunlight. The building is also designed to be PV-ready.

7.0 REFERENCES

City and County of Honolulu, Department of Planning and Permitting, Oahu General Plan, 1992.

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Appendix A:
Cultural Impact Assessment

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Draft

Archaeological Literature Review and Field Inspection with Cultural Component for the Kaleiʻopuʻu Elementary School EA Project, Hōʻaeʻae Ahupuaʻa, ʻEwa District, Oʻahu TMK: [1] 9-4-107:098

Prepared for
AECOM

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Management Summary

Reference	Archaeological Literature Review and Field Inspection with Cultural Component for the Kalei‘opu‘u Elementary School EA Project, Hō‘ae‘ae Ahupua‘a, ‘Ewa District, O‘ahu, TMK: [1] 9-4-107:098
Date	September 2016
Project Number(s)	Cultural Surveys Hawai‘i, Inc. (CSH) Job Code: HOAEAE 2
Investigation Permit Number	CSH completed the archaeological literature review and field inspection fieldwork under archaeological fieldwork permit number 16-26, issued by the Hawai‘i State Historic Preservation Division (SHPD) per Hawai‘i Administrative Rules (HAR) §13-13-282.
Agencies	State Historic Preservation Department (SHPD)
Land Jurisdiction	Hawai‘i State Department of Education (DOE)and Hawai‘i State Department of Accounting and General Services
Project Proponent	DOE
Project Funding	State of Hawai‘i
Project Location	Kalei‘opu‘u Elementary School is located at 94-665 Ka‘aholo Street, Waipahu in south-central O‘ahu. The school lies within the traditional Hawaiian land unit (*ahupua‘a*) of Hō‘ae‘ae, in ‘Ewa District, TMK: [1] 9-4-107:098. The school is located on the southwest side of the Village Park subdivision, approximately 300 m north of the H-1 (Queen Lili‘uokalani) Freeway and approximately 1.8 kilometers (km) northwest of the West Loch of Pearl Harbor. Hō‘ae‘ae Community Park with tennis and basketball courts and open space is located on the southwest side of the campus and the dissected gulch of Hō‘ae‘ae Stream bounds the campus on the west side.The project area is depicted on a portion of the 1998 Schofield Barracks and Waipahu U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles.
Project Description	The proposed development is the construction of a curving, two-story, eight-classroom building (four classrooms on each floor) to replace existing portable classrooms in the southwest side of the campus. In addition to the eight classrooms there would be restroom facilities, breakout rooms, common rooms, a curriculum support room, mechanical/electrical rooms, and access ramps and stairways. Anticipated construction work would include excavations for building foundations, utilities, and landscaping.
Project Acreage	The project area is treated here as the entire campus of 6.0 acre (2.43 hectare).
Area of Potential Effect (APE)	The APE is defined as the entire 6.0 acre (2.43 hectare) project area

Historic Preservation Regulatory Context	The project is subject to compliance with and review under Hawai‘i historic preservation review legislation, Hawai‘i Revised Statutes (HRS) §6E-8, HAR §13-275, as well as the project’s environmental review under HRS §343. In consultation with the SHPD, this archaeological literature review and field inspection (LRFI) report was intended for review and acceptance by the SHPD. This report is also intended to support any project-related historic preservation consultation with stakeholders such as State and County agencies and interested Native Hawaiian Organizations (NHOs) and community groups, if applicable.
Fieldwork Effort	The fieldwork component of this archaeological investigation was conducted on 27 June 2016 by CSH by David Shideler, M.A. This work required approximately 3 hours to complete
Historic Property Identified	No historic properties were identified. None are believed to be present.
Effect Recommendation	In accordance with Hawai‘i State historic preservation review legislation, HAR §13-275-7, the project’s effect recommendation is “No historic properties affected.”
Mitigation Recommendations	No further archaeological work is recommended.
Cultural Impact Evaluation	The potential cultural impacts of the classroom development on the school campus are evaluated. The project area was in commercial sugar cane production for most of the twentieth century. A review of the historic record and the field inspection indicated no cultural resouirces on the school campus which is entirely developed in buildings, walkways lawn and landscaping.

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Section 1 Introduction

1.1 Project Background

At the request of AECOM, Cultural Surveys Hawai‘i, Inc. (CSH) has prepared this archaeological literature review and field inspection (LRFI) with cultural component for the Kalei‘opu‘u Elementary School Environmental Assessment (EA) project. Kalei‘opu‘u Elementary School is located at 94-665 Ka‘aholo Street, Waipahu in south-central O‘ahu. The school lies within the traditional Hawaiian land unit (*ahupua‘a*) of Hō‘ae‘ae, in ‘Ewa District, TMK: [1] 9-4-107:098. The school is located on the southwest side of the Village Park subdivision, approximately 300 m north of the H-1 (Queen Lili‘uokalani) Freeway and approximately 1.8 kilometers (km) northwest of the West Loch of Pearl Harbor. Hō‘ae‘ae Community Park with tennis and basketball courts and open space is located on the southwest side of the campus and the dissected gulch of Hō‘ae‘ae Stream bounds the campus on the west side.The major vehicular artery in the immediate vicinity is Ka‘aholo Street that bounds the school on the northeast side and serves as the major access to the campus. The school campus is owned by the State of Hawai‘i. The 6.0 acre (2.43 hectare) campus and project area on the central west side of the campus are depicted on a portion of the 1998 Schofield and Waipahu U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles (Figure 1), a tax map plat (Figure 2), and a 2013 aerial photograph (Figure 3). A conceptual site plan of the present layout of Kalei‘opu‘u Elementary School is provided in Figure 4.

The proposed development is the construction of a curving, two-story, eight-classroom building (four classrooms on each floor) to replace existing portable classrooms in the southwest side of the campus (Figure 4 through Figure 6). In addition to the eight classrooms there would be restroom facilities, breakout rooms, common rooms, a curriculum support room, mechanical/ electrical rooms, and access ramps and stairways. Anticipated construction work would include excavations for building foundations, utilities, and landscaping. An architectural site plan showing the proposed location of the new eight-classroom building to the campus is provided in Figure 5. Details of the proposed new building are provided in Figure 6.

1.1 Historic Preservation Regulatory Context and Document Purpose

The project is subject to compliance with and review under Hawai‘i historic preservation review legislation, Hawai‘i Revised Statutes (HRS) §6E-8, Hawai‘i Administrative Rules (HAR) §13-275, as well as the project’s environmental review under HRS §343. In consultation with the State Historic Preservation Division (SHPD), this LRFI report was prepared to support SHPD review and preparation of a determination letter under HAR §13-275-3.

1.2 Environmental Setting

1.2.1 Natural Environment

The Kaleiōpu‘u Elementary School campus is located in the Waipahu area in the southwest corner of the Schofield Plateau as it descends to the ‘Ewa coastal plain. Elevation in the project area ranges from approximately 220 feet (ft) to 260 ft above mean sea level (AMSL) or 67-79 m. The campus is generally flat but Hō‘ae‘ae Stream Gulch drops steeply approximately 50 ft (15 m)

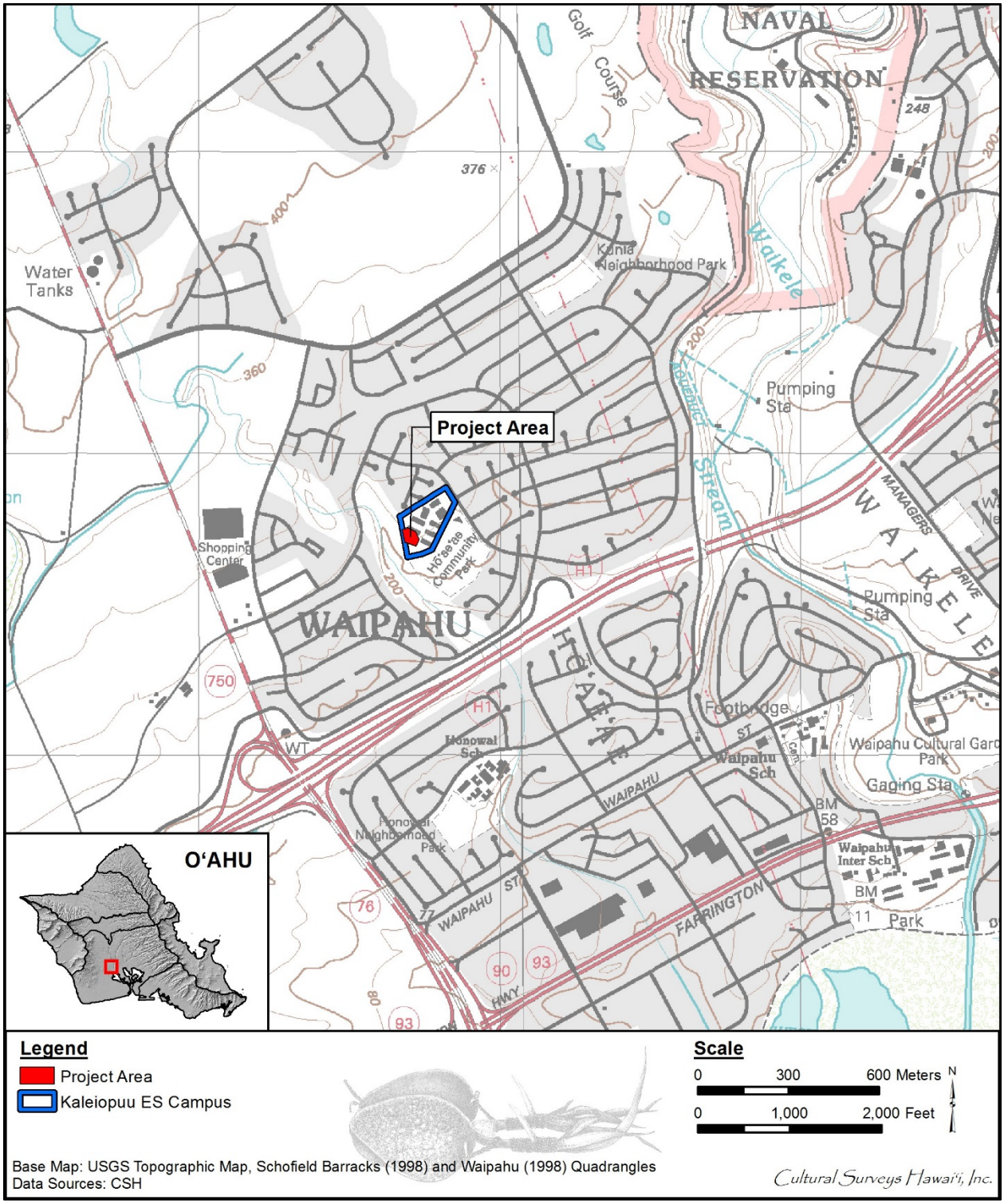


Figure 1. A portion of the 1998 Schofield Barracks and Waipahu USGS 7.5-minute topographic quadrangles indicating the project area

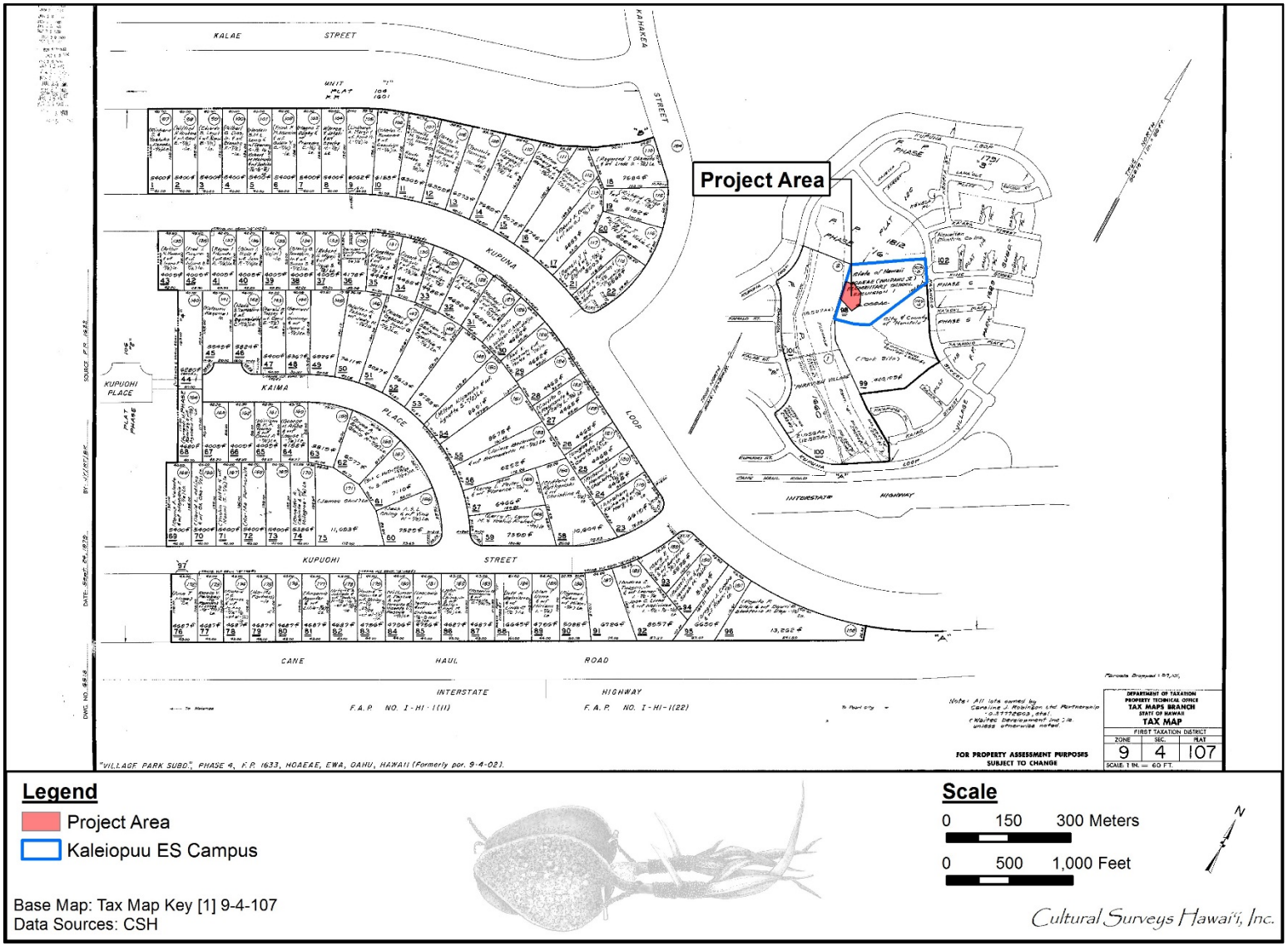


Figure 2. Tax Map Key (TMK): [1] 9-4-107 showing the project area (parcel 98) (Hawai‘i TMK Service 2014)

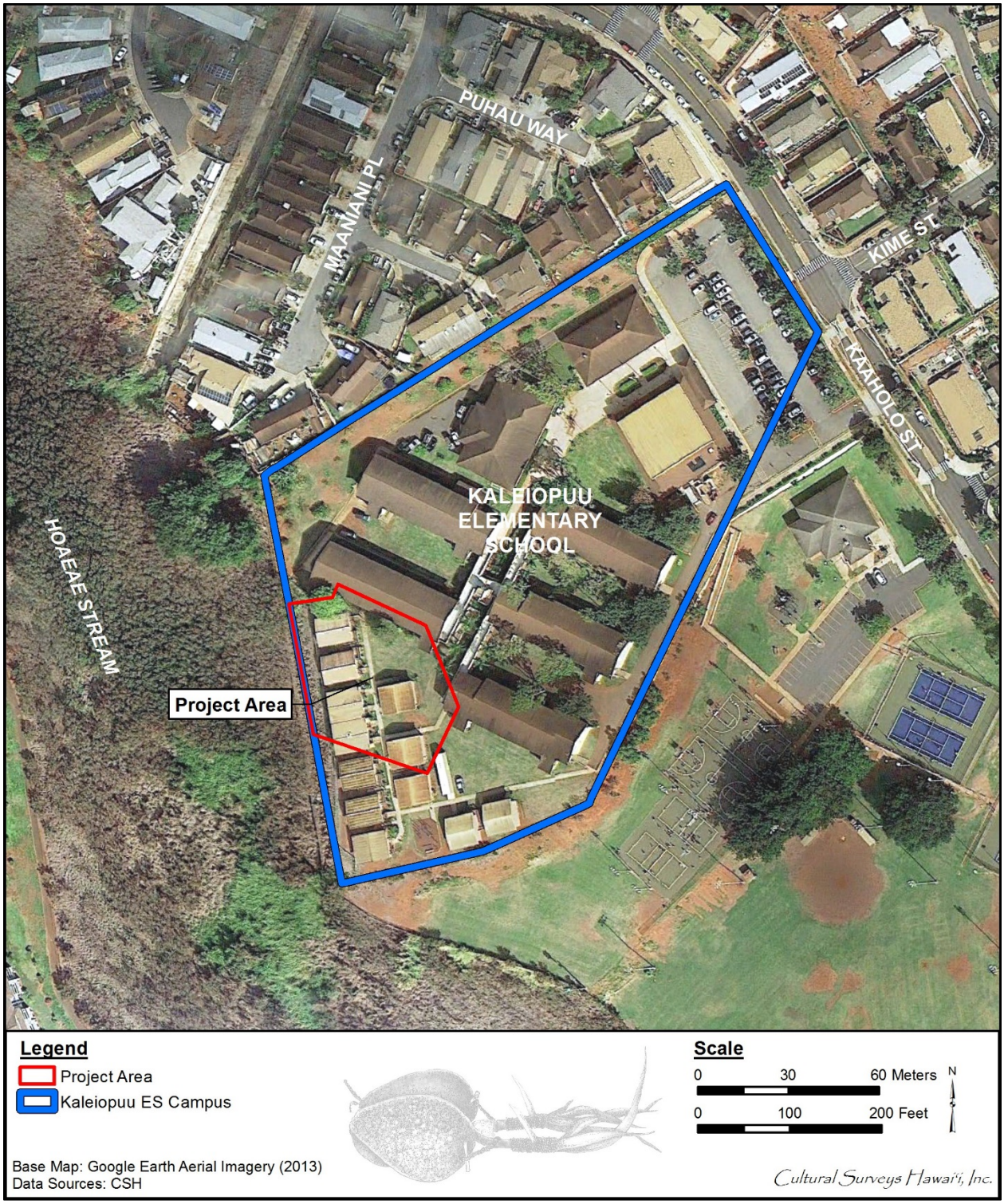


Figure 3. Aerial photograph indicating the project area (Google Earth 2013)

Figure 4.Conceptual site plan of Kalei‘opu‘u Elementary School (Kalei‘opu‘u Elementary School 2016a)

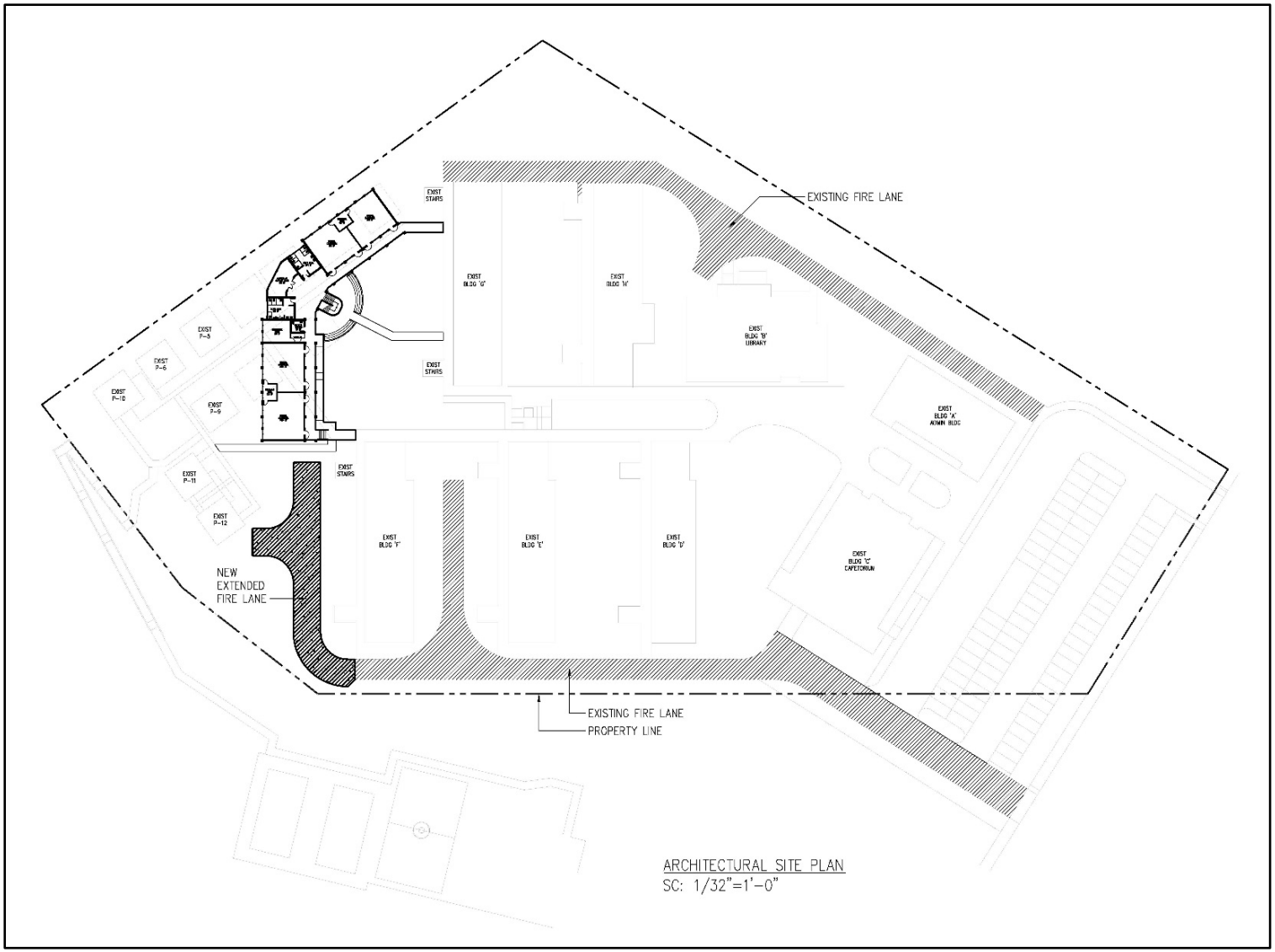
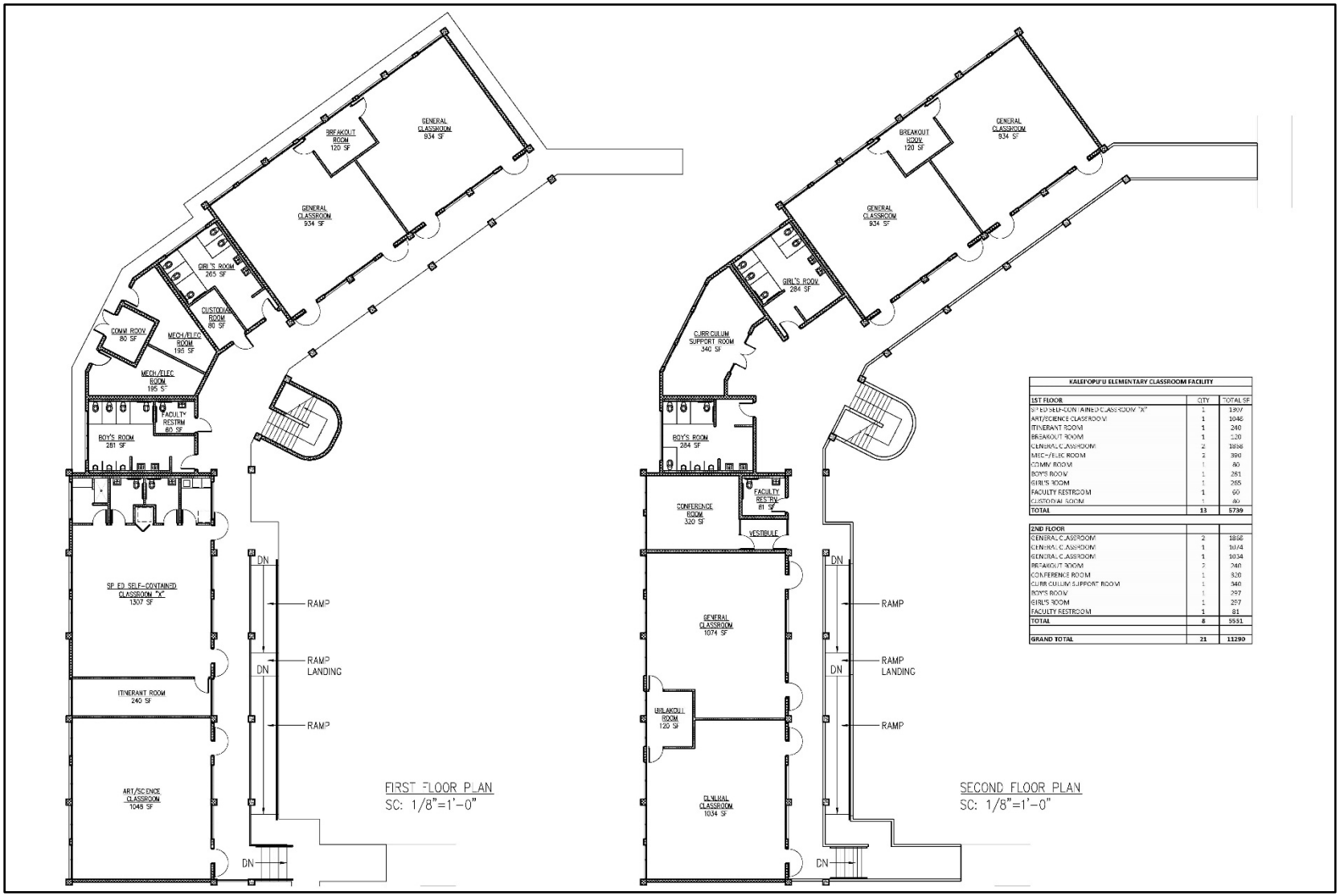


Figure 5. Architectural site plan showing footprint of new classrooms in the south corner of the campus (courtesy of client)



KALEI'OPU'U ELEMENTARY CLASSROOM FACILITY		
1ST FLOOR	QTY	TOTAL SF
SP. ED. SELF-CONTAINED CLASSROOM "X"	1	1307
ART/SCIENCE CLASSROOM	1	1048
ITINERANT ROOM	1	240
BREAKOUT ROOM	1	120
GENERAL CLASSROOM	2	1868
MECH/ELEC ROOM	2	390
COMM ROOM	1	80
BOYS ROOM	1	281
GIRLS ROOM	1	265
FACULTY RESTROOM	1	60
CUSTODIAL ROOM	1	80
TOTAL	13	5739
2ND FLOOR		
GENERAL CLASSROOM	2	1868
GENERAL CLASSROOM	1	1074
GENERAL CLASSROOM	1	1034
BREAKOUT ROOM	2	240
CONFERENCE ROOM	1	320
CURRICULUM SUPPORT ROOM	1	340
BOYS ROOM	1	297
GIRLS ROOM	1	297
FACULTY RESTROOM	1	81
TOTAL	8	5551
GRAND TOTAL	21	11290

Figure 6. First floor plan and second floor plan for the proposed new eight-classromm building at Kalei‘opu‘u Elementary School (courtesy of client)

in elevation immediately to the southwest of the campus. Hō‘ae‘ae Stream is a relatively short stream of approximately 2.5 km length that debouches into the north end of the West Loch of Pearl Harbor.

Although the project area generally appears to be on the lower southeast slopes of the southern Wai‘anae Mountain Range, a geologic map (Macdonald et al. 1983:423) indicates the parent material in this vicinity is overlying flows of the Ko‘olau Range: “The rocks of the Koolau volcano as a whole are called the Koolau Volcanic series. Almost all are tholeiitic basalts and olivine basalts with, as usual, small amounts of oceanite” (Macdonald et al. 1983:431).

In the present project area the Ko‘olau Volcanic series soils are much weathered, consistent with the posited cycle of erosion of the Ko‘olau volcano beginning at least 1.3 million years ago (Macdonald et al. 1983:299).

According to the U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) database (2001) and soil survey data gathered by Foote et al. (1972), the project area’s soils consist almost exclusively of Molokai silty clay loam, 7 to 15% slopes (MuC) (Figure 7). There is a very small area of Helemano silty clay, 30 to 90% slopes (HLMG) soil on the extreme northwest side and a very small area of Molokai silty clay loam, 15 to 25% slopes (MuD) at the extreme southwest corner of the project area.

Foote et al. (1972) describe the Molokai Series soils, which in the project area are associated with an ephemeral stream creating a zone within the 100-year flood delineation.

> This series consists of well-drained soils on uplands on the islands of Maui, Lanai, Molokai, and Oahu. These soils formed in material weathered from basic igneous rock. They are nearly level to moderately steep. Elevations range mainly from nearly sea level to 1,000 feet but are as much as 1,500 feet on Lanai. The annual rainfall amounts to 20 to 25 inches, most of which occurs between November and April. The summers are hot and dry. The mean annual soil temperature is 73° F. Molokai soils are geographically associated with Holomua, Keahua, Lahama, and Uwala soils. [Foote et al. 1972:96]

Foote et al. (1972) further describe Molokai silty clay loam, 7 to 15% slopes (MuC) as follows: “This soil occurs on knolls and sharp slope breaks. Runoff is medium; and the erosion hazard is moderate. This Soil is used for sugarcane, pineapple, pasture, wildlife habitat, and homesites” (Foote et al. 1972:97).

Foote et al. (1972) further describe Molokai silty clay loam, 15 to 25%slopes soils as follows:

> This soil occurs on Oahu. In most places the slope does not exceed 20 percent. Runoff is medium, and the erosion hazard is severe. Workability is slightly difficult because of the slope. Included in mapping were small areas where boulder cores are exposed.
>
> This soil is used for sugarcane and pineapple. [Foote et al. 1972:97]

Foote et al. (1972) describe the Helemano Series soils as follows:

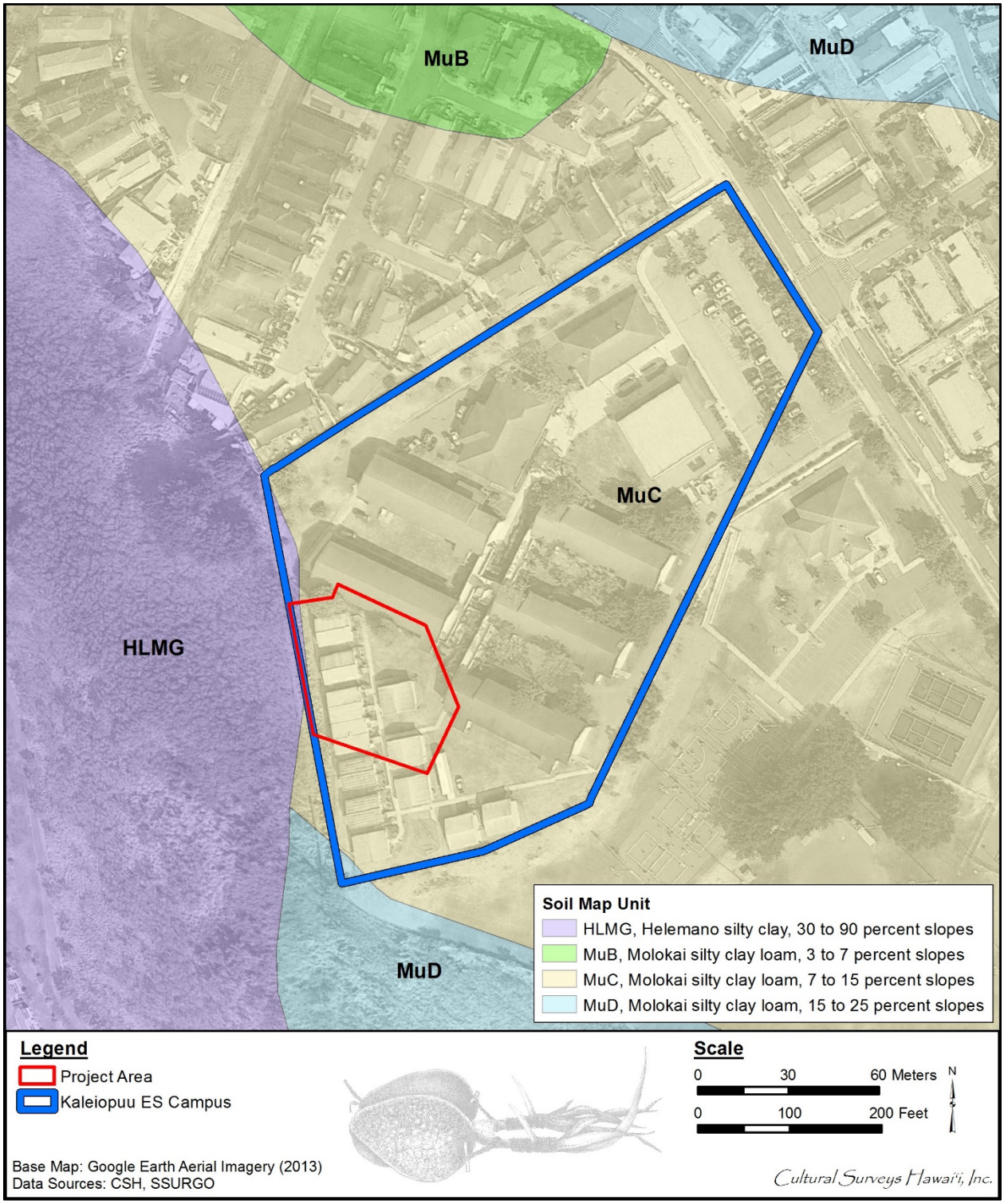


Figure 7. Overlay of *Soil Survey of the State of Hawaii* (Foote et al. 1972), indicating soil types within and surrounding the project area (USDA Soils Survey Geographic Database [SSURGO] 2001)

> This series consists of well-drained soils on alluvial fans and colluvial slopes on the sides of gulches. These soils are on the island of Oahu. They developed in alluvium and colluvium derived from .basic igneous rock. They are steep to extremely steep. Elevations range from 500 to 1,200 feet. The annual rainfall dominantly amounts to 30 to 60 inches but ranges to 75 inches at the highest elevations. The mean annual soil temperature is 72° F. Helemano soils are geographically associated with Lahaina, Leilehua, Manana, Molokai, and Wahiawa soils.
>
> These soils are used for pasture, woodland, and wildlife habitat. The natural vegetation consists of bermudagrass, Christmas berry, eucalyptus, Formosa koa, guava, Japanese tea, Java plum, and koa haole. [Foote et al. 1972:40]

Foote et al. (1972) describe Helemano silty clay, 30 to 90% slopes (HLMG) soil as follows:

> This soil is on the sides of V-shaped gulches. Included in mapping were small areas of Lahaina and Molokai soils. Also included were small areas of rock outcrop, steep stony land, and eroded spots.
>
> In a representative profile the surface layer is dark reddish-brown silty clay about 10 inches thick. The subsoil, about 50 inches thick, is dark reddish-brown and dark-red silty clay that has subangular blocky structure. The substratum is soft, highly weathered basic igneous rock. The soil is neutral in the surface layer and neutral to slightly acid in the subsoil.
>
> Permeability is moderately rapid. Runoff is medium to very rapid, and the erosion hazard is severe to very severe. . [Foote et al. 1972:40]

The mean annual rainfall is approximately 764 mm (30.1 inches) (Giambelluca et al. 2013) based on measurements at Oahu Sugar Field 225 rain gauge from 1948 to 1969.

Temperatures range between 60 degrees to 90 degrees Fahrenheit through the year; the highest temperatures are in August and September (Armstrong 1973).

In pre-Contact Hawai‘i, the project area would have been mostly lowland dry shrub and grassland, dominated by species such as *wiliwili* (*Erythrina sandwicensis*), *lama* (*Diospyros ferrea*), sandalwood (*Santalum* sp.), *‘a‘ali‘i* (*Dodonea eriocarpa*), scrub *‘ōhi‘a* (*Metrosideros collina*), and *pili* grass (*Heteropogon contortus*) (Frierson 1972). Natural vegetation patterns within the project area have been severely altered by at least 100 years of intensive sugarcane agriculture.

The project area is within the 124.8-sq-km (48-sq-mile) Waikele Stream watershed. Waikele is a perennial stream with a total aggregate stream length (including nine tributary streams) of 216.8 km (134.7 miles). Waikele translates to “muddy water.”

1.2.2 Built Environment

The Kalei‘opu‘u Elementary School campus lies at the southwest edge of a relatively new Village Park subdivision of single story single family homes that lie within the Kupuna Loop road. The vicinity was under commercial sugarcane production for a century but has now largely been developed for suburban housing. The campus is located approximately 300 m north of the H-1 (Queen Lili‘uokalani) Freeway and approximately 600 m east of Kunia Road, a major north/south trending road connecting the Waipahu and ‘Ewa areas with Wahiawā and central O‘ahu.

Section 2 Methods

2.1 Field Methods

CSH completed the fieldwork component of this LRFI under archaeological fieldwork permit number 16-26, issued by the SHPD pursuant to HAR §13-13-282. The fieldwork component of this archaeological investigation was conducted on 27 June 2016 by CSH by David Shideler, M.A. This work required approximately 3 hours to complete under the general supervision of Project Manager David Shideler, M.A. and Principal Investigator, Hallett Hammatt, Ph.D. In general, fieldwork included a thorough pedestrian inspection of the project area, (see Figure 25 for a field inspection track log).

2.2 Research Methods

Background research included a review of previous archaeological studies on file at the SHPD; review of documents at Hamilton Library of the University of Hawai‘i, the Hawai‘i State Archives, the Mission Houses Museum Library, the Hawai‘i Public Library, and the Bishop Museum Archives; study of historic photographs at the Hawai‘i State Archives and the Bishop Museum Archives; and study of historic maps at the Survey Office of the Department of Land and Natural Resources. Historic maps and photographs from the CSH library were also consulted. In addition, Māhele records were examined from the Waihona ‘Aina database (Waihona ‘Aina 2000). This research provided the environmental, cultural, historic, and archaeological background for the project area. The sources studied were used to formulate a prediction regarding the expected types and locations of cultural resources in the project area.

Section 3 Background Research

3.1 Traditional and Historical Background

3.1.1 Traditional Place Names and *Mo‘olelo* of Hō‘ae‘ae

Hō‘ae‘ae Ahupua‘a has very few recorded place names compared to the much larger Honouliuli Ahupua‘a adjacent to the west and north (Figure 9). Hō‘ae‘ae is bounded on the *makai*, or ocean side, by the north shore of Pearl Harbor’s West Loch, by a trail running along the eastern edge of Honouliuli Gulch on the west side, and by Waikele Gulch and a traditional Hawaiian trail on the east side (Figure 10). Uncharacteristically, the *mauka*, or inland, edge of Hō‘ae‘ae Ahupua‘a does not extend to the mountains, but is “cut off” by Honouliuli to the northwest and Waikele to the east. Hō‘ae‘ae Ahupua‘a was described by Handy in 1940 as follows: “This *ahupua‘a* had a moderate-sized area of terraces watered by springs inland from West Loch of Pearl Harbor” (Handy 1940:82). Pre-Contact and early post-Contact agriculture focused on the spring-fed floodplains adjacent to West Loch.

Hō‘ae‘ae means “to make soft or fine” according to *Place Names of Hawaii* (Pukui et al. 1974:47). Pukui et al. (1974) do not explain why the *ahupua‘a* was given this name, but do mention there was a famous *pōhaku* (stone) called Pōhaku-Pili on the boundary between Hō‘ae‘ae and Waikele. Another source (Thrum 1922:632) reports that Hō‘ae‘ae means “to pulverize.” Pukui and Elbert’s *Hawaiian Dictionary* (1986) records the possible meanings of Hō‘ae‘ae as “to rise the tide, to make fine, to pulverize, to refine, to soften.” *‘Ae* can also mean to lend, to say yes, to consent, to approve or to denote fine mash or sap from seaweed or leaves of plants such as taro.”

Kalei‘ōpu‘u, where the current project is located, was recorded in the Legend of Kalei‘ōpu‘u. The legend was told by the Kamaki Kanahele Family as follows:

> In the ancient times, this spot, where Kalei‘opu‘u Elementary sits today, was the place where Kahuna La‘au Lapa‘au (medicinal healers), came to fetch their herbs. During a certain time of the seasons (just before Makahiki), Kahuna came into the bay (Pearl Harbor), by canoe to gather their medicines. Legend says that they disembarked from their canoes and sent up a chant in the style called ‘Ho‘ae‘ae.’ When they chanted, a rainbow appeared. The rainbow’s colors were so bright that it reflected its colors onto this hill lighting it up full with its colors. Where the colors fell on the land was located the special healing herbs that they came to fetch. The legend says that when the rainbow disappeared, the flowers from the same herbs took on the colors of the rainbow and left this hill or pu‘u looking like a beautiful lei with rainbow colors. Hence the name Kalei‘opu‘u, literally translated as ‘Lei on the hillside.’ [Kaleiopuu Elementary School 2016b]

3.1.2 Leeward O‘ahu Trails

There were several pre-Contact/early historic trails across ‘Ewa: a cross-*ahupua‘a* trail that traversed ‘Ewa and connected Honolulu to Wai‘anae; a *mauka-makai* trail that branched off from the cross-*ahupua‘a* trail and followed the boundary between Honouliuli and Hō‘ae‘ae to the Pōhākea Pass and Kolekole Pass to Wai‘anae; and a second branching *mauka-makai* trail that generally followed the path of Waikele Stream in Waikele Ahupua‘a to Wahiawā in central O‘ahu (see Figure 9 and Figure 10). ‘Ī‘ī (1959:97) noted the following regarding the first *mauka-makai*

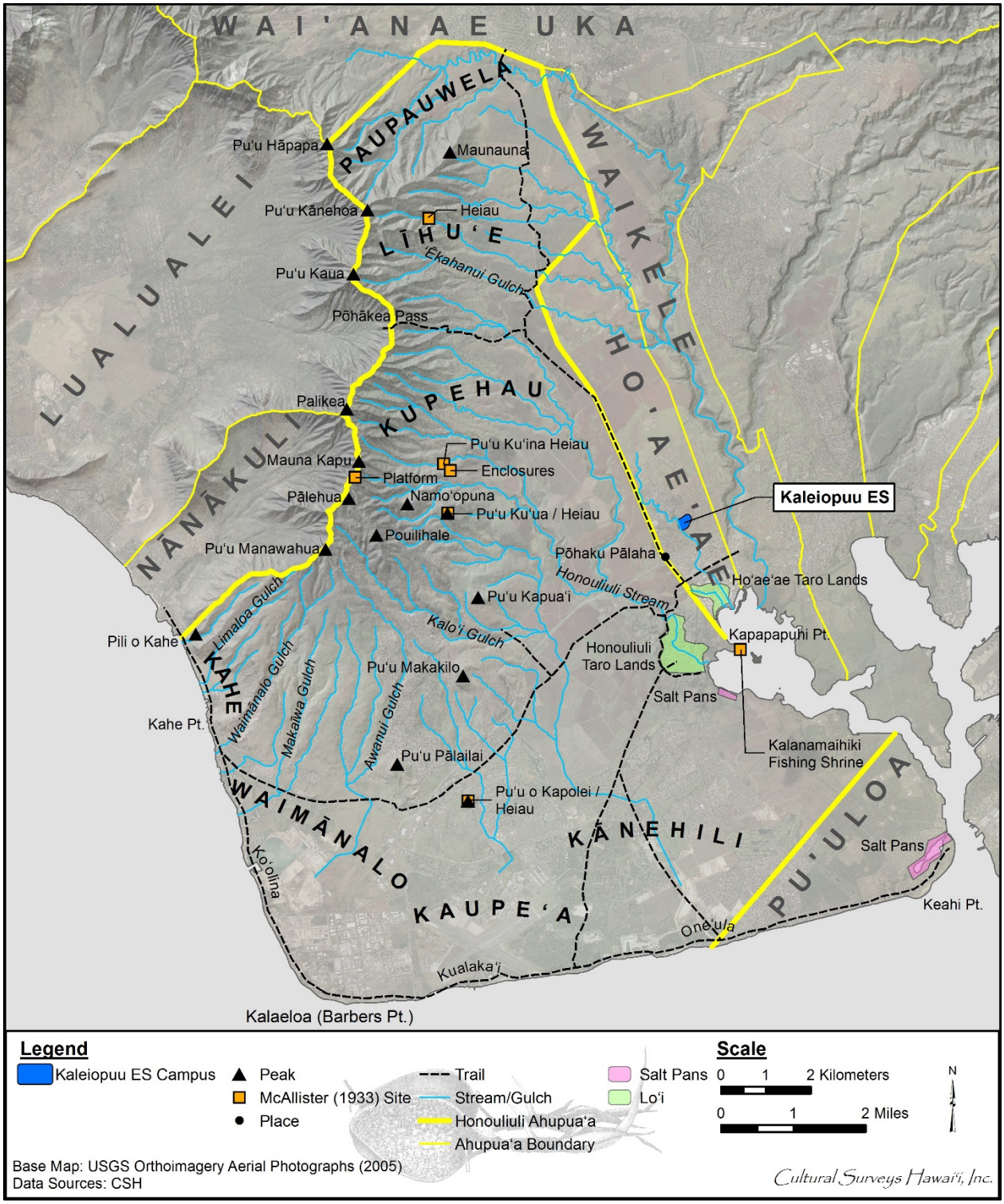


Figure 8. Place names of Honouliuli (base map: 1998 USGS map); note that modern Farrington Highway and Kunia Road generally follow the ancient trails

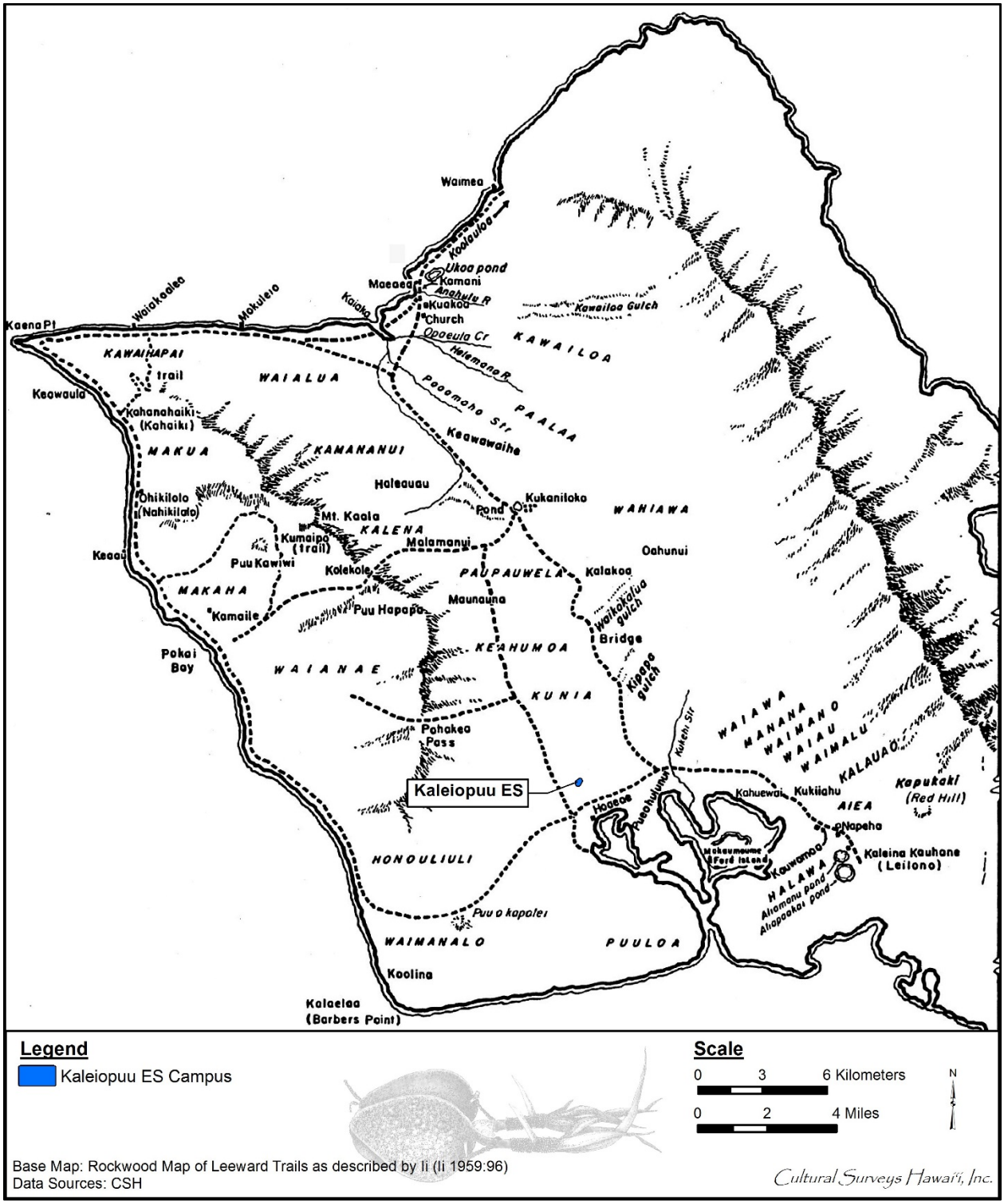


Figure 9. Portion of the Paul Rockwood map of traditional trails of Leeward O‘ahu, indicating the project area (‘Ī‘ī 1959:96)

trail: “From Kunia the trail went to the plain of Keahumoa, on to Maunauna, and along Paupauwela, which met with the trails from Wahiawā and Waialua.” ‘Ī‘ī places the area called Kunia east of Pōhākea Pass in the *ahupua‘a* of Honouliuli and Hō‘ae‘ae, *makai* of the modern town of Kunia, and places the plain of Keahumoa between Kunia and Paupauwela, in the most *mauka* portion of Honouliuli. The trail passed near the peak called Maunauna in upper Honouliuli. To the east of Honouliuli, this trail was just *mauka* of the floodplains near Pearl Harbor, skirting the inland edges of the productive taro fields (see Figure 9).

3.1.3 Pre-Contact and Early Post-Contact ‘Ewa

The rich resources of the Pearl Harbor lochs, the shoreline fishponds, the numerous springs, and the irrigated lands along the streams made central ‘Ewa a prize for competing chiefs. Battles were fought for and on ‘Ewa lands, at times between competing O‘ahu chiefs and other times by invading chiefs from other islands.

By ca. AD 1320 (based on genealogical reckoning), ‘Ewa, Kona, and Ko‘olaupoko were the dominant political districts, ruled by the sons of a chief named Māweke (Cordy 2002:21). Around AD 1400, the entire island was ruled by La‘akona. Chiefs within his line, the Māweke-Kumuhonua line, reigned until about AD 1520-1540, with their major royal center in Līhu‘e in ‘Ewa. (Cordy 2002:24). Haka was the last chief of the Māweke-Kumuhonua line. He was slain by his men at the fortress of Waewae near Līhu‘e (Kamakau 1991:54). Power shifted among the chiefs of different districts from the 1500s until the early 1700s, when Kūali‘i achieved control of all of O‘ahu by defeating the Kona chiefs, then the ‘Ewa chiefs, and finally expanding his control to windward Kaua‘i. Peleiholani, the heir of Kūali‘i, gained control of O‘ahu ca. 1740 and later conquered parts of Moloka‘i. He was ruler of O‘ahu until his death in ca. 1778, when Kahahana of the ‘Ewa line of chiefs was selected as the ruler of O‘ahu (Cordy 2002:24–41).

An early account speaks of the reign of Mā‘ilikūkahi, an *ali‘i kapu* who was born at Kūkaniloko in Wahiawā (Pukui et al. 1974:113). Upon consenting to become *mō‘ī* (king) at the age of 29, he was taken to Kapukapuākea Heiau (temple) at Pa‘ala‘akai in Waialua to be consecrated. Soon after becoming *mō‘ī*, Mā‘ilikūkahi was taken by the chiefs to live at Waikīkī. The story relates that he was probably one of the first chiefs to live there, since up to that time the chiefs had always lived at Waialua and ‘Ewa. Under his reign, the land divisions were reorganized and redefined.

In reference to the productivity of the land and the population during Mā‘ilikūkahi’s reign, Kamakau wrote the following:

> In the time of Mā‘ili-kūkahi, the land was full of people. From the brow, of Kulihemo to the brow of Maunauna in ‘Ewa, from the brow of Maunauna to the brow of Pu‘ukea [Pu‘u Ku‘ua] the land was full of chiefs and people. From Kānewai to Halemano in Wai‘alua, from Halemano to Paupali, from Paupali to Hālawa in ‘Ewa the land was filled with chiefs and people. [Kamakau 1991:55]

Mā‘ilikūkahi was *mō‘ī* of O‘ahu from about AD 1520 to 1540 (Cordy 2002:19). Mā‘ilikūkahi was popular during his reign and was remembered for initiating land reforms, which brought about peace, and for encouraging agricultural production, which brought about prosperity. He also prohibited the chiefs from plundering the *maka‘āinana*, under punishment of death (Kamakau 1991:55).

Mā‘ilikūkahi’s peaceful reign was interrupted by an invasion that would change Waipi‘o ‘Uka forever. The following is Fornander’s description of the Battle of Kīpapa:

> I have before referred to the expedition by some Hawaii chiefs, Hilo-a-Lakapu, Hilo-a-Hilo-Kapuhi, and Punaluu, joined by Luakoa of Maui, which invaded Oahu during the reign of Mailikukahi. It cannot be considered as a war between the two islands, but rather as a raid by some restless and turbulent Hawaii chiefs . . . The invading force landed at first at Waikiki, but for reasons not stated in the legend, altered their mind, and proceeded up the Ewa lagoon and marched inland. At Waikakalaua they met Mailikukahi with his forces, and a sanguinary battle ensued. The fight continued from there to the Kīpapa gulch. The invaders were thoroughly defeated, and the gulch is said to have been literally paved with the corpses of the slain, and received its name ‘Kīpapa,’ from this circumstance. Punaluu was slain on the plain which bears his name, the fugitives were pursued as far as Waimano, and the head of Hilo was cut off and carried in triumph to Honouliuli, and stuck up at a place still called Poo-Hilo. [Fornander 1996:89–90]

Apparently, Kīpapa Gulch in Waipi‘o was named after this particular battle, or more likely renamed. In old Hawai‘i, places were often given names based on historic events. The literal translation of the word *kīpapa* is “to be paved,” as in “paved with the corpses of the slain.”

Around AD 1600-1620, the entire island of O‘ahu was united under the rule of one woman, an *ali‘i* named Kala‘imanuia (Cordy 2002:30). Before her death, she divided her kingdom between four of her children, giving the districts of Kona and Ko‘olaupoko to Kū; the *ahupua‘a* of Kalauao, ‘Aiea, Moanalua, and Hālawa to Ka‘ihikapu; the districts of ‘Ewa and Wai‘anae to Ha‘o; and the districts of Waialua and Ko‘olauloa to her daughter Kekela. To Kū she passed on her title of *mō‘ī*, or king, so that the other three were still subject to their eldest brother. Kū, however, was greedy and began to try to take the lands allotted to his siblings away from them. Ha‘o joined with this brother Ka‘ihikapu in a battle defending against an attack by Kū, a battle in which Kū was slain. Ka‘ihikapu then became *mō‘ī* and was a good king, taking care of his subjects and making frequent tours around the island to observe the people. On one of these circuits, he visited his brother Ha‘o at his court in Waikele and grew jealous of the riches at his brother’s home. Ka‘ihikapu sent a large man-eating shark that had been caught near his court in Waikīkī to his brother as a gift so that Ha‘o could use it as a sacrifice to dedicate to the gods at his *heiau* in Waikele. Ka‘ihikapu’s forces then attacked Ha‘o and his priests at the temple as they were unarmed and busy with the dedication ceremonies. Two versions of this more elaborate story are presented below. There is a saying concerning this rivalry between the two brothers: “*Ke one kuilima laula o ‘Ewa*. The sand on which there was a linking of arms [*kuilima*] on the breadth of ‘Ewa.” This saying is in reference to how Ka‘ihikapu took Ha‘o’s lands from him:

> The chiefs of Waikīkī and Waikele were brothers. The former wished to destroy the latter and laid his plot. He went fishing and caught a large *niuhi* [man-eating shark], whose skin he stretched over a framework. Then he sent a messenger to ask his brother if he would keep a fish for him. Having gained his consent, the chief left Waikīkī hidden with his best warriors in the ‘fish.’ Other warriors joined them along the way until there was a large army. They surrounded the residence of the chief of Waikele and linked arms [*kuilima*] to form a wall, while the Waikīkī warriors poured out of the ‘fish’ and destroyed those of Waikele. [Pukui 1983:191]

In a different version of this story (Kamakau 1991:61–67), Ka‘ihikapu cut open the shark captured from the Waikīkī waters and removed all the meat, but left the skin and bones. He sent a messenger to his brother, Ha‘o, chief of Waikele, offering the shark to him. Ha‘o quickly agreed, and waited for the shark to be delivered to Waikele, where he planned to place it at his *heiau* as an offering to the gods. When the shark was placed on the altar, Ka‘ihikapu and his men jumped out and slaughtered his brother and all of the priests. The slain men were then put into the shark and offered as a sacrifice at the former *heiau* of Waikele. Kamakau (1991:67) says that the name of this place of slaughter in Waikele was called Paumakua. Thrum (1922:665) translates this place name as “all fiery eyed.” McAllister (1933:106) located this destroyed *heiau*, called Hapupu, at the site then occupied by the Waipahu plantation stables (see Section 3.2.1 discussion of Site 129).

3.1.4 Early Historic Period

In a study of the resources and population of the *ahupua‘a* in ‘Ewa, Ross Cordy (1996:12) wrote a correlation study of three factors: floodplain size, fishery size, and population size. Hō‘ae‘ae had a small floodplain area, directly adjacent to the north shore of Pearl Harbor’s West Loch, and a fairly small fishery, which took up only a small portion of West Loch. Waiawa had a medium-sized floodplain, shared with the neighboring *ahupua‘a* of Mānana, and a small fishery, again shared with Mānana, on the north shore of Middle Loch. Waikele had a large floodplain and had irrigated fields along the lower Waikele Stream and the inland Waikakalaua Stream, but only a medium-sized fishery along the west shore of West Loch. Waipi‘o had a large floodplain, irrigated fields along Kīpapa Stream, and a large fishery, encompassing most of Middle Loch and the fringes of West Loch along Waipi‘o Peninsula. Cordy found that the first two factors were good predictors for pre-Contact and early post-Contact population. Waipi‘o had the largest population, Waikele and Waiawa had medium-sized populations, and Hō‘ae‘ae, where the current project is located, had the smallest population of the four.

Of the four *ahupua‘a* in central ‘Ewa, Waipi‘o was the main focus of Hawaiian settlement and activity during the centuries preceding Western Contact. “The populous dwelling place of the *ali‘i* (chiefly class) was formerly located on an east point of Waipi‘o Peninsula known as Lēpau” (McAllister 1933:106). The *ali‘i* at Waipi‘o were no doubt attracted to the great abundance of resources the region offered. However, the entire *moku* (district) of ‘Ewa was generally prosperous and productive, and the land was heavily populated. ‘Ewa continued to be a political center through the eighteenth century when Kahahana, a Maui chief, was chosen by the O‘ahu chiefs to rule over the island. Kahahana was the son of Elani who died fighting Kahekili and was a chief of O‘ahu (Kamakau 1992:87). After the Maui war chief Kahekili conquered O‘ahu circa 1785 he ruthlessly suppressed a rebellion of O‘ahu chiefs causing a great loss of life at Hō‘ae‘ae. The forces of Kahekili:

> …overran the districts of Kona and Ewa, and a war of extermination ensued. Men, woman and children were killed without discrimination and without mercy. The streams of …Hoaeae in Ewa, are said to have been literally choked with the corpses of the slain. [Fornander 1919:Vol. VI:290]

After Kahekili’s own death it was his son Kalanikūpule who was defeated by Kamehameha.

‘Ewa is depicted as an abundant and populated land where chiefs of distinguished lineages were born and resided. The land was fertile and well fed by mountain streams that helped sustain the agricultural lifestyle needed to support the chiefs, their households, and their people. An

examination of the place names reveals that water was a very important factor in this district. Six of the 12 *ahupua‘a* names begin with *wai*, the Hawaiian word for water: Waikele, Waipi‘o, Waiawa, Waimano, Waiau, and Waimalu. The fact that there were so many fishponds in the ‘Ewa District and in the Pu‘uloa area, more than any other district on O‘ahu, indicates agricultural/aquacultural intensification was a direct link to the chiefs who resided there, and also to the increasing needs of the population. Thus, ‘Ewa’s part in the politics and history of O‘ahu is of noteworthy importance.

Early historical accounts indicate ‘Ewa District was once widely inhabited by pre-Contact populations. This probably can also be said of Hō‘ae‘ae, although much less is documented regarding this *ahupua‘a*. Thriving human habitation here is attributable for the most part to the plentiful marine and estuarine resources available at the coast. Other subsistence-related features of this area include irrigated lowlands suitable for wetland taro cultivation (Hammatt and Shideler 1990), as well as the lower forest area of the mountain slopes for the procurement of forest resources. Exploitation of the forest resources along the slopes of the Wai‘anae Range—as suggested by E.S. and E.G. Handy—probably acted as a viable subsistence alternative during times of famine:

> The length or depth of the valleys and the gradual slope of the ridges made the inhabited lowlands much more distant from the *wao*, or upland jungle, than was the case on the windward coast. Yet the *wao* here was more extensive, giving greater opportunity to forage for wild foods during famine time. [Handy and Handy 1972:469–470]

These upper valley slopes may have also been a significant resource for sporadic quarrying of basalt for the manufacturing of stone tools. This is evidenced in part by the existence of a probable quarrying site (State Inventory of Historic Places [SIHP] # 50-80-12-4322) in Makaiwa Gulch (Hammatt et al. 1991). The lowlands, bisected by ample streams, were ideal terrain for the cultivation of irrigated taro. The hinterland consisted of deep valleys running far back into the Ko‘olau range. Between the valleys were ridges with steep sides but a very gradual increase of altitude. The lower part of the valley sides were excellent for the cultivation of yams (*Dioscorea* spp.) and bananas (*Musa* spp.). Farther inland grew the *‘awa* (kawa, *Piper methysticum*) for which the area was famous.

In addition, breadfruit (*Artocarpus altilis*), coconuts (*Cocos nucifera*), *wauke* (paper mulberry, *Broussonetia papyrifera*, used to make *kapa* for clothing), *olonā* (*Touchardia latifoli*, used to make cordage), and other plants were grown in the interior. ‘Ewa was known as one of the best areas to grow gourds and was famous for its *māmaki* (*Pipterus* spp., used to make *kapa* for clothing). It was also famous for a rare form of taro called the *kāī o ‘Ewa*, which was grown in mounds in marshy locations (Handy and Handy 1972:471). The cultivation of this prized and delicious taro led to the following saying:

> *Ua ‘ai i ke kāī-koi o ‘Ewa*. He has eaten the Kāī-koi taro of ‘Ewa.
>
> Kāī is O‘ahu’s best eating taro; one who has eaten it will always like it. Said of a youth of a maiden of ‘Ewa, who, like the Kāī taro, is not easily forgotten. [Pukui 1983:305]

Captain Vancouver sailed by Kalaeloa (Barbers Point) in 1792, and recorded his impression of the small coastal village of Kualaka‘i and the arid Honouliuli coast:

> The point is low flat land, with a reef round it . . . Not far from the S.W. point is a small grove of shabby cocoa-nut trees, and along these shores are a few struggling fishermen’s huts. [Vancouver 1798:1:167]
>
> . . . from the commencement of the high land to the westward of Opooroah [Pu‘uloa], was composed of one very barren rocky waste, nearly destitute of verdure, cultivation or inhabitants, with little variation all the way to the west point of the island . . . [Vancouver 1798:2:217]
>
> This tract of land was of some extent but did not seem to be populous, nor to possess any great degree of fertility; although we were told that at a little distance from the sea, the soil is rich, and all necessaries of life are abundantly produced . . . [Vancouver 1798:3:361–363]

Subsequent to Western Contact in the area, the landscape of the ‘Ewa plains and Wai‘anae slopes was adversely affected by the removal of the sandalwood forest and the introduction of domesticated animals and new vegetation species. Domesticated animals, including goats, sheep and cattle, were brought to the Hawaiian Islands by Vancouver in the early 1790s, and were allowed to graze freely about the land for some time after. L.A. Henke reports the existence of a longhorn cattle ranch in Wai‘anae by at least 1840 (Frierson 1972:10). During this time, perhaps as early as 1790, exotic vegetation species were introduced to the area. These typically included vegetation best suited to a terrain disturbed by the logging of sandalwood forest and eroded by animal grazing. The following dates of specific vegetation introduced to Hawai‘i are given by R. Smith and outlined by Frierson (1972:11):

(1) ‘early’, c. 1790: Prickly pear cactus, *Opuntia tuna*, Haole koa, *Leucaena glauca* and Guava, *Psidium guajava*

(2) 1835-1840: Burmuda [*sic*] grass, *Cynodon dactylon*, Wire grass, *Eleusine indica*

(3) 1858: Lantana, *Lantana camara*, *kiawe* tree (1828 or 1837)

At Contact, the most populous *ahupua‘a* on the island was Honouliuli, with the majority of the population centered on Pearl Harbor. In 1832, a missionary census of Honouliuli recorded the population as 1,026. Within four years, the population was down to 870 (Schmitt 1973:19, 22). In 1835, there were eight to ten deaths for every birth (Kelly 1991:157–158). Between 1848 and 1853, there was a series of epidemics of measles, influenza, and whooping cough that often wiped out whole villages. In 1853, the population of ‘Ewa and Wai‘anae combined was 2,451 people. In 1872, it was 1,671 (Schmitt 1968:71). The inland area of ‘Ewa was probably abandoned by the mid-nineteenth century due to population decline and consolidation of the remaining people in the town of Honouliuli, near Kapapapūhi Point.

3.1.5 The Māhele and the Kuleana Act

The Organic Acts of 1845 and 1846 initiated the process of the Māhele, the division of Hawaiian lands, which introduced private property into Hawaiian society. In 1848, the crown, the Hawaiian government, and the *ali‘i* received their land titles. The common people (*maka‘āinana*) received their *kuleana* awards (individual land parcels) beginning in 1850. It is through records for Land Commission Awards (LCA) generated during the Māhele that the first specific documentation of life in ‘Ewa, as it had evolved up to the mid-nineteenth century, comes to light.

By the time of the Māhele, many of the chiefs had run up huge debts to American merchants throughout the early historic period and continuing up into the mid-1800s. A common practice at the time was to lease (or mortgage) large portions of unused land to other high chiefs and foreigners to generate income and pay off these earlier debts. Until the passage of the Act of 3 January 1865, which made Crown Lands inalienable, Kamehameha III and his successors did as they pleased with the Crown Lands, selling, leasing, and mortgaging them at will (Chinen 1958:27).

In 1850, the Privy Council passed resolutions that affirmed the rights of commoners or native tenants. To apply for fee-simple title to their lands, native tenants were required to file their claims with the Land Commission within the specified time period of February 1846 to 14 February 1848. Under the Kuleana Act of 1850, the claimant was required to have two witnesses who could testify they knew the claimant and the boundaries of the land, knew the claimant had lived on the land for a minimum of two years, and knew that no one had challenged the claim. The land also had to be surveyed.

Not everyone who was eligible to apply for *kuleana* lands did so and, likewise, not all claims were awarded. Some claimants failed to follow through and come before the Land Commission, some did not produce two witnesses, and some failed to have their land surveyed. For whatever reason, out of the potential 2,500,000 acres of Crown and Government lands, “less than 30,000 acres of land were awarded to the native tenants” (Chinen 1958:31).

A total of 23 land claims were made in Hō‘ae‘ae Ahupua‘a, with 20 claims awarded to commoners (Table 1). The bulk of these claims deal with Hō‘ae‘ae Fisheries around West Loch to the south of the project area. The project area is within the 3453 acres of Māhele Award 193 (Figure 11, Appendix A), surveyed by Metcalf in 1848 and awarded to Lewis Rees, the servant of Manuia. All unclaimed lands in the *ahupua‘a* were awarded to Nueku Nāmau‘u as Māhele Award 63 (LCA 10474). Nāmau‘u was a descendant of Hawai‘i Island chieftains and a cousin (or nephew) to Mataio Kekūanao‘a, the father of two Hawaiian monarchs, Alexander Liholiho (Kamehameha IV) and Lot Kapuāiwa (Kamehameha V) (Day 1984:69).

3.1.6 Mid- to Late 1800s

3.1.6.1 Explorer, Missionary, and Military Surveys

The first foreign attempt to survey Pearl Harbor was made in 1840 during the U.S. Exploring Expedition led by Charles Wilkes. He described the area as follows:

> In this district is a large inlet of the sea, into which the river Ewa empties; at the entrance of this inlet is the village of Laeloa (at Kalaeloa Pont): the shore is known by the name of Pearl River or harbour, from the circumstance that the pearl oyster is found here; and it is the only place in these islands where it occurs. The inlet has somewhat the appearance of a lagoon that has been partly filled up by alluvial deposits. At the request of the king, we made a survey of it: the depth of water at its mouth was found to be only fifteen feet; but after passing this coral bar, which is four hundred feet wide, the depth of water becomes ample for large ships, and the basin is sufficiently extensive to accommodate any number of vessels. If the water upon the bar should be deepened, which I doubt not can be effected, it would afford the best and most capacious harbour in the Pacific. [Wilkes 1970:79]

In 1873, General Schofield presented a confidential report to the U.S. Secretary of War, recommending that Pearl Harbor should be available to the U.S. Navy. Schofield wrote the following:

Table 1. Land Commission Awards in Hō‘ae‘ae Ahupua‘a

LCA	Awardee	*‘Ili*	Land Use
193	Rees, Lewis		One *‘āpana* (lot or parcel); 3453 acres Pasture lands
750	Mokumakuaole	Koipu, Kalokoloa	One *‘āpana*; 0.85 acres
887	Kaihikapu	Kalaikea, Kapapapuhi, Kuainihi, Kalokoeli, Pakai	Kalaikea one *‘āpana*; 1.189 acres Kapapapuhi one *‘āpana*; 0.45 acres
889	Puko	Waihi	One *‘āpana*; 2.082 acres
899	Kahooweliweli	Amakeahilalo	One *‘āpana*; 1.45 acres House lot
909	Kaneiahuea	Paniu, Kalahale, Lihue, Kumuhau	Kalahale one *‘āpana*; 0.244 acres Panui one *‘āpana*; 2.374 acres House lot
1533	Kealaiki	Muki, Waihi, Kalokoeli	One *‘āpana*; 2.22 acres Four *lo‘i*
1561	Kaumanu	Amakeahiluna, Kamalokala	One *‘āpana*; 1.73 acres
1562	Kapili	Kaaiiole, Koipuu	Two *‘āpana*; 1.93 acres
1571	Kalihue	Kamalokala	One *‘āpana*; 1.239 acres
1578	Kaihumai	Laekea	Two *‘āpana*; 0.855 acres
1582	Kukahoe	Koipu	Two *‘āpana*; 0.575 acres
1583	Kekapa	Waihi	Two *‘āpana*; 1.77 acres House lot
1601	Kekoamiki	Keahupuaa, Kaaiiiole, Holokoeli	One *‘āpana*; 1.3 acres House lot
1605	Kaualei	Koipuiki, Koipu	Koipuiki one *‘āpana*; 0.73 acres Koipu one *‘āpana*; 0.25 acres
1660	Ewa	Kahuu	Two *‘āpana*; 1.64 acres
1707	I	Kalokoeli	Two *‘āpana*; 3.966 acres House lot
1721	Hinawale	Kuainiho, Kaaiiole	One *‘āpana*; 1.65 acres
5634	Kaiwi	Kalokoeli, Koipuu	One *‘āpana*: 0.567 acres
10474	Namauu	Ahupua‘a	*‘Āpana* 9

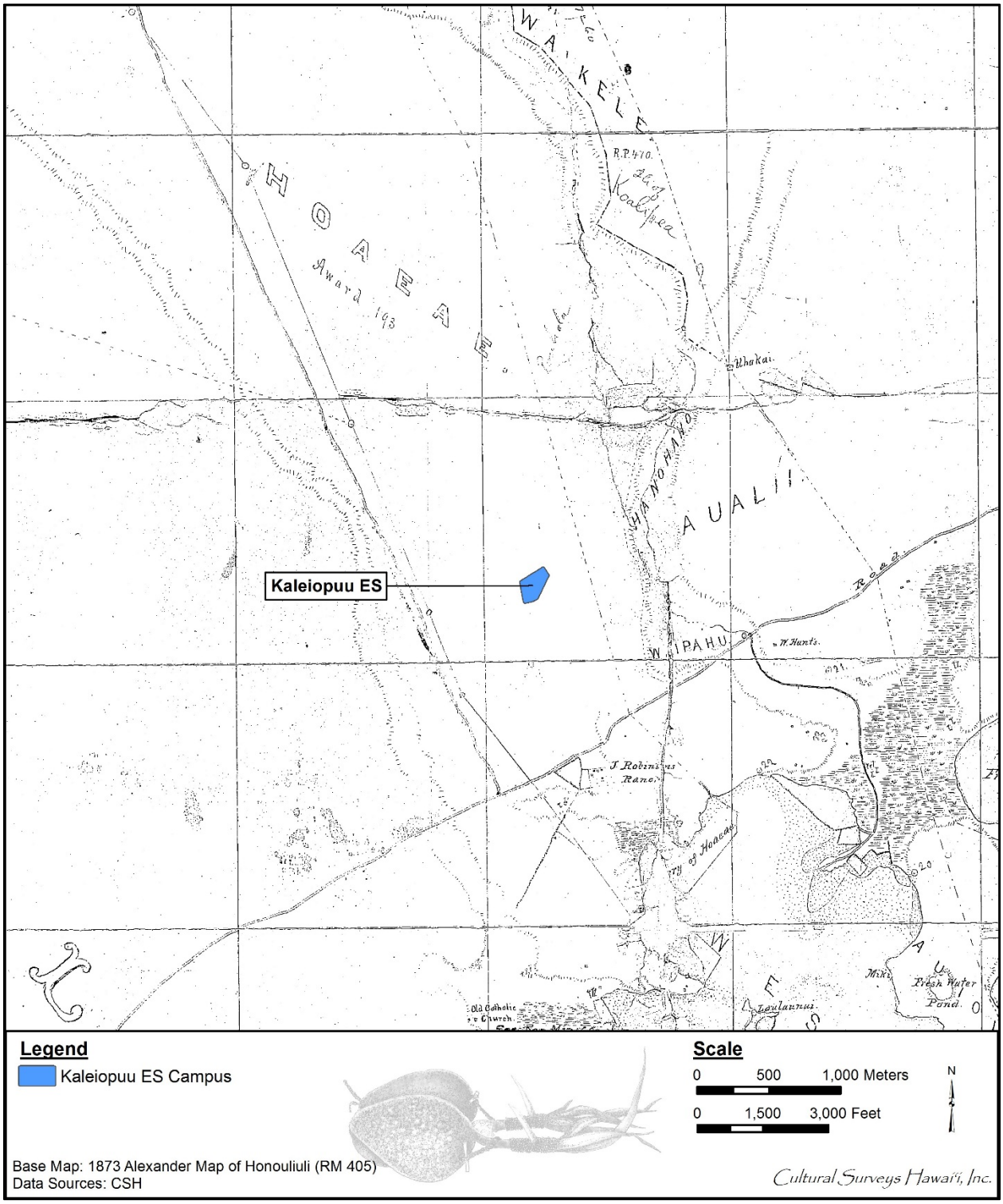


Figure 10. Portion of the 1873 Alexander map of Honouliuli showing the project area within LCA 193

> In case it should become the policy of the Government of the United States to obtain the possession of this harbor for naval purposes, jurisdiction over all the waters of Pearl River with the adjacent shores to the distance of 4 miles from any anchorage should be ceded to the United States by the Hawaiian Government…
>
> The cession of Pearl River could probably be obtained by the United States in consideration of the repeal of the duty of Sandwich Island sugar. Indeed, the sugar-planters are so anxious for a reciprocity treaty, or so anxious rather for free trade in sugar with the United States, that many of them openly proclaim themselves in favor of annexation of these islands of the United States. [Sen. Ex. Docs, 52nd Cong. 2nd Sess. No. 77:150–154, reproduced in Judd 1971:Appendix 3]

This reciprocity treaty was concluded in 1876, with the provision that Hawai‘i would not “lease or relinquish sovereignty to another country or any harbor, etc.” In 1887, the treaty was renewed and amended to allow the United States the “exclusive right to enter the harbor of Pearl River, in the Island of Oahu, to establish and to maintain there a coaling and repair station for the use of vessels of the United States” (Judd 1971:128).

3.1.6.2 Plantation Ranching, Agriculture, Irrigation, and the Railroad in the Late 1800s

Benjamin Dillingham envisioned a great land colonization scheme that included a railroad along the west and north coasts of O‘ahu. With Samuel Allen, James Castle, Robert Lewers, John Paty, and Mark Robinson, Dillingham organized the Oahu Railway and Land Company (OR&L), chartered in 1889. The railroad connected the outlying areas of O‘ahu to Honolulu. By 1890, the railroad reached from Honolulu to Pearl City and continued on to Waianae in 1895, to Waialua in 1898, and to Kahuku in 1899 (Kuykendall 1967:99–100). To attract business to his new railroad system, Dillingham subleased all land below 200 ft elevation to William Castle, who in turn sublet the area to the Ewa Plantation Company for sugarcane cultivation (Frierson 1972:15). Dillingham’s lands above 200 ft elevation that were suitable for sugarcane cultivation, including the project area, were sublet to the Oahu Sugar Company.

The Oahu Sugar Company was incorporated in 1897 and included lands in the foothills and central valley of O‘ahu above the ‘Ewa plain and Pearl Harbor. The 12,000 acres of land were leased from the estates of ‘Ī‘ī, Bishop, and Robinson and had over 900 field workers composed of 44 Hawaiians, 473 Japanese, 399 Chinese, and 57 Portuguese. The sprawling plantation “covered some 20 square miles . . . ranging in elevation from 10 feet at the Waipio Peninsula . . .to 700 feet at the Waiāhole Ditch” (Condé and Best 1973:313). Prior to commercial sugar cultivation, the lands occupied by the Oahu Sugar Company were described as being “of near desert proportion until water was supplied from drilled artesian wells and the Waiahole Water project” (Condé and Best 1973:313). From 1890 to 1892 the Ranch Department of the OR&L desperately sought water for their herds of cattle by tapping plantation irrigation flumes and searching for alternative sources of water. Water to irrigate the *mauka* cane fields was initially pumped to elevations of 500 ft by some of the “largest steam pumps ever manufactured” (Dorrance and Morgan 2000:49).

3.1.7 1900s

In Hō‘ae‘ae and Honouliuli, the cultivation of sisal (*Agavacea*) for high quality rope fiber was attempted on arid lands, although no evidence suggests this enterprise or similar efforts to grow pineapple affected the project area in any way. Thrum’s *Hawaiian Almanac and Annual* speaks of the prospect of sisal cultivation glowingly from 1904 to 1912, but the greater profits to be made

from sugarcane cultivation eventually led to the decline of this industry. Upper Hō‘ae‘ae seems to have been the focus of sisal cultivation by the Hawaiian Fiber Company as shown in excerpts from Thrum’s 1909 (Thrum 1908:167) and 1913 (Thrum 1912:171) annuals.

Further, a Japanese pineapple growers’ enterprise, the Waipio Pineapple Company, was founded in 1908, leasing approximately 808 acres in portions of Kīpapa Gulch (Kimura 1988:103). In 1917, Libby, McNeill & Libby took over Waipio Pineapple Company’s leases and continued to cultivate pineapple in the area (Hawkins 2011:122). By the late 1920s, James Dole’s Hawaiian Pineapple Company, incorporated in 1901, was cultivating pineapple on thousands of acres leased from the ‘Ī‘ī estate in the *mauka* area of Waipi‘o.

Besides sisal, cotton, and pineapple, other crops were grown in central ‘Ewa. One such crop was macadamia nut:

> At Hoaeae, in the Ewa district, is another tract of about six acres on the Robinson estate, reported to be in fine condition . . . Mr. Grant Bailey, manager of the Hoaeae Ranch, kindly furnishes the following data on the infant industry . . . ‘Our planting is about six acres. Apparently one would have to wait about ten years before expecting commercial results on the planting. Our oldest trees are seven years old and they are just now beginning to bear.’ [Thrum 1927:96]

Many irrigated crops, such as pineapple, coffee, and macadamia nuts, were grown for export markets; however, sugar became the king of crops, and fields of sugarcane dominated the landscapes of Hawai‘i from the 1880s through the 1980s. For much of that century, sugar was the single greatest force at work in Hawai‘i—not only economically and politically but socially and environmentally.

Sugar production at the Oahu Sugar Company, which included the land within the current project area, increased from 29,983 tons in 1915 to 50,005 tons in 1918. The expense of pumping water to the high elevations of the plantation led to the proposal to transport water from the windward side of the Ko‘olau Mountains. The subsidiary Waiāhole Water Company was formed in 1913 to dig a tunnel through the Ko‘olau range to transport runoff from the eastern side of the mountains. The Waiāhole Ditch was built to pass through Hō‘ae‘ae, to the north of the project area, bringing water via an interconnected network of irrigation flumes. Figure 12 and Figure 13 show workers at the Waiāhole Tunnel ca. 1916 and the Oahu Sugar Company ca. 1933.

Innovation was encouraged at the Oahu Sugar Company. Mechanical loading of harvested cane began in 1924, and mechanical harvesting was introduced during World War II. A plantation railroad carried harvests to a mill at Waipahu, and the raw sugar was transported to the Honolulu docks by the OR&L, until the railroad was preplaced by trucks in 1950. In 1970, when the Ewa Plantation ceased operations, much of its land was acquired by the Oahu Sugar Company, which produced some 76,925 tons of sugar from 11,526 cultivated acres in 1990. However, by 1993 both the plantation and the mill were surrounded by urban growth, and the Oahu sugar company closed after the 1995 harvest.

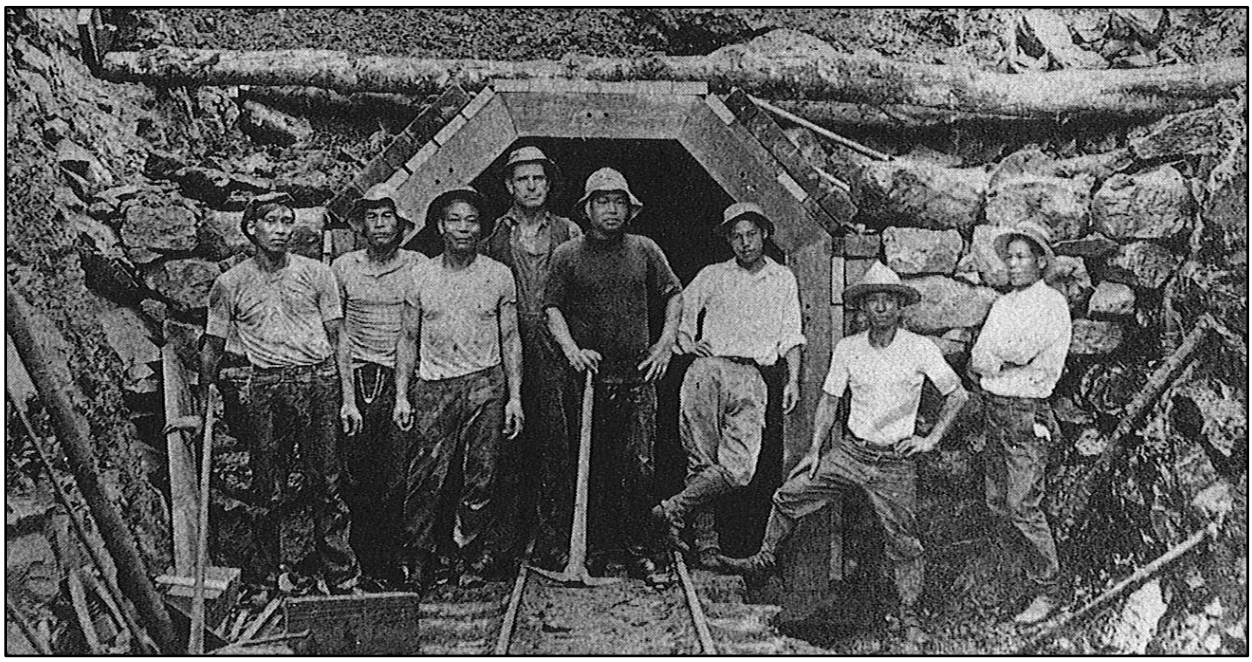


Figure 11. Workers at the Waiāhole Tunnel, ca. 1916 (Wilcox 1996:107)

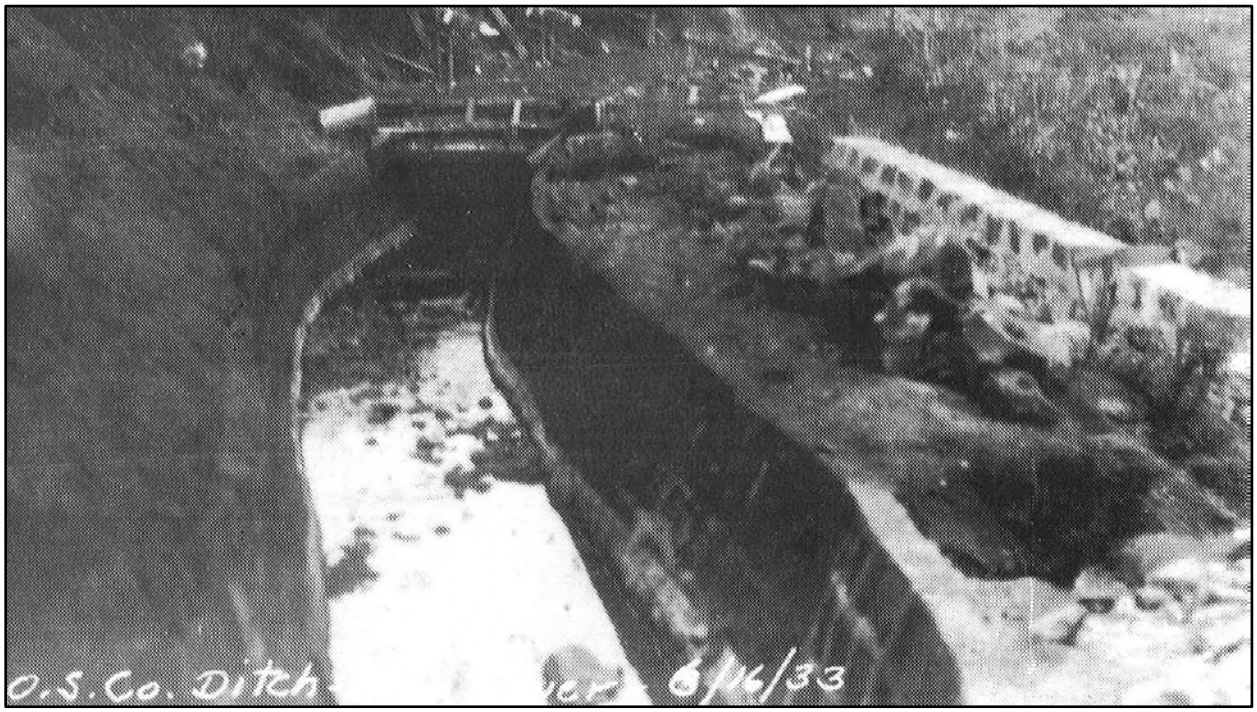


Figure 12. Oahu Sugar Company irrigation ditch under construction in 1933 at Kīpapa Gulch (Bishop Museum)

The Donn map of 1906 (Figure 14) shows the project area within the extensive Oahu Plantation sugar cultivation lands. The traditional *mauka-makai* trail on the Honouliuli/Hō‘ae‘ae boundary (see Figure 10) is now shown as an unimproved road, but no other development is indicated in the vicinity. Subsequent maps show the project area surrounded by sugarcane infrastructure, including roads/trails, ditches, reservoirs, and railroads (Figure 15, Figure 16, and Figure 17). The 1919 U.S. Army fire control map (see Figure 15) indicates sugarcane cultivation in many of the areas surrounding the current project; however, it is not clear if the project area itself is yet under cultivation at this point. A 1925 map of Oahu Sugar Company Lands (Figure 18) shows the project area within Field 16, indicating it was a relatively early field (numbers range from 1 through 56), likely due to its proximity to the mill in Waipahu. This map shows a gulch at the western boundary of Field 16, which aligns with the western edge of the current project area. In addition, this and several subsequent maps (see Figure 16 and Figure 17) depict an unimproved path/road that aligns with the eastern boundary of the Kalei‘opu‘u Elementary School campus, a short distance east of the current project area. This likely represents a field access road; however, maps and aerial photographs that post-date 1950 (Figure 19 through Figure 21) show a flume in the place of that field access road, leading from a reservoir north of the project area south and along what is now the eastern boundary of the elementary school campus. In these figures, the railroad tracks have been replaced with roads, indicating the transition from railroads to trucks for the transportation of sugarcane and raw sugar.

Beginning with the 1953 Schofield Barracks USGS topographic quadrangle map (see Figure 19), an unimproved road is depicted running north-south through the current project area in the western portion of the elementary school campus. Moreover, the 1962 USDA aerial photograph shows the project area abutting the aforementioned gulch that lies along its western edge. The 1969 Schofield Barracks USGS topographic quadrangle map (see Figure 21) shows the increasing urban growth to the south and southeast of the project area in the second half of the twentieth century, which eventually led to the closing of the sugar plantation. The map indicates at least three schools in the vicinity, a drive-in theater, and the H-1 (Queen Lili‘uokalani) highway, which was still under construction at that time. The increasing development and proximity of the new highway are also clearly visible on a 1977/1978 aerial photograph (Figure 22).

3.1.8 Contemporary Land Use

The project area is currently situated within the west central portion of the Kalei‘opu‘u Elementary School campus, which is located in the Royal Kunia community, approximately 300 m north of the H-1 highway and 1.8 km northwest of the West Loch of Pearl Harbor. Hō‘ae‘ae Community Park, with tennis and basketball courts and open space, is located on the southwest side of the campus, and the deeply dissected gulch of Hō‘ae‘ae Stream still bounds the campus on the west side. The major vehicular artery in the immediate vicinity is Ka‘aholo Street, which bounds the school on the northeast side and serves as the major access to the campus.

Royal Kunia is a close-knit community with two large shopping centers selling a variety of items, including household goods, grocieries, and clothing. There are many take-out and dine-in restaurants, and for entertainment there is boxcar racing, golf and country clubs, and a recreation center that offers classes in hula, cooking, and dancing (Kalei‘opu‘u Elementary School 2016c). The elementary school was established in 1989, and as of 2014 there were nearly 1,000 students enrolled in kindergarten through sixth grade.

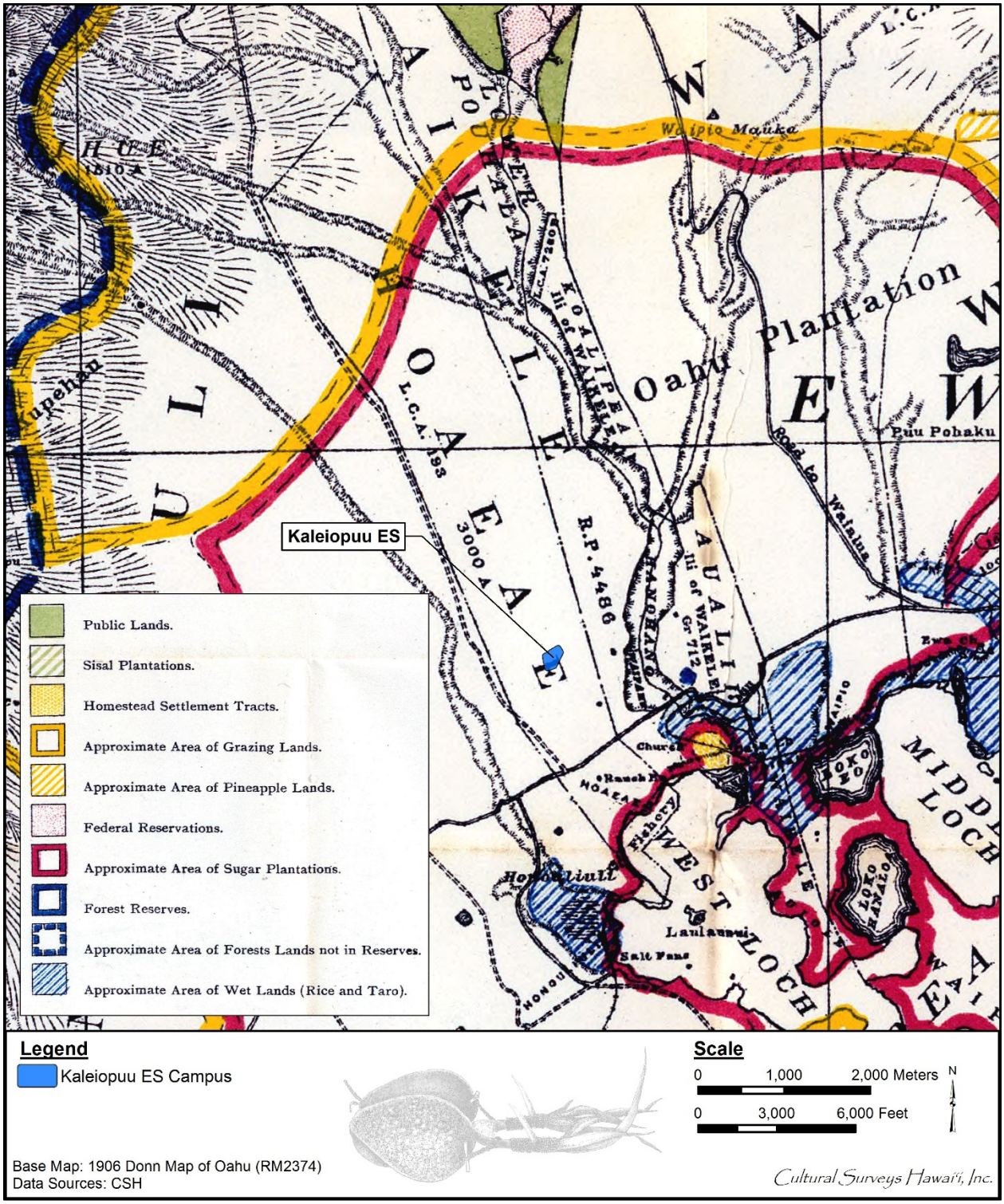


Figure 13. 1906 Donn map of Oahu showing the project area within the Oahu Sugar Company plantation

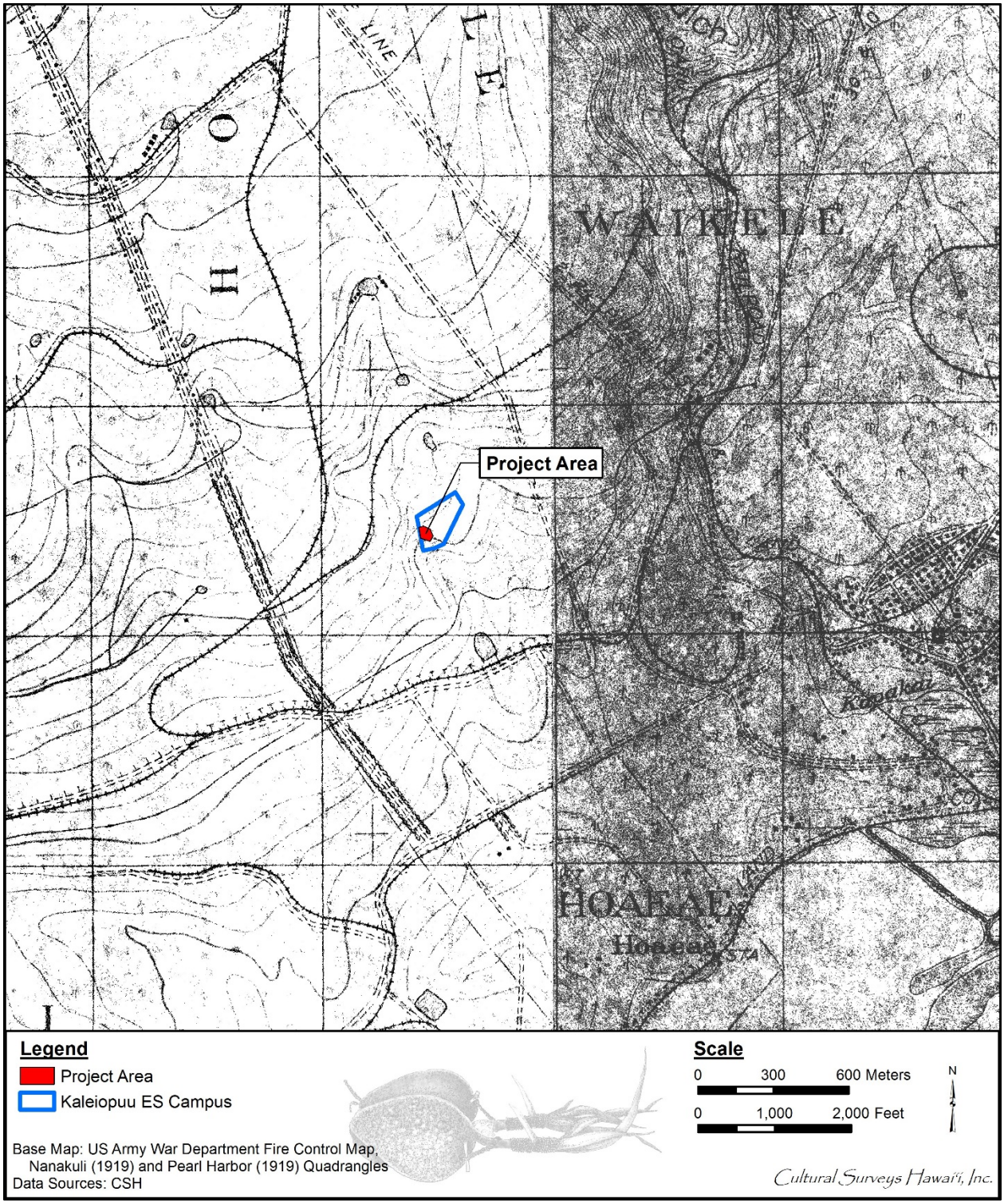


Figure 14. 1919 U.S. Army War Department fire control map indicating the project area surrounded by sugarcane cultivation and associated infrastructure

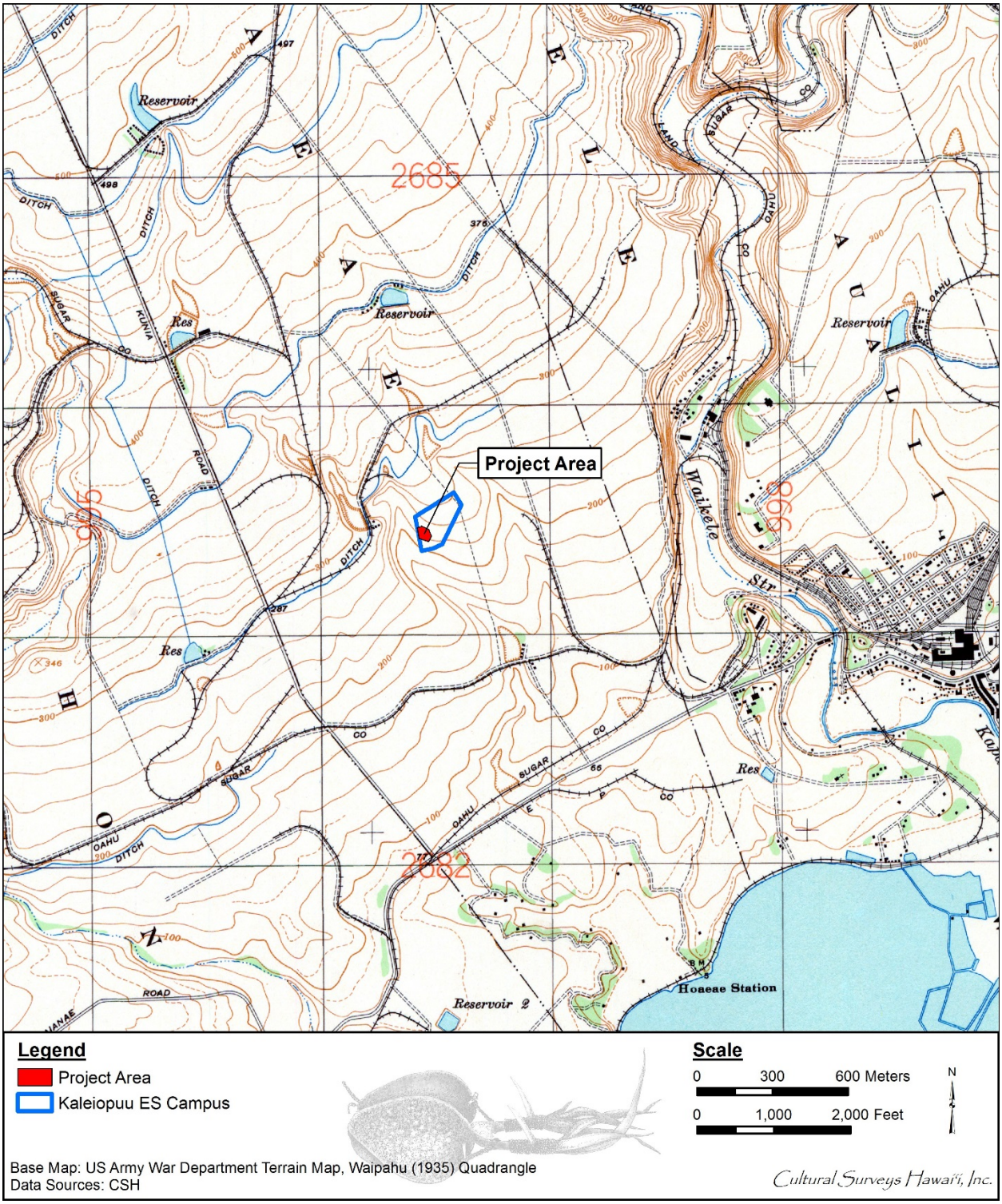


Figure 15. Portion of U.S Army War Department terrain map, Waipahu (1935) Quadrangle, indicating the project area (ditches are depicted as blue lines, and unimproved roads are depicted as two parallel dashed lines)

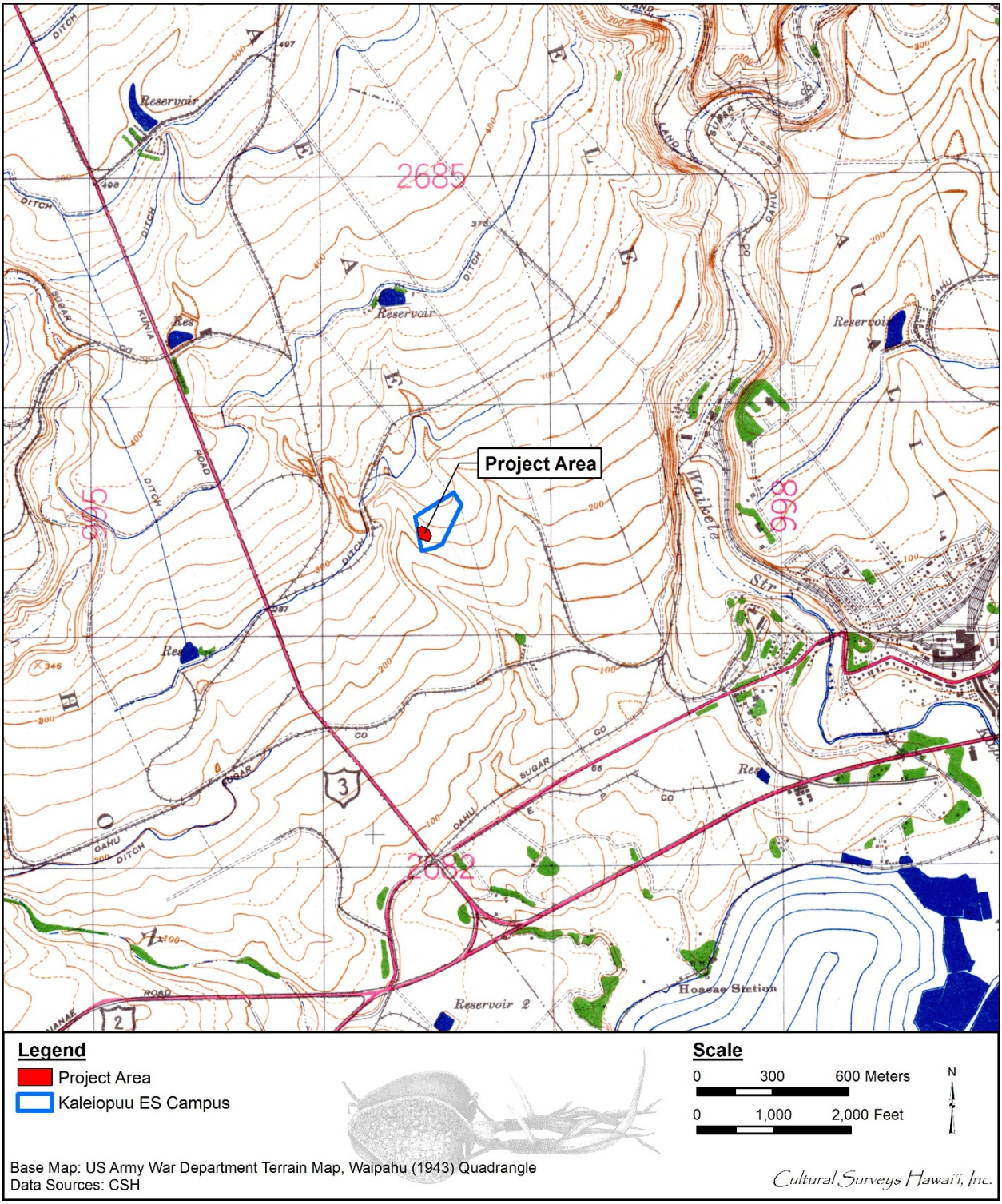


Figure 16. Portion of U.S Army War Department terrain map, Waipahu (1943) Quadrangle, indicating the project area

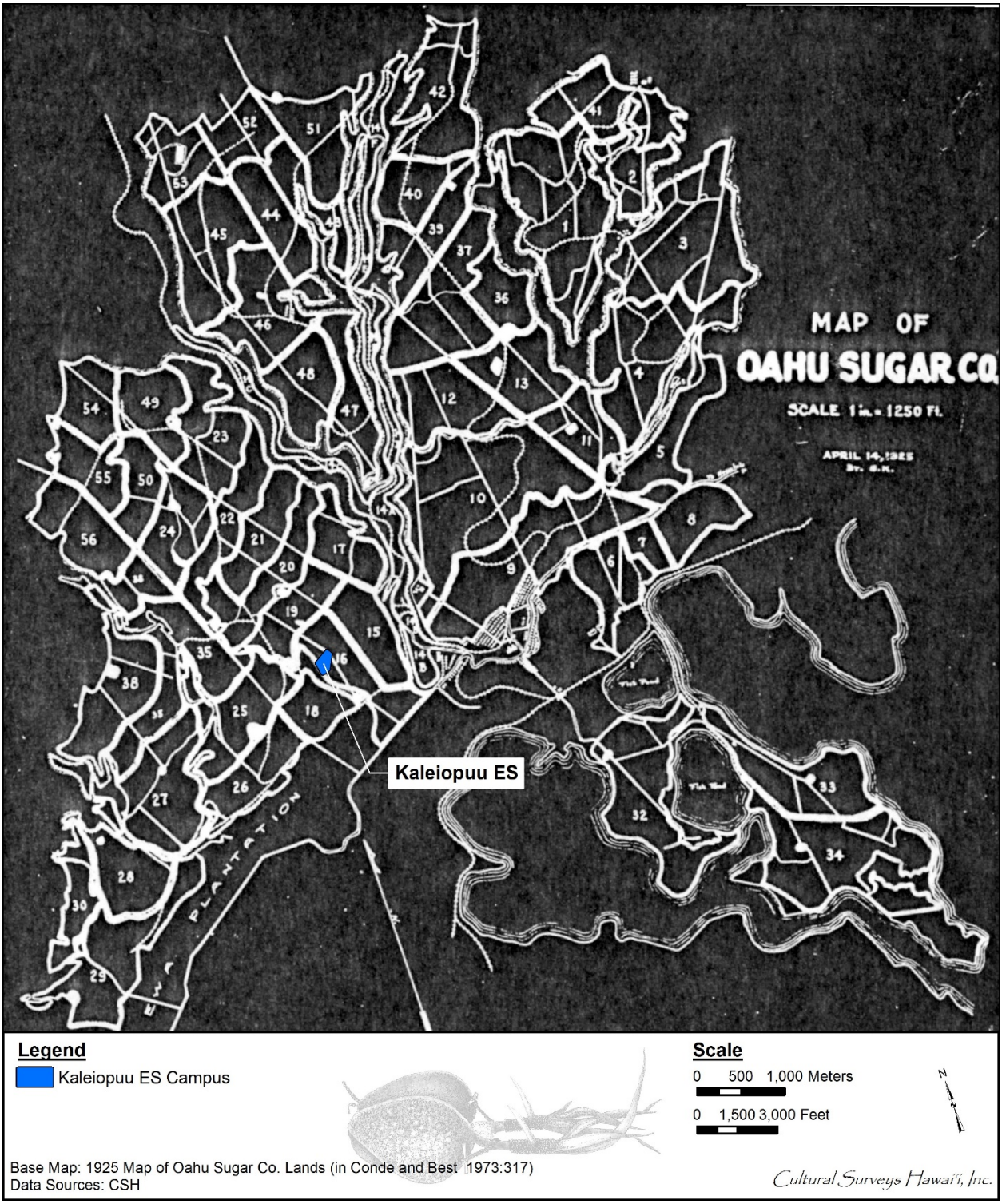


Figure 17. 1925 map of Oahu Sugar Company Lands indicating the project area within Field 16 (Condé and Best 1973:317)

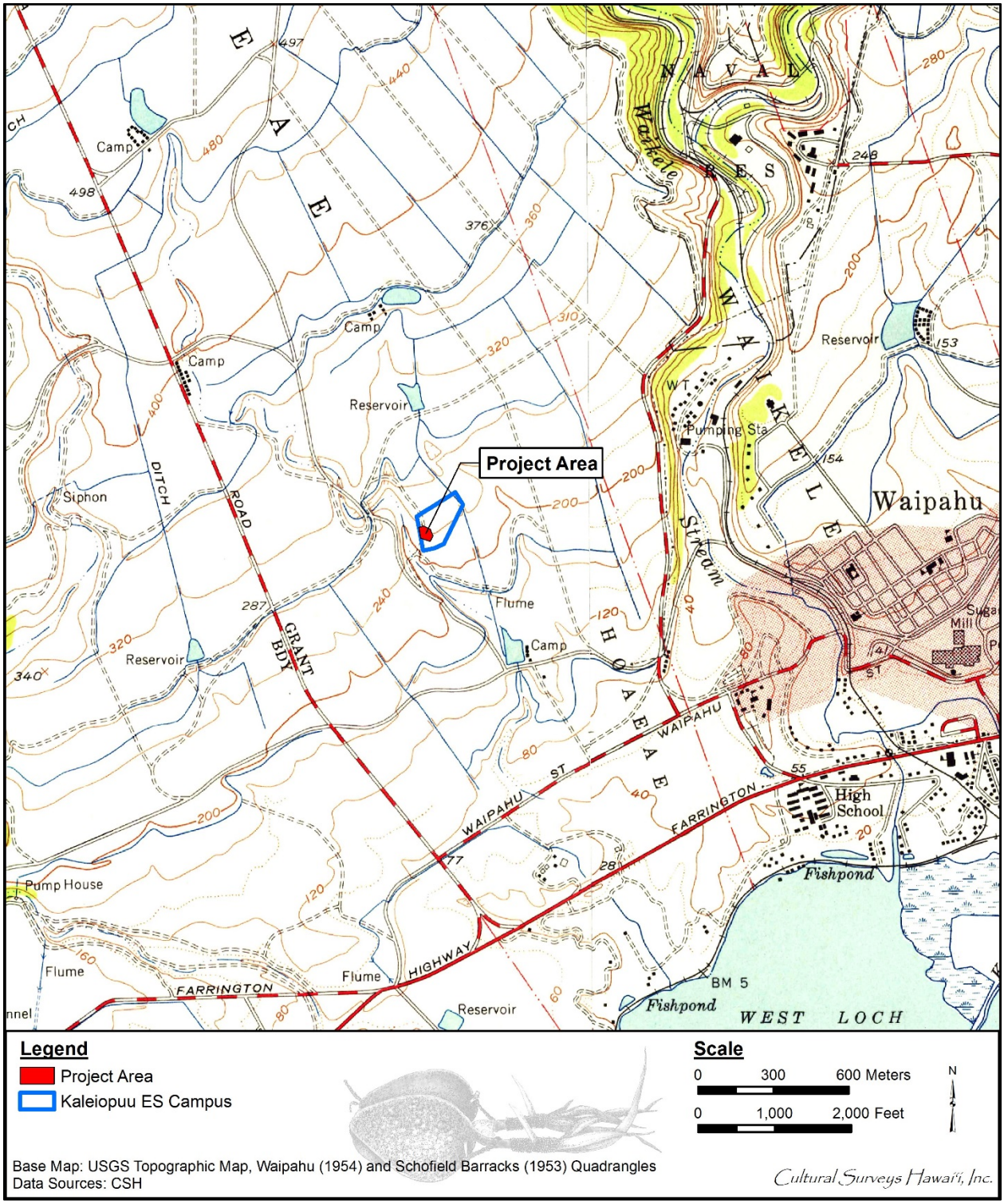


Figure 18. Portion of 1953 Schofield Barracks USGS topographic quadrangle indicating the project area

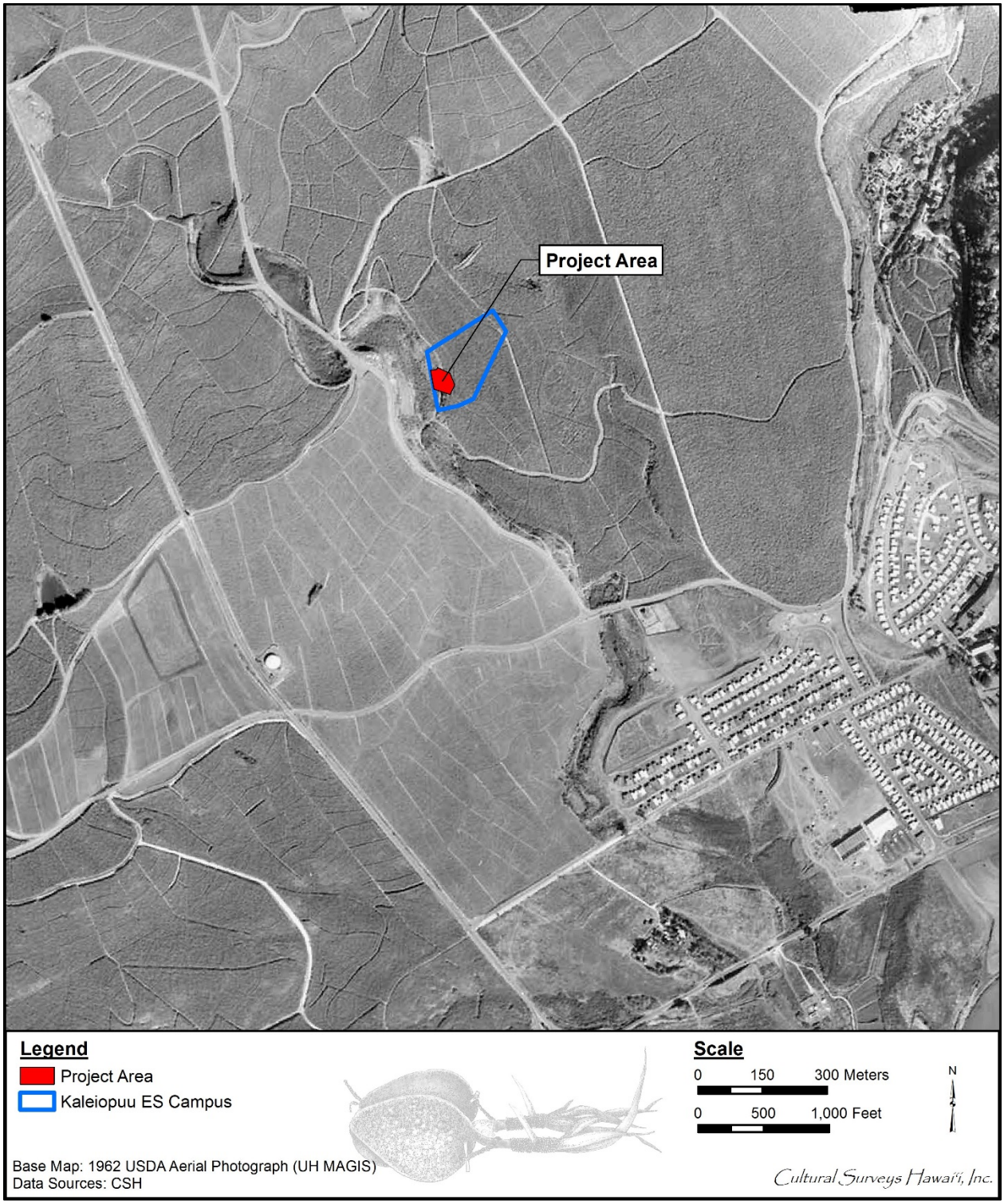


Figure 19. 1962 USDA aerial photograph (UH MAGIS) showing the project area

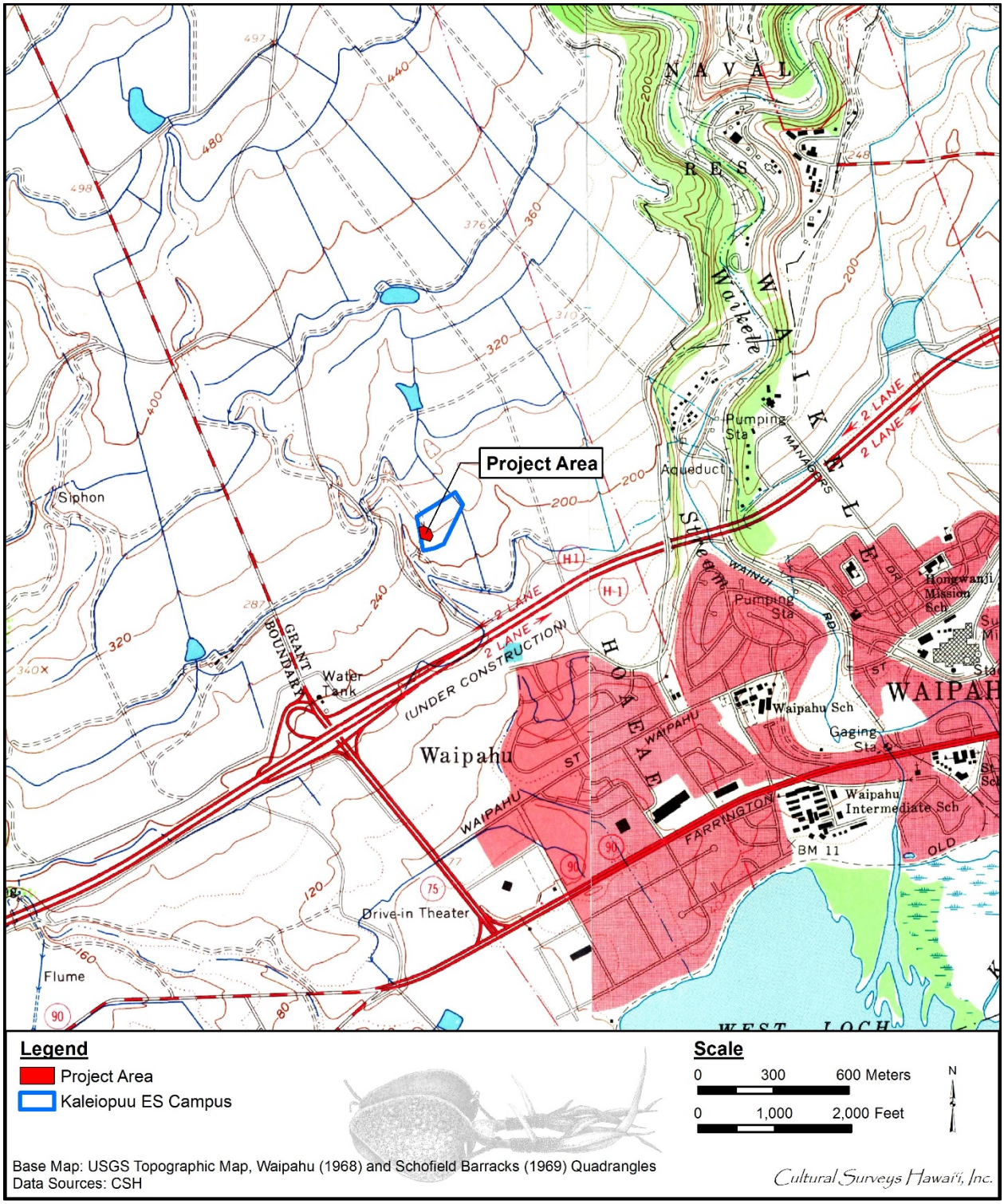


Figure 20. Portion of 1969 Schofield Barracks USGS topographic quadrangle indicating the project area

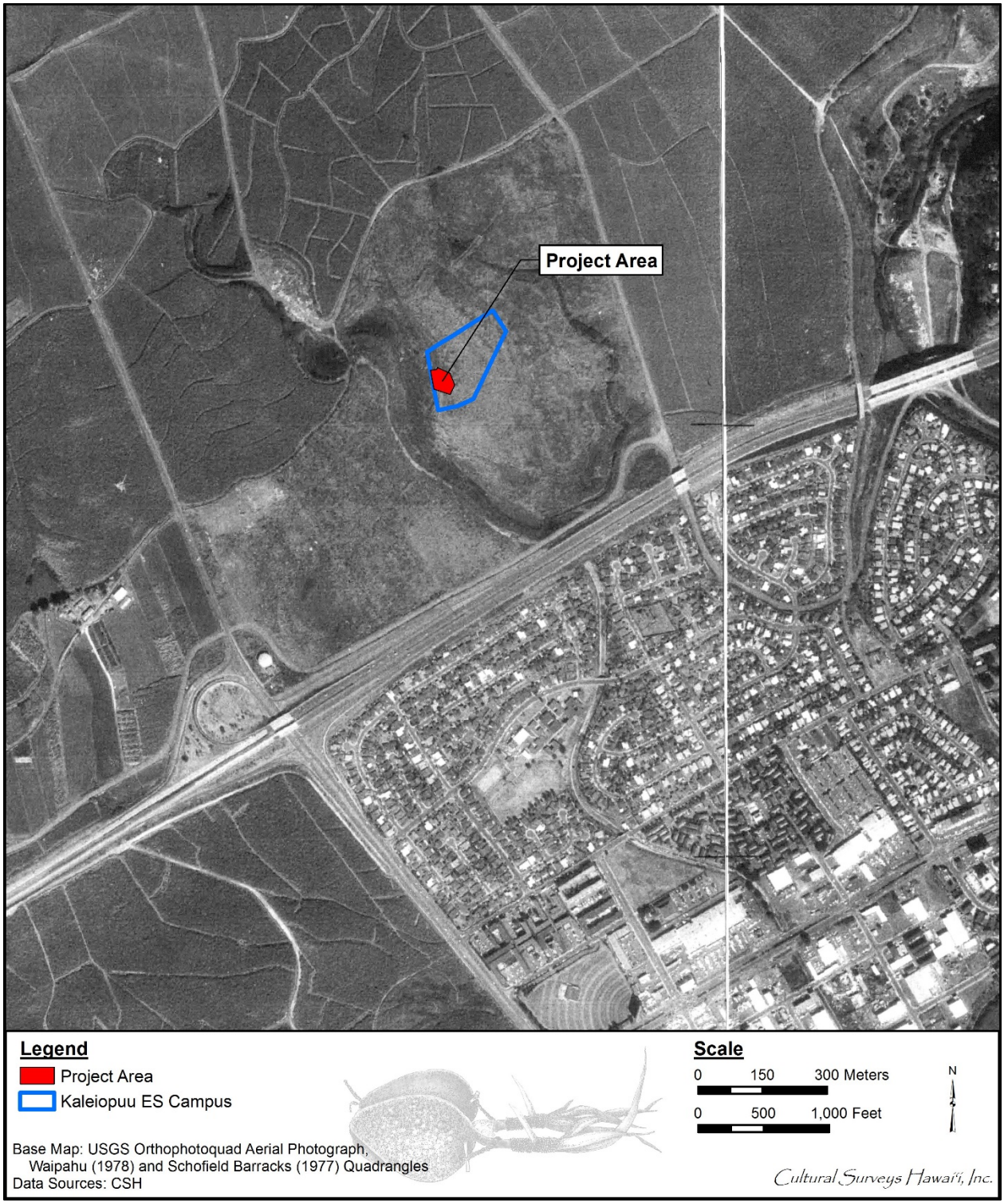


Figure 21. 1977/1978 aerial photograph of the project area (USGS 1977)

3.2 Hō‘ae‘ae in the Popular Press (1853-1918)

It is often the case that the popular press offers insights into land use, social history, and the traditional and customary practices of ethnic communities that are not available from standard historical studies. This is particularly true for smaller, more obscure areas such as Hō‘ae‘ae Ahupua‘a that have not been a major focus of historical study. The relatively recent advent of searchable archives such as the Library of Congress “Chronicling America” website has offered a time-efficient research tool to further explore the land use, social history, and the practices of ethnic communities at Hō‘ae‘ae Ahupua‘a. A total of 352 newspaper articles from a dozen newspapers were reviewed that included the key word “Hoaeae” spanning the timeframe from January 1853 through June 1918. The “Chronicling America” website appears to address Hawai‘i newspapers from 1836 through 1922; reasons for the apparent absence of articles at the ends of this range are unclear. It may be the case that there were no articles about Hō‘ae‘ae between 1836 and 1853 and it may be the case that the place name “Hō‘ae‘ae” “dropped out” of popular usage following World War I as it was replaced by more popular place names such as “Waipahu.” Only one of these newspaper articles was not about Ho‘ae‘ae Ahupua‘a in ‘Ewa (there was a Ms. Hoaeae of Kaua‘i).

References to Hō‘ae‘ae were identified in the following 12 newspapers:

- *Daily Bulletin* (1888–1893),
- *Evening Bulletin* (1896–1912),
- *Hawaii Holomua Progress* (1893),
- *Hawaiian Gazette* (1888–1917),
- *Hawaiian Star* (1893–1912),
- *Hilo Tribune* (1903),
- *Honolulu Republican* (1901),
- *Honolulu Star-Bulletin* (1912–1917),
- *Independent* (1901),
- *Maui News* (1903–1918),
- *Pacific Commercial Advertiser* (1862–1910), and the
- *Polynesian* (1853-1862).

3.2.1 Control of Access to Hō‘ae‘ae Lands

One of the most popular themes for Hō‘ae‘ae lands in popular newspapers is small advertisments restricting access or “trespass.” These start in September 1889 with a “Notice” promulgated by A. J. Campbell, Manager of Hoaeae Ranch forbidding “shooting or trespass” (*Daily Bulletin* 4 September 1889 “Notice”). Some 98 trespass notices were identified in *Daily Bulletin* (1889–1893), *Pacific Commercial Advertiser* (1892–1905), *Hawaiian Star* (1901), and *Evening Bulletin* (1901–1905). The trespassing prohibitions promulgated by Hoaeae Ranch are associated with A.J. Campbell, S.M. Damon, J.I. Dowsett, and J.M. Dowsett. M.P. Robinson is much associated with tresspass notices for Hō‘ae‘ae (1893–1905) that do not specifically reference the Hoaeae Ranch. In 1910, the Hawaiian Fibre Company, Ltd. was actively warning people not to trespass or shoot on their Hō‘ae‘ae lands *(Pacific Commercial Advertiser* 28 September 1910). All of these trespass notices reference “shooting,” “shooting of game,” “hunting,” or “sportsmen”

and it appears self-evident that unaurthorized hunting on Hō‘ae‘ae lands was perceived as enough of a problem that it needed to be addressed repeatedly.

One aspect of these trespass notices is that clearly large landowners believed they had the exclusive right to regulate public access to their lands from as early as 1889, during the years of the Hawaiian Kingdom.

3.2.2 Hunting at Hō‘ae‘ae and Vicinity

The 98 identified trespass notices for Hō‘ae‘ae noted above all reference “shooting,” “shooting of game,” “hunting,” or “sportsmen,” suggesting there was something to hunt at Hō‘ae‘ae. In the odd case of the shooting of Ah See in the back at Hō‘ae‘ae by the youths Willie Davis and Mark Robinson in August 1901, it is asserted that “The boys had gone up into the mountains to hunt goats” (*Pacific Commercial Advertiser* 21 August 1901). Goats are understood to have been ubiquitous in the mountains of O‘ahu ca. 1900. An article entitled “Will Stock Preserves with Pheasants Again” notes, “A consignment of seventeen pheasants of three varieties arrived from Canada and California. These will be distributed among shooting preserves at Ahuimanu, upper Hoaeae and Sisal” (*Evening Bulletin* 5 February 1912). It appears the prohibitions against trespass were largely focused on preventing the poaching of game birds.

3.2.3 Diversified Agricultural Production at Hō‘ae‘ae

3.2.3.1 Cattle

Hoaeae Ranch is referenced in more than 50 articles between 1888 and 1901. It may be that the Ranch started earlier and lasted longer but it seems pretty clear sisal and sugar operations at Hō‘ae‘ae had eclipsed the Ranch as an economic and social force in Hō‘ae‘ae by the beginning of the twentieth century. Most ranches not associated with the Portuguese were typically meat cattle ranches but in early 1896 there were 25 advertisments for “Table Butter” from “celebrated dairies” including Hoaeae (*Pacific Commercial Advertiser* 20 February 1896 through 21 March 1896).

3.2.3.2 Horses

It was common for ranches to raise horses, particularly for horse racing. Accounts of famous O‘ahu horses praised “Signal,” a mare, by “McClellan,” imported in 1884 by Hoaeae Ranch that produced a number of stylish saddle and carriage horses (*The Pacific Commercial Advertiser* 23 December 1903).

Injuries arising from training horses were common and are reported from Hoaeae Ranch in 1898 (*Pacific Commercial Advertiser* 13 January 1898).

3.2.3.3 Rice

Clearly rice production at Hō‘ae‘ae was a major enterprise but we only have ancillary references:

- An article “Over the Oahu Railway Line” discussing the new OR&L railroad notes, “The road will reach the shores of the lagoon in Halawakai and from this point on to Hoaeae will run along the shores, passing through a continuous and unbroken rice field . . . ” (*Hawaiian Gazette* 25 September 1888).

An article on a railroad press excursion to visit the Haleiwa Hotel notes that in passing "Through the rice fields of Waipio and Hoaeae the speed was increased" (*Pacific Commercial Advertiser* 5 August 1899).

- An article on a domestic tragedy, "Suicided While Insane," notes that at the time of a Chinese woman at Hō‘ae‘ae taking strychnine "her husband was out in the rice fields shooting rice birds . . . " (*The Hawaiian Star* 21 November 1903).

3.2.3.4 Traditional Hawaiian Crops

The continuation of traditional Hawaiian agricultural practices at Hō‘ae‘ae in the 1853–1918 timeframe is uncertain. The newspaper accounts only record three references to taro.

The first is in a dispute between Mataio Kekūanao‘a and Charles Dana in 1856 involving "a certain tract of kalo land and a fishpond adjoining situated at Hoaeae" that resulted in a "Marshal's sale" (*Polynesian* 7 and 21 June 1856). This suggests Hawaiian taro lands going out of Hawaiian ownership.

The second occurs in the case of the murder of Tong Hoon Hoo at Hō‘ae‘ae who chased a burgler, Liung Yao, "across a taro patch" only to be shot dead (*Hawaiian Gazette* 17 October 1893; *Pacific Commercial Advertiser* 16 October 1893). In this timeframe many taro patches are believed to have been managed by Chinese who converted them from taro production to rice production (and back) in response to market forces.

A third reference to taro is in an account of "Realty Transfers" from "M.P. Robinson et al to Kum Sai Yuen of six taro patches" at Hō‘ae‘ae for 10 years at $100 per year (*Hawaiian Star* 19 December 1903; *Pacific Commercial Advertiser* 19 December 1903). Again this supports the general belief that Chinese farmers were taking over former taro lands at the turn of the century for the production of taro and/or rice.

The only other reference to any traditional Hawaiian cultigens is in an account of "The Oahu Railroad Project," noting that the completion of the OR&L railroad to an interim terminus at Hō‘ae‘ae had had the effect that "banana, vegetable and sugar culture have been stimulated and property has more than doubled in market value" (*Daily Bulletin* 14 July 1890). The indication is of commercial cultivation; there is no reference to the ethnicity of the cultivators.

A reference to a fishpond has been noted in the dispute above between Mataio Kekūanao‘a and Charles Dana in 1856 but there is no other clear reference to fishponds at Hō‘ae‘ae in these newspaper accounts.

3.2.3.5 Sisal

Commercial sisal (rope) production was a big deal at Hō‘ae‘ae for a short period. The operation bursts on the scene in 1908 with the ""Hawaiian Fibre Co." when it is reported that:

> Over 500 acres of new planting has recently been put out at the new plantation in upper Hoaeae and work is being vigorously pushed to cover the entire tract of some 1800 acres with sisal and the gulches with forest trees . . . The machinery of the company has been all overhauled and refitted and will immediately start up as the company now has 600 acres of matured plants ready to take off and 260 acres additional will be ready by the time the crop is harvested . . . The officers of the

> Hawaiian Sisal Company are Cecil Brown, president, M.P. Robinson, vice president . . . ” [*Pacific Commercial Advertiser* 30 May 1908]

Much of the initial transformation of lands at Hō‘ae‘ae may have been for sisal as documented in an article titled “Traction Plows for Hoaeae Sisal Lands”:

> The Directors of the Hawaiian Fibre Company decided to investigate the matter of traction plows for plowing Hoaeae lands adding 1200 to 1400 acres of sisal and forest to the six hundred acres the company has already planted there. The company has ‘enough in sight to keep its machinery in operation night and day for a year. It will begin shipments by the next American-Hawaiian steamship.’ [*Pacific Commercial Advertiser* 26 August 1908]

An article on “Sisal Planting” continues the bullish theme of rapid agricultural land development:

> The Hawaiian Fibre Company is planning to plow with traction plows all the Hoaeae lands and plant the same in sisal and forest, adding from 1200 to 1400 acres to the 600 acres they already have planted there . . . The work of harvesting at the plantation at Sisal has begun and there is sufficient in sight to keep the decorating machine at work for a year. [*Pacific Commercial Advertiser* 30 August 1908]

We appear to start learning of a new place name, “Sisal,” in 1910 (*Pacific Commercial Advertiser* 28 September 1910).

One of the last accounts of sisal at Hō‘ae‘ae comes from a Maui Island source relating that control of the Hawaiian Fiber Company sisal growers passed to the Hawaiian Pineapple Company. The fiber company was said to have had about 1,800 acres at Hōa‘ea‘e and at Sisal, near ‘Ewa:

> About 1000 acres was planted to sisal, and has since the beginning of the world war enjoyed a considerable degree of prosperity . . . The prevailing high price of sisal is said to have been the reason which urged the pineapple company to takeup the new industry. Plans have been made so that if there should be a decline in sisal prices after the war, the land can be planted to pineapples. [*Maui News* 7 June 1918]

3.2.3.6 Pineapple

At the end of the 1800s, pineapple showed promise in central O‘ahu.

> Pineapple cultivation by the Pearl City Fruit and Packing Company is a success in the uplands of Hoaeae in upper lands the company swapped for low lands. It is the intention of the company to ultimately move its cannery and packing plant to the plantation on the hills. [*Hawaiian Star* 13 January 1899]

There is no reason to believe a cannery was ever built in the uplands of Hō‘ae‘ae. A neighboring property was the holdings of “the California colony” where “pineapples, grapes, melons, strawberries, vegetables of all kinds and some fruit trees” were being cultivated (*Hawaiian Star* 13 January 1899). As noted above, in 1918 with the collapse of the sisal industry following the end of World War I, sisal lands appear to have been converted to pineapple.

3.2.4 The Rise of Oahu Sugar Company at Hō‘ae‘ae

In 1897, Benjamin Frank Dillingham promoted the Oahu Sugar Company, Inc. that leased lands from the John Papa ‘Ī‘ī, Bishop, and Robinson Estates. Back as early as 1890 it was widely noted that the OR&L railroad had stimulated sugar cultivation on serviced lands (*Daily Bulletin* 14 July 1890). The Oahu Sugar Company was a calculated investment and Dillingham sought expert testimony, the sharing of which undoubtedly encouraged investors in his enterprises. This included the publishing (twice) of a letter from J. Marsden, the Commissioner of Agriculture and Forestry, regarding a proposed B.F. Dillingham plantation at “Waipio, Hoaeae and Honouliuli” who noted “the land is perfectly clear from any growth except grass” and noted the proximity of limestone for liming the fields. Commissioner Marsden commented that, “A veritable gold mine has been lying at Ewa and you are the first one who has had the courage to dig it” (*Pacific Commercial Advertiser* 2 January 1895).

An opinion was also sought from W.D. Alexander (and published twice) who concluded “Between Hoaeae and Waiawa there is land enough for a first-class plantation . . . ” (*Pacific Commercial Advertiser* 2 January 1895).

The development of the Hō‘ae‘ae fields by the Oahu Sugar Company appears to have gotten off to a slow start because of a lack of water. We learn, for example, that

> . . . 282 acres of long ratoon cane, above the 550 feet level in Hoaeae, depending entirely on rain and mountain water, could only with difficulty be kept alive during the hot summer months. Eighty two acres of this field had to be abandoned. [*Hawaiian Star* 23 February 1906]

The fields of Hō‘ae‘ae were transformed by the Waiahole Ditch.

> The Waiahole aqueduct was completed as far as the boundary line of Hoaeae and Honouliuli, on May 27, 1916 and the water turned in on that date. [*Honolulu Star-Bulletin* 16 February 1917]
>
> Of the area planted, 1374 acres is new land, taken in under the Waiahole ditch in Waipio and Hoaeae . . . the young ratoons, particularly in the Hoaeae and Honouliuli Sections, are in a very advanced condition . . . ” [*The Hawaiian Gazette* 16 February 1917]

3.2.5 Ethnicity at Hō‘ae‘ae

3.2.5.1 Hawaiians

Mark Prevor Robinson (1852-?) was the owner of Hoaeae Ranch and among other things was a member of Queen Lili‘uokalani’s cabinet (Minister of Foreign Affairs) and a founder of First National Bank of Hawaii and First American Savings. His father, John James Robinson (?-1876) arrived in Hawai‘i in 1820 and married Rebecca Prevor and had eight children. While Rebecca Prevor’s geneaology is not altogether clear, she is understood to have been a daughter of Kamakana, a Maui chefess (“Mysterious Mary Foster,” *Honolulu Star-Bulletin* 22 September 2006) and thus Mark P. Robinson was a very prominent Hawaiian.

There are surprisingly few other references to Hawaiians at Hō‘ae‘ae. There is a reference to a policeman named Mahuka from Hō‘ae‘ae who died of natural causes in 1915 but otherwise almost

all references to Hawaiians at Hō‘ae‘ae appear to be in the context of land transactions or disputes. The Board of Commissioners to quiet Land Titles awarded Hō‘ae‘ae (among many other large properties) to N. Namauu in 1853 but he was deceased by that time. The *ali‘i* Mataio Kekūanao‘a was in legal disputes regarding Hō‘ae‘ae lands with Samuel Thompson in 1853 and Charles Dana in 1856. Lands were conveyed by Kekūanao‘a and Kapoli, widow of Namauu, to Samuel Thompson prior to 1862. In 1894, there was an argument over land at Hō‘ae‘ae among descendants of Kahooweliweli. In 1903, A. Kauhi and wife sold land at Hō‘ae‘ae to Kulapii for $200. In 1905, it appears Mark P. Robinson sold land at Hō‘ae‘ae to D. Kalou who sold it back to Robinson in a transaction that is unclear. In 1905, there were land transactions involving the estate of J.K. Kahookanoi, K.P. Kaneiahuea, and M.P. Robinson with Robinson seemingly purchasing land for $50 and selling it back for $50. There was another land sale in 1905 from Lui Kaihikapu to M.P. Robinson for $250. In 1907, Daniela Kalou bought land from the A.N. Campbell Trust for $200 and immediately sold it to Mark P. Robinson for $275. Also in 1907, the Dowsett Company, Ltd., filed “ejectment proceedings” against Keliikipi, Ilikole, and three Japanese as unlawfully being in possession of land at Kaulu, Hō‘ae‘ae. The upshot of these financial transactions was dispossession of Hawaiians of their lands. One other notice believed to refer to a Hawaiian was a small “personal” notice to a Mrs. Foster going to Hō‘ae‘ae for a vacation in 1895. This is understood to be Mary Elizabeth Mikahala Robinson Foster (1844–1930) granddaughter of Kamakana, a Maui chiefess and sister of Mark P. Robinson.

3.2.5.2 Chinese

The stories of Chinese at Hō‘ae‘ae are marked by violence. The first account is of the murder of Tong Hoon Hoo, otherwise known as Tong Yong and perhaps most likely as Dan Hung Hoy (as the victim was named in the United Chinese Society offering of a reward), who lived at Hōa‘ea‘e and was shot and killed by the burglar Liung Yao. There were at least 13 articles in five different newspapers about this case between 16 and 25 October 1893. Despite the aggregate offer of $300, a sizable reward at that time, there is no account of the suspect being apprehended. The last we read is in an article entitled “Not Caught Yet: Liung Yao, the Chinese Murderer is a Will-o’-the-Wisp” that relates that Liung Yao had been seen several times:

> [B]ut all have been afraid to touch him as it is said he is armed to the teeth . . . two white men came to the police station and offered to guarantee to catch Yao if they could be allowed the privilege of shooting him on sight, which was refused . . . [*Pacific Commercial Advertiser* 25 October 1893]

We next encounter a reference to Chinese at Hō‘ae‘ae in the context of unappreciated cooking for the overseers (*luna*) at Oahu Sugar Company plantation at Hoaeae.

> . . . a strike of lunas on the new Oahu plantation . . . the kick of the men was the class of food served by the salaried chefs at Hoaeae . . . served by Chinese, according to Chinese ideas. Nearly everything was burned to a crisp . . . This is the first trouble Manager Ahrens has had with white men in his employ. [*Hawaiian Star* 5 May 1898]

Certainly one of the biggest stories in the history of Hō‘ae‘ae involves the shooting of Ah Chee in August 1901, covered by five different newspapers:

- “A Waipahu Tradgedy: Willie Davis Charged with Shooting Chinese,” *Evening Bulletin* 20 August 1901,
- “He Was Shot in the Back: Ah Chee Attacked on the Highway,” *Hawaiian Star* 20 August 1901,
- “Inoffensive Chinese Fired Upon by Hoaeae Toughs,” *Honolulu Republican* 21 August 1901,
- “Shot in the Back: A Mysterious Gun Scrape at Ewa,” *Pacific Commercial Advertiser* 21 August 1901, and
- “A Shooting Scrape,” *Independent* 21 August 1901.

The facts of the case are consistent in the different accounts. Two Chinese men were riding in a “brake” (a horse drawn carriage typically with four wheels, a high seat upon which the driver sits, and an open bed platform behind). The Chinese maintained they were accosted by the two boys and told to halt. Fearing robbery, they urged their horse and drove away and then both boys began to fire at them with revolvers. The perpetrators of the attack were Willie Davis and Mark Robinson, boys about 18 years of age. Robinson was the son of Mark Robinson, owner of Hoaeae Ranch and Davis’ father was Joseph Davis, the manager of Robinson’s ranch at Hoaeae. The deputy sheriff found young Robinson in possession of a .38 caliber revolver with four empty cartridges. No gun was found with Davis and it was speculated he had thrown it away. Both boys were believed to be under the influence of alcohol at the time of the shooting. Ah Chee was reported to be in a very precarious condition from the gunshot wound. Davis was asserted by the Chinese companion to be the one who shot Ah Chee. The Robinson boy was not held by the sheriff. Four accounts relate the youths talking about shooting dogs. The fate of the merchant Ah Chee is uncertain but it seems likely he survived as there is no account of either of the young, well-connected *haole* men being brought to trial for anything.

In 1903, we have the account of the “Suicided While Insane,” in which a 31-year-old Chinese mother apparently committed suicide with strychnine poison while her husband attended his rice fields (*Hawaiian Star* 21 November 1903).

3.2.5.3 Japanese

We have only one early account specific to Japanese at Hōʻaeʻae summarized in an article entitled “Was Hanging to a Tree: Desperate Ending of a Jap at Hoaeae”:

> A Japanese laborer at Ewa Plantation named Sagura was found hanging dead from a kiawe tree at Hōʻaeʻae Gulch. A coroner’s jury determined suicide. There was excitement ‘that the fellow had been lynched.’ He was buried in Ewa. [*The Hawaiian Star* 6 February 1899]

The speculation as to whether the Japanese worker had in fact been lynched has a certain resonance with the case of the seemingly unprovoked shooting of the Chinese Ah Chee by Caucasian youth associated with Hoaeae Ranch two years later.

3.3 Previous Archaeological Research

While the southwest corner of the island of O‘ahu has been subjected to many archaeological studies, none have been located within or immediately adjacent to the current project. The following discussion focuses on previous archaeological projects in Hō‘ae‘ae Ahupua‘a and the vicinity of the project area (Figure 23 and Table 2).

3.3.1 McAllister’s Survey

In his island-wide survey, archaeologist J. Gilbert McAllister recorded three sites (Sites 127–129) in the vicinity of the current project, located approximately 1-1.5 km southeast of the project area (Figure 24 and Table 3). Site 127 is Mokoula Heiau, Site 128 is Waipahu Spring, and Site 129 is Hapupu Heiau. McAllister (1933) described the sites as follows:

> Site 127. Mokoula Heiau, southwest of the main road in the village of Waipahu.
>
> The heiau has been completely destroyed for building purposes of the neighborhood. The site is at the edge of a 50-foot elevation which projects out into the present rice fields and was pointed out by Kaluawai, a *kamaaina* undoubtedly more than 100 years old.
>
> Site 128. Waipahu spring, famous in tradition as the place at which the tapa mallet appeared after having been lost in Kahuku (68, p. 41). A pump has been placed over the site.
>
> Site 129. Heiau, Waipahu, said to have been named Hapupu.
>
> The Waipahu plantation stables on the mountain side of the road across from the schoolhouse west of the town now occupythe site of the former heiau at Waikele. Nothing remains of the heiau. According to Thrum (79, 4), it was a ‘Heiaupookanaka, where the chief Hao was surprised during temple worship and slain with his priest and attendant chiefs by direction of the moi of Oahu, about 1650.’ The site was pointed out by Kapano. [McAllister 1933:106]

3.3.2 Modern Archaeological Studies

Approximately 2.5 km to the north/northeast of the project area, Riford and Cleghorn (1986) documented “a total of five archaeological sites, composed of nine features: SIHP # 50-80-08-2919 to -2923.” They were described as follows:

> . . . probable prehistoric, temporary habitation caves, crawl spaces, and one rock shelter. Two sites are historic, one a probable quarry and one a quarried rock wall. Other historic features were identified, including boulder mounds, stream facings, abandoned roadbeds and railroad berms, and construction tailings. [Riford and Cleghorn 1986:190]

The following year, Kennedy (1987:2) reported “no above ground archaeological features [with] little chance of subsurface recovery” on a 20-acre parcel approximately 3.5 km northwest of the project area.

In 1988, Kennedy surveyed the land associated with the Royal Kunia Phase II subdivision, located about 1.5 km north of the current project. The 670-acre survey was conducted by “a two man survey team [that] covered the area by automobile along the network of cane haul roads and

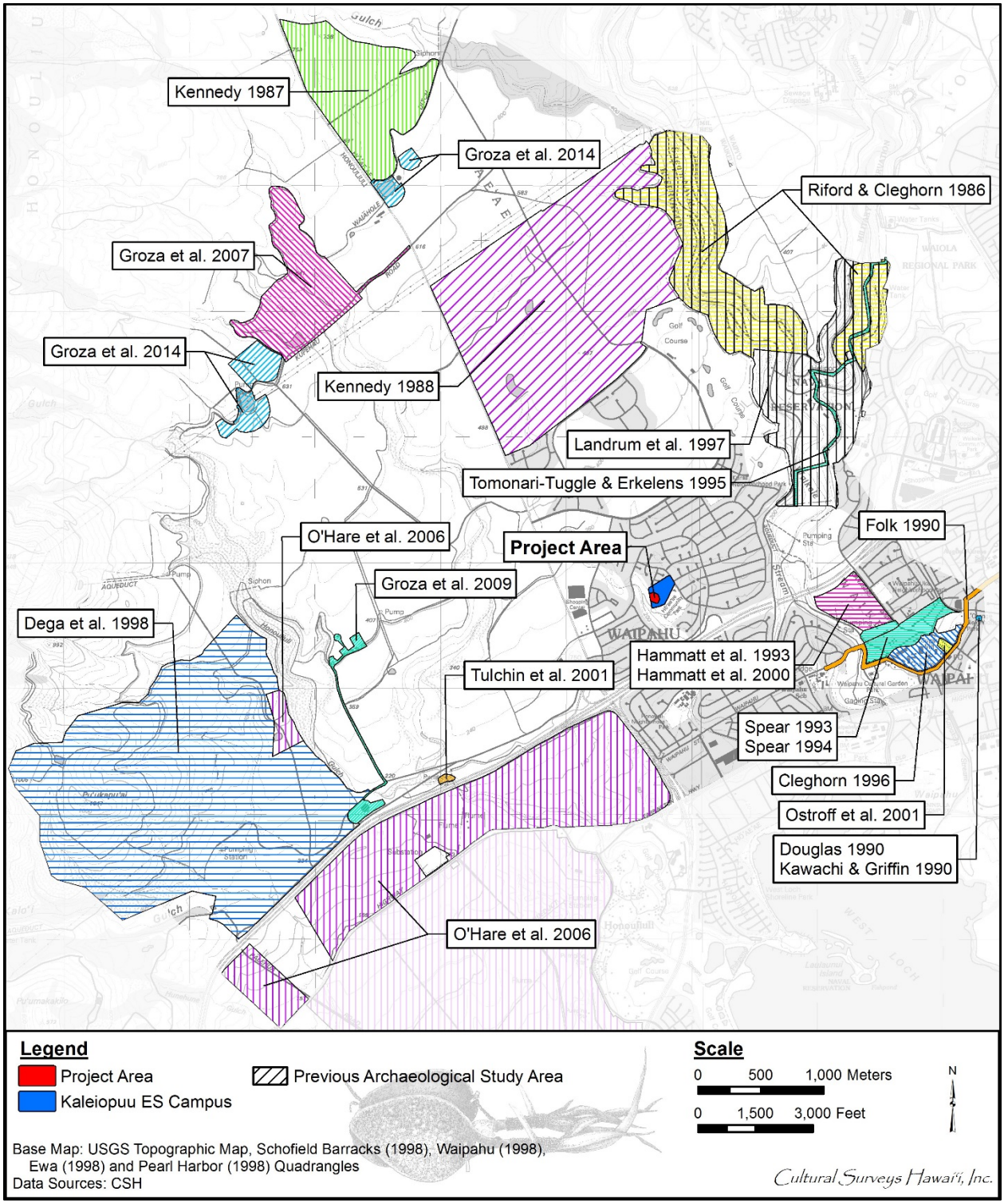


Figure 22. Map showing the locations of previous archaeological studies within the vicinity of the project area

Table 2. Previous Archaeological Studies in the Vicinity of the Project Area

Reference	Type of Study	Location	Results
McAllister 1933	Archaeological reconnaissance survey	Island of O‘ahu	McAllister Sites 127 (Mokoula Heiau), 128 (Waipahu Spring), and 129 (Hapupu Heiau) in the vicinity of the project area
Riford and Cleghorn 1986	Archaeological inventory survey	Lualualei Naval Magazine, Waikele Branch	Both traditional Hawaiian and post-Contact archaeological sites identified: SIHP #s 50-80-08-2919 through -2923
Kennedy 1987	Archaeological reconnaissance survey	Hō‘ae‘ae, TMK: [1] 9-4-004,	No above ground archaeological features noted, “and little chance for subsurface recovery” (Kennedy 1987:2)
Kennedy 1988	Archaeological reconnaissance survey	Royal Kunia, Phase II, TMK: [1] 9-4-002:001	No archaeological features noted
Folk 1990	Archaeological reconnaissance survey	Waipahu St, Waipahu	Area identified as “archaeoloigcally sensitive”; concluded likely that cultural deposits would be encountered during construction activities
Douglas 1990 / Kawachi and Griffin 1990	Burial report	94-1049 Kahuailani St, Waipahu, TMK: [1] 9-4-026:078	Inadvertent discovery of human remains, designated as SIHP # 50-80-09-4245
Spear 1993 / Spear 1994	Archaeological reconnaissance survey	Waikele Industrial Subdivision, Waipahu, TMK: [1] 9-4-002: various	No significant archaeological sites located, and no further investigation recommended
Tomonari-Tuggle and Erkelens 1995	Archaeological inventory survey	46kV Sub-Transmission Line through NAVMAG-Waikele	Two archaeological sites located: a rock shelter and adjacent cave containing cultural materials (SIHP # 50-80-09-4935) and a terrace interepreted as a remnant of an early twentieth century railroad bed (SIHP # -4936)
Cleghorn 1996	Archaeological inventory survey	Oahu Sugar Mill, Waipahu, TMK: [1] 9-4-002:004	No archaeological sites observed within the project area
Landrum et al. 1997	Archaeological reconnaissance survey	U.S. Naval Facilities on O‘ahu, including Naval Magazine Waikele Branch	Documented previously identified archaeological sites: SIHP #s 50-80-08-4935 and -4936 and SIHP #s 50-80-09-2919, -2920, and -2921 (rock shelters), SIHP # -2922 (historic basalt quarry), and # -2923 (historic rock wall)

Reference	Type of Study	Location	Results
Dega et al. 1998	Archaeological inventory survey	University of Hawai‘i West O‘ahu Campus, TMKs: [1] 9-2-002:001, 003, 005	Two historic complexes recorded: SIHP # 50-80-09-2268 (Waiāhole Ditch System) and SIHP # 50-80-08-5593 (irrigation system features associated with sugarcane production)
Hammatt et al. 2000	Archaeological inventory survey	Manager’s Dr, Waipahu, TMK: [1] 9-4-002:005	Documented a group of traditional Hawaiian petroglyphs (SIHP # 50-80-09-0530) and the remains of Higashi Camp (SIHP # 50-80-09-4660), a plantation housing camp for employees of Oahu Sugar Company
Ostroff et al. 2001	Burial report	Filipino Community Center, Waikele, TMK: [1] 9-4-161:001	Inadvertent discovery of human remains, designated as SIHP # 50-80-09-5882
Tulchin et al. 2001	Archaeological inventory survey	Honouliuli Gulch, TMK: [1] 9-2-001	Pedestrian survey revealed a stone wall alignment (SIHP # 50-80-08-6370), likely associated with cattle ranching or a nearby pumping station; subsurface testing adjacent to the wall revealed no additional historic properties
O’Hare et al. 2006	Archaeological inventory survey	Honouliuli Ahupua‘a, TMKs: [1] 9-1-010:002; 9-1-017:004, 059, 072; 9-1-018:001, 004; 9-2-001:001	Four additional features (three walls and a concrete ditch) of SIHP # 50-80-12-4344 (plantation infrastructure) identified
Groza et al. 2007	Archaeological inventory survey	Mauka Detention Basin located west of Kunia Rd, TMK: [1] 9-2-001:001	All sites identified (SHPD #s 50-80-06-2268, -6892, -6893, and -6894) associated with water control, the Waiāhole Ditch, and/or the Oahu Sugar Company
Groza et al. 2009	Archaeological inventory survey	Waiāhole Ditch (north and west boundary), Kupehau Rd (south boundary), TMK: [1] 9-2-001:001	Entire northern portion of project area appeared to have been bulldozed; no historic properties encountered

Reference	Type of Study	Location	Results
Groza et al. 2014	Archaeological inventory survey	Waiāhole Ditch, Honouliuli and Hō‘ae‘ae Ahupua‘a, TMKs: [1] 9-2-001:001; 9-4-003:001	Identified 25 sub-features of Waiāhole Ditch (SIHP # 50-80-09-2268) within project area

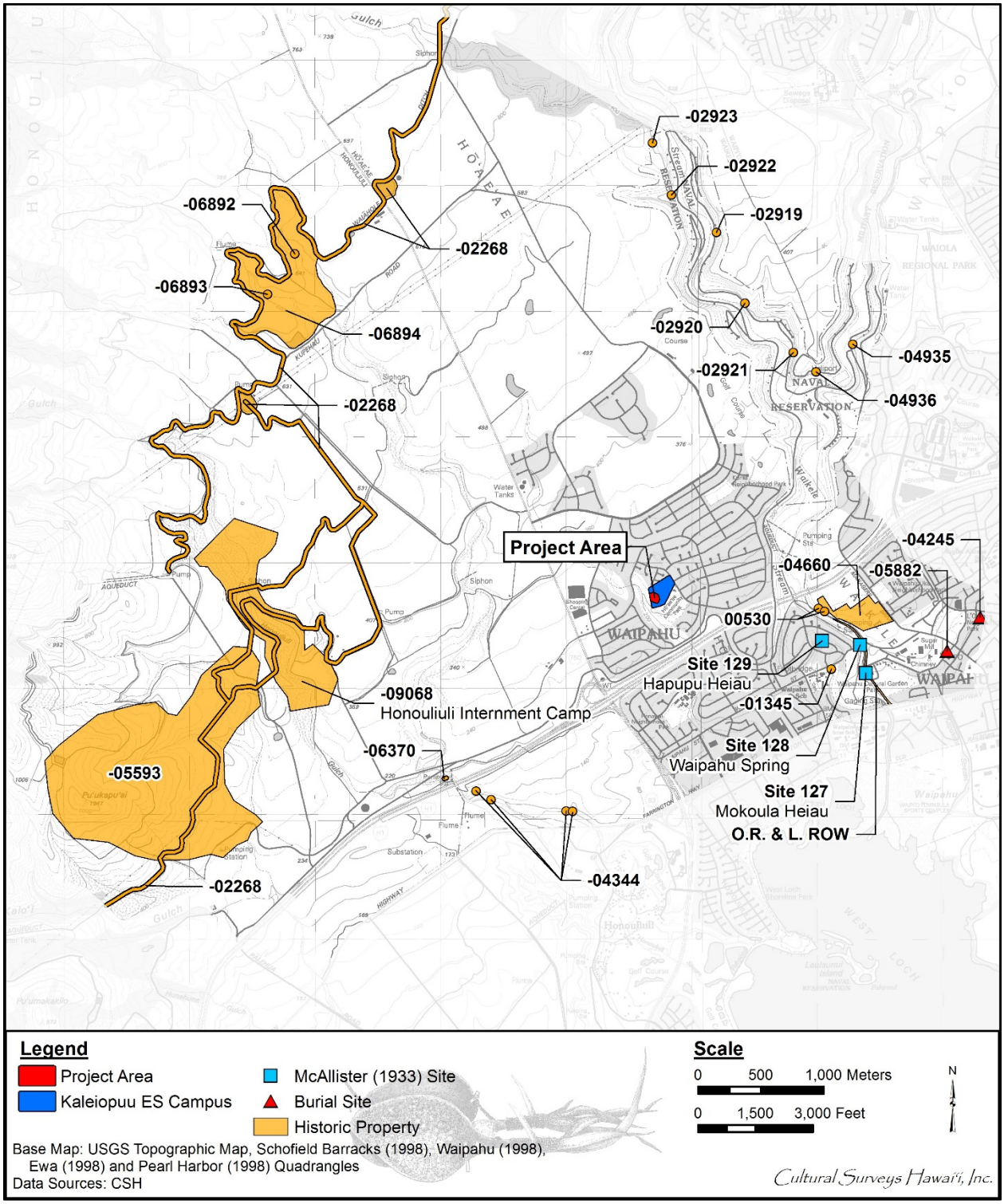


Figure 23. Previously identified archaeological sites located within the vicinity of the project area

Table 3. Previously Identified Historic Properties in the Vicinity of the Project Area

SIHP # (50-80-)	Nature of Site	Source	Comment
127	*Heiau*	McAllister 1933	Identified as Mokoula Heiau
128	Legendary spring	McAllister 1933	A pump has been placed over the site.
129	*Heiau*	McAllister 1933	Identified as Hapupu Heiau
06-6892	Historic bridge	Groza et al. 2007	Plantation-era (1929) rectangular bridge with wall that crosses one of the intermittent tributaries of Honouliuli Stream
06-6893	Historic bridge	Groza et al. 2007	Plantation-era (1929) rectangular bridge with wall that crosses one of the intermittent tributaries of Honouliuli Stream
06-6894	Plantation agricultural complex	Groza et al. 2007	Post-Contact
08-2919	Overhang	Riford and Cleghorn 1986	Traditional Hawaiian
08-2920	Overhang	Riford and Cleghorn 1986	Traditional Hawaiian
08-2921	Overhang	Riford and Cleghorn 1986	Traditional Hawaiian
08-2922	Quarry	Riford and Cleghorn 1986	Post-Contact
08-2923	Wall	Riford and Cleghorn 1986	Post-Contact
08-5593	Plantation irrigation system	Dega et al. 1998	A complex, inter-connecting system of irrigation features representing extensive sugarcane production from ca. 1920s through more recent times
08-6370	Wall	Tulchin et al. 2001	Post-Contact
08-9068	Honouliuli Internment Camp	HRHP	Temporary internment of people of Japanese ancestry during WWII
09-0530	Petroglyphs	Hammatt et al. 2000	Traditional Hawaiian
09-1345	Wakamiya Inari Shrine	NRHP	Shrine was moved to Waipahu Cultural Garden

SIHP # (50-80-)	Nature of Site	Source	Comment
09-2268	Improved irrigation ditch (Waiāhole Ditch)	Dega et al. 1998	Post-Contact
09-4245	Burial	Kawachi and Griffin 1990	One individual; metal, glass, and beads mixed with bones
09-4660	Plantation camp remnants	Hammatt et al. 2000	Post-Contact
09-4935	Rockshelter and adjacent cave	Tomonari-Tuggle and Erkelens 1995	Contained traditional Hawaiian cultural materials
09-4936	Railroad berm	Tomonari-Tuggle and Erkelens 1995	Believed to be a remnant of an early twentieth century railroad bed, either a spur of the OR&L line or part of the Oahu Sugar Company rail system
09-5882	Burial	Ostroff et al. 2001	One individual; remains determined to be Native Hawaiian and disinterred
12-4344	Walls and concrete ditch	O’Hare et al. 2006	Plantation infrastructure

by foot in the few areas where this was necessary. Visibility was limited by the dense stands of sugarcane” (Kennedy 1988:1). No archaeological sites were recorded.

In 1990, human remains were inadvertently discovered at a construction site in Waipahu, approximately 2.5 km east of the current project (Kawachi and Griffin 1990; Douglas 1990). The burial appeared to be in situ and was designated as SIHP # 50-80-09-4245. Local informants reported that the site had once housed a Chinese Buddhist temple. Pieces of metal and glass and tiny beads were mixed with the bones, as well as marine shells and fish and small mammal bones; however, it could not be determined if the shell and bones were associated with the burial, or if a midden layer had been present prior to the burial.

In 1990, CSH conducted archaeological reconnaissance and historical research for the proposed Waipahu street widening project, located ca. 1.5 km east/southeast of the current project. The area was identified as “archaeoloigcally sensitive” because historical data “point to present day Waipahu town as occupying the same physical space as the earlier traditional Hawaiian village of Waikele” (Folk 1990:9). Because early historic and traditional Hawaiian archaeological remains are often well preserved under urban streets, Folk (1990) concluded it was likely cultural deposits would be encountered during construction activities.

Spear (1993, 1994) conducted archaeological reconnaissance at the site of the proposed rezoning and development of the Oahu Sugar Mill. No significant archaeological sites were located, and no further investigation was recommended.

Tomonari-Tuggle and Erkelens (1995) conducted an inventory survey on a 1.5-mile long, 100-ft wide corridor for a proposed transmission line through NAVMAG-Waikele. It was observed that the corridor had been impacted previously by bulldozing, natural erosion, and colluvial

deposition. Two archaeological sites were located. SIHP # 50-80-08-4935 comprises a rock shelter and adjacent cave, while SIHP # -4936 is a narrow terrace, interpreted as the remnant of a railroad bed.

Cleghorn (1996) conducted an inventory survey on 23 acres surrounding and including the Oahu Sugar Mill in Waipahu. The mill and associated buildings comprised 60% of the project area. The remainder comprised Skill Village, a plantation supervisors' residential area. No surface archaeological sites were observed within the project area.

The Landrum et al. (1997) survey of the U.S. naval facilities on the island of O‘ahu included the Oahu Naval Magazine, Lualualei Headquarters Branch, West Loch Branch, and Waikele Branch. The report documented previously identified archaeological sites SIHP #s 50-80-08-4935 and -4936 and SIHP #s 50-80-09-2919, -2920, and -2921 (rock shelters), -2922 (historic basalt quarry), and -2923 (historic rock wall built with dressed basalt). Landrum et al. (1997) proposed that the SIHP # -2922 basalt quarry may be the source for stone in the construction of the SIHP # -2923 wall.

Dega et al. (1998) conducted an archaeological inventory survey on approximately 1,000 acres in Honouliuli Ahupua‘a. Historic features (troughs, ditches, roads, pipes, and a water tunnel) associated with sugarcane production irrigated by the Waiāhole Ditch were observed. Two historic complexes were recorded: SIHP # 50-80-09-2268, the Waiāhole Ditch System, and SIHP # 50-80-08-5593, "a complex, inter-connecting system of irrigation features representing extensive sugarcane production" (Dega et al. 1998:i).

In 1999, CSH performed an inventory survey of a 40-acre parcel along Manager's Drive in Waipahu, approximately 1.2 km east of the current project. Hammatt et al. (2000) documented a group of traditional Hawaiian petroglyphs (SIHP # 50-80-09-0530) located along the edge of a steep cliff, as well as the dilapidated remains of Higashi Camp (SIHP # 50-80-09-4660), a plantation housing camp for employees of the Oahu Sugar Company. The camp, originally constructed in the 1920s and utilized until the 1980s, was located in the southern half of the project area.

In 2001, CSH performed an inventory survey for the proposed ‘Ewa Shaft Renovation project, approximately 2 km southwest of the current project (Tulchin et al. 2001). The survey revealed a stone wall alignment (SIHP # 50-80-08-6370), likely constructed in association with cattle ranching or the nearby pumping station. Subsurface testing adjacent to the wall revealed no additional historic properties.

Also in 2001, human remains were inadvertently discovered at the Filipino Community Center in Waikele, about 2 km southeast of the current project. Upon examination, Ostroff et al. (2001) determined one burial was present; it was designated as SIHP # 50-80-09-5882. The remains were hypothesized to be of Hawaiian ethnicity and dating to the pre-Contact period, due to the flexed position and absence of post-Contact cultural materials. The remains were disinterred.

From 2005-2006, CSH conducted an inventory survey for the East Kapolei Project, located 1 km south/southwest of the current project (O'Hare et al. 2006). Four additional features (three walls and a concrete ditch) of SIHP # 50-80-12-4344 (plantation infrastructure) were identified.

In 2006, CSH conducted a pedestrian survey of approximately 1,200 m of existing road for the Ho‘opili Project Elevation Reservoir and Waterline (Groza et al. 2009). The entire northern portion of the project area appeared to have been bulldozed, and no historic properties were encountered.

In 2007, CSH completed an inventory survey for the Ho‘opili project, Mauka Detention Basin, in Honouliuli Ahupua‘a (Groza et al. 2007). During the project, the entirety of the 143-acre Mauka Detention Basin was surveyed on foot. The pedestrian survey revealed several sites (SIHP #s 50-80-09-2268, 50-80-06-6892, -6893, and -6894), one of which consisted of 31 features. All sites identified were associated with water control, the Waiāhole Ditch, and/or the Oahu Sugar Company.

In 2013, CSH conducted an inventory survey for the Waiāhole Reservoir System, located about 3.5 km northwest of the current project (Groza et al. 2014). A total of 25 sub-features of the Waiāhole Ditch (SIHP # 50-80-09-2268) were identified within the project area. Fifteen of the sub-features are associated with Reservoir 155, and eight of the sub-features are associated with Reservoir 225. Reservoirs 155 and 225 are features of the Waiāhole Ditch Irrigation System.

3.4 Background Summary and Predictions

Based on research of the traditional and historical background and an analysis of historical maps and previous archaeological studies, early Hawaiian settlement in the ‘Ewa region focused on the rich cultivated lands of Hō‘ae‘ae and Honouliuli. These *ahupua‘a* were located nearest the marine resources of Pearl Harbor’s West Loch, which was used for extensive wetland taro. The uplands around Pu‘u Ku‘ua and in the vicinity of Pōhākea Pass were utilized for forest resource procurement and possibly lithics; however, the richest forest land for foraging would have been the east slope of the Wai‘anae Range.

By the 1920s, the lands of Hō‘ae‘ae and Honouliuli were used primarily for commercial sugarcane and pineapple cultivation, as well as ranching (Frierson 1972:18). The main residential communities were located at the northeast edge of the ‘Ewa Plain, while the largest community was still at Honouliuli village. Additional settlement was focused in Waipahu, centered around the Waipahu sugar mill, operated by the Oahu Sugar Company. Based on historic maps, the current project area was located within Field 16 of the Oahu Sugar Company (see Figure 18). The maps then indicate a gradual transition from strictly agriculture and ranching to residential and commercial development within Hō‘ae‘ae and Honouliuli. By the 1950s, residential subdivisions had spread to the shore of Pearl Harbor and eventually north along Kunia Road from Waipahu. The Oahu Sugar Company ceased operations in 1995, by which time both the mill and plantation were surrounded by urban growth.

Traditional sites including petroglyphs, rock shelters, overhangs, and at least one Native Hawaiian burial have been found in the vicinity of the project area (Hammatt et al. 2000; Ostroff et al. 2001; Riford and Cleghorn 1986). However, more commonly archaeologists have documented historic features, particularly those relating to plantation infrastructure. These include historic bridges, quarries, walls, ditches, and plantation camp remnants (Dega et al. 1998; Hammatt et al. 2000; O’Hare et al. 2006; Riford and Cleghorn 1986; Tomonari-Tuggle and Erkelens 1995). Given the location of the project area within Oahu Sugar Company Field 16, it is possible infrastructure associated with the former plantation still exists there.

Land within the project area was altered initially for commercial sugarcane cultivation and again more recently for the construction of the Kalei‘opu‘u Elementary School. Historical research and previous archaeological studies show this area was utilized by Native Hawaiians; however, the subsequent land alterations may have removed any evidence of traditional land usage that once existed. Although it is possible subsurface features or deposits associated with traditional Hawaiian activity still exist, it is more likely historic features associated with the former Oahu Sugar Company will be encountered within the project area.

Section 4 Results of Fieldwork

The fieldwork component of this archaeological investigation was conducted on 27 June 2016 by CSH by David Shideler, M.A. This work required approximately 3 hours to complete.

4.1 Pedestrian Inspection Results

A GPS track log of the route of the pedestrian inspection is provided in Figure 25. The entire campus was inspected with the field inspection more intensely focused in the area of the proposed new classroom building construction in the southwest portion of the campus. The campus was accessed from the Ka‘aholo Street entrances (Figure 26). The entire campus is believed to have been previously graded and much of the campus has been developed for parking lots, walkways, and school buildings (Figure 26 through Figure 28 and Figure 30 through Figure 37). Figure 29 shows the significant breaking slope to the southeast of the campus descending to Hō‘ae‘ae Community Park and the good view of neighboring West Loch of Pearl Harbor. The actual new building project area per se is pretty well covered with existing portable classrooms (see Figure 30, Figure 34 through Figure 37). The campus is set back from the edge of Hō‘ae‘ae Gulch (see Figure 29 and Figure 30). Vegetation on the campus is maintained mown lawns and landscaping (plumeria, *hau*, hibiscus, golden shower tree, exotic palms, *laua‘e* fern, ti, bird of paradise, etc.)

No historic properties were observed on this relatively new elementary school campus and none are believed to be present. The potential for subsurface historic properties was evaluated to be very low.

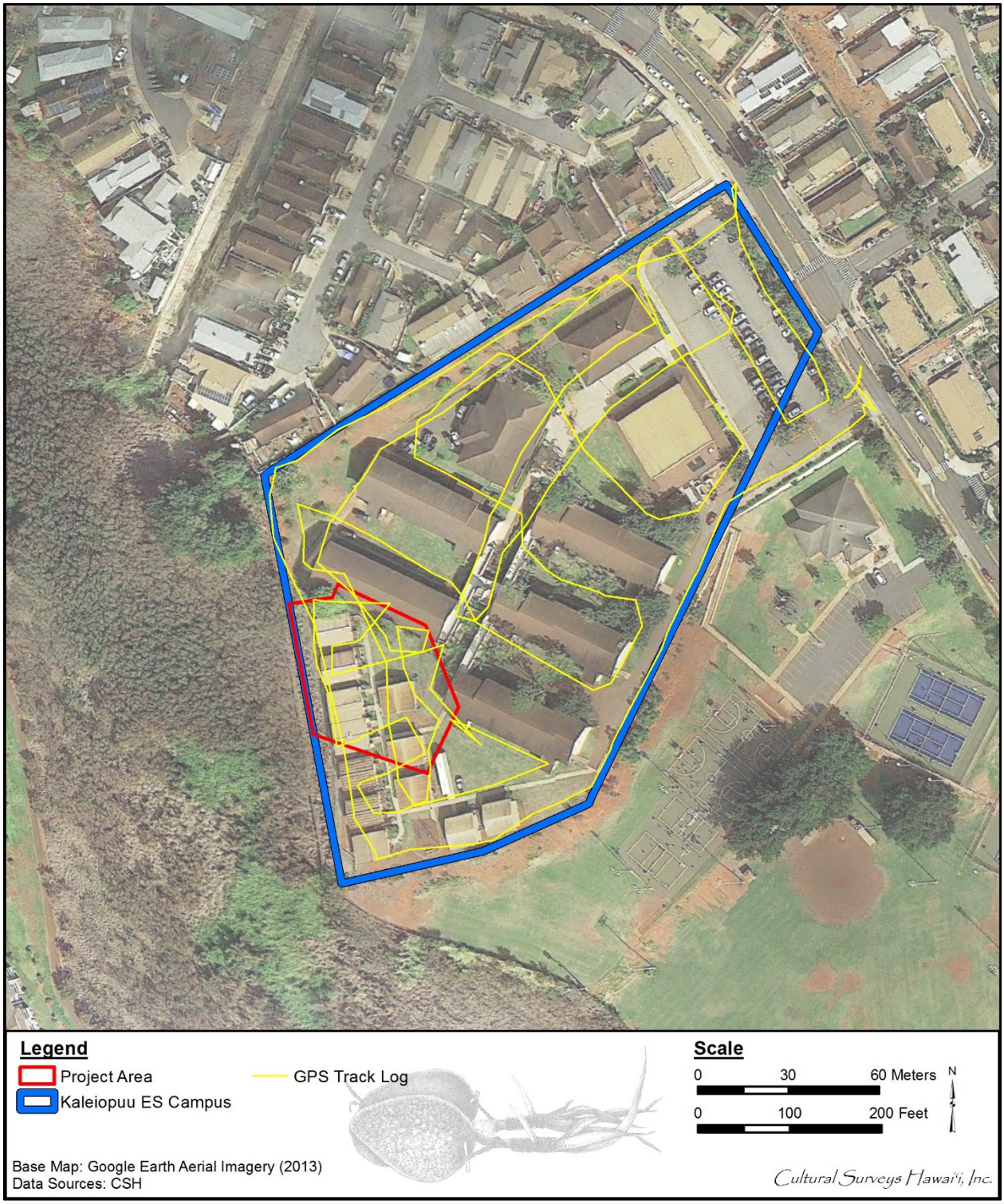


Figure 24. Archaeologist field inspection track log

Figure 25. Entry sign of Kalei‘opu‘u Elementary School facing Ka‘aholo Street, view to southwest

Figure 26. General view of the northeast corner of the campus from Ka‘aholo Strreet, view to southwest

Figure 27. General view of west side of the campus, view to north

Figure 28. General view toward the West Loch of Pearl Harbor from the south end of the campus, Hō‘ae‘ae Community Park in forground, view to southeast

Figure 29. General view of the southwest side of the campus, Hō‘ae‘ae Gulch is at left, view to northwest

Figure 30. General view of the central campus from the west corner, view to east

Figure 31. General view of the campus from the north corner, view to south

Figure 32.General view of the central campus walkway from the north end, view to southwest

Figure 33. General view of new classroom building area from the northwest side, view to southeast

Figure 34. General view of new classroom building area from the east side, view to west

Figure 35. General view of the east portion of the new classroom building area from the northeast, view to southwest

Figure 36. General view of the northwest portion of the new classroom building area from the northeast, view to south

Section 5 Summary and Interpretation

CSH completed the background research and a field inspection for this project, No historic properties were identified and none are believed to be present. The campus location is well back from the coast and appears to never have been a locus of traditional Hawaiian habitation or activity. The project area appears to have been under sugar cane cultivation for most of the twentieth century (see Figure 14, Figure 17, and Figure 19) and this cultivation would likely have obliterated any historic properties had they been present. The campus appears to have been extensively graded and has been fully developed in buildings, walkways, lawns and landscaping (see Figure 26 through Figure 28 and Figure 30 through Figure 37).

No evidence of traditional Hawaiian properties nor any finds of any traditional Hawaiian cultural materials were made during the pedestrian survey and none are believed to be present.

The suggested determination for this classroom building construction project is “No historic properties affected.” No further archaeological work is recommended.

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Appendix A LCA Claim 193

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Claim No. 193 Lewis Rees.

This is a claim for a large tract of Land, comprising upwards of 3000 Acres, known by the name of Koaeae, and situated in the district of Ewa, Island of Oahu.

The Claimant Rees, in his statement to the Commission, alledges, that this whole tract of land was given to him by Manuia in the Year 1829; and that he has ever since held quiet possession of the same; with the exception of certain claims and demands made by Namaiau; and requests that the Commission will examine his Title, and settle the same according to the laws.

Namaiau appears as a Counter Claimant to this land: alledging that Manuia never gave the land to Rees, but on the Contrary gave the land to him in the Year 1829. when he, Manuia, left the Islands with Boki: — that Rees, however, was to have the use of the land, as a pasture, upon Condition, that he paid to Namaiau and Manuia's wife, Kaupuna, one half of the increase of the flock of Goats, Horses &c. put on the land by Manuia; and one half the profits of the land, and that the only difficulty existing between Rees and himself, is one growing out of the refusal of Rees to account to him for half the profits of the pasturage, according to the Conditions upon which he was to have the use of the Land. He Contends, that the only land given to Rees, was a small rich land adjoining, or forming a part of Koaeae, called Waiena: — That the uplands of Koaeae formed no part of the Gift from Manuia to Rees: and that Rees was only entitled to the use of it; so long as he performed the conditions upon which the use was granted.

This claim being a contested one, the Board, before proceeding to a decision, will examine the evidence adduced by the Parties, in detail.

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The first Witness called on the part of the Claimant Rees, is Mr. John G. Munn, who testifies, that he has known Mr. Rees at the Islands about 20 Years: that he recollects Manuia came into a house where he was in the Year 1829, and said to Rees, "Rees - I shall give You that land instead of another" but he does not know what lands Manuia referred to :- that Rees has lived on the land a number of Years :- that Rees was living there in 1837; and that he never heard of any other per-sons claiming the land.

James Walker - the next Witness sworn for Rees, states, that Manuia gave Rees the land where he lives about 1828 or 1829. - Rees was Manuias servant :- that he did not know of any one living on the land at the time: Rees has lived on it from that time till the present :- that he knows of no one interfering with him about the land except Namauu :- that Rees gave Manuia half the stock raised on the land, from the be-ginning to the present time. The same Witness testified on the 17th of May 1848, that when Manuia was leaving the Islands in 1829, he told Witness he had given Rees a large place at Pearl River, but did not state the extent. Manuia said he had given him the land to raise stock upon :- that he, Witness, never saw the land :- that the Cattle on the land belonged to Manuia; and Rees was to give Manuia half the Increase of the herd.

Kanui - the next Witness sworn for Rees, states, Mr. Rees and I were together, and did business for Manuia with the Foreigners :- Manuia first gave him a land named Paua in Waiahiu; but that land being so much exposed to inroad of Animals, Manuia gave him another at Ewa instead of it. Rees has from that time (1829) lived undisturbed in the place then given - When Rees received the land, it was dry, and without value, but by labor, he prepared a taro patch,

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and made it valuable. I do not know the precise boundaries of the land: its name is Hoaeae. The taro ground has been since covered by a freshet. The particular reason why Rees wished to go there, was, that he might have better pasture; and he has pastured Goats, Horses and Cattle there, the pasturing of animals being his business. Manuia did not give him the whole of Hoaeae: he gave him none of the taro ground. The next Witness sworn for Rees, was Kaupena. Manuias Widow. She testifies, she knows that Manuia let Rees have some pasture ground to feed Goats, upon the condition that Rees gave him one half of the produce: - that when Manuia left in 1829, he gave the land to Namauu.

The next Witness called for Rees was Keteni, who testified, that he was a Relative of Manuias, and a servant under him. Rees was also a servant of Manuias, being his herdsman. Rees and myself attended upon Manuias call. Rees did some other work, besides attending to Manuias Cattle. Before Manuia sailed for Manilla (in 1827 or 1828) he gave Rees a small piece of dry, uncultivated upland in Pawaa Waitiki; fit only for the raising of Potatoes. Rees did not like the land; and after a while, wished to give it up because it was so small. Manuia took it back, and gave him a larger land in Ewa. Ulalena, is the name of the land Manuia gave Rees at Ewa, and not Hoaeae. It was a piece of low-land, surrounded with a fence, but the fence is now broken down. I could point out where the fence was. It was a place for growing Kalo, Coonts. Outside of this, was the pasture land of Hoaeae. and Rees was permitted to pasture his Cattle upon it. I went down to Ewa with Rees and Manuia when the land was given, and witnessed the Gift - he gave Rees the land inside of the fence - that is - Ulalena - but not the land outside of the fence - that is - Hoaeae. The outside land Rees was to have the use of for the Cattle to run on.

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Cross examined by Namauu.

The cattle pastured were Manuias - Rees took care of the cattle, and was to have half the Increase of the Cattle for his Care of the herd - Rees was to have the low land Ulalena as his truly; and the use of the plains of Hoaeae, as a pasturage, so long as he yielded half the produce to the Lord of the land; Namauu has been the Lord of the Land so far as my knowledge extends ever since 1830.

John Meek Senr. sworn for Rees. says - Rees lived in the Fort with Manuia, and was one of Manuias Confidential servants. Rees has been on this land from 19 to 20 Years, to my Knowledge. I dont know how Rees got the land, but I have heard that Manuia gave it to him, but I never heard Manuia say any thing about it - I never heard Rees' right disputed until lately. I have pastured my horses upon this land for some Years. I cannot give the bounds of the land, but it is not very large - (Rees here presented a map of the land claimed by him, - Comprising some 3,000 acres.) I never Knew any person as being entitled to the pasturage money for my horses but Rees. I know nothing about the bounds of the land, and cannot say whether the Survey presented by Mr Rees, is correct or not. Rees has had possession of the Land I think since 1829.

Samuel Thompson. sworn for Rees. says. I know but little of the land in dispute. Rees was living on the land when I came here 18 Years ago. Rees always spoke of this land as his own. When I came here, the place where Rees lived was enclosed with a fence - but the freshet swept over this place soon after, and rendered it of no value. I never heard Rees's right to this land disputed until lately. I remember three or four Years ago that Rees and Kaupena (Manuias Wife) divided the Goats on this land. Whether this was a final

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division or no. I cannot say. I never heard Manuia say any thing in reference to this land. I cannot give the boundaries of the land; they are not known to me. I have rode over the land, but I dont know the bounds; it is not fenced.

Cross examined by Namauu.

I never understood that this land was given to Rees except from the old man Rees himself. I heard this from him lately, and in former years.

J. C. B. Rooke sworn for Rees. says. When I came here in March 1829 the day the King arrived here from Maui - Kaupena, the wife of Manuia, had charge of the fort. Manuia was then absent at Manilla. I, with others, visited the King in the Fort; and then saw Rees. He appeared to be a servant about the fort; but I cannot say what his duties were. I saw Manuia afterwards when he returned from Manilla. Shortly after in 1830 I visited Rees down at Eloa, where he was then living he was then pasturing Goats there, perhaps some Horses also. From that time up to the present, I have almost always had horses feeding on this land. I always paid Rees for the pasturage of these horses. I heard that part of the Goats on this land belonged to Kaupena. I understood he pastured the Goats on condition of having half the Increase. I heard this from Rees, and also that the land was given him by Manuia. I never heard until lately, that Namauu had any Right in this land. I know nothing about the bounds of the land. I have rode over it. The lower part is of little or no value. The upland is only valuable, and the lowland being swept by a freshet, is only valuable, on account of its water.

Cross examined by Namauu.

I never knew anything about Manuias Gift of this land except what I have gathered from hearsay. I never heard Manuia say any thing about it.

Kahanee sworn for Rees, says. I knew Rees

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by Captain Davis. It was not pleasant for him to live on the ship, and he came on shore; he was a kind of Steward or Waiter, under Mahuia in Feasts, where Foreigners were present. Sometime before Manuia sailed for Manilla, I know Manuia gave him a piece of land at Pawaa. After this a piece of land was given to Rees as I heard, at Ewa. I always understood the Gift to have been as stated by the Witness Kekeni. When Manuia went away in 1829 on the Sandal-wood expedition - in which he was lost -, he had Goats feeding on the Kula land (uplands) above Rees land - and he gave this land to his Wife Kaupena & Namauu. This Kula land (uplands) is called Koaeae; and is bounded on the Waianae side by Konoulinli - on the Honolulu side by Waikele; and Mauka it extends to where the two valleys meet. In 1841 I was at this place - and the fence surrounding the land - given to Rees, was fallen down. I then saw that the cattle of Rees were running far inland on the Kula land (uplands) I always understood that the lowland belonged to Rees, and the upland to Namauu and Kaupena. In 1841 or 1842 there was a difficulty between Rees and Namauu on account of the alledged appropriation by Rees of all the profits of this land to himself. Namauu Complained, and objected to Rees pasturing any Cattle on this upland but his own. Namauu Complained that Rees did not pay over his share of the Increase and profits. Rees and Namauu mutually Complained to me concerning their difficulty, and I told Rees, I thought he ought to pay over half the profits of this land; and then, all would be quiet & right. Mr Rees, I believe, did not do so.

At this stage of the Testimony, both parties requested, that the claim might be postponed, as they thought, they could settle the same amicably.

Namauu said, he had no objection to Mr Rees having the Land, if he only kept the Condition on.

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which the use was given - namely - an equal division of the produce of the land. Mr Jasper Counsel for Mr Rees, said, this struck him as just, and he had no doubt the parties would arrange the matter amicably, if they had time.

The Board stated, that such a settlement would meet with great favor from them: that it would be a saving of Costs and much hard feeling, and they should be very happy to grant the request. The further hearing of the claim was accordingly postponed.

Some days afterwards, the Parties stated they Could not settle the matter, though they were agreed on the terms, because Consul-General Miller would not let Mr Rees settle. accordingly the testimony was resumed.

His Excellency M. Kekuanaoa Governor of Oahu. sworn for Namauu. says. In the Year 1822 King Liholiho gave the land of Hoaeae to Mauuia, from the Mountains to the Sea. Mauuia kept possession of it until he sailed to a foreign land. When he was about to leave the Islands, he gave this land to Namauu and Kaupena. I heard him give it to them. On his return from England - he made no change in the land. nor on his return from Manilla - it still remained in the hands of Namauu & Kaupena; and Continued in their possession when he went with Boki to the Sandal-wood Islands.

Boki when he went on this Expedition, was Governor of Oahu; and left the Island in Charge of his Wife Liliha. She took this land from Namauu & Kaupena, and gave it to Kapole. Namauu's Wife. Kapole acquainted Namauu with this fact; and he went with a Complaint to the present King Kamehameha III I was present when Namauu came with his

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Complaint; and I verified the statement made.
The King said, "Let the land be given back to the Persons who owned it." From that time the joint ownership of Kaupena and Namauu Ceased; and it was given back to Namauu only, with the understanding, that he held it under the King.
Afterwards, when I was in Conversation with the King about this land, the King said - "I have given it to Namauu, and he holds it under me." In the division of lands, this has been recognized as Namauu's; and there is no other Konohiki (Lord of the Land) but Namauu.
Cross examined by Mr. Jasper Rees Counsel.
I know of the fact of Mr. Rees' living on this land. Just under Namauu and Kaupena, and when Kaupenas title ceased. then under Namauu. At first Claimant Rees had some land given him by Manuia at this Place. I only know this by hearsay. After being there awhile, a flood filled up the Kalo patches, and the land was rendered almost useless. Mr. Rees Came to me, and represented this, and wished me to remit the tax on this land; which was about $3 or $4 dollars and I reduced it to two dollars:- this was the Government tax. It remained at two dollars P. Ann.m until 1844. I believe: since which time Rees has paid no tax, on account of the injury done by the flood. I saw the land: and told the tax gatherer not to enforce the tax. This tax was for the Ili- or Cultivated land only - Namauu has always paid $17 per Year - the ahupua tax - that is - the tax for Hoaeae, which is upland and uncultivated.

The Evidence adduced in this Case is clear and conclusive. It is shown by Mr. Rees', own Witnesses, that while the lowland of Ulalena which forms a part of Hoaeae, upon which Mr. Rees has lived, and which was enclosed with a fence,

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was given to him to be truly his; only the use of the Uplands of Hoaeae was given to him, upon the Condition of his paying to the Lord of the Land, the one half of the produce.

Kekeni, Mr Rees' own Witness, who was present, and heard the Gift from Manuia, upon which Mr Rees bases his claim, testifies that he went down to Ewa with Rees and Manuia when the Land was given, and witnessed the Gift. He gave Rees the Land inside of the fence; that is Ulalena, but not the Land outside of the fence, that is Hoaeae;- the outside land, Rees was to have the use of for the Cattle to run on."

"Rees was to have the lowland, Ulalena as his Land; and the use of the plains of Hoaeae as a pasturage, so long as he yielded half the produce to the Lord of the Land."

Kaupena, the Widow of Manuia, another Witness of Mr Rees, testifies, that she knows her husband gave Rees some Land to feed Goats upon; but the gift was upon the Condition stated by Kekeni. Namely- that he paid half the produce and that when Manuia left the Islands in 1829 he gave the land to Namauu.

Kahanee- sworn for Rees, testifies to nearly the same facts as Kekeni. stating. that he knows of no upland having been given to Rees; but that a lowland was given to Rees in a circular shape. and that he once heard Manuia say to Rees, "There is a place for your Goats, and Namauu is to be your Lord." He understood the absolute Gift of Manuia to be confined to the lowland.

The Evidence of these Witnesses is sustained by that of Mr Ii and Governor Kekuanaoa. The latter of whom gives the history of this Land, from the Year 1822; and testifies that he heard Manuia give Hoaeae to Kaupena & Namauu, and that it continued in their possession until

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shortly after the departure of Governor Boki & Manuia in 1829 when Governor Bokis Wife, Liliha, wrested it from their hands:- That by order of his Majesty it was restored to them; and soon after passed into the hands of Namauu:- that Mr Rees lived under Namauu and Kaupena so long as they jointly owned the land, and afterwards under Namauu alone: that while Mr Rees, as tenant of the lowland or Cultivated ground, has paid the annual tax of the same, up to the time when it was remitted on account of its being swept by a flood, Namauu has been the recognized Lord of the upland of Hoaeae, and paid the annual tax of the same, from the Year 1829.

The only Evidence which militates in the least, if any, against the views of ~~the views of~~ the above-mentioned Witnesses, is that of James Walker and Kanui.

The first of these two Witnesses, Walker, testifies, that he knows that Manuia gave Rees the land where he lives: Now Mr Rees has always lived at Waiena the lowland; and whether the witness means, that he gave Rees the lowland, or both lowland and upland, cannot be told: for this witness says, he never saw the land. However taking the most favorable view of his testimony for Mr Rees, it will be seen that he supports the testimony of Kekeni and others.

He testifies that Rees was to give Manuia half the Cattle raised on the land; and that he has done so from the beginning to the present time.

Kanui, the other witness, in speaking of the land given to Rees, says, that when Rees received the land it was dry and without value; but by labor, Rees prepared a Kalo patch, and made it valuable: showing clearly, that he had reference to the lowland where Rees lived; and which is the only land Cultivated by Rees, or prepared with a Kalo patch. This Witness says, that Manuia did not give Rees the whole of Hoaeae, though he states the name of the land given to him was Hoaeae. Beyond question the land

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given to Rees absolutely, was that part of the lowlands of Hoaeae - which was enclosed with a fence, and called Ulapena. And when we scan the testimony of this Witness, and Consider that the Counter Claimant was not present; and had no opportunity of Cross examining him, we shall find, that so far as it runs counter to the testimony of Kekeni, Kaupena, Kahanea, Governor Kekuanaoa and others, it is entitled to but little weight.

Mr. Meek, Mr. Thompson, Mr. Rooke and Mr. French, who testify that Mr. Rees has lived on the land since 1829, all ~~frankly~~ state that they know nothing of the manner, or conditions upon which, Mr. Rees obtained this land:- that they never heard Manuia say a word in relation to the subject;- and that their Evidence on this point is entirely hearsay Evidence, for the most part based upon Mr. Rees' own assertions. They know he has possessed the land, and received pasturage money for horses, but upon what terms he has possessed the land, they do not know.- Certainly it has not been a quiet possession, according to Mr. Rees own statement.

Mr. Meek testifies that the land was not very large, but he knows nothing of the bounds. Mr. Thompson knows of Rees dividing the Goats raised on the land, with Manuias' widow. Mr. Rooke and Mr. French testify that Rees told each of them that Manuia gave him the land, and Goats, and he was to have half the Increase.

This evidence so far as the Witnesses speak from knowledge, and not from hearsay, strongly corroborates the positive and lucid testimony of Gov. Kekuanaoa, Kekeni and others; and in the opinion of the Board, the Case is too plain to be misapprehended.

We do therefore Award to Lewis Rees this land, upon the same terms and conditions, upon which he received it from Manuia:- That is to

See translation into Hawaiian Page 630

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say – We do award to him, that part of the lowland upon which he has lived, – namely, Ulalena, and was formerly enclosed with a fence, to have and to hold to him and his heirs for ever. There can be no doubt but that the absolute Gift of this lowland was confined to a life Estate in Rees; But having first obtained the consent and authority of the King in Privy Council, we do award the same to him in fee-simple.

And we do hereby further award to the aforesaid Lewis Rees, his heirs, and assigns, the Use of the Plains or upland of Hoaeae, to have and to hold the same for ever, upon the following terms – namely upon condition that the said Rees, his Heirs or assigns, shall annually account in writing, to the heirs or assigns of Namauu, for all the Rents, or Produce arising, from the use of said Upland, and shall make annual payment to the Heirs or Assigns of Namauu, of the one half of all such Rents or Produce: the first payment to be made one Year from the date of this Award.

And this Award is upon this express condition that upon the failure of the said Rees, his heirs, or assigns, to make the aforesaid annual account and payment as above mentioned, the Rights of the said Rees, his Heirs or Assigns, in said Upland, shall determine; and the same shall revert to the said Namauu, his Heirs or Assigns.

Namauu insisted that all the Rights of Rees in the upland of Hoaeae had terminated, upon the ground, that he had forfeited the condition upon which he held the Land. But the Board have been spared the trouble of discussing and deciding this point, by obtaining the consent of the Heirs of Namauu to the above Award.

The claimant Rees has handed to the Board a printed and sworn statement, made by him before Consul General Miller, excepting to the Constitution of this Commission, in its Capacity to decide this Case,

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from the circumstance, of Namauu's being one of the Members of this Board, and he expresses his fears, that he will be able to deceive the Board:- or in other words - that the Board are so deficient in purity of motive or judgment, that they are capable of being warped in their decisions, by the influence of one of its members.

Without regarding such insinuations we would simply remark that Namauu died and another Commissioner was appointed to fill his place in this Board, some months previous to the making of this Award.

The following Survey will shew the correct bounds of Hoaeae; and includes, though it does not particularly define, the bounds of that portion ~~of the Land~~ of Ulatena, awarded in Fee-simple.

The law requires existing possessory rights of tenants to be respected.

"Notes of Survey of Hoaeae in Ewa "Oahu"

"Commencing at pile of stones by Sea (Kalahina bay) at Makai S. E. corner of this Land, joining Waikele, and running S. 18° 45 W. 15 Ch. 6 7/12 ft. along Sea to stake, near end of wall on top of Pali by Sea at Namauus' land - Then following along wall seperating this from Namauus' land to Mauka N.E. corner of wall - Thence N. 29° 15' W 1 Ch. 20 1/2 ft. to stake by path at the N. E corner of Namauus' land (where wall formerly was) Thence S. 70° W. 6 Ch. 7 3/12 ft. across Ravine or flats to Rock on Makai edge of new Gulch about 4 Ch. easterly of L. Rees' dwelling house - Thence S. 50° 15' W. 3 Ch. 14 1/2 ft. to large Rock at head (at present) of new Gulch. Thence S. 45° 30' W. 5 1/2 Ch. to W. corner of old stone pig pen. Thence S. 55° 15' W. 12 Ch 3 1/12 ft. always along where old wall stood to wall again. Then following along around wall and Pa Pali to stake at

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Makai S. W. corner of this land at or in place called Kaulu (the Kula land ends here, but the Sea of this land extends down to point marked P on Map.) Thence N. 45° 30' W. 54 Ch. 13 $\frac{1}{12}$ ft. to point in old Road on mauka side of Gulch. near Mauka N. W. Corner of Namanui's land - along land called Honouliuli leased by J. Meek Jr. Thence N. 47° 15' W. 42 Ch. 59 $\frac{5}{12}$ ft. to Rock by Road called Pohaku Palahalaha - Thence N. 29° 45' W. 29 Ch. 20 ft. to stone marked + by Road - Thence N. 37° 15' W. 71 Ch to Rock marked + by Road - Thence N. 33° 15' W. 97 Ch. 20 ft. to large Wili with tree - Thence N. 44° 45' W. 57 ch. 26 ft. to old Kukui tree - angle - Thence N. 29° 30' W. 64 Ch. 13 ft. always along Honouliuli to pile stones on N upper bank of Ekahanui Gulch at Mauka N. W corner of this land - Thence N. 32° 15' E. 45 Ch. 20 ft. to Kukui tree marked A in clump of Kukuis - Thence N. 36° 15' E. 55 Ch. 20 ft. always along land called Pihui in Honouliuli to large Kukui tree marked B on bottom W. edge of Waikele Gulch at Mauka N. W. corner of this land - Thence S. 76° 15' E. 12 Ch. 6 $\frac{7}{12}$ ft. along bottom Gulch to small single Kukui tree - Thence S. 38° 15' E. 17 Ch 26 $\frac{1}{12}$ ft. along bottom Gulch to point - angle - Thence S. 37° 45' E. 40 $\frac{1}{2}$ ch. along bottom Gulch to Rock marked + angle Thence S. 26° E. 46 $\frac{3}{4}$ ch. along bottom Gulch and up Pali to small Koa tree marked + on right upper edge - Thence S. 26° 30' E. 22 Ch. across dry Gulch to high peaked Rock marked + N. of Ekahanui Gulch - Thence S. 24° E. 19 Ch. 46 ft. across Ekahanui Gulch to stake - Thence S. 34 $\frac{1}{2}$ E. 43 $\frac{1}{2}$ Ch to stake on Ridge - angle - Thence S. 25° E. 226 $\frac{1}{2}$ Ch always along Waikele to Place of Commencement Including an area of Acres 3453

Sept 3. 1848. J. Metcalf Sur.

See diagram Page 539.

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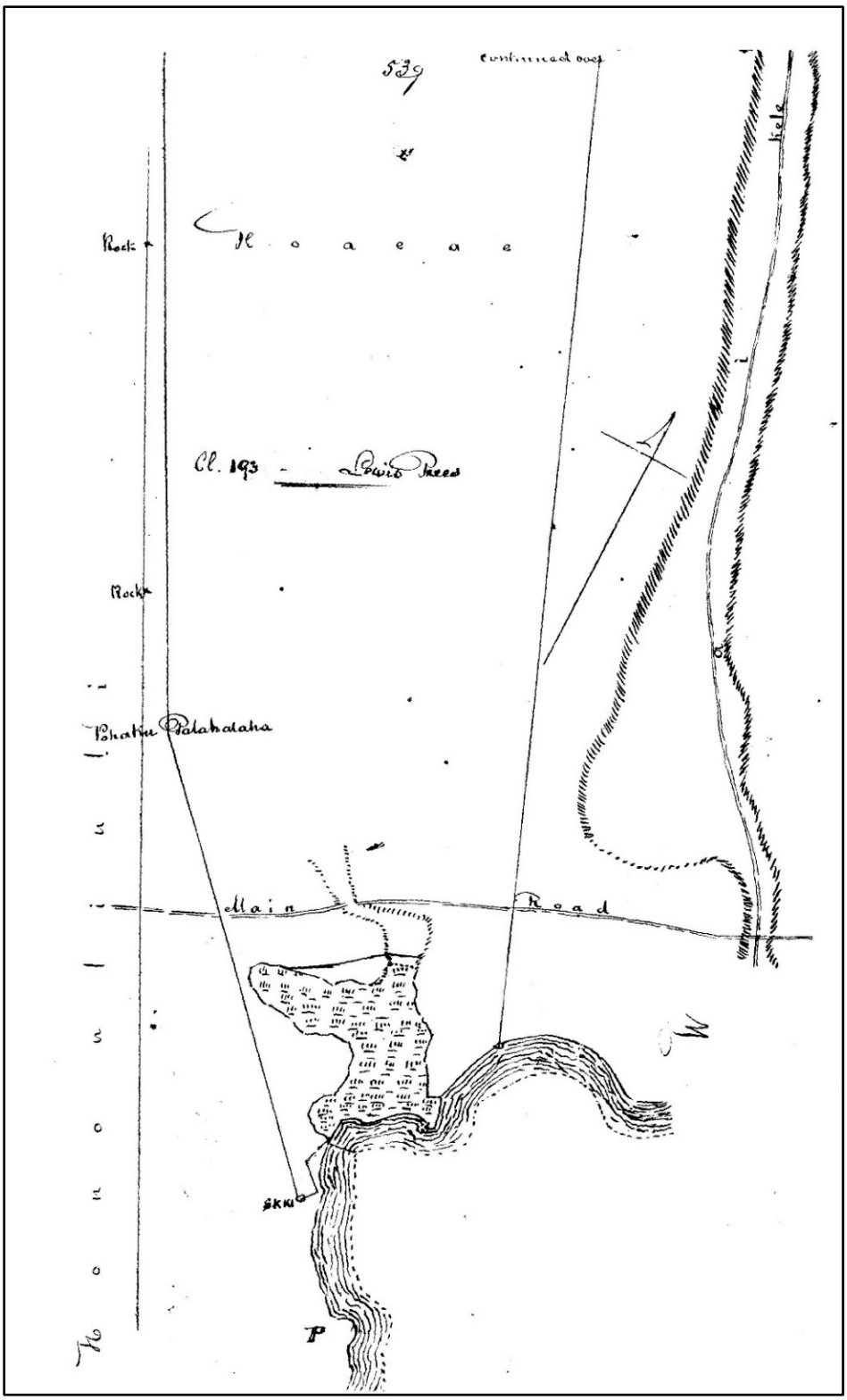
Costs. Adjudication of Ce No 193 Lewis Rees Dr

To Incidental Expences &c		1	
Action of the Board on 26 May 1847		1	
Citation for attend.ce			50
deposition of Claim reduced	¢1		50
Draft Testimony reduced and Engrossed on 26 May 1847	¢4	3	
do do on 26 April 1848	¢12	9	
do do " 17 May "	¢2	1	50
do do " 22 " "	¢3	2	25
Engrossing survey made by J Metcalf for Claimant	¢10	5	
Report of Commissioners this day rendered on the above Claim		5	
		28	75
Kate Kauwila. Honolulu. Oahu 15th February 1849	deduction made by order of the Board of	3.	75
		25	

William L. Lee
H Smith D.
Y. Kuaiwai
S M Kamakau
Loane li

Literal Copy of above Award delivered to Lewis Rees Feb. 20th 1849
Page 630 & Hawaiian Copy of the last Part to Keliuanaoa. H Smith Lee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Appendix B Cultural Impact Evaluation

This section evaluates the proposed classroom development at Kalei‘opu‘u Elementary School in terms of its impact on the traditional and customary practices of Native Hawaiians and other ethnic groups. This evaluation considers the place of the campus location in Hawaiian culture

Overview of the Campus Location in Hawaiian Culture and the History of Other Ethnic Groups

The Kalei‘opu‘u Elementary School campus lies in a south central portion of Hō‘ae‘ae Ahupua‘a, one of the smallest *ahupua‘a* of ‘Ewa Moku (District) (see Figure 8). Both the name Hō‘ae‘ae and ‘Ewa tie the place to the gods Kāne and Kanaloa. Pukui et al. (1974:47) relates that “A stone called Pōhaku-pili (clinging rock) is on the edge of the cliff on the boundary of Hō‘ae‘ae and Waikele; it belonged to the gods Kāne and Kanaloa.” An explanation for the naming of ‘Ewa also invokes these deities and a stone: “Kāne and Kanaloa through a stone to determine district boundaries. The stone was lost but was found later at Pili-o-Kahe [on the Wai‘anae coast]”. (Pukui et al. 1974:28). The pattern of *kuleana* Land Commission Awards for Hō‘ae‘ae Ahupua‘a indicate relatively dense settlement immediately adjacent to the coast at the Hō‘ae‘ae taro lands (Figure 8) adjacent to the bountiful West Loch of Pearl Harbor, with no *kuleana* claims and no indication of settlement in the uplands.

The school takes its name from “The Legend of Kalei‘opu‘u” as told by the Kamaki Kanahele Family:

> In the ancient times, this spot, where Kalei‘opu‘u Elementary sits today, was the place where Kahuna La‘au Lapa‘au (medicinal healers), came to fetch their herbs. During a certain time of the seasons (just before Makahiki), Kahuna came into the bay (Pearl Harbor), by canoe to gather their medicines. Legend says that they disembarked from their canoes and sent up a chant in the style called "Ho‘ae‘ae". When they chanted, a rainbow appeared. The rainbow's colors were so bright that it reflected its colors onto this hill lighting it up full with its colors. Where the colors fell on the land was located the special healing herbs that they came to fetch. The legend says that when the rainbow disappeared, the flowers from the same herbs took on the colors of the rainbow and left this hill or pu‘u looking like a beautiful lei with rainbow colors. Hence the name Kalei‘opu‘u, literally translated as "Lei on the hillside." [Kaleiopu‘u Elementary School website]

Further support for this tradition of Kahuna La‘au Lapa‘au in the vicinity was not identified. The name “Kalei‘ōpu‘u” also resonates with one of the most famous stories of the ‘Ewa plain in which a woman “going from ‘Ewa to Waialua” hides an ivory necklace in pōhaku-huna-palaoa (Ivory-hiding-stone) where it is re-discovered by one of the great grandsons of her grandchildren (*Na Wahi Pana o Ewa* In *Ka Loea Kalaiaina* July 22, 1899 as cited in Sterling and Summers 1978:21-22). The *lei-o-pu‘u* insignia is somewhat symbolic of the *ali‘i* of O‘ahu and the stories may relate to the loss of the *ali‘i* of O‘ahu at ‘Ewa following the conquest of Kahekili discussed below.

Perhaps the most famous account of Hō‘ae‘ae in traditional Hawaiian history was in the context of the suppression of the chiefs of O‘ahu by Kahekili. After the Maui war chief Kahekili conquered O‘ahu circa 1785 he ruthlessly suppressed a rebellion of O‘ahu chiefs causing a great loss of life at Hō‘ae‘ae. The forces of Kahekili:

> …overran the districts of Kona and Ewa, and a war of extermination ensued. Men, woman and children were killed without discrimination and without mercy. The streams of …Hoaeae in Ewa, are said to have been literally choked with the corpses of the slain. [Fornander 1919:Vol. VI:290]

The reference to the stream of Hō‘ae‘ae suggests this massacre was quite close to the coast at some distance from the school campus.

In the late 1800s and early 1900s this area appears to have been in grazing land of Hoaeae Ranch (see 1873 Alexander map Figure 10 and the 1906 Donn map Figure 13). An 1895 letter from J. Marsden, the Commissioner of Agriculture and Forestry, regarding a proposed B.F. Dillingham plantation at “Waipio, Hoaeae and Honouliuli” noted “the land is perfectly clear from any growth except grass” (*Pacific Commercial Advertiser* 2 January 1895).

One of the most popular themes for Hō‘ae‘ae lands in early popular newspapers is small advertisements restricting access or “trespass.” These start in September 1889 with a “Notice” promulgated by A. J. Campbell, Manager of Hoaeae Ranch forbidding “shooting or trespass” (*Daily Bulletin* 4 September 1889 “Notice”). Some 98 trespass notices were identified in *Daily Bulletin* (1889–1893), *Pacific Commercial Advertiser* (1892–1905), *Hawaiian Star* (1901), and *Evening Bulletin* (1901–1905). These trespass notices notably were pronounced in the last years of the Hawaiian Kingdom. While these trespass notices appear to have been primarily to have been to control the shooting of pheasants they would certainly have discouraged gathering practices or transit through the lands of Hō‘ae‘ae.

The only distinctive land form in the immediate vicinity of the campus is Hō‘ae‘ae intermittent stream and gulch that bounds the west side of the campus (see Figure 3). The only identified activity associated with Hō‘ae‘ae gulch was a reference to an apparent suicide:

> A Japanese laborer at Ewa Plantation named Sagura was found hanging dead from a kiawe tree at Hoaeae Gulch. A coroner’s jury determined suicide. [*The Hawaiian Star* 6 February 1899]

Hō‘ae‘ae gulch may well have supported resources useful for traditional Hawaiian practices prior to becoming choked with *kiawe*, *haole koa* and exotic grasses. The gulch is separated from the school campus by a security fence. The campus does not extend into the gulch.

Overview of the School Campus and Proposed Project

The classroom building construction project is within a fully developed elementary school (see Figure 3, Figure 26 through Figure 28 and Figure 30 through Figure 37) for which the protection of students through the regulation of public access is paramount. The school campus is understood to have been in commercial sugar cane fields of the Oahu Sugar Company for most of the twentieth century (Figure 17 and Figure 20)

Cultural Resources of the Vicinity

This section evaluates the available data on archaeological resources, burials, faunal resources, plant resources, trails, and storied places (*wahi pana*) near the school campus.

Archaeological Resources

No archaeological resources have been identified within the campus (none are believed to be present) or within a kilometer of the project area (see Figure 23).

Burials

No traditional Hawaiian burials have been identified within two kilometer of the project area (see Figure 23). Surprisingly few burials have been identified in this general area (see Figure 23 and Table 3) with the nearest finds approximately 2.5 kilometers to the southeast in coastal Waipahu (an area of Hawaiian settlement).

Faunal Resources

The project area is far from the coast and fresh water. The historic records indicates hunting of birds and goats in the vicinity (see Section 3.2.2). There is no reason to believe that there are any harvestable faunal resources on the campus per se.

Plant Resources

A glimpse of the pre-commercial sugar cane landscape is provided in a letter from J. Marsden, the Commissioner of Agriculture and Forestry, regarding a proposed B.F. Dillingham plantation at “Waipio, Hoaeae and Honouliuli” who noted that “the land is perfectly clear from any growth except grass” (*The Pacific Commercial Advertiser*, January 02, 1895). The campus is entirely within landscaping and although the landscaping includes some traditional Hawaiian resources (*hau*, *laua‘e* fern, ti) these are clearly the result of contemporary maintained plantings. No naturally occurring plant resources, or plant resources other than school landscaping are believed to be present.

Trails

A major trail into connecting ‘Ewa District to central O‘ahu passed close to the boundary of Honouliuli Ahupua‘a to the west and Hō‘ae‘ae Ahupuaa to the east (Figure 8 and Figure 9) but this was 500 m to the west of the present project area. There is no evidence of trails within or near the project area. It seems likely that there would have been a trail up the floor of Hō‘ae‘ae gulch but the campus is separated from the gulch by a security fence

Wahi Pana

The closest identified storied place was “Pōhaku Palala” or “Palahalaha Pōhaku” located about a kilometer to the southwest (see Figure 8. This is understood to have been a flat rock that marked the boundary between Hō‘ae‘ae and Honouliuli to the west with an arrow and “Hoaeae” written on one side and “Honouliuli” written on the other. The stone may well have had other import as well but this is unclear.

Conclusion

The tradition of the naming of Kalei‘opu‘u Elementary School cites Hawaiian healers gathering medicinal herbs in the vicinity. However, a good faith effort has been made to examine the campus and consider possible traditional Hawaiian practices and there is no reason to believe that any traditional or customary Hawaiian practices of the traditional practices of any other ethnic group will be adversely impacted by the proposed classroom building development within the existing campus.

Appendix B:
Traffic Impact Assessment Report

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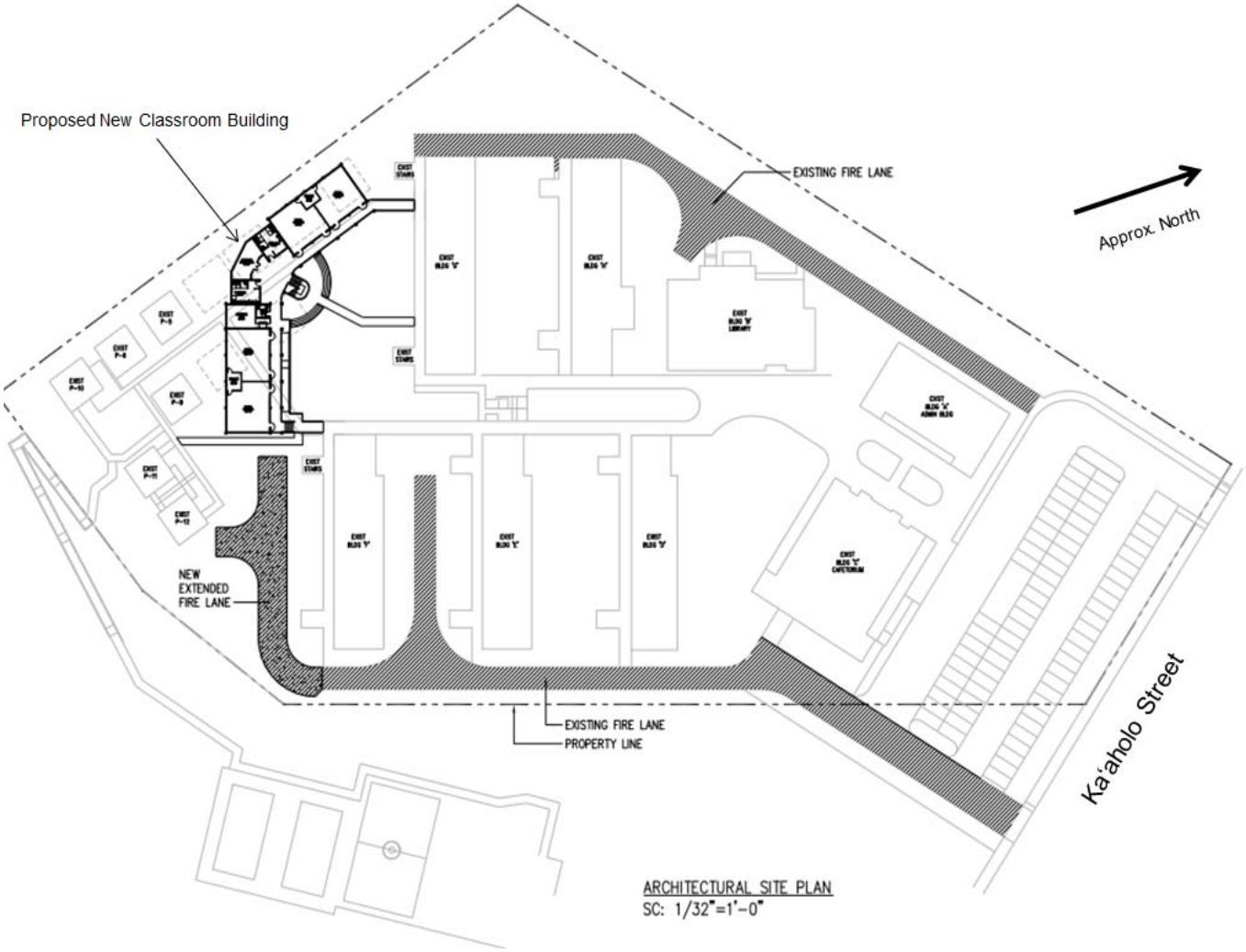
Transportation Impact Assessment Report

Kaleiopu‘u Elementary School New Classroom Building

Village Park, Hawai‘i



AECOM Technical Services, Inc.
1001 Bishop Street, Suite 1600
Honolulu, Hawai‘i 96813
Ph. (808) 521-5031

Project Reference: 60504855

Transportation Impact Assessment Report

Kaleiopu‘u Elementary School Classroom Building Village Park, Hawai‘i

August 2016

Prepared for:

CDS International
1003 Bishop Street Suite 1400
Honolulu HI 96813
(808) 524-4200 ext 252

Prepared by:

AECOM Technical Services
ASB Tower, Suite 1600
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Project Reference: 60504855

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I. INTRODUCTION

The State of Hawaii Department of Education (State DOE) is proposing to construct a new classroom building for Kaleiopuʻu Elementary School in Village Park, Hawaiʻi. Kaleiopuʻu Elementary School is located on Kaʻaholo Street in the Village Park subdivision near Waipahū in west Oʻahu, Hawaiʻi. Figure 1 illustrates the regional location of the school site.

The new classroom building will have 11,290 square feet of gross floor area. The new classroom building will replace portable classrooms currently existing at Kaleiopuʻu Elementary School. Figure 2 illustrates a site plan for the proposed new classroom building.

Because the proposed new classroom building will replace existing portable classrooms, additional traffic volumes attributable to the new classroom building are projected to be negligible.

Therefore, this transportation impact assessment report (TIAR) will qualitatively document traffic conditions existing at Kaleiopuʻu Elementary School and acknowledge efforts undertaken by the City and County of Honolulu to address traffic issues in the vicinity of the school.

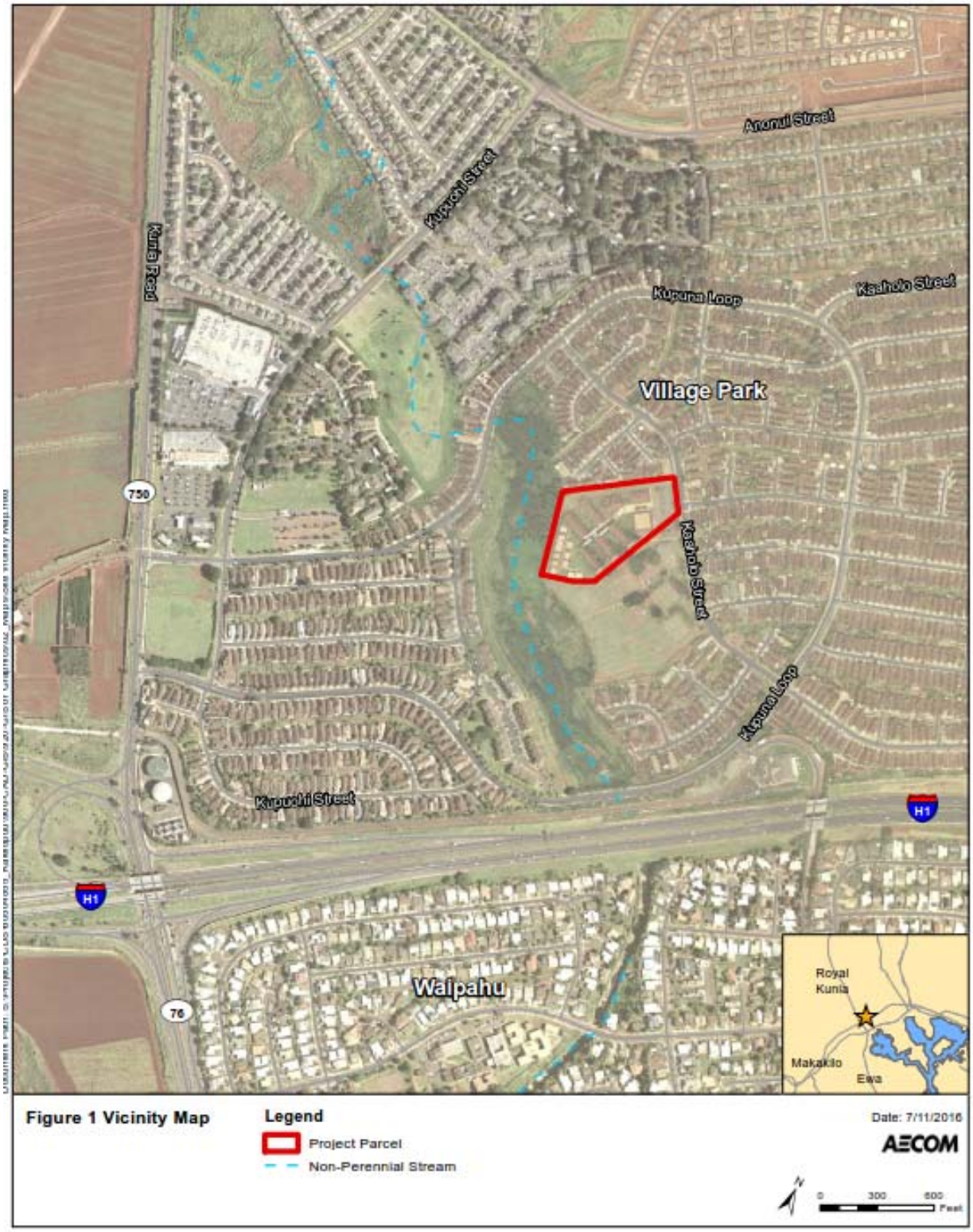


Figure 1 – Kaleiopu‘u Elementary School Vicinity Map

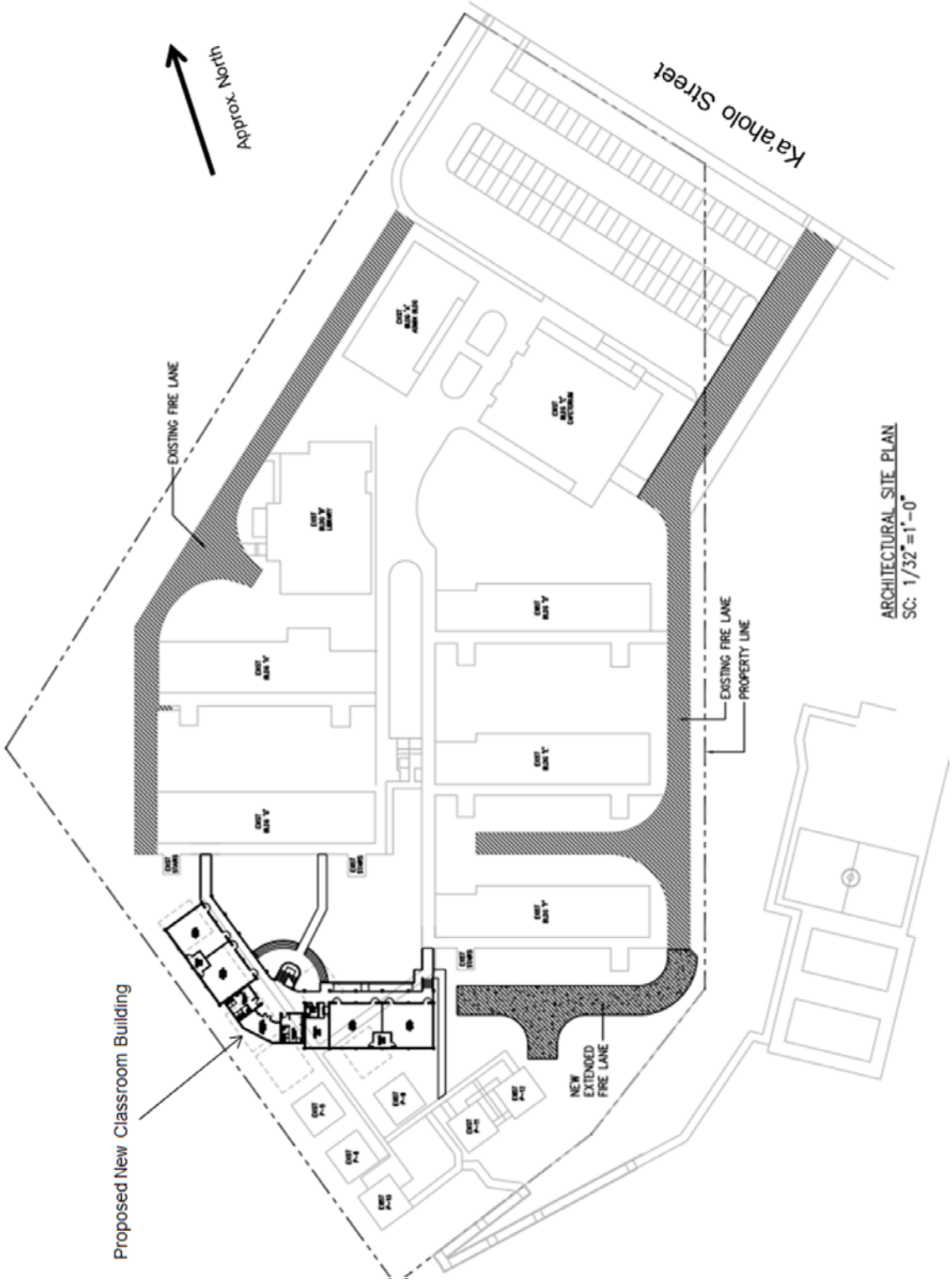


Figure 2 –Site Plan

II. EXISTING CONDITIONS

A. Site Description

Figure 2 illustrates the site plan. Kaleiopu‘u Elementary School is an existing school that serves the Village Park subdivision in the vicinity of Waipahū. The Village Park residential subdivision is a mature development with no plans for future growth.

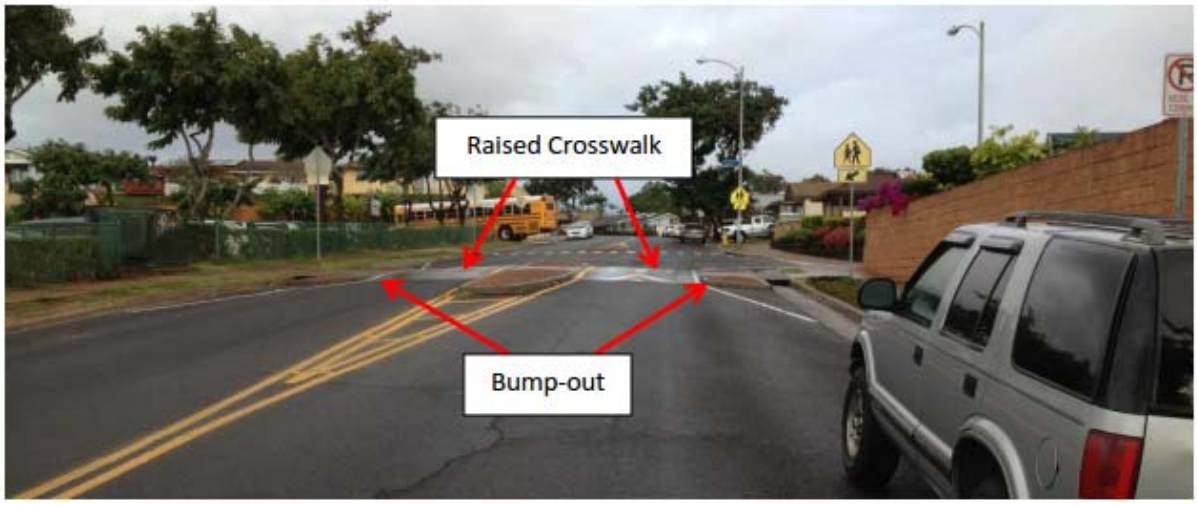
The proposed new classroom building will replace existing portable classrooms.

Access to Kaleiopu‘u Elementary School is via driveways on Ka‘aholo Street.

B. Roadway Conditions

Ka‘aholo Street is a residential collector 3 roadway per Subdivision Street Standards, City and County of Honolulu Department of Planning and Permitting (DPP). It is approximately 36 feet from face of curb to face of curb.

The City and County of Honolulu Department of Transportation Services (DTS) has implemented traffic calming measures on Ka‘aholo Street between Alapine Street and Kime Street. These measures consist of bulb-outs, speed tables, and median refuge areas designed to encourage slower vehicular speeds and increase pedestrian safety in the vicinity of Kaleiopu‘u Elementary School.



Source: Village Park-Kupuna Loop Sub-Area Corridor Study Mitigative Measures Report

Figure 3 – Ka‘aholo Street Traffic Calming Measures

Ka‘aholo Street provides access to Kupuna Loop which is the main collector that provides for primary traffic circulation within the Village Park subdivision.

Access into and out of the Kaleiopu‘u Elementary School parking lot/drop-off area is provided by two driveways that access Ka‘aholo Street on either side of the Kime Street/Ka‘aholo Street intersection.

C. Bicycle & Pedestrian Conditions

There are crosswalks across Kaʻaholo Street on the north and south sides of the Kime Street/Kaʻaholo Street intersection and north of the Alapine Street/Kaʻaholo Street intersection. There are sidewalks on both sides of Kaʻaholo Street in the vicinity of Kaleiopuʻu Elementary School.

Bicycles share Kaʻaholo Street lanes with vehicles.

D. Public Transit Conditions

There are no public transit routes on Kaʻaholo Street.

The Village Park subdivision is served by two public transit routes on Kupuna Loop:

- Express Route 97 (Village Park-Downtown)
- Circulator Route 434 (Village Park-Waipahū Transit Center)

E. Traffic Conditions

The City and County of Honolulu Department of Transportation Services (DTS) initiated the Village Park-Kupuna Loop Sub-Area Corridor Study and a Mitigative Measures Report was completed in July 2015. Although this study focused primarily on documenting traffic conditions and developing mitigative measures on Kupuna Loop, the study did address traffic issues at the Kupuna Loop/Kaʻaholo Street intersection. It also identified potential improvements at this intersection.

The Village Park-Kupuna Loop Sub-Area Corridor Study did not specifically address traffic conditions along Kaʻaholo Street, but it did acknowledge the existing traffic calming measures already implemented and described previously in this TIAR report for Kaleiopuʻu Elementary School.

Observations made by AECOM staff in previous years have identified traffic congestion issues on Kaʻaholo Street connected with the drop off and pick up of students. Most of these issues are the traffic volume-related but are connected to parents parking along Kaʻaholo Street and walking their children to the school. This TIAR does not address this issue. The construction of the proposed new classroom building will not increase the traffic demand associated with Kaleiopuʻu Elementary School, since the State DOE has stated that number of students will not increase as a result of the new classroom building. DTS has historically been working with Kaleiopuʻu Elementary School and the Village Park Community Association to arrive at a mutually acceptable way to address the school drop-off and pick-up issues. This process continues.

III. FUTURE CONDITIONS

Given the mature nature of the Village Park subdivision with no future growth planned, it is projected that the future conditions on Ka‘aholo Street will be similar to the existing conditions.

Traffic calming measures have already been implemented on Ka‘aholo Street and no additional measures are currently anticipated by DTS.

The relatively recent Village Park-Kupuna Loop Sub-Area Corridor Study commissioned by DTS identified potential improvements along Kupuna Loop, including a potential roundabout at the Kupuna Loop/Ka‘aholo Street intersection.

Aside from these existing and potential improvements, traffic conditions in the vicinity of Kaleiopu‘u Elementary School are not projected to change significantly.

IV. SUMMARY AND RECOMMENDATIONS

A. Summary

The proposed new classroom building at Kaleiopu‘u Elementary School will replace existing portable classrooms. The State DOE has stated that the number of students attending Kaleiopu‘u Elementary School will not change because of the new classroom building.

While there are existing traffic issues associated with student drop-off and pick-up at Kaleiopu‘u Elementary School, these issues are not expected to change as a result of the new classroom building. The City and County of Honolulu Department of Transportation Services (DTS) has been working with the State DOE and the Village Park Community Association to identify mitigative measures mutually acceptable to all parties involved and continue to do so.

Given that the number of students at Kaleiopu‘u Elementary School is not expected to change, the projected traffic conditions are, also, not expected to change.

Therefore, it is projected that the proposed new classroom building at Kaleiopu‘u Elementary School will not impose significant traffic impacts on the surrounding roadway system.

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B. Recommendations

The proposed new classroom building at Kaleiopu‘u Elementary School is not projected to have significant traffic impacts. However, there are currently traffic issues not associated with the proposed new classroom building that exist at Kaleiopu‘u Elementary School connected with student drop-off and pick-up. It is recommended that State DOE continue to work with the Village Park Community Association and DTS toward a mutually acceptable way to address these issues.

The recent Village Park-Kupuna Loop Sub-Area Corridor Study commissioned by DTS identified potential improvements along Kupuna Loop, including a potential roundabout at the Kupuna Loop/Ka‘aholo Street intersection. These improvements address existing transportation issues along Kupuna Loop, and it is recommended that serious consideration be given to the implementation of these improvements.

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Appendix C:
Pre-Assessment Consultation – Comments Received

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Salutation	First Name	Last Name	Title	Company Name	Address Line 1	Address Line 2	City	State	ZIP
State of Hawaii Distribution List									
	Lance	Mizumoto	Chairperson	Department of Education, Board of Education	P.O. Box 2360		Honolulu	Hawaii	96804
	Diane	Eddy	Director	Department of Education, Hawaii State Library, Hawaii Documents Center	478 South King Street		Honolulu	Hawaii	96813
	Alan	Downer	Administrator	Department of Land and Natural Resources, State Historic Preservation Division	601 Kamokila Blvd.	Room 555	Kapolei	Hawaii	96707
	Laura	McIntyre	Manager	Department of Health, Environmental Planning Office	919 Ala Moana Blvd.	Room 312	Honolulu	Hawaii	96814
	Chittaranjan	Ray	Director	University of Hawaii Environmental Center	2500 Dole Street	Krauss Annex 19	Honolulu	Hawaii	96822
	Keith	Kawaoka	Deputy Director	Department of Health, Environmental Health Administration	P.O. Box 3378		Honolulu	Hawaii	96801
	Jeffrey	Eckerd	Program Manager	Department of Health, Indoor and Radiological Health Branch, Noise Section	591 Ala Moana Blvd.		Honolulu	Hawaii	96813
	Ford	Fuchigami	Director	Department of Transportation	Aliiaimoku Hale	869 Punchbowl Street	Honolulu	Hawaii	96813
City and County of Honolulu Distribution List									
	George	Atta	Director	City and County of Honolulu, Department of Planning and Permitting	Frank F. Fasi Municipal Bldg.	650 S. King St., 7th Floor	Honolulu	Hawaii	96813
	Michael	Formby	Director	City and County of Honolulu, Department of Transportation Services	Frank F. Fasi Municipal Bldg.	650 S. King St., 3rd Floor	Honolulu	Hawaii	96813
Elected and Other Officials Distribution List									
	Mazie	Hirono	Senator	Prince Kuhio Federal Building	300 Ala Moana Boulevard	Room 3-106	Honolulu	Hawaii	96850
	Brian	Schatz	Senator	Prince Kuhio Federal Building	300 Ala Moana Boulevard	Room 7-212	Honolulu	Hawaii	96850
	Tulsi	Gabbard	Representative	Prince Kuhio Federal Building	300 Ala Moana Boulevard	Room 5-104	Honolulu	Hawaii	96850
	Michelle	Kidani	State Senator	18th State Senate District	Hawaii State Capitol Room 228	415 S. Beretania Street	Honolulu	Hawaii	96813
	Ty	Cullen	State Representative	39th House District	Hawaii State Capitol Room 316	415 S. Beretania Street	Honolulu	Hawaii	96813
	Ron	Menor	City Councilmember	9th City Council District	530 S King St		Honolulu	Hawaii	96813
	Rito	Saniatan	Chair	Waipahu Neighborhood Board No. 22	530 S. King Street #406		Honolulu	Hawaii	96813
Utility Companies Distribution List									
	Ricky	Martin		Hawaii Gas	515 Kamakee Street		Honolulu	Hawaii	96814
	Kerstan	Wong	Engineering Manager	Hawaiian Electric Company	P. O. Box 2750		Honolulu	Hawaii	96840
	Nathan	Sparks	Government Account Manager	Hawaiian Telcom	1177 Bishop Street		Honolulu	Hawaii	96813
Community									
			Managing Agent, Village Park Community Association	Cadmus Properties Corporation	332 N. School St.		Honolulu	Hawaii	96817

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:
EPO 16-251

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AUG 17 2016
AECOM

August 5, 2016

Ms. Kristen Nishimura
AECOM Technical Services, Inc.
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813
Email: Kristen.nishimura@aecom.com

Dear Ms. Nishimura:

SUBJECT: Pre- Assessment Consultation (PAC) for Kaleiopuu Elementary School New Classroom Building, Waipahu, Oahu TMK: 9-4-107:098

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your PAC to our office on July 13, 2016.

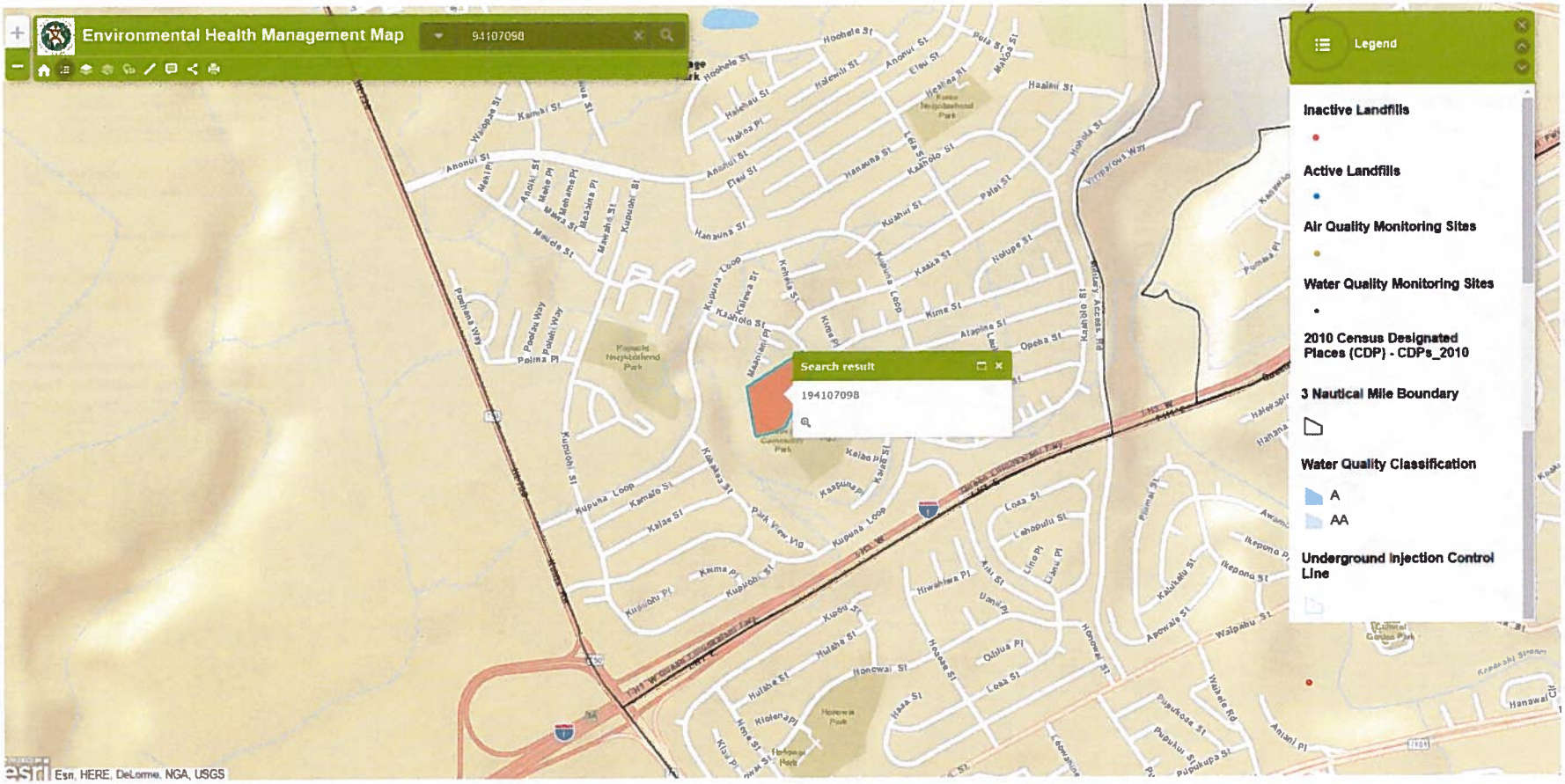
In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments and available strategies to support sustainable and healthy design are provided at: http://health.hawaii.gov/epo/landuse. Projects are required to adhere to all applicable standard comments. EPO has recently updated the environmental Geographic Information System (GIS) website page. It now compiles various maps and viewers from our environmental health programs. The eGIS website page is continually updated so please visit it regularly at: http://health.hawaii.gov/epo/egis. EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: https://eha-cloud.doh.hawaii.gov. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

We suggest you review the requirements of the Clean Water Branch (HAR, Section 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: http://health.hawaii.gov/cwb. If you have any questions, please contact the Clean Water Branch, Engineering Section at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

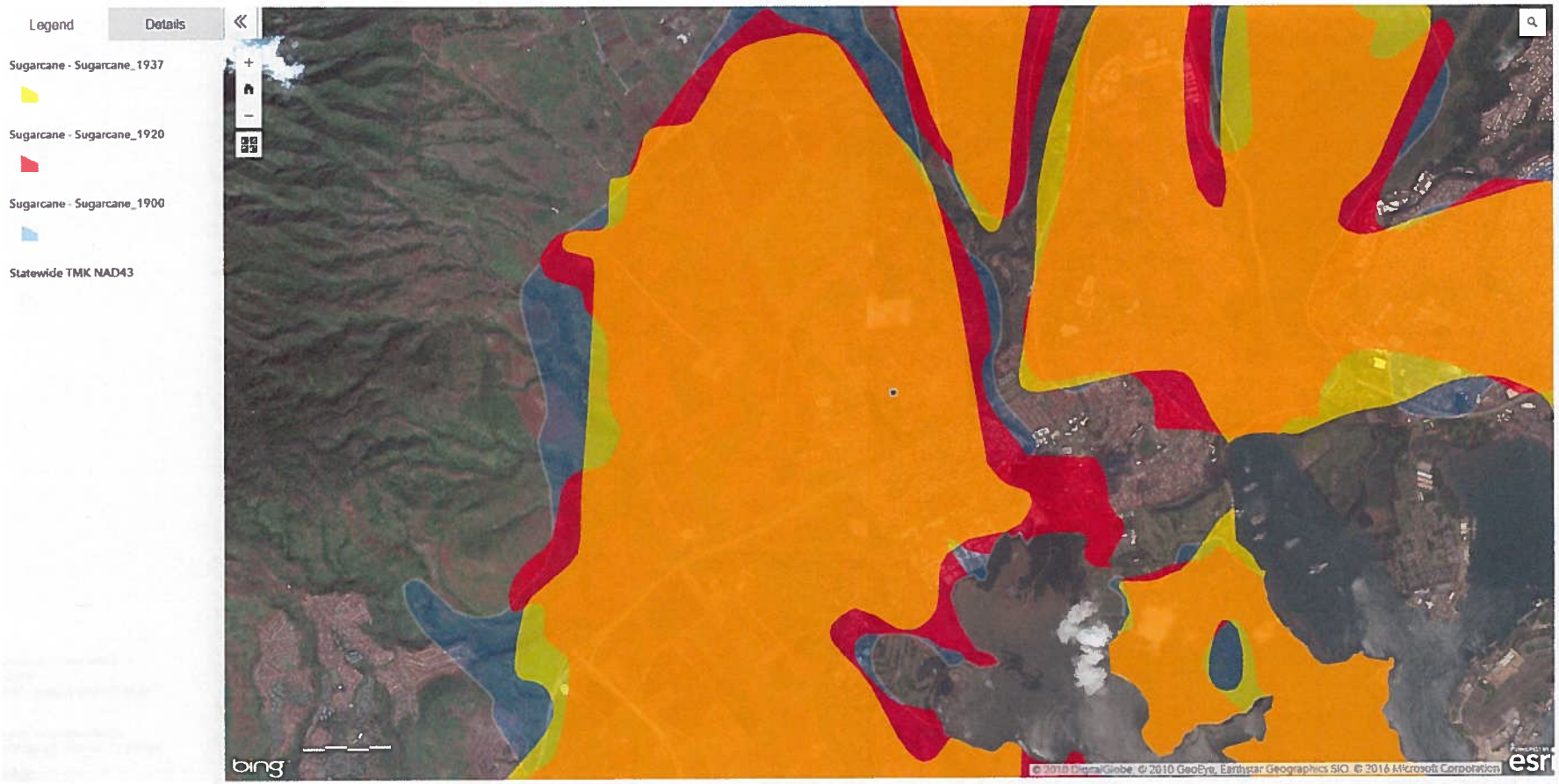
EPO recommends you review the need and/or requirements for a Clean Air Branch permit. The Clean Air Branch can be consulted via e-mail at: Cab.General@doh.hawaii.gov or via phone: (808) 586-4200.

A phase I Environmental Site Assessment (ESA) and site investigation should be conducted for residential development or redevelopment projects on formerly and currently zoned agricultural land used for growing sugar, pineapple or other agricultural products. If the investigation shows that a release of petroleum, hazardous substance, pollutants or contaminants may have occurred at the site, the site should be properly characterized through an approved Hawaii State Department of Health (DOH)/Hazard Evaluation and Emergency Response Office (HEER) soil and/or groundwater sampling plan. Please refer to Sections 3 and 4 of the HEER Office Technical Guidance Manual http://www.hawaiidoh.org/. If the site is found to be contaminated, then all removal and remedial actions to clean up hazardous substance or oil releases by past and present owners/tenants must comply with Chapter 128D,

Attachment 1: Environmental Health Management Web App Snipit of Project Area: http://health.hawaii.gov/epo/egis



Attachment 3: Historic Sugarcane Map of Project Area



Attachment 5: U.S. EPA EJSCREEN Report for Project Area

EJSCREEN Report (Version 2016)

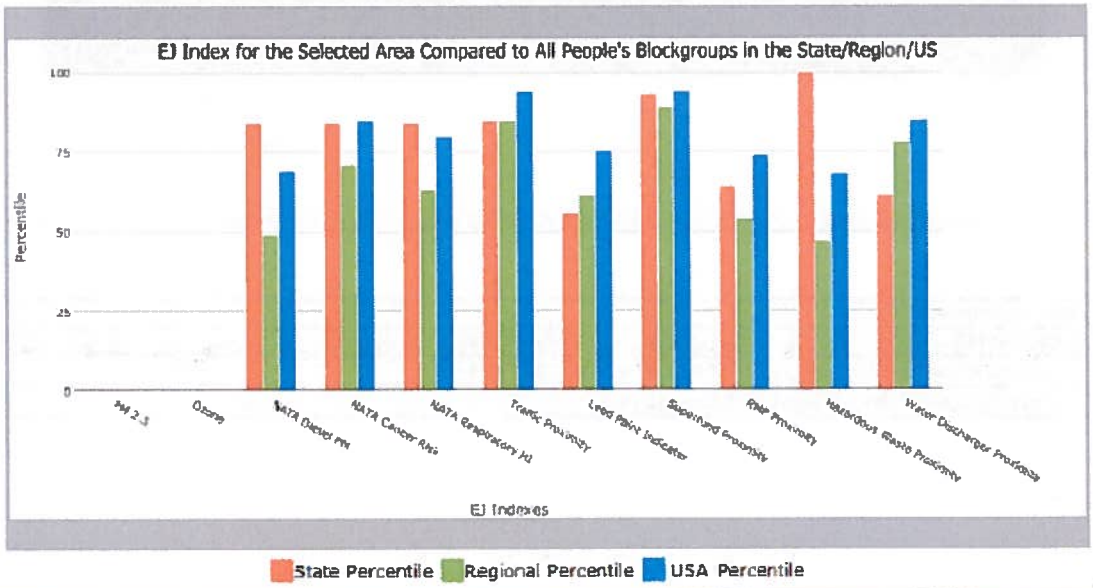
1 mile Ring Centered at 21.391267,-158.028116, HAWAII, EPA Region 9

Approximate Population: 27,446

Input Area (sq. miles): 3.14

(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	84	49	69
EJ Index for NATA* Air Toxics Cancer Risk	84	71	85
EJ Index for NATA* Respiratory Hazard Index	84	63	80
EJ Index for Traffic Proximity and Volume	85	85	94
EJ Index for Lead Paint Indicator	56	61	75
EJ Index for Superfund Proximity	93	89	94
EJ Index for RMP Proximity	64	54	74
EJ Index for Hazardous Waste Proximity	100	47	68
EJ Index for Water Discharger Proximity	61	78	85



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report (Version 2016)

1 mile Ring Centered at 21.391267,-158.028116, HAWAII, EPA Region 9

Approximate Population: 27,446

Input Area (sq. miles): 3.14

(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m³)	N/A	N/A	N/A	9.37	N/A	9.32	N/A
Ozone (ppb)	N/A	N/A	N/A	51	N/A	47.4	N/A
NATA* Diesel PM (µg/m³)	0.161	0.149	73	0.978	<50th	0.937	<50th
NATA* Cancer Risk (lifetime risk per million)	38	34	75	43	<50th	40	<50th
NATA* Respiratory Hazard Index	1.2	1	71	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	1600	990	83	1100	81	590	92
Lead Paint Indicator (% Pre-1960 Housing)	0.04	0.16	33	0.24	33	0.3	23
Superfund Proximity (site count/km distance)	0.23	0.098	89	0.15	88	0.13	88
RMP Proximity (facility count/km distance)	0.088	0.19	45	0.57	16	0.43	23
Hazardous Waste Proximity (facility count/km distance)	0	0	100	0.11	19	0.072	26
Water Discharger Proximity (facility count/km distance)	0.16	0.34	38	0.2	63	0.31	52
Demographic Indicators							
Demographic Index	55%	52%	61	47%	62	36%	77
Minority Population	91%	77%	73	58%	83	37%	90
Low Income Population	19%	26%	38	36%	26	35%	27
Linguistically Isolated Population	5%	6%	61	9%	47	5%	72
Population With Less Than High School Education	14%	9%	78	17%	51	14%	60
Population Under 5 years of age	7%	6%	61	7%	55	6%	59
Population over 64 years of age	13%	15%	40	13%	61	14%	51

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

Environmental Response Law, HRS, and Title 11, Chapter 451, HAR, State Contingency Plan. To identify HEER records related to the property, visit http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/public-records

You may also wish to review the draft Office of Environmental Quality Control (OEQC) viewer at: http://eha-web.doh.hawaii.gov/oeqc-viewer. This viewer geographically shows where some previous Hawaii Environmental Policy Act (HEPA) {Hawaii Revised Statutes, Chapter 343} documents have been prepared.

In order to better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed a new environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: http://www.epa.gov/ejscreen.

We request that you utilize all of this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design. Thank you for the opportunity to comment.

Mahalo nui loa,

Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

LM:nn

Attachment 1: Environmental Health Management Web App Snipit of Project Area: http://health.hawaii.gov/epo/egis
Attachment 2: Clean Water Branch: Water Quality Standards Map - Oahu
Attachment 3: Historic Sugarcane Map of Project Area
Attachment 4: OEQC Viewer Map of Project Area
Attachment 5: U.S. EPA EJSCREEN Report for Project Area

c: DOH: CWB, CAB, HEER, IRHB {via email only}

AECOM

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808 524 0246 fax

September 6, 2016

Laura McIntyre
Program Manager
State of Hawaii, Department of Health
Environmental Planning Office
P. O. Box 3378
Honolulu, Hawaii 96801-3375

Dear Laura:

Subject: Pre-assessment Consultation for Kaleiopuu Elementary School, New Classroom Building, Tax Map Key 9-4-107:098.

Thank you for your letter dated August 5, 2016, regarding the new classroom building at Kaleiopuu Elementary School. We agree that a regular review of State and Federal environmental health land use guidance is needed during the development and implementation of all projects. We find EPO's Land Use Planning Review webpage a helpful reference for procedures and programs to be performed in concert of preparation of environmental compliance documents. We also refer to the EGIS webpage to gather pertinent information as needed.

It is not believed that, at less than one acre, the project area does not meet the threshold needed to obtain the approval of the National Pollutant Discharge Elimination System (NPDES) permit. In the event of project change, we will coordinate with the Clean Water Branch.

To minimize potential impacts to the air quality of the project site and its vicinity, we will coordinate with the Clean Air Branch on its requirements. As part of our due diligence effort, we are currently preparing a phase I Environmental Site Assessment (ESA) of the project site.

As part of the literature review, we have consulted past Environmental Assessments (EAs) and Environmental Impact Statements (EISs) of the project area vicinity to gather historical background information. The additional source of information on environmental justice mapping and screening tool found on the EPA website has been helpful and applicable information will be used in the analysis of the proposed project.

Sincerely

AECOM Technical Services, Inc.

Kristen Nishimura

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

July 15, 2016

RECEIVED
JUL 20 2016
AECOM

Ms. Kristen Nishimura
AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Dear Ms. Nishimura:

Thank you for your submittal requesting comments to the Pre-Assessment Consultation for Kaleiopuu Elementary School, New Classroom Building, Tax Map Key 9-4-107:098.

Project activities shall comply with the following Administrative Rules of the Department of Health:

- Chapter 11-39 Air Conditioning & Ventilating
- Chapter 11-46 Community Noise Control

Should you have any questions, please contact me at (808) 586-4700.

Sincerely,

Jeffrey M. Eckerd
Program Manager
Indoor and Radiological Health Branch

AECOM

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Suite 1600
Honolulu, HI 96813
www.aecom.com

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808 524 0246 fax

September 6, 2016

Jeffrey Eckerd
Program Manager
State of Hawaii, Department of Health
Indoor and Radiological Health
P. O. Box 3378
Honolulu, Hawaii 96801-3375

Dear Jeffrey:

Subject: Pre-assessment Consultation for Kaleiopuu Elementary School, New Classroom Building, Tax Map Key 9-4-107:098.

Thank you for your letter dated July 15, 2016, regarding the new classroom building at Kaleiopuu Elementary School. The proposed project will adhere to the rules and regulations set forth in Chapters 11-39 and 11-46, Air Conditioning & Ventilating and Community Noise Control, respectively.

Sincerely

AECOM Technical Services, Inc.

Kristen Nishimura

DAVID Y. IGE
GOVERNOR

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
DIR 0967
HWY-PS 2.3010

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

August 15, 2016

Ms. Kristen Nishimura
AECOM Technical Services, Inc.
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Dear Ms. Nishimura:

Subject: Pre-Assessment Consultation
New Classroom Building, Kaleiopuu Elementary School
Waipahu, Oahu
TMK: (1) 9-4-107: 098

The Department of Education proposes to construct a two-story, 8 classroom building on part of the grounds of the existing Kaleiopuu Elementary School. The building will replace a number of existing portable classrooms. The school accesses Kaaholo Street, a roadway under the jurisdiction of the City and County of Honolulu. The project uses State funds which triggers environmental review under Chapter 343, Hawaii Revised Statutes.

The Hawaii Department of Transportation requests that traffic impacts be assessed in the Environmental Assessment.

If there are any questions, please contact Nami Wong, Systems Planning Engineer, Highways Division, Planning Branch, at (808) 587-6336. Please reference file review number PS 2016-124 in all contacts and correspondence regarding these comments.

Sincerely,

FORD N. FUCHIGAMI
Director of Transportation

AECOM

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1001 Bishop Street
Suite 1600
Honolulu, HI 96813
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808 521 3051 tel
808 524 0246 fax

September 6, 2016

Ford Fuchigami
Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Ford:

Subject: Pre-assessment Consultation for Kaleiopuu Elementary School, New Classroom Building, Tax Map Key 9-4-107:098.

Thank you for your letter dated August 15, 2016, regarding the new classroom building at Kaleiopuu Elementary School. A Transportation Impact Assessment Report has been prepared as part of the Environmental Assessment and can be found in Appendix B of the EA.

Sincerely

AECOM Technical Services, Inc.

Kristen Nishimura

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2016/ELOG-1765(JD)

August 5, 2016

Ms. Kristen Nishimura
AECOM
1001 Bishop Street, Suite 1600
Honolulu Hawaii 96813

Dear Ms. Nishimura:

SUBJECT: Pre-Assessment for Draft Environmental Assessment (DEA)
New Classroom Building – Kaleiopuu Elementary School
94-665 Kaaholo Street – Waipahu
Tax Map Key 9-4-107: 98

This is in response to your request for comments, received on July 8, 2016, regarding Pre-Assessment Consultation of a DEA for Kaleiopuu Elementary School's new classroom building. The proposal includes removing approximately six portable classroom structures and building a new two-story, eight classroom building. We have reviewed the Project summary and have the following comments at this time:

1. Pursuant to the Land Use Ordinance, the school is considered to be a "public use and structure". There are no specific parking requirements for public uses and structures, but rather, parking is reviewed and determined by the Director of the Department of Planning and Permitting (DPP) on a case-by-case basis. The DEA should discuss the specific parking demand that may be directly related to the addition of the new classroom building.

2. The new classroom building must comply with the development standards of the R-5 Residential District, i.e. yards, heights, and building area. If the building does not comply, then a zoning waiver would be required.

3. Discuss the consistency of the Project with the Oahu General Plan and Central Oahu Sustainable Communities Plan.

For your information, Conditional Use Permit, Minor (88/CUP1-44) was approved on August 4, 1988 to joint develops Lots 203-B (Kaleiopuu Elementary School) and 203-A (Hoaeae Community Park), also referred to as Tax Map Keys 9-4-107: 98 & 99, respectively. As such they are considered one zoning lot.

Should you have any questions, please contact Jordan Dildy of our Urban Design Branch at 768-8027 or by email at jdildy@honolulu.gov.

Very truly yours,

Anthony X. Olivey

FOR George I. Atta, FAICP
Director

Doc1375315

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808 524 0246 fax

September 6, 2016

George Atta
Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street
7th Floor
Honolulu, Hawaii 96813

Dear George:

Subject: Pre-assessment Consultation for Kaleiopuu Elementary School, New Classroom Building, Tax Map Key 9-4-107:098.

Thank you for your letter dated August 5, 2016, regarding the new classroom building at Kaleiopuu Elementary School. We offer the following responses to your comments:

1. The proposed project is the construction of an eight-classroom building to replace existing portable classrooms. The same number of classrooms that presently exist would be transferred to the new building. Enrollment numbers, and consequently, parking demands, are expected to remain unaffected by the project implementation.

2. The application for a height variance application will be submitted to seek the approval to exceed the permitted height of 25-30' in the R-5 zone.

3. The project's consistency with the Oahu General Plan and Central Oahu Sustainable Communities Plan are discussed in Section 5.2 of the Draft Environmental Assessment.

Sincerely,

AECOM Technical Services, Inc.

Kristen Nishimura

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, THIRD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP7/16-658788R

July 29, 2016

Ms. Kristen Nishimura
Senior Associate
AECOM Technical Services, Inc.
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Dear Ms. Nishimura:

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment (DEA), Kaleiopuu Elementary School, New Classroom Building, Waipahu, Oahu, Hawaii

In response to your letter dated July 6, 2016, we have the following comments:

1. The DEA should include a traffic impact study to evaluate existing traffic conditions of the surrounding roadways, possible increase in traffic and pedestrian volumes as a result of the project, including short-term impacts during construction and long-term impacts after construction, and measures to mitigate these impacts applying complete streets principles wherever possible.

2. All access driveways to the project site should be designed with the highest pedestrian and bicycle safety measures.

3. All parking needs for the proposed facility (employees and visitors) should be handled on-site.

4. Any damage to the existing roadway and sidewalk area caused by the project should be restored to its original or better condition.

5. The area Neighborhood Board, as well as the area residents, businesses, emergency personnel (fire, ambulance and police), Oahu Transit Services, Inc. (TheBus), etc., should be kept apprised of the details of the proposed

project and the impacts that the project may have on the adjoining local street area network.

6. Construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.), but not during school dismissal periods for the safety of the students and to minimize any possible disruption to traffic on the local streets.

7. A street usage permit from the City's Department of Transportation Services should be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

Thank you for the opportunity to review this matter. Should you have any questions, please contact Renee Yamasaki of my staff at 768-8383.

Very truly yours,

Michael D. Formby
Director

AECOM

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1001 Bishop Street
Suite 1600
Honolulu, HI 96813
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808 521 3051 tel
808 524 0246 fax

September 8, 2016

Michael Formby
Director
City and County of Honolulu
Department of Transportation Services
650 South King Street, Third Floor
Honolulu, Hawaii 96813

Dear Michael:

Subject: Pre-assessment Consultation for Kaleiopuu Elementary School, New Classroom Building, Tax Map Key 9-4-107:098.

Thank you for your letter dated July 29, 2016, regarding the new classroom building at Kaleiopuu Elementary School. We offer the following responses to your comments:

The proposed new classroom building will replace the existing classrooms in portable structures. The State Department of Education (DOE) has stated that the number of students attending Kaleiopuu Elementary School will not change because of the new classroom building. We acknowledge the effort by the City and County of Honolulu, Department of Transportation Services on initiating the Village Park-Kupuna Loop Sub-Area Corridor Study and working with DOE and the Village Park Community Association to identify mitigative measures stemming from the existing traffic issues associated with student drop-off and pick-up at Kaleiopuu Elementary School. A Traffic Impact Analysis Report, which was prepared in conjunction with this Environmental Assessment, documents the existing condition of the project area and recommends the implementation of the traffic improvement measures identified in the Village Park-Kupuna Loop Sub-Area Corridor Study. We will continue to work with the area Neighborhood Board, the Village Park Association, and applicable agencies on providing project details and identifying potential impacts on the adjoining local street area network.

The existing driveways are not proposed to be altered, and parking demands are expected to remain unchanged during project implementation. The draft EA will include the guidance by DTS in its July 29, 2016 letter, whereby:

- Any damage to the existing roadway and sidewalk area caused by the project should be restored to its original or better condition.
- Construction materials and equipment should be transferred to and from the project site during off-peak traffic hours of 8:30 a.m. to 3:30 p.m., but not during school dismissal periods for the safety of the students and to minimize any possible disruption to traffic on local streets; and
- A street usage permit from DTS to be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

AECOM

Sincerely

AECOM Technical Services, Inc.

Kristen Nishimura