Mitchell D. Roth
Mayor

Maurice C. Messina
Director

Michelle Malia Hiraishi
Deputy Director

County of Hawai`i

DEPARTMENT OF PARKS AND RECREATION
101 Pauahi Street, Suite 6 • Hilo, Hawai'i 96720
(808) 961-8311 • Fax (808) 961-8411
Email: parks_recreation@hawaiicounty.gov
http://www.hawaiicounty.gov/parks-and-recreation/

May 16, 2024

Ms. Mary Alice Evans, Interim Director
State of Hawai'i
Office of Planning and Sustainable Development
Environmental Review Program
235 South Beretania Street, Suite 702
Honolulu, HI 96813

RE: FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR THE PROPOSED PĀPA'ALOA PARK MASTER PLAN & PHASE I DEVELOPMENT, PĀPA'ALOA, NORTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK (3) 3-5-003: 035 & 088

Dear Ms. Evans:

With this letter, the proposing agency, the County of Hawai'i Department of Parks and Recreation (DPR), hereby transmits the Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the proposed Pāpa'aloa Park Master Plan and Phase I Development, situated on TMK parcels (3) 3-5-003: 035 and 088, on the island of Hawai'i.

Based on the significance criteria outlined in Title 11, Chapter 200.1, Hawai'i Administrative Rules (HAR), the DPR has made the determination of a Finding of No Significant Impact (FONSI) and that the preparation of an Environmental Impact Statement is not required. The FEA provides the reasons supporting this determination, adequately discloses and describes potential environmental impacts and mitigation measures, and responds to comments received during the required public comment period for the Draft Environmental Assessment.

We respectfully request the publication of a notice of availability of this FEA-FONSI in the next edition of *The Environmental Notice*. A digital copy of the FEA-FONSI (searchable PDF) and a Project Location Map have been submitted via the Environmental Review Program's online portal.

Should you have any questions, please contact Kevin Sakai, Park Projects Manager, at (808) 961-8311, or our authorized agent for this project, Greg Nakai, of PBR HAWAII & Associates, Inc., at (808) 521-5631.

Mahalo,

Maurice C. Messina
Director

Copy:
James Komata, DPR
Kevin Sakai, DPR
Rodney Kato, KYA Inc.
Richard Wong, KYA Inc.
Jay Moorman, KYA Inc.
Vincent Shigekuni, PBR HAWAII & Associates, Inc.
Greg Nakai, PBR HAWAII & Associates, Inc.

From: webmaster@hawaii.gov
To: DBEDT OPSD Environmental Review Program
Subject: New online submission for The Environmental Notice
Date: Thursday, May 16, 2024 4:05:42 PM

Action Name

Pāpaʻaloa Park Master Plan and Phase I Development

Type of Document/Determination

Final environmental assessment and finding of no significant impact (FEA-FONSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

North Hilo, Hawaiʻi

Tax Map Key(s) (TMK(s))

(3) 3-5-003:035; (3) 3-5-003:088

Action type

Agency

Other required permits and approvals

Special Management Area (SMA) Use Permit – Major; Plan Approval; Grading, Grubbing, and Building Permits; National Pollutant Discharge Elimination System (NPDES) Permit; Drainage Report Approval; Work in the County Right-of-Way Approval; Department of Water Supply Approval; Individual Wastewater System Approval

Proposing/determining agency

County of Hawaiʻi Department of Parks and Recreation

Agency contact name

Kevin Sakai

Agency contact email (for info about the action)

kevin.sakai@hawaiicounty.gov

Agency contact phone

(808) 961-8311

Agency address

101 Pauahi Street, Suite 6
Hilo, HI 96720
United States
Map It

Is there a consultant for this action?

Yes

Consultant

PBR HAWAII & Associates, Inc.

Consultant contact name

Greg Nakai

Consultant contact email

gnakai@pbrhawaii.com

Consultant contact phone

(808) 521-5631

Consultant address

1001 Bishop Street, Suite 650
Honolulu, HI 96813
United States
Map It

Action summary

The Pāpa‘aloa Park Master Plan would involve: a new covered play court facility (and its future expansion); a new community center building; a skate park; a playground; picnic pavilions; a perimeter walking path; and other park-related facilities to be determined; associated on-site and off-site infrastructure and utility improvements/modifications; replacement, improvement, and/or modification of existing park amenities and recreational features impacted by any new/required work; and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. The Phase I Development will be limited to TMK (3) 3-5-003: 088 (4.963 acres). If funding is available, demolition of one or more plantation-era structures will occur in TMK (3) 3-5-003: 035 during the Phase I Development.

Reasons supporting determination

Refer to Section 7.5 (Significance Criteria) of the FEA.

Attached documents (signed agency letter & EA/EIS)

- FEA-Papaaloa-Park-Master-Plan-2024-05-16-FOR-SUBMITTAL-TO-ERP-w-coverappendices.pdf
- Signed-Submittal-Letter-FEA-FONSI.pdf

Shapefile

- The location map for this Final EA is the same as the location map for the associated Draft EA.

Action location map

- Project_Site_shapefile.zip

Authorized individual

Greg Nakai

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT

FINAL ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT

Prepared for:
County of Hawai‘i Department of Parks and Recreation

Prepared by:
PBR HAWAII

PBR HAWAII
& ASSOCIATES, INC.

MAY 2024

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SUMMARY

Project Name:	Pāpa'aloa Park Master Plan and Phase I Development
Location:	35-1994 Old Māmalahoa Highway and an adjacent parcel [no address assigned], North Hilo, Island and County of Hawai'i (Appendix G, Figure 1, Regional Location Map)
Judicial District:	North Hilo
Tax Map Key (TMK):	(3) 3-5-003: 088 and 035 (Appendix G, Figure 2, Tax Map Keys)
Total Land Area:	11.794 acres
Proposing Agency:	County of Hawai'i Department of Parks and Recreation (DPR)
Landowner(s):	County of Hawai'i (CoH)
Existing Use:	County Park, open space, and surface parking lot
Proposed Action:	The Pāpa'aloa Park Master Plan would involve: a new covered play court facility (and its future expansion); a new community center building; a skate park; a playground; picnic pavilions; a perimeter walking path; and other park-related facilities to be determined; associated on-site and off-site infrastructure and utility improvements/modifications; replacement, improvement, and/or modification of existing park amenities and recreational features impacted by any new/required work; and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. The Phase I Development will be limited to TMK (3) 3-5-003: 088 (4.963 acres). If funding is available, demolition of one or more plantation-era structures will occur in TMK (3) 3-5-003: 035 during the Phase I Development.
Current Land Use Designations:	*State Land Use:* Urban and Conservation (Appendix G, Figure 3, State Land Use Districts). The Phase I Development will be limited to TMK (3) 3-5-003: 088 (entirely within State Land Use Urban District). *County General Plan LUPAG:* Open and Urban Expansion (Appendix G, Figure 4, County General Plan LUPAG) *Hāmākua Community Development Plan Land Use Guide Map:* Open (Appendix G, Figure 5, Hāmākua Community Development Plan Land Use Guide Map) *County Zoning:* Agricultural District (A-1a) and General Industrial District (MG-1a) (Appendix G, Figure 6, County Zoning). The Phase

	I Development will be limited to TMK (3) 3-5-003: 088 (entirely within County Zoning Agricultural District (A-1a)). Special Management Area (SMA): Entirely in SMA
Major Approvals Anticipated:	• Hawai'i Revised Statutes (HRS) Chapter 343 Environmental Assessment (EA) • Special Management Area Use Permit – Major • Plan Approval • Approved Drainage Report • Work in the County Right-of-Way Approval • Department of Water Supply Approval • Grubbing and Grading Permit • Building Permit • National Pollutant Discharge Elimination System (NPDES) Permit • Individual Wastewater System Approval
Potential Impacts and Mitigation Measures:	Little to no new negative impacts to the community and surrounding residential uses via the Phase I Development are anticipated because the proposed covered play court and related scope ultimately replace the previous gymnasium that was demolished in 2022. The Park and the gymnasium were constructed in the 1930s and the recreational uses and inventory have evolved with and served the Pāpa'aloa community ever since. Full build-out of the Master Plan will have additional impacts on the community in the way of increased traffic and noise generated at the park. However, these impacts will be significantly offset by the increased recreational, social, and community building opportunities that the Park's development and enhanced County programs and services will afford to Pāpa'aloa residents and those of neighboring towns along the Hāmākua Coast. The Park's expansion onto parcel 035 will also have a positive overall impact by supplanting the original extensive agricultural and industrial uses that it once supported. The proposed covered play court will replace the original Pāpa'aloa Gym, which was demolished in May 2022. The Pāpa'aloa Park Master Plan will have a positive benefit on area residents as they currently do not have a covered area for recreational activities. While there may be a potential for construction-related impacts to air quality, aural environment, and traffic, area businesses may enjoy increased patronage during the construction period.
Determination:	Finding of No Significant Impact

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LIST OF APPENDICES

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LIST OF ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
ADA	Americans with Disabilities Act
AFNSI	Anticipated Finding of No Significant Impact
AIS	Archaeological Inventory Survey
ALISH	Agricultural Lands of Importance to the State of Hawai'i
AMMs	Avoidance and Minimization Measures
AMSL	Above Mean Sea Level
ASM	ASM Affiliates, Inc.
ATU	Approval to Use
BMP	Best Management Practices
CDP	Community Development Plan
cfs	Cubic Feet per Second
CGG	University of Hawai'i Coastal Geology Group
CIA	Cultural Impact Assessment
CoH	County of Hawai'i
COPCs	Contaminants of Potential Concern
CWRM	State Commission on Water Resource Management
CZM	Coastal Zone Management
DA	Department of the Army
DAR	State DLNR Division of Aquatic Resources
DBEDT	State Department of Business, Economic Development, and Tourism
DCAB	State Department of Health, Disability and Communication Access Board
DHS	State Department of Human Services
DLNR	State Department of Land and Natural Resources
DOE	State Department of Education
DOFAW	State DLNR Division of Forestry and Wildlife
DOH	State Department of Health
DOT	State Department of Transportation
DPR	County Department of Parks and Recreation
DPW	County Department of Public Works
DWS	County Department of Water Supply
EA	Environmental Assessment
EIS	Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHAT	Flood Hazard Assessment Tool
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
HAR	Hawai'i Administrative Rules
HCC	Hawai'i County Code
HEER	Hazard Evaluation and Emergency Response Office (DOH)
HETF	Hawai'i Experimental Tropical Forest
HI-EMA	Hawai'i Emergency Management Agency

HRS	Hawai'i Revised Statutes
IWS	Individual Wastewater System
LOS	Level of Service
LSB	Land Study Bureau
LUC	State Land Use Commission
LUPAG	Hawai'i County General Plan Land Use Pattern Allocation Guide
MGD	Million Gallons per Day
mph	miles per hour
NGPC	Notice of General Permit Coverage
NFIP	National Flood Insurance Program
NHS	National Highway System
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
OCCL	State Office of Conservation and Coastal Lands
OHA	Office of Hawaiian Affairs
OHCD	County Office of Housing and Community Development
OPSD	State Office of Planning and Sustainable Development
PRVs	Pressure Reducing Valves
RLS	Reconnaissance Level Survey
ROW	rights-of-way
SAP	Sampling and Analysis Plan
SFP	State Functional Plan
SHPD	State Historic Preservation Division (DLNR)
SIHP	State Inventory of Historic Places
SLR	Sea Level Rise
SLR-XA	Sea Level Rise Exposure Area
SMA	Special Management Area
SR	State Route
SY	Sustainable Yield
TGM	Technical Guidance Manual
TMK	Tax Map Key
UHERO	University of Hawai'i, Economic Research Organization
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
vog	volcanic gases
WOTUS	Water of the U.S.

1.0 INTRODUCTION

Preparation of this document is in accordance with the provisions of Chapter 343, HRS (2007) and Title 11, Chapter 200.1, Hawai'i Administrative Rules (HAR) pertaining to Environmental Impact Statements. Section 343-5, HRS established nine "triggers" that require either an EA or an Environmental Impact Statement (EIS). The use of State or County lands or funds for the proposed County Park improvements requires the preparation of an EA. There are no other "triggers" applicable to the Pāpa'aloa Park Master Plan. Although it is partially located within the State Land Use Conservation District (Appendix G, Figure 3), the Project does not currently propose any development within land classified as the Conservation District by the State Land Use Commission (LUC) under Chapter 205, HRS or propose any use within a shoreline area as defined in section 205A-41.

1.1 LANDOWNER

The County of Hawai'i (CoH) is the landowner for TMKs (3) 3-5-003: 035 and 088 (Appendix G, Figure 2).

1.2 PROPOSING AGENCY

The County of Hawai'i Department of Parks and Recreation (DPR) is the proposing agency.

Contact: Kevin Sakai
Parks Projects Manager
County of Hawai'i
Department of Parks and Recreation
101 Pauahi Street, #6
Hilo, HI 96720
Phone: (808) 961-8311

1.3 ENVIRONMENTAL CONSULTANT

The environmental planning consultant is PBR HAWAII & Associates, Inc.

Contact: Greg Nakai
Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813
Telephone: (808) 521-5631

1.4 STUDIES CONTRIBUTING TO THIS EA

The information contained in this report has been developed from site visits, generally available information regarding the characteristics of the site and surrounding areas, and technical studies. Technical studies are provided as appendices to this EA. These studies include:

1. Traffic Impact Analysis Report
2. Archaeological Report (Archaeological Inventory Survey)
3. Cultural Impact Assessment
4. Biological Survey (Natural Resources Assessment)

Additional studies to inform the design and construction of the Project are currently in progress and are not included in this EA. These studies include an Environmental Survey and a Geotechnical (Soils) Survey.

2.0 PROJECT DESCRIPTION

This section provides background information and a general description of the proposed Pāpa'aloa Park Master Plan and Phase I Development project ("Project").

2.1 BACKGROUND INFORMATION

2.1.1 Location and Description of Environmental Setting

The Pāpa'aloa Park is located at 35-1994 Old Māmalahoa Highway and an adjacent parcel [no address assigned], North Hilo, Island and County of Hawai'i (Appendix G, Figure 1). The Project site currently consists of two parcels, which are identified as TMKs (3) 3-5-003: 088 and 035, respectively (Appendix G, Figure 2), consisting of a total of 11.794 acres. Parcel 088 is not a shoreline parcel (because it is separated from the ocean by TMK parcels 035 and 065) (Appendix G, Figure 2). The Project site is currently used as a park and open space (Appendix G, Figure 7, Aerial Map, and Figure 8, Site Photos).

Pāpa'aloa Park consists of two distinct areas: a well-maintained park facility with a playing field, community annex building, and tennis/pickleball courts covering a little more than one-third of the site (TMK: [3] 3-5-003:088); and areas undeveloped or once supporting light industrial use in the distant past and now overgrown with vegetation (TMK: [3] 3-5-003:035). The undeveloped parts of the property include a grass-covered swale and a forested border along the seaward side of the property where the developed park drops abruptly to a forested shelf that broadens westward into the area of old industrial buildings. The Phase I Development will be limited to TMK: [3] 3-5-003:088 (which is not a shoreline parcel). If financially feasible, demolition of one or more derelict plantation-era structures will occur in TMK (3) 3-5-003:035 during the Phase I Development.

2.1.2 Background

In 2020, the Park and Gym were temporarily closed for construction and renovations to get the Park in compliance with the standards set by the Americans with Disabilities Act (ADA). In the fall of 2021, it was determined that the Gym was unsalvageable due to extensive deterioration attributable to insect damage, dry and wet wood rot, and general maintenance needs that went unserved for numerous years. Further, the presence of hazardous building materials in the form of lead paint, arsenic, and asbestos exacerbated scope and costs of necessary repairs. The Gym was subsequently demolished in 2022.

From the moment the DPR informed the Pāpa'aloa community of the need to raze the gymnasium, community members coalesced and began advocating and targeting funding for a replacement facility to serve their community. These community members were essential in

securing funds for the Project. In March 2023, the CoH secured $5 million in State funding for the Project with the approval of the Governor. The Mayor and Hawai'i County Council matched that with $5 million in County funding, bringing the total for the Project's planning, design, and construction to $10 million.

2.1.3 Surrounding Land Uses and Ownership

The Project site is located in Pāpa'aloa, a former sugar plantation town along the Hāmākua coast on Hawai'i Island (Appendix G, Figure 1). This rural, coastal community is located approximately 22 miles northwest of Hilo, and 20 miles southeast of Honoka'a. Mauka areas are in the State Agricultural Land Use District and contain large agricultural lots and plantation era houses. Makai areas are zoned for Urban and Conservation uses. Large expanses of open space and overgrown vegetation dominate the area, which is visually apparent along Hawai'i Belt Road, the main road traversing the Pāpa'aloa neighborhood. Other side roads in Pāpa'aloa are mostly paved, one or two-lane roads. Overhead electricity and telephone lines run throughout the Pāpa'aloa neighborhood, and the Park and nearby homes have municipal water service. In addition, the Park supports those community members that rely on catchment via provision of the on-site water-filling stations. There are open lots in the vicinity available to build custom homes, and houses are frequently one-story plantation-style residences with large yards, some featuring separate "ohana" dwellings.

The Project site is bounded to the east by single-family homes located along Kekoa Camp Loop (Appendix G, Figure 7). The Project site is bounded to the south by Old Māmalahoa Highway, across which are the Pāpa'aloa Elderly Housing complex (an independent living complex for income-qualified seniors) as well as single-family residences. To the west of the Project site are the former Pāpa'aloa Hongwanji Mission and Kaiwilahilahi Stream, beyond which are the Pāpa'aloa Country Store & Cafe, a U.S. Post Office location, and single-family homes. To the north of the developed portion of Pāpa'aloa Park (parcel 088) are portions of parcels 035 and 065, beyond which is the Pacific Ocean.

2.2 PROJECT OBJECTIVES

The objective of the proposed action is to develop a master plan for Pāpa'aloa Park that identifies and best addresses the current and long-term recreational needs of the community, including the replacement of the demolished gym with a covered play court, while minimizing disruptions to current Park operations to the extent possible.

2.3 PROPOSED IMPROVEMENTS TO PĀPA'ALOA PARK

2.3.1 Existing Facilities

The existing facilities of Pāpa'aloa Park include: one baseball/softball field (with backstop, storage shed, scoreboard, covered dugouts and small bleachers), archery area, two lighted tennis/pickleball courts and a water fountain, the Annex Building (including an office, recreation room, meeting room, kitchen, utility room, and restrooms), a fenced lawn next to the Annex Building, driveway and parking, walkways, and a community water source ("Wai Puna").

2.3.2 Proposed Pāpa'aloa Park Master Plan

Depending on the availability of funding, future facilities at the Park may include: a new covered play court facility and its future expansion; a community center; a skate park; a playground; picnic pavilions; a perimeter walking path; and other park-related facilities to be determined; associated on-site and off-site infrastructure and utility improvements/modifications; replacement, improvement, and/or modification of existing park amenities and recreational features impacted by any new/required work; and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. Refer to Appendix G, Figure 9, Master Plan.

During the Draft EA public review period, Dave Molenaar wrote:

> *"These comments are in regard to the kids playground, which in the last drawing shared, by your department and PBR Hawaii, showed the proposed location in the middle of the now grassy fenced in area where the old gym was located.*
>
> *This proposed location in the Master Plan is supported by many members of the community as it's already fenced, plus there is easy access to the existing bathrooms located in the Annex Building.*
>
> *What I would like to suggest in the layout design is to keep open a small grassy area, about the size of two 20 ft by 20 ft tents, on the Honokaa side, which could be used as a location to set-up a couple of 20 ft by 20 ft tents, with portable tables and chairs, to celebrate kids birthday parties, etc.*
>
> *In addition, it would be good to include in the design a canvas type of roof covering over the playground itself, if possible. This would help keep the playground dry, plus it would help stop the slide, and other sections of the playground, from becoming burning hot on a warm sunny day.*

The other input is, besides the kids playground, this area should also include a few benches for adults to sit on while watching the kids play. In addition, perhaps a couple of permanent picnic tables could be set-up on the parking lot side (Hilo side) of the grassy area…

Also, if there is any money left after the gym is built, I would like to suggest that the next priority should be the kids playground. This would be the easiest to achieve and most impactful to the local community members that have young children." (See Appendix H)

Mr. Molenaar also provided comments on picnic pavilions proposed in future phases of the park expansion, as well as suggestions for the restrooms and wastewater system (see Appendix H).

Possible improvements that would be required to connect new and existing features of the Park include:

1. New accessible pathways as required to comply with current ADA regulations and provide additional non-accessible routes where convenience of park users is desirable and ensure connectivity between new and existing park features and elements.
2. The Pāpa'aloa Park Master Plan will include nighttime site lighting adequate to safely move park users to and from the new covered play court, parking lot, new park features, and existing park elements. Lighting will be LED type and provided with controls that utilize a combination of timer and photo-sensor accessed by DPR staff only. The Project will also include adequate nighttime security lighting as directed by DPR.
3. The Project will be designed to provide sufficient maintenance access to all facilities and open spaces as necessary for mowing and tree trimming, as well as plumbing, electrical, painting maintenance and building repairs.
4. Landscaping will primarily consist of shade trees, whereas ground covers, hedges and shrubs are not desired unless provided for a specific purpose as approved by DPR. Planters will generally be lawn grass or ground treatment of an approved type. Landscaping may be used to effectively mitigate baseball field impacts, as appropriate.
5. Utilities: Improvements to water, sewer, power, data, fiber, etc. services as necessary for the Project and future uses of the park. Required utilities that do not have an appropriate means of off-site connection that can be provided onsite (such as gas, wastewater, etc.) will be accommodated by other appropriate means.
6. Perimeter controls: Fencing will be provided around the perimeter of the Park where: 1) the Park adjoins existing, developed private property; 2) the Park fronts public roadways; 3) where conditions exist or are created that pose a potential safety concern for the public/staff; and/or 4) specific areas within the park that require special controls.

Fences will be commercial grade, four- or six-foot-high chain link fence or other appropriate materials/systems/heights. Gates will be provided in the interior and at all driveway and walkway connections to public rights-of-way (ROW), and as required to control access for maintenance vehicles and equipment only. Driveways will be designed so they may be secured as necessary to control park access during open/closed periods. Where fencing is determined inappropriate or is redundant or undesirable, other design techniques will be utilized to secure the perimeter of the Park as well as specific areas within, from unauthorized/undesired vehicular access.

2.3.3 Phase I Development

As shown on Appendix G, Figure 9A (Phase I Development), the initial phase of implementing the Park Master Plan is to develop a new covered play court facility intended to support indoor court sports, a multitude of recreational programs and activities, and various community functions. The proposed covered play court will include integrated restroom facilities, a storage room, a custodial closet, and other functional rooms as determined necessary during the design development process.

2.4 PROJECT COST AND IMPLEMENTATION TIMEFRAME

The total estimated cost for Phase I improvements is $10 million for planning, design, and construction. Construction of the proposed improvements is estimated to start in 2025 and be completed in 2027. However, the Park will be in (limited) operation during the construction period.

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3.0 DESCRIPTION OF THE NATURAL ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the physical or natural environment, potential impacts of the proposed Pāpa'aloa Park Master Plan and Phase I Development Project to the environment, and mitigation measures to minimize impacts.

3.1 CLIMATE

According to Weather Spark, the average monthly low temperatures in Pepe'ekeo (the closest location to Pāpa'aloa Park with climate data) range from 63 to 69 degrees Fahrenheit, while the average monthly high temperatures range from 78 to 82 degrees Fahrenheit, with the coolest temperatures occurring in January and February and the warmest month occurring in September. On average, Pepe'ekeo experiences the lowest amount of rainfall (averaging 1.8 inches) in June while the maximum average precipitation occurs in April (approximately 6.8 inches). The predominant average hourly wind direction in Pepe'ekeo is from the east throughout the year. The average mean hourly wind speeds ranges from 10.5 miles per hour (mph) in January to 12.9 mph in April.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Implementation of the Pāpa'aloa Park Master Plan will have an insignificant impact on the climate of the Pāpa'aloa neighborhood, on both a short-term and long-term basis. The design process for the covered play court will consider and address the effects of solar heat gain and exposure of the building envelope. The proposed covered play court orientation and form will be studied to optimize for trade winds and control solar heat gain while allowing for natural daylighting and natural ventilation. The covered play court design and the site design will work in conjunction to help reduce overall thermal heat gain. The play court design should consider: light colored reflective surfaces, insulation, sun shading devices, high-performance glazing (where necessary), and other design strategies/technologies that could help to reduce the thermal loading on the sides of the future building. The covered play court will also be oriented and designed to protect its interior spaces from windblown rain.

3.2 GEOLOGY AND TOPOGRAPHY

Hawai'i Island was formed by five volcanoes – Kohala, Hualālai, Mauna Kea, Mauna Loa, and Kīlauea, and only Mauna Loa and Kīlauea are presently considered active. The other three are considered dormant. There is also a young volcano, Lō'ihi Seamount, located 35 miles directly south of Kīlauea and 25 miles off of the coast below sea level.

The Project site is located on the slope of Mauna Kea; and there is a distance of approximately 19 miles that separates the Park and the summit of Mauna Kea.

Elevations across the Project site range from approximately 300 feet above mean sea level (AMSL) to mean sea level. Since a large portion of the makai boundary of the Project site lies below a cliff (specifically the makai portion of the parcel identified as TMK (3) 3-5-003: 035), the lowest "usable" portion of the Project site above the cliff is at elevation 231 feet AMSL, with slopes ranging from generally flat to 12.5 percent for the remainder of the Property above the cliff (Appendix G, Figure 10, Topography).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Implementation of the Pāpa'aloa Park Master Plan will have an insignificant impact on the geology and topography of the Project site. Any grading of the site will be in conformance with the Hawai'i County Grading Ordinance. To minimize potential impacts, exposed areas will be immediately grassed or landscaped, in compliance with Chapter 10 (Erosion and Sedimentation Control) of the Hawai'i County Code (HCC).

A NPDES permit will be required since the Pāpa'aloa Park Master Plan will involve the demolition, construction and staging areas that will result in the disturbance of over one acre of land area. Best Management Practices (BMP) will be implemented to prevent pollution and protect the environment. If required, each phase of implementation will have an erosion and sedimentation control plan prepared to address all construction activities.

The grading will follow BMP as described in the NPDES Permit. The contractor will submit a site-specific construction BMP Plan to the State Department of Health (DOH) before grading commences. There will be no long term, direct, indirect, or cumulative impacts on the geology and topography of the Project site or Pāpa'aloa neighborhood as a result of implementing the Pāpa'aloa Park Master Plan.

3.3 SOILS

There are three soil suitability studies prepared for lands in Hawai'i whose principal focus has been to describe the physical attributes of land and the relative productivity of different land types for agricultural production; these are: 1) the U.S. Department of Agriculture Natural Resource Conservation Services (NRCS) Soil Survey; 2) the University of Hawai'i Land Study Bureau (LSB) Detailed Land Classification; and 3) the Hawai'i State Department of Agriculture's Agricultural Lands of Importance to the State of Hawai'i (ALISH) system. According to all of these studies, the Project site has poor suitability for agriculture.

3.3.1 Natural Resource Conservation Service Soil Survey

The *Natural Resource Conservation Service, Soil Survey for the Island of Hawaii* (Appendix G, Figure 11, USDA NRCS Soil Survey), classifies the soil underlying the Project Site as Ookala medial silty clay loam, 10 to 20 percent slopes (952). This soil occupies the coastal areas on the windward side of Mauna Kea. Permeability is moderately rapid, runoff is medium, and the erosion hazard is moderate. Capability classification is iVe, nonirrigated. Class IV soils have very severe limitations that restrict the choice of plants or require very careful management, or both. Subclass e is made up of soils for which the susceptibility to erosion is the dominant problem or hazard affecting their use.

3.3.2 LSB Detailed Land Classification

The University of Hawai'i Land Study Bureau (LSB) document, *Detailed Land Classification, Island of Hawaii***,** classifies soils based on a productivity rating. Letters indicate class of productivity with A representing the highest class and E the lowest. Most of the Project site has soils that are unclassified by the LSB, however, a small portion of TMK (3) 3-5-003: 035 is classified as class E, the lowest level of soil productivity (Appendix G, Figure 12, LSB Detailed Land Classifications).

3.3.3 Agricultural Lands of Importance to the State of Hawai'i

The Agricultural Lands of Importance to the State of Hawai'i (ALISH) system classifies important agricultural lands as Prime, Unique, or Other Agricultural Land. The ALISH classification system does not identify the land within the Project site as suitable agricultural land.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Implementation of the Pāpa'aloa Park Master Plan will not reduce the inventory of agriculturally significant land on either TMK (3) 3-5-003: 035 or 088. The soils on the Project site have a NRCS capability classification of iVe, meaning the soils have very severe limitations that restrict the choice of plants, require very careful management, or both. The soils of the Project site are either not classified or are classified as class E (the lowest level of soil productivity) by the LSB classification system. Also, the entire Project Site is unclassified under the ALISH system, indicating that the Project Site is not agriculturally significant. There will be no short-term, long-term, direct, indirect, or cumulative impacts to the agricultural potential of the soils underlying the Project site.

During the Draft EA public review period, the County Department of Public Works (DPW) wrote:

> *"All activities shall comply with the requirements of Hawaii County Code (HCC), Chapter 10, Erosion and Sedimentary Control."* (See Appendix H)

Impacts to the soils of the Site include the potential for soil erosion and the generation of dust during grading and construction, although the NRCS rates Ookala medial silty clay loam, 10 to 20 percent slopes (952), as presenting "moderate" erosion hazards. All construction activities will comply with all applicable Federal, State, and County regulations and rules for erosion control. As typically required for projects on land greater than one acre in size, an NPDES Notice of General Permit Coverage (NGPC) for Storm Water Associated with Construction Activity will be necessary.

To minimize potential impacts, necessary grading will be segmented, and exposed areas will be immediately grassed or landscaped before commencement of grading in the next phase, in compliance with the Chapter 10 (Erosion and Sedimentation Control) of the HCC.

3.4 HYDROLOGY

The State Commission on Water Resource Management (CWRM) established an aquifer coding system to characterize groundwater resources in Hawai'i. Based on the CWRM's coding system, the Project Site overlies the Hakalau Aquifer System of the East Mauna Kea Aquifer Sector. The system extends to the north and east from the summit of Mauna Kea and is generally bound to the north by the Kohala Mountain. The sustainable yield of the Hakalau Aquifer is 150 million gallons per day (MGD). Sustainable yield is the amount of groundwater that can be pumped without depleting the source.

The Hawai'i County's Water Use and Development Plan Update summarized the County's General Plan Land Use Pattern Allocation Guide (LUPAG), Zoning and 5-year incremental water demand projection scenarios for the total aquifer sector area and the individual aquifer system areas. The sustainable yield (SY) was presented to draw comparisons. According to the Water Use and Development Plan Update; "For all aquifer system areas, full build-out water demands excluding agricultural demands are considerably less than the SY, and the 2025 demand projection excluding agricultural demand is less than one-tenth the SY."

During the Draft EA Public Review process, the U.S. Army Corps of Engineers wrote:

> *"The US Army Corps of Engineers (Corps) received your request for comments on the proposed Papa'aloa Park Master Plan and Phase I Development Project.*
>
> *The Corps' regulatory authorities are based on Section 10 of the Rivers and Harbors Act (RHA) of 1899 and Section 404 of the Clean Water Act. Section 10 of the RHA of 1899 prohibits the obstruction or alteration of any navigable water of the U.S. (WOTUS) without a Department of the Army (DA) permit. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into WOTUS without a DA permit. For projects that are being developed, we ask that you identify areas that may fall within the Corps jurisdiction as WOTUS such as streams, rivers, and wetlands…*

A permit is not required if all work being done is located in uplands." (See Appendix H)

According to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (Appendix G, Figure 16), there are no surface water or wetlands on the Project site (USFWS, 2022). The closest wetland, a "Riverine" habitat (Kaiwilahilahi Stream) is separated from the Park by the former Pāpa'aloa Hongwanji site (now owned by Kamehameha Schools and has been vacant since the Hongwanji vacated the premises January 19, 2022). The closest wetland to the southeast is another riverine habitat (Ha'akoa Stream), which is separated from the Park by the Kekoa Camp Loop "subdivision."

POTENTIAL IMPACTS AND MITIGATION MEASURES

Implementation of the Park Master Plan is not anticipated to have any significant adverse impact on groundwater resources. The proposed wastewater system (on either TMK (3) 3-5-003: 035 or 088) will be an approved septic system with leach fields. Potable water will be supplied by the County Department of Water Supply (DWS), which draws water from a network of groundwater wells. Section 4.7 (Water System) of this EA provides further information regarding anticipated water demands and water system improvements.

The Project will use drywells to dispose of the additional runoff generated by the impervious surfaces of the Project.

The Project is not anticipated to have a short-term, long-term, direct, indirect, or cumulative impact on surface water resources, including those shown on the National Wetland Inventory as the proposed Project will be located upland of Kaiwilahilahi and Ha'akoa Streams, and the Pacific Ocean (Appendix G, Figure 16).

Construction-related water quality impacts will be mitigated by complying with the requirements of the NPDES permit. Mitigation measures that may be implemented include phasing grading activities, installing silt fences and other structural controls, directing runoff to retention/detention basins, and installing temporary groundcover. Section 4.7 of this EA includes further information regarding the drainage improvements.

3.5 MARINE WATERS

During the pre-Assessment consultation process, the State Office of Planning and Sustainable Development (OPSD) wrote:

"Pursuant to Hawai'i Administrative Rules (HAR) § 11-200.1-18(d)(7) – identification and analysis of impacts and alternatives considered; to ensure that nearshore marine resources along the coastal areas of the project area remain protected, the negative effects of stormwater inundation and sediment loading surrounding the proposed project

site, ensuing from park improvements during the construction and operational phase should be evaluated.

Issues that may be examined include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, vulnerability of the nearshore environment any increase in volume or flow rate of stormwater runoff. Developing mitigation measures for the protection for surface water resources and the coastal ecosystem should take this into account, pursuant to HAR § 11-200.1-18(d)(8)." (See Appendix A)

On the oceanside of the Project site, the distance between the cliff to the shoreline varies, but is approximately 150 feet laterally, and a minimum of 230 feet vertically. Nearshore marine waters off the coast of Pāpa'aloa are classified as "A" by the DOH. According to DOH Water Quality Standards, "It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new sewage discharges shall be permitted within embayments. No new industrial discharges shall be permitted within embayments…" (HAR §11-54-03(c)(2)).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Assuming development of proposed park facilities will be setback from the cliff edge by a minimum of 40 feet of open space, there is adequate space to mitigate silt runoff towards the ocean. Direct discharge of stormwater runoff into marine waters during or after construction is not expected due to the distance of the Project Site from the coast and "moderately rapid" permeability of soils underlying the Project site. Compliance with NPDES permit requirements would mitigate the Project generating any contribution to the region's cumulative nonpoint source pollution. As a result, implementation of the Pāpa'aloa Park Master Plan will result in no short-term, long-term, direct, indirect, or cumulative impacts on marine waters.

3.6 NATURAL HAZARDS

According to the *County of Hawai'i Multi-Hazard Mitigation Plan* (2020), Hawai'i is susceptible to potential natural hazards, such as flooding, tsunami inundation, hurricanes, volcanic hazards, earthquakes, and wildfires. This section provides an analysis of the Project site's vulnerability to such hazards, as well as to climate change and sea level rise.

The State of Hawai'i Department of Defense, Hawai'i Emergency Management Agency (HI-EMA) operates a system of civil defense sirens throughout the State to alert the public of emergencies and natural hazards, particularly tsunamis and hurricanes. The closest siren to the Project Site is

HA201, located at the intersection of Māmalahoa Highway (Hawai'i Belt Road) and Pū'alaea Place in Laupāhoehoe, approximately 1.5 miles northwest of the Project, but according to park staff, the siren is inaudible at the Park.

The County of Hawai'i utilizes an Emergency Notification System called Blackboard Connect. This system allows subscribers to receive timely notifications about emergency situations in the County of Hawai'i. This system is voluntary, although everyone is encouraged to sign up so that they can be notified in case of an emergency.

3.6.1 Flood

During the pre-Assessment consultation process, the State Department of Land and Natural Resources (DLNR) Engineering Division wrote:

> *"The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood zones subject to NFIP requirements are identified on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (fhat.hawaii.gov) could also be used to research flood hazard information."* (See Appendix A)

During the Draft EA public review period, the DPW wrote:

> *"The subject parcel is in an area designated as Zone X on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA). Zone X is an area determined to be outside the 500-year floodplain."* (Appendix H)

The flood zone designation is shown on FIRM Panel 1551660450, prepared by FEMA, National Flood Insurance Program (NFIP). The Project site is in Zone X, or areas determined to be outside the 0.2% annual chance of floodplain (Appendix G, Figure 13, Flood Insurance Rate Map).

3.6.2 Tsunami

Twenty-five of the tsunamis recorded since 1812 had an adverse impact on the Island of Hawai'i; seven caused major damage and three were generated locally. According to the *County of Hawai'i Multi-Hazard Mitigation Plan,* locally generated tsunamis are most frequent along the south coast, and the probability of impacts to the Ka'ū and Puna districts are higher than in other areas. The 1946, 1960, and 1975 tsunamis generated waves that caused localized inundation and damage in the district of Ka'ū, east of Ka Lae, South Point and also in Halapē. The 1946 and 1960 tsunamis caused extensive damage and casualties in Hilo. During the Draft EA public review period, Lucille Chung wrote:

> *"Laupahoehoe School was impacted by the 1946 Tsunami with the loss of 24 lives, the teachers' cottages and several buildings on the park level of the school. The main "U" shaped campus that consisted of the classrooms, administrative offices and the cafeteria remained intact allowing for classes to continue until September 1952, when the new school was completed and opened. It continues in this capacity to this day as the Laupahoehoe Community/Public Charter School.*
>
> *A few years later, the buildings at the school at Laupahoehoe Point was auctioned off and removed. The area is now a public park belonging to the County of Hawaii."* (Appendix H)

The most recent tsunami impacting Hawai'i Island, which occurred on March 11, 2011, caused property damage at several locations on the Kona coast.

According to the HI-EMA, the Project site is not in a tsunami evacuation zone (Hawaii S. o., 2022).

3.6.3 Hurricane

Since 1980, two hurricanes have had a devastating effect on Hawai'i. They were Hurricane 'Iwa in 1982 and Hurricane 'Iniki in 1992. In 2018 Hurricane Lane slowly approached the islands from the southeast, peaking as a powerful Category 5 hurricane (one of only two recorded within 350 miles of the state), prompting the issuance of hurricane watches and warnings for every island in Hawai'i and becoming the first major threat to the state since Hurricane 'Iniki. Lane weakened significantly as it moved towards the islands, however its outer rainbands caused severe mudslides and flash flooding especially on the Island of Hawai'i, where a maximum of 52.02 inches of rain was recorded at Mountain View, Hawai'i, on August 27, 2018.

While it is difficult to predict such natural occurrences, it is reasonable to assume that future incidents are likely, given historical events. Several studies sponsored by the NASA Office of Earth Science have developed new models for estimating the probability of hurricanes in the Pacific. The models indicate that the island has a long-term hurricane hazard higher than any of the other islands.

According to the National Storm Surge Hazard Map, the Project site is not impacted by a storm surge even during a Category 4 hurricane event (NOAA, 2022).

3.6.4 Volcanic Hazards

Volcanic hazards include lava flows, emission of volcanic gases (vog), and volcanic tephra.

Lava Flows

The volcanic hazard zone map for Hawai'i Island divides the island into zones ranked from one through nine, with one being the area of greatest hazard and nine being the area of least hazard. The zones are based essentially on the location and frequency of both historic and prehistoric

eruptions. According to this map, the Project site is located within Zone 8 (Appendix G, Figure 14, Lava Flow Hazard Zones), meaning "Only a few percent of this area has been covered by lava in the past 10,000 years" (USGS, 1997). It would appear that the Pāpa'aloa Park has a low probability of being impacted by lava flows.

Vog

Volcanic gases (vog) are emitted during all types of eruptions. Gases also can be released during repose periods by inactive eruptive vents and by fumaroles, vents that may never have produced any lava. Any hazard posed by volcanic gases is greatest immediately downwind from active vents; the concentration of the gases quickly diminishes as the gases mix with air and are carried by winds away from the source. Brief exposure to gases near vents generally does not harm healthy people, but it can endanger those with heart and respiratory ailments, such as chronic asthma (USGS, 1997). The Project is upwind of both Mauna Loa and the Kīlauea Southwest Rift Zone.

Volcanic Tephra

Most volcanic eruptions produce fragments of lava that are airborne for at least a short time before being deposited on the ground. These fragments are called "tephra," and include ash, cinders, and Pele's hair (thin strands of volcanic glass). In Hawai'i, tephra is usually ejected by lava fountains and poses a serious hazard only in the immediate vicinity of an erupting vent. Windborne tephra, however, can be disruptive at greater distances. The combination of high lava fountains and strong winds may result in tephra being carried many miles downwind of the eruption site. During lava fountaining episodes at Pu'u 'Ō'ō from 1984 to 1986, the prevailing trade winds deposited most of the tephra in remote areas of Hawai'i Volcanoes National Park, but small particles reached the town of Nā'ālehu, 39 miles away. During the same episodes, Kona winds (from the southwest) occasionally carried tephra to Hilo, 22 miles from the vent (USGS, 1997).

The small amount of tephra that fell on inhabited areas was not harmful to most people, but it was a source of irritation to those with respiratory problems and an inconvenience to the many residents with rainwater catchment systems. Following at least three high-fountaining episodes, Hawai'i County Civil Defense recommended that people disconnect and clean their rain-water catchment systems to prevent the particles from washing into their water supply (USGS, 1997).

3.6.5 Earthquake

In Hawai'i, most earthquakes are linked to volcanic activity, unlike other areas where a shift in tectonic plates is the cause of an earthquake. Each year, thousands of earthquakes occur in

Hawai'i, the vast majority of which are so small they are detectable only with highly sensitive instruments. However, moderate, and disastrous earthquakes have occurred in the islands.

Since 1868, nine disastrous earthquakes have occurred in Hawai'i County. The largest earthquake series occurred between March 27 and April 2, 1868, with an epicenter a few miles north of Pāhala in the district of Ka'ū. It is estimated that the magnitude of these earthquakes was 7.1 and 7.9. These earthquakes resulted in 77 deaths (46 from tsunami and 31 from landslides triggered by the earthquake). In 1929, an earthquake with an epicenter in Hualālai and a magnitude of 6.5 resulted in extensive damage. Another earthquake in 1951, with its epicenter in the Kona area and a magnitude of 6.9 also resulted in extensive damage. On November 29, 1975, a magnitude 7.7 earthquake off the coast of Hawai'i Island caused extensive ground cracking and subsidence; in one area, the coast permanently subsided over 11 feet. The 1975 quake triggered a near-field tsunami, with waves up to nearly 26 feet in the area of Halapē, killing two campers at Halapē Beach Park. The earthquake and tsunami caused an estimated $17.1 million in property damage. On November 16, 1983, a magnitude 6.7 earthquake with an epicenter located at Ka'ōiki (approximately 30 miles southeast of Hilo) caused widespread damage and landslides across the island, resulting in six deaths. A series of earthquakes, with magnitudes of 6.7 and 6.0, occurred at Kīholo Bay on October 15, 2006. These earthquakes resulted in more than $100 million in damages to the northwest area of the island (USGS, 2006). On May 4, 2018, an earthquake with a magnitude of 6.9 was registered south southwest of Leilani Estates (USGS, 2022).

3.6.6 Climate Change & Sea Level Rise

As global temperatures increase, established patterns of weather and climate are shifting. These erratic changes in weather patterns have increased the severity of events like droughts, storms, floods, and even hurricanes, while at the same time causing these events to be more difficult to predict and protect against. The fragility of the ecosystems and unique island nature of Hawai'i Island and the Hawaiian Islands at-large makes the State particularly vulnerable to the damaging effects of climate change. Global sea levels are on the rise and have the potential to erode and even inundate coastal areas over the course of the next century.

During the pre-Assessment consultation process, OPSD wrote:

> *"Pursuant to HAR § 11-200.1-13(b)(11) Significance Criteria, the Draft EA should evaluate the project area location in relation to environmentally sensitive regions such as SLR exposure areas. Due to the limited information provided, we are unable to determine if the Park Master Plan site has vulnerability to coastal inundation and SLR impacts. We suggest the Draft EA refer to the findings of the Hawai'i Sea Level Rise Vulnerability and Adaptation Report 2017, accepted by the Hawai'i Climate Change Mitigation and Adaptation Commission…*

The Draft EA should provide a map of 3.2-foot SLR exposure area in relation to the project area, and consider site-specific mitigation measures, including setbacks from the shoreline or relocation options further inland, increasing the height of the support facilities to accommodate higher water levels, or various climate change adaptation strategies to respond to impacts of 3.2-foot SLR or greater." (See Appendix A)

The *Hawai'i Sea Level Rise Vulnerability and Adaptation Report* issued by the State of Hawai'i in December 2017 includes scientific modeling of sea level rise (SLR) impacts such as a 3.2-foot Sea Level Rise Exposure Area (SLR-XA) as modeled by the University of Hawai'i Coastal Geology Group (CGG) and the 6-foot SLR line as modeled by the National Oceanic and Atmospheric Administration (NOAA) Digital Coast Sea Level Rise Viewer (PacIOOS, 2022). As the Project site is above elevation 230 feet AMSL, it is unlikely that it would be impacted by a SLR of 3.2 feet (refer to Appendix G, Figure 15, Sea Level Rise).

3.6.7 Wildfires

Approximately 70 to 80 wildfires occur annually in Hawai'i County. Droughts increase the vulnerability to wildfires. According to U.S. Drought Monitor website, as of this writing, the Project site is located within an area designated as D1 (Moderate Drought) (Center, 2022). The Drought Monitor designates areas ranging from None (No Drought) to D4 (Exceptional Drought).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Implementation of the Pāpa'aloa Park Master Plan (whether implemented on either TMK (3) 3-5-003: 035 or 088) is not anticipated to have any impact or any deleterious effects on natural hazard conditions and no unique mitigation measures are planned, other than observing the International Building Code in the design of future facilities (to address the potential impacts from hurricanes and earthquakes).

The Project is located not only inland of the 3.2-foot SLR-XA as modeled by the University of Hawai'i CGG, but also inland of the 6-foot SLR line as modeled by the NOAA Digital Coast Sea Level Rise Viewer. The Pāpa'aloa Park's location above the 230-foot elevation protects the Park from potential impacts of SLR.

For users of the Project during an emergency event, notices from "Blackboard Connect" and the proximity of an emergency shelter at Laupāhoehoe Community Public Charter School ensures that immediate evacuation to a nearby shelter is possible.

During the pre-Assessment consultation process and the Draft EA public review period, the State Department of Defense wrote that it *"has no comments to offer relative to the project at this time"* (see Appendix A and Appendix H).

3.7 BOTANICAL RESOURCES

During the pre-Assessment consultation period, the DLNR Division of Forestry and Wildlife (DOFAW) wrote: *"We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts"* (see Appendix A). In anticipation of DOFAW's comment, AECOS, Inc. was contracted to undertake a natural resources assessment (including a botanical survey) of the subject properties (Appendix C).

The vegetation on the site is quite variable. The developed park is landscaped and dominated by a lawn used as a playing field. Trees surround this area in an arc that extends from Skill Camp Road (Old Māmalahoa Highway) behind the tennis/pickle ball courts to the far northeast end of the playing field, growing along the top of a steep slope. Below the slope on the west is an area of abandoned industrial-type buildings reached through a gate on the north edge of the property. The former industrial site is overgrown although paved roads connecting the buildings are open. A swale within this area is overgrown with mostly large grasses. The northwest corner of the property encompasses an area in landscaping (mostly in lawn), presumably for or by the adjacent property.

A listing of plants recorded during the October 2023 survey shows 105 species observed as occurring in the survey area. Six (6%) are indigenous native species: two "ferns", *pala'ā* (*Sphenomeris chinensis*) and *moa* (a fern ally, *Psilotum nudum*); and four flowering plants: sedge (*Cyperus polystachyos),* a grass, *mānienie* (*Chrysopogon aciculatus*), *hala* (*Pandanus tectorius*), and *milo* tree (*Thespesia populnea*). Early Polynesian introductions listed number three (3%): *niu* (*Cocos nucifera*), *kī* (*Cordyline fruticosa*), and *mai'a* (*Musa acuminata*). Thirteen (12%) are regarded as ornamentals, these mostly as plantings within the park or along the hillside at the far south end of the park lawn. The remaining eighty-three (79%) are introduced and naturalized plants (non-natives growing wild).

Although scattered and sparse occurrences of native flora are present within the Project area, these plants are all common species, and most members of their respective populations are likely more numerous outside of the survey area. No plants proposed or listed as threatened or endangered species as set forth in the Endangered Species Act of 1973 were seen in the project area.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impacts are anticipated to rare, threatened, or endangered flora species. Implementation of the Pāpa'aloa Park Master Plan will involve changes and/or improvements to

existing facilities and paved, landscaped, and undeveloped areas within the Park properties, which is not known to attract or provide a habitat for any state or federally listed plant species.

It is proposed that some trees may be removed to enhance vistas of the ocean for park users. Some ground disturbance will be necessary for construction and new landscaping related to the implementation of the Pāpa'aloa Park Master Plan . Plant and soil movement will be minimized where possible for these activities, and excess soil and debris will be removed from all equipment, materials, and personnel to avoid the risk of spreading invasive species.

During the Draft EA public review period, DOFAW wrote:

> *"DOFAW recommends using native plant species for landscaping that are appropriate for the area, i.e., plants for which climate conditions are suitable for them to thrive, plants that historically occurred there, etc. Please do not plant invasive species. DOFAW also recommends referring to www.plantpono.org for guidance on the selection and evaluation of landscaping plants and to determine the potential invasiveness of plants proposed for use in the project."* (See Appendix H)

New landscaping for the Project will incorporate native plant species where appropriate and practicable for the intended uses of the new building(s) as well as the surrounding climate conditions.

Due to human utilization of the Project site for recreational uses (plantation gym and tennis courts) since at least 1945, implementation of the Pāpa'aloa Park Master Plan is not anticipated to have any negative short-term, long-term, direct, indirect, or cumulative impacts on protected or endangered flora species. No mitigation measures are planned.

3.8 WILDLIFE RESOURCES

During the pre-Assessment consultation period and the Draft EA Public Review period, the DOFAW wrote: *"We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts"* (see Appendix A and Appendix H).

During the Draft EA public review period, the U.S. Fish and Wildlife Service (USFWS) wrote:

> *"The U.S. Fish and Wildlife Service (Service) received your request for comments on February 21, 2024, for the Pāpa'aloa Park Master Plan and Phase 1 Development Draft Environmental Assessment. We recommend you obtain an official species list for the proposed project site with the associated Avoidance and Minimization Measures (AMMs) for those species. (instructions are attached). We appreciate the consideration of*

federally listed species included in the Draft Environmental Assessment that may be impacted by the proposed activities:

- *'Ōpe'ape'a or Hawaiian hoary bat (Lasiurus cinereus semotus),*
- *Nēnē or Hawaiian goose (Branta sandvicensis),*
- *Hawaiian seabirds, including Hawai'i Distinct Population Segment of the 'akē'akē or band-rumped storm-petrel (Hydrobates castro), 'a'o or Newell's shearwater (Puffinus newelli), 'ua'u or Hawaiian petrel (Pterodroma sandwichensis), and shorttailed albatross (Phoebastria albatrus).*

In addition to the species listed above, the following listed species are potentially found in the area and AMMs should be incorporated into the project activities to avoid impacts to these species:

- *Hawaiian waterbirds, including ae'o or Hawaiian stilt (Himantopus mexicanus knudseni), 'alae ke'oke'o or Hawaiian coot (Fulica alai), and koloa maoli or Hawaiian duck (Anas wyvilliana)*
- *Sea turtles, including the Honu or green sea turtle (Chelonia mydas) and the honu'ea* or Hawksbill sea turtle (*Eretmocheyls imbricata*)." (See Appendix H)

In anticipation of DOFAW's and the USFWS' comments, AECOS, Inc. was contracted to undertake a natural resources assessment (including a terrestrial vertebrates survey) of the subject properties (Appendix C). No surveys were conducted for invertebrates as AECOS determined it is not reasonable to assume that invertebrates of conservation interest would be present in a developed area with almost no native plants.

A total of 91 individual birds of 14 species, representing 11 separate families, were recorded during the station counts. One species detected—Pacific Golden-Plover (*Pluvialis fulva*)—is an indigenous migratory shorebird species. The remaining 13 species recorded are common, introduced species. The avian diversity and densities observed during the survey are consistent with the habitats present on the site and the usage of the site. Three species—Zebra Dove (*Geopilia striata*), Common Myna (*Acridotheris tristis*), and House Sparrow (*Passer domesticus*)—accounted for 51% of the total number of birds recorded. Zebra Dove was the most common species recorded, accounting for 21% of the total of birds counted.

No avian species that are currently listed under federal or State of Hawai'i endangered species statutes were observed.

Although the Project site is not located in a critical habitat, it is possible that the endangered Hawaiian Petrel (Puffinus sandwichesis), Band-rumped Storm-Petrel (Hydrobates castro), and the threatened Newell's Shearwater (Puffinus newelli) over-fly the Project area between April and the middle of December each year in small numbers. The primary cause of mortality in Hawaiian Petrels, Newell's Shearwaters and Band-rumped Storm-Petrels in Hawai'i is thought to be predation by alien mammalian species at the nesting colonies. Collision with man-made

structures is considered the second most significant cause of mortality of these seabird species in Hawai'i. Nocturnally flying seabirds, especially fledglings on their way to sea in the summer and fall, can become disoriented by exterior lighting. Disoriented seabirds may collide with man-made structures and, if not killed outright, become easy targets of opportunity for feral mammals. No suitable nesting habitat exists within or close to the Project area for any of these three seabird species.

No Hawaiian waterbirds including ae'o or Hawaiian stilt (Himantopus mexicanus knudseni), 'alae ke'oke'o or Hawaiian coot (Fulica alai), and koloa maoli or Hawaiian duck (Anas wyvilliana) were sighted.

On the two separate survey dates AECOS biologists were at the Park, the Hawaiian Hawk or 'io (*Buteo solitarius*) was not observed. It is possible that this species may use resources in the less developed areas of the site on a seasonal or temporal basis. This species is not listed under the federal ESA, but is still listed under state statute.

The lowest "usable" portion of the Project site above the cliff is at elevation 231 feet AMSL, therefore the developable area would not be visited by sea turtles, including the Honu or green sea turtle (Chelonia mydas) and the honu'ea or Hawksbill sea turtle (Eretmocheyls imbricata).

It is probable that the Hawaiian hoary bat overflies the Project area on a seasonal basis as they are regularly recorded in the greater Hilo area. The removal of trees can temporarily displace individual bats using those trees for roosting. However, this bat uses multiple roosts within the home territories, so the potential disturbance resulting from the removal of vegetation is likely to be minimal. An exception is during the pupping season, when females carrying their pups may be less able to vacate a roost site if the tree is felled. Further, adult female bats sometimes leave their pups in the roost tree while they forage. Very small pups may be unable to flee a tree that is being felled.

No mammalian species currently proposed for listing or listed under either federal or state endangered species statutes were recorded on the Project site. All mammalian species observed during this survey are alien to the Hawaiian Islands. During the field survey, AECOS observed or heard numerous dogs (*Canis lupus familiaris*) from houses outside of the study area. Two cats (*Felis c*atus) were seen within the survey area, as were several small Indian mongoose (*Herpestes javanicus*). It is probable that one or more of the four Muridae found on the Island—roof rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), Polynesian rat (*Rattus exulans hawaiiensis*), and European house mouse (*Mus musculus domesticus*) use resources within the general Project area on a seasonal basis. These introduced rodents are deleterious to native ecosystems and native faunal species.

There are no critical habitats over the project site. According to the USFWS (https://fws.maps.arcgis.com/home/webmap), the closest critical habitats are located mauka of Hawai'i Belt Road, above the 2,000-foot elevation.

During the pre-Assessment consultation and Draft EA public review period, the DOFAW wrote: *"The endemic pueo or Hawaiian Short-Eared Owl* (Asio flammeus sandwichensis) *could potentially nest in the project area. Before any potential vegetative alteration, especially ground-based disturbance, we recommend that line transect surveys are conducted during crepuscular hours through the project area. If a pueo nest is discovered, a minimum buffer distance of 100 meters from the nest should be established until chicks are capable of flight."* (see Appendix A and Appendix H). The Hawaiian endemic sub-species of Short-eared Owl or *pueo* (*Asio flammeus sandwichensis*) is state-listed as endangered on O'ahu only. The natural resources assessment prepared by AECOS does not discuss every species of plant or animal that is of conservation interest, just those that might be impacted by a project. For the pueo this would apply if the site were on O'ahu and had open, grassy fields that could support nesting by the species. As the Project is not located on O'ahu and does not include open, grassy fields that could support nesting by the species, impacts to the pueo are not anticipated.

During the pre-Assessment consultation period, the DOFAW wrote: *"The State listed nēnē or Hawaiian Goose* (Branta sandvicensis) *could potentially occur in the vicinity of the proposed project site."* (see Appendix A). During the terrestrial vertebrates survey conducted by AECOS as part of the biological resources assessment (Appendix C), AECOS did not see or hear any nēnē so it was not noted as a species that was present.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Existing activities in the Project area make it fairly unlikely that the listed species of fauna would frequent the area. However, possible avoidance and impact minimization measures for the listed species include:

- **Hawaiian hoary bat or 'ōpe'ape'a.** Potential adverse impacts from disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 meters (15 feet) between June 1 and September 15, the period in which bats may have pups. The design of the Project will not include any barbed wire.

- **Hawaiian petrel, Newell's shearwater, and Band-rumped storm-petrel (collectively referred to as Hawaiian seabirds).** The principal potential impact that the Project poses to protected seabirds is an increased threat that birds will be downed after becoming disoriented by lights. The two ways outdoor lighting can pose a threat to nocturnally flying seabirds is if: 1) during construction it is deemed expedient or necessary to conduct night-time construction

activities; or, 2) following build-out, incorrectly directed security lighting is operated during the seabird nesting season.

For any outdoor lighting, the design will specify shielded lights as required under the County's outdoor lighting ordinance (HCC section 14-52). It is recommended that outdoor lights be fully shielded so the bulb is visible only from below bulb-height and be used only when necessary. It is also recommended that automatic motion sensor switches and controls be installed on all outdoor lights, or that these lights be turned off when human activity is not occurring in the lighted area. Further, nighttime construction will not be allowed during the seabird fledging season (September 15 through December 15).

- **Hawaiian hawk or 'io.** If removal of large stature trees on the Project site is contemplated, it is recommended that a qualified biologist conduct a Hawaiian Hawk nesting survey to ensure that the action will not result in a deleterious impact to this raptor species.

- **Hawaiian goose or nēnē.** During the pre-Assessment consultation period, the DOFAW wrote: *"The State listed nēnē or Hawaiian Goose (Branta sandvicensis) could potentially occur in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any are present during construction, all activities within 100 feet (30 meters) should cease and the bird or birds should not be approached. Work may continue after the bird or birds leave the area of their own accord. If a nest is discovered at any point, please contact the Hawai'i Island Branch DOFAW Office at (808) 974-4221 and establish a buffer zone around the nest."* (see Appendix A).

- **Hawaiian short-eared owl or pueo.** During the pre-Assessment consultation and Draft EA public review period, the DOFAW wrote: *"Before any potential vegetative alteration, especially ground-based disturbance, we recommend that line transect surveys are conducted during crepuscular hours through the project area. If a pueo nest is discovered, a minimum buffer distance of 100 meters from the nest should be established until chicks are capable of flight"* (see Appendix A and Appendix H).

It is anticipated that implementation of the Master Plan on either TMK (3) 3-5-003: 035 or 088 will have no short-term, long-term, direct, indirect, or cumulative negative impacts on rare, threatened, or endangered faunal species.

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4.0 DESCRIPTION OF THE HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the human environment, preliminary potential impacts of the proposed Pāpa'aloa Park Master Plan and Phase I Development Project, and preliminary mitigation measures to minimize any impacts.

4.1 ARCHAEOLOGICAL AND HISTORIC RESOURCES

In preparation of this Draft EA, an archaeological inventory survey (AIS) report was prepared by ASM Affiliates, Inc. (ASM) and is attached as Appendix D.

4.1.1 Historic Background

A summary of traditional settlement patterns is provided in Section 4.2.1 of this EA. Changing land use patterns are described in Section 4.2.3. According to ASM, among the earliest archaeological work to be done in East Hawai'i was that of the early twentieth century *heiau* researchers Thrum and Stokes (Stokes 1991; Thrum 1907). Neither investigator was able to identify *heiau* within the current project area or the immediately surrounding *ahupua'a*. In the early 1930s, A.E. Hudson, working under the aegis of the Bishop Museum, also conducted archaeological investigations in East Hawai'i (Hudson 1932). While surveying between Waipi'o and Hilo, Hudson remarked that few archaeological sites were to be found due to the "extensive development of sugar plantations" (Hudson 1932:182). He did not identify any sites near the current project area.

In 1973, State Inventory of Historic Places (SIHP) Site number 50-10-16-7398 was assigned to the Pāpa'aloa District, an approximately 40-acre "plantation community consisting of houses, commercial area, recreation facilities and religious structures" that includes the current project area (Appendix D, Figure 38).

This portion of North Hilo has remained largely unchanged since the end of sugarcane cultivation in the 1990's. Limited development has resulted in a dearth of archaeological studies (Appendix D, Table 1). The closest study to have taken place in the vicinity of the current project area was a literature review and field inspection (Wheeler et al. 2014) for drainage improvements to the Hawai'i Belt Road within Pāpa'aloa Ahupua'a (Appendix D, Figure 38). As a result of their field inspection, Wilkinson and Hammatt (2013) identified the historic sugar plantation-era Pāpa'aloa Ditch, late-l950s concrete rubble masonry drainage infrastructure, and the Kaiwilahilahi Bridge. In 2020, an archaeological inventory survey (Donham 2020) in Kihalani Ahupua'a (Appendix D, Figure 29) identified Site 50-10-16-31187, which consisted of two Historic sugar plantation related erosion berms constructed by the Laupāhoehoe Sugar Company in the early 1900s.

According to ASM, the historic use of the project area from at least the late 19th century has surely obliterated any Precontact features that may have once been present and the likelihood of encountering any such features is extremely low.

4.1.2 Archaeological Resources

According to Appendix D, field work for the current study was conducted on December 12, 2023 and the entire (100%) ground surface of study area was visually inspected by field technicians walking transects oriented north-south, spaced at no more than 10 meters apart.

As a result of the fieldwork, one previously documented site (Site 50-10-16-30187) and five previously undocumented sites (Sites 50-10-16-T-1, 50-10-16-T-2, 50-10-16-T-3, 50-10-16-T-4, and 50-10-16-T-5) were recorded (Table 1). The sites include a portion of the Old Māmalahoa Highway (Site 30187), a concrete restroom foundation (Site T-1), a terrace wall (Site T-2), two former sugar plantation buildings (Site T-3), a flume foundation (Site T-4), and the Pāpa'aloa Park complex (Site T-5). The six sites identified during the current study are discussed below and are shown relative to the project area boundaries on Appendix D, Figure 39.

Table 1: Archaeological Sites Recorded During the Archaeological Inventory Survey

*Site Number**	*Type*	*No. of features*	*Function*	*Age*
30187	Old Māmalahoa Highway	1	Transportation	Historic
T-1	Concrete foundation	1	Building foundation	Historic
T-2	Terrace wall	1	Agriculture	Historic
T-3	Sugar plantation buildings	2	Garage and repair	Historic
T-4	Flume foundation	1	Sugarcane transportation	Historic
T-5	Pāpa'aloa Park	-	Recreation	Historic

*SIHP Site numbers are preceded by the State, Island, and USGS prefix 50-10-16-

Detailed descriptions of each historic feature are provided in Appendix D, Section 4. FIELDWORK.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The recorded archaeological sites were assessed by ASM for their significance based on criteria established and promoted by the DLNR State Historic Preservation Division (SHPD) and contained in the HAR §13-275-6(b). For a resource to be considered significant it must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

a Be associated with events that have made an important contribution to the broad patterns of our history;

b Be associated with the lives of persons important in our past;

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

d Have yielded, or is likely to yield, information important for research on prehistory or history;

e Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity.

Table 3 of Appendix D provides the significance and recommended treatment for the six recorded sites; it is also presented in Table 2 below and discussed below.

Table 2: Site Significance and Treatment Recommendations

Site #	***Site Type***	***Temporal Affiliation***	***Significance***	***Recommended Treatment***
30187	Old Māmalahoa Highway	Historic	a, d	No further work within project area
T-1	Concrete foundation	Historic	d	No further work
T-2	Terrace wall	Historic	d	No further work
T-3	Sugar plantation buildings	Historic	-	Additional architectural documentation
T-4	Flume foundation	Historic	a, d	No further work
T-5	Pāpa'aloa Park	Historic	-	Additional architectural documentation

Six historic properties were identified during the current AIS. Four of the sites (Sites 30187, T-1, T-2, and T-4) are considered significant under Criterion d for the information they yielded during the current study. Additionally, Site 30187 was assessed as significant under Criterion a for its association with important late 19th and early 20th century events in establishing a regional transportation network and Site T-4 was assessed as significant under Criterion a for being

associated with, and contributing information to, the overall history of the sugarcane plantation era in Hawai'i and specifically to the Laupāhoehoe and Davies Hāmākua Plantation, Inc. sugar companies. Sites 30787, T-1, T-2, and T-4 were adequately documented during the current study and are recommended for no further historic preservation work.

Two of the sites (Sites T-3 and T-5) are significant architectural properties. Because the Pāpa'aloa Park Master Plan will affect these sites, the recommended determination of effect for the current project is "Effect with proposed mitigation commitments." The proposed mitigation commitments include the documentation and evaluation of Sites T-3 and T-5 by a qualified architectural historian and the preparation of an Architectural Reconnaissance Level Survey (RLS). It is anticipated that following preparation of the RLS no further historic preservation work will be necessary at Sites T-3 and T-5 and that demolition of the Site T-3 buildings can proceed.

The Proposing Agency and its contractors will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. Should historic sites such as walls, platforms, pavements, and mounds, or remains such as artifacts, burials, concentrations of shell or charcoal be inadvertently encountered during the construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The contractor shall immediately contact the SHPD, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

4.2 CULTURAL RESOURCES

In preparation of this Draft EA, a cultural impact assessment (CIA) was prepared by ASM and is attached as Appendix E. The CIA provides cultural-historical background information specific to the Project area and the broader geographical region of Kaiwilahilahi Ahupua'a, and at times the greater North Hilo District. It also includes a summary of prior archaeological and cultural studies that have been conducted within or near the Project area. The CIA also includes the methods and results of the consultation process. A summary of the CIA is provided in the following sections.

4.2.1 Traditional Settlement Patterns

The project area is in the coastal portion of Kaiwilahilahi (Appendix E, Figure 22), a traditional *ahupua'a* whose name has been translated by Pukui et al. as "the frail bone." This *ahupua'a* is bound to the east and west respectively by the *ahupua'a* of Moanalulu and Pāpa'aloa the boundaries of which are demarcated by streams/gulches namely Ha'akoa and Kaiwilahilahi. This relatively narrow *ahupua'a*, with a coastal width of about 576 meters (~1,890 feet), is one of many such *ahupua'a* that make up the traditional *moku* (district) of Hilo, which is one of six traditional districts on Hawai'i Island. As part of the Session Laws of 1900, for taxation, educational, and judicial purposes, the Territorial Government divided the Hilo District into two;

North Hilo, extending north from Hakalau Stream to Ka'ula Gulch and South Hilo encompassing the remaining portion of Hilo south of Hakalau Stream.

Kaiwilahilahi Ahupua'a is located in the *'okana* (sub-district) of Hilo Palikū, a name that aptly describes the precipitous bluffs carved by the numerous stream-cut gulches that are characteristic of this region (Appendix E, Figure 23). The *pali* (cliffs) span along the northeastern coastline of Hawai'i Island running north from the mouth of the Wailuku River and broken only by a string of relatively narrow gulches extending downslope of Mauna Kea. The broad and gently sloping plateaus, referred to as *kula* lands, between the gulches are fertile with deep soils. Both the gulches and *kula* lands served as an ideal environment for thriving populations prior to Western contact. King David Kalākaua also provided a concise description of this region's rough geography and commented on the density of the population there in his book *The Legends and Myths of Hawaii*:

> The northeastern coast of the island of Hawaii presents an almost continuous succession of valleys, with intervening uplands rising gently for a few miles, and then more abruptly toward the snows of Mauna Kea and the clouds. The rains are abundant on that side of the island, and the fertile plateau, boldly fronting the sea with a line of cliffs from fifty to a hundred feet in height, is scored at intervals of one or two miles with deep almost impassable gulches, whose waters reach the ocean either through rocky channels worn to the level of the waves, or in cascades leaping from the cliffs and streaking the coast from Hilo to Waipio with lines that seem to be molten silver from the great crucible of Kilauea.
>
> In the time of Liloa, and later, this plateau was thickly populated, and requiring no irrigation, was cultivated from the sea upward to the line of frost. A few kalo patches are still seen, and bananas grow, as of old, in secluded spots and along the banks of the ravines; but the broad acres are green with cane, and the whistle of the sugar-mill is heard above the roar of the surf that beats against the rock-bound front of Hamakua. (Kalākaua 1888:284)

The abundance of streams, valleys, and gulches in this region, although stunningly beautiful, made foot travel quite difficult and treacherous.

The low-lying coastal valley areas of Hilo Palikū thrived with traditional Hawaiian habitation and cultivation sites. Within the larger gulches and *kula* regions were lush, fertile lands well suited for agriculture. The traditional staple crop, *kalo* (taro), was cultivated in irrigated terraces along stream edges while *'uala* (sweet potato)*, mai'a* (banana) and *kō* (sugarcane) were grown in the *kula* lands of the lower forest zone (Handy et al. 1991). The region had an abundance of *kukui* (candlenut), *'ulu* (breadfruit), and *niu* (coconut) groves and was also rich in marine and river

resources. Although Precontact Period settlements were prominent in these areas, with the increase in population and agricultural production during the late 19th and 20th centuries, settlements spread into the upland *kula* regions.

4.2.2 Mo'olelo

Mo'olelo (accounts, stories, legends) are rich resources for understanding the cultural landscape, land use, and practices of an area. According to ASM, an exhaustive search through secondary sources and Hawaiian language primary source materials revealed a few *mo'olelo* that specifically name Kaiwilahilahi. While there are *mo'olelo* that speak of events that take place in Hilo Palikū the *'okana* within which Kaiwilahilahi is located, Appendix E contains the following summary of *mo'olelo* begins with those that make explicit reference to the lands of Kaiwilahilahi:

Ka Mo'olelo o Lā'ieikawai

The lands of Kaiwilahilahi are referenced in the romance of Lā'ieikawai, as recorded by Kalākaua (1888). Although the origins of this story are set in the Ko'olau District of O'ahu, mention is also made of Kaiwilahilahi along with other localities in the islands. The story begins with Kahauokapaka and his wife Malaekahana to whom were born four girls. Set on having a son, Kahauokapaka vowed that any daughters born from their union would be put to death, at least until a son was born. In accordance with the vows and without mercy, Kahauokapaka killed their first four daughters. Sometime later, Malaekahana became pregnant again, this time with twins, and fearing her husband's cruel vows, she sought to keep their birth a secret. When the pangs of labor began, Malaekahana sent her husband to fetch her some small fish from the shore. In his absence, she delivered twin girls named Lā'ieikawai and Lā'ielohelohe both of whom were accompanied by a rainbow.

To prevent the death of the twins, Malaekahana consigned the care of the former to their grandmother, Waka and the latter to the priest, Kapukaihaoa. To secure the whereabouts of the twins, Waka took Lā'ieikawai to the cavern of Waiapuka and Kapukaihaoa took Lā'ielohelohe to the sacred birthplace, Kūkaniloko. Because of their exceptional beauty and sacredness, the caregivers were cautious and periodically moved the girls from place to place. In a dream, Waka was directed by Kapukaihaoa to take Lā'ieikawai to Paliuli, a mythical land in Kea'au, Puna. Their journey to Hawai'i Island was, however, met with many challenges as knowledge of the girl's beauty had begun to spread throughout the islands. Waka diligently directed her efforts toward safeguarding her granddaughter from the numerous suitors vying for her attention.

Of those captivated by the beauty of Lā'ieikawai was Hulumaniani, a great prophet of Kaua'i. Following the rainbow attached to Lā'ieikawai, Hulumaniani made his way through

the islands in search of the girl, stopping at different localities to conduct ceremonies. From Kauwiki, Hāna, Hulumaniani caught a glimpse of a faint rainbow on the east side of Hawai'i Island and after holding a ceremony, his patron god informed him "that the person whose shadows he had seen were living in the forest of Puna, in a house thatched with yellow feathers of the oo ['ō'ō] [Moho nobilis]." After learning this, Hulumaniani set sail for Hawai'i Island, specifically to Mahukona, where he prayed at the *heiau* named Pahauana. Following his time at Mahukona, he sailed to Waipi'o to offer sacrifices to "the famous *heiau* of *Paakalana,* " then he continued on to Kaiwilahilahi, "where he remained for some years, unable to obtain any further information of the persons of whom he was in search" (Kalākaua 1888:459). The prophet Hulumaniani eventually grew tired in his search for Lā'ieikawai and elected to leave Kaiwilahilahi and return to his home on Kaua'i. The story continues with efforts from other suitors attempting to woo Lā'ieikawai throughout Hawai'i. Whereas the *mo'olelo* summarized above makes explicit reference to the lands of Kaiwilahilahi, the following accounts are a selection of *mo'olelo* that speaks to different coastal areas of the broader Hilo Palikū region including the neighboring coastal lands of Laupāhoehoe and Maulua.

4.2.3 Changing Land Use Patterns

Overland travel across the central and northern Hilo District remained difficult throughout the first part of the 19th century due to its rugged coastline and many deep gulches. Initial commercial exploitation of these lands was limited to small scale agriculture in areas with coastal access for shipping and receiving goods.

By the mid-1800s, the first roads had been established along the coast of Hilo, perhaps following the route of the older path described by Coan (Kalima and Rosendahl 1991). These first roads, designed for travel on horses and in carts, were likely developed by land holders, primarily sugar growers, looking to connect their plantation lands.

The spur of sugar plantations across the islands increased significantly when in 1875, King David Kalākaua signed the Treaty of Reciprocity with the United States. The signing of this treaty, which guaranteed a duty-free market for Hawaiian sugar in exchange for special economic privileges for the United States, drastically increased sugar production and forever altered the political, economic, and socio-cultural fabric of the islands (Kuykendall, 1967). Although sugar production was already occurring in Hilo, within a few short years after the signing of the treaty and in an effort to cash in on the incoming sugar boom, a slew of plantations sprung up around the islands, one of which included the Laupāhoehoe Sugar Company. The arrival of large-scale commercial sugar would, throughout the remainder of the 19th and 20th centuries, radically transform the lands in the project area and neighboring vicinity.

The history of sugar operations in Kaiwilahilahi and the neighboring lands are intimately connected to the inception and growth of the Laupāhoehoe Sugar Company whose history can be traced to at least 1876 when William Lidgate (also spelled Lydgate in some historical records), a young salesman for sugar milling equipment obtained fee-simple and lease-hold interest in lands in the Laupāhoehoe vicinity (Hilo Tribune-Herald 1956; Maly and Maly 2006). By 1879, the plantation erected its first three-roller mill at Laupāhoehoe thus marking the beginning of its sugar production (Hilo Tribune Herald 1950). By 1880, the Laupāhoehoe Sugar Company was formally organized as a joint venture between Theophilus H. Davies and William Lidgate, (Saito and Campbell 1988). The company's sugar plantation fields, which were entirely rainfed, covered about 10 miles along the North Hilo coast and extended *mauka* up to about 1,850 feet elevation.

The history of the Kaiwilahilahi Sugar Company is notably absent from historical records, and it is speculated that this mill likely began as a small independent operation until it was absorbed by the Laupāhoehoe Sugar Company in 1883. By that time, much of the kula lands extending from Honomū to Kihalani in Laupāhoehoe had been converted into sprawling sugarcane fields.

By 1884, a landing was established near the mouth of Kaiwilahilahi Stream as shown in the 1884 map (see Appendix E, Figure 26), thus indicating a shift in operations out of Laupāhoehoe and into the Kaiwilahilahi-Pāpa'aloa area. With the incorporation of the two sugar companies, Laupāhoehoe Sugar operated two mills, the original mill site at Laupāhoehoe and one at Kaiwilahilahi (Saito and Campbell 1988). By 1885, the Laupāhoehoe Sugar Company began overhauling their mill equipment to increase processing efficiency and capacity, and the mill at Kaiwilahilahi was converted into a maceration-style mill outfitted with equipment that better gauge the quality of daily cane production. After the retrofitting, the mill at Kaiwilahilahi served as the main cane processing facility for the Laupāhoehoe Sugar Company but by the end of the decade, the company moved toward centralizing its operations (Planters' Labor and Supply Company 1885). Although the exact date of construction is unclear, it is estimated that sometime between 1885 and 1890, Lidgate commissioned the construction of a third mill for the Laupāhoehoe Sugar Company at the coast of Pāpa'aloa, just west of the project area. Upon the completion of the Pāpa'aloa Mill in 1890, the original two mill sites were closed, and all cane processing shifted to Pāpa'aloa.

Laupāhoehoe Sugar featured a distinctive transportation system for delivering cane to the factory. Using a steam hoist, cane-loaded cars were lifted 1,100 feet by cable at Maulua Gulch. Once at the summit, the cane was discharged into flumes, making a journey of about a mile to reach the mill at Pāpa'aloa (Saito and Campbell 1988). As the Laupāhoehoe Sugar Company expanded into the Pāpa'aloa-Kaiwilahilahi area, throughout the later part of the 1890s and into the early 20th century, the coastal *kula* lands near the mill site grew as a social hub to support the plantation laborers and their families.

The population growth in the area was also spurred by the development of the railroad system which proved to be one of the most important elements of governmental and private-sector planning (Dorrance and Morgan 2000). While the railroad proved advantageous to the sugar plantations scattered along the Hilo and Hāmākua coast, providing a more unified and efficient means of transporting cane between the fields, mill, and harbor, its introduction led to the gradual dissolution of earlier plantation-centered communities. The impact was notably significant in areas not positioned along the main railroad line, such as coastal Laupāhoehoe. In contrast, places situated along the railroad line, like Pāpa'aloa, experienced substantial population and economic growth during the early part of the 20th century.

As part of the continued growth of sugar in this region, after the Hawaiian Kingdom Government was overthrown in 1893, the newly formed Republic of Hawai'i (established in 1894) passed the Land Act of 1895, which incorporated Government Lands (including those acquired through purchase, escheat, exchange, or eminent domain) and Crown Lands into the public domain. The Land Act, which was intended to promote widescale agriculture, not only expanded the definition of Government Lands but it placed tighter restrictions on homesteaders, required that new leases be let through public auction, reduced the max term limits, and carried with it no automatic renewal privileges. Furthermore, under the 1895 Act, applicants could acquire Government Lands in one of three ways: the right of purchase lease, homestead lease, and cash freehold (Horowitz et al. 1969). In the early 1900s, when many of the Laupāhoehoe Sugar Company's lease lands came up for renewal, wide swaths of land were turned over for homesteading purposes and people of various ethnic backgrounds applied for homestead lots. In the context of Pāpa'aloa, many of the people who applied for these homestead leases were existing residents. Although elsewhere on the island, prospective homesteaders were presented with options to obtain a homestead lot, in the case of Laupāhoehoe and Pāpa'aloa, homestead applicants were required to consent to a right of purchase lease, during which they would clear the land for sugar cultivation, and would then sell their cane to the Laupāhoehoe Sugar Company (Maly and Maly 2006).

The first homestead lots created in the region were the Laupāhoehoe Homesteads, which included roughly forty lots that spread eastward from Laupāhoehoe gulch across nine different *ahupua'a*, including Pāpa'aloa and Kaiwilahilahi. These lots, most of which were located between the 1,600- and 2,100-foot elevation, had never been cultivated in cane and needed to be cleared of existing forest. By 1916, an additional seventy-seven homestead lots, totaling 1,158 acres were added as part of the Pāpa'aloa Homesteads. These homestead lots extended *makai* (north) of the Laupāhoehoe Homestead lots to the *mauka* boundaries of the Government Land grants that had been awarded ca. 1860s. By 1916, "several thousand acres of cane land" were under sugar cultivation by homesteaders in contract with Laupāhoehoe Sugar Company (Hawaii Herald 1916:1). As a result, by 1920 approximately half of the sugar company's cane land was cultivated

by homesteaders, while the other remained under the direct cultivation of the sugar company (Saito and Campbell 1988).

The growth of Laupāhoehoe Sugar Company coupled with the establishment of the railroad and the homesteading program during the early 20th century ultimately gave rise to a robust plantation community complete with plantation-sponsored amenities, such as laborers camps, a park, post offices, banks, and stores (Appendix E, Figure 28). A 1915 USGS (United States Geological Survey) map (Appendix E, Figure 29) and two maps from 1916, Plat Map No. 706 (Appendix E, Figure 30) and Hawai‘i Registered Map No. 2585 (Appendix E, Figure 31) provide insight into the infrastructure and layout of the community during this period including the location of the Pāpa‘aloa Mill, store, post office, plantation camps, and structures along the edges of the Government Road.

Beginning in 1937, the Laupāhoehoe Sugar Company focused on improving the lives of the plantation workers by undertaking numerous infrastructural improvements which included a new hospital in Laupāhoehoe and running water for each plantation camp. Additionally, “villages were modernized, clubhouses, parks, the gymnasium and community halls were remodeled or built” which gave rise to organized recreation and community events (Saito and Campbell 1988:3).

Structured recreational activities constituted a pivotal element of plantation life, and historical local newspapers, dating back to at least 1919, abound with commentary detailing competitions and tournaments between various plantation communities in East Hawai‘i. In the Pāpa‘aloa village area, competitive sports, like tennis, baseball, and volleyball, were common extracurricular activities for many plantation employees and their families (Hilo Tribune Herald 1923, 1933). In another example, an article published in the April 23rd edition of *The Pacific Commercial Advertiser* (1919:6) tells of a large tennis tournament held at Pāpa‘aloa in which teams from seven camps in East Hawai‘i including Wainaku, Pāpa‘ikou, ‘Ōla‘a, Pepe‘ekeo, Hakalau, Pāpa‘aloa, and Honoka‘a were set to compete against each other. While the exact date of construction is unknown, by July 30th, 1938, the Laupāhoehoe Sugar Company had completed the construction of the Pāpa‘aloa Gymnasium as an article published *The Honolulu Star-Bulletin* (1938:5) tells of an Independence Day celebration for some 2,000 attendees from the neighboring plantations that included a parade, *pā‘ū* riders, floats, and a “boxing show to open the new Papaaloa gym.” After the gymnasium was constructed, the community and plantation continued to host many social and sporting events such as dances, plays, parades (Hilo Tribune Herald 1940); and even a carnival in 1946 (Hilo Tribune Herald 1946).

On April 1st, 1946, a *tsunami* triggered by an earthquake in the Aleutian Islands slammed into the north-facing shores of Hawai‘i Island, dealing a fatal blow to the already struggling Hawai‘i Consolidated Railway. Tracks around the Hilo waterfront were entirely washed out and the Hilo

Station was wrecked (Muffler and Museum 2015). An entire span of the Wailuku Bridge was torn out and washed upstream and "twelve miles north of Hilo, the railroad bridge at the mouth of the Kolekole Stream lost its center span" from a massive inundation of water that reached heights of 37 feet in Kolekole and the neighboring Hakalau Gulch (Klein et al. 1985; MKE and Fung 2013:E8). Although the mill at Pāpa'aloa escaped the intense waves, the low-lying and well-settled area of coastal Laupāhoehoe sustained significant damage. The early morning *tsunami* claimed the lives of twenty-four people, most of whom were arriving at school or residing on the campus, including sixteen children, four teachers, and four residents. Survivors recalled the terrifying roar of the ocean and the series of waves that enveloped the Laupāhoehoe peninsula (Muffler and Museum 2015).

In the wake of the April 1st, 1946, *tsunami*, the Laupāhoehoe Sugar Company resumed operations, albeit to a community grappling with the profound aftermath of the disaster. The railroad bridges from Hilo to Pa'auilo that were destroyed by the *tsunami*, were rebuilt and reopened for vehicular travel along the Hawai'i Belt Road (Māmalahoa Highway) in 1950, which replaced the original Government Road, and remain in use to this day (MKE Associates LLC and Fung Associates, Inc. 2013:E8). An aerial image from 1954 USGS (Appendix E, Figure 32) depicts the park portion of the project area configured much as it is today including the open ball field, tennis courts, parking lot, and gymnasium. In the western section of the project area, the 1954 aerial photo shows at least two warehouse-style structures one of which is located along the cliff edge near Kaiwilahilahi Gulch as well as a row of buildings located along the *makai* edge of the old Government Road. Regarding other built features near the project area, the 1954 aerial photo depicts the newly created Hawai'i Belt Road (the former route of the Hawai'i Consolidated Railroad [Site 24212]) and the original Government Road along the southern boundary of the project area, and a new configuration to the plantation camp (Kekoa Camp), east of the project area. Earlier maps from 1915 and 1916 (see Appendix E, Figures 29 and 31) shows the camp configured in a series of linear rows, whereas the 1954 USGS aerial (see Appendix E, Figure 32) reveals a reconfiguration of the camp into a circular loop. A cursory review of County Tax records for the homes in Kekoa Camp dates many of the homes to the 1940s. This information may indicate that the original camp was demolished likely in the 1930s and replaced with newer, more modern homes when the plantation undertook its improvements in 1937.

Additional details about the structures in the project area are revealed in a Sanborn Fire Insurance Map (Appendix E, Figure 33). Created in 1915, this map was subsequently updated in 1946 and 1959, providing a comprehensive depiction and labeling of all structures covered under the plantation's liability insurance. In the eastern, park portion of the project area, the gym building that included a stage is shown along with a dressing room (present-day annex building), and tennis courts. In the western part of the project area, two structures are marked for use by the Laupāhoehoe Sugar Company. The larger of the two structures which are described as

constructed of corrugated iron on steel frames, steel trusses, and concrete floors, was divided into several work areas the larger of which included a truck repair, machine shop, tractor prep, and stock room that ran the entire length of the building. At the mauka end of the building, a welding shop is shown along with a smaller attached structure built on earthen floors. At the makai end of the building, several smaller shops are shown including an office and oil storage area.

Regarding the smaller structure, which was built of the same materials (as the larger structure) but situated along the cliff edge, the Sanborn map depicts this building as being divided into smaller work areas that included a "steam cleaning" area, paint shop, tire repair and storage, office, and an area for gas and oil. Along the *makai* edge of Government Road, several buildings are shown, from west to east; they include a barber with the name "Kuma", a dwelling with the name "Tabata", a store with the name "Sugekawa" (Sugikawa Store), another store with an attached dwelling with the name "J. Okamura", and two smaller unattributed structures, one labeled A and another labeled dwelling. As seen on this map, many of the amenities (tailor, cobbler, movies, library, beauty shop, etc.) were organized along Government Road in the vicinity of the project area.

On January 3rd, 1957, with Theo H. Davies & Co. acting as its agent, the Laupāhoehoe Sugar Company merged with the Kaiwiki Sugar Company, Ltd. thus ending its seven-decade run of independent operation. Despite this merger, the Laupāhoehoe Sugar Company retained its name and Pāpa'aloa remained the "hometown of the Laupahoehoe [Sugar Company] employees" (Hilo Tribune-Herald 1956:1). A USGS aerial photo taken in 1965 (Appendix E, Figure 34) and another USGS map from 1966 (Appendix E, Figure 35) shows very little change to the project area when compared to the earlier maps and aerials.

By the 1970s, the Laupāhoehoe Sugar Company shifted from hand harvesting to mechanized methods which led to a reduction in the number of employees. By the end of 1972, the company had an estimated 376 employees which was nearly half as many from 15 years prior (Bowen and Bowen 1977). Throughout the remainder of the 20th century, with the sugar industry in decline, many of the former businesses in Pāpa'aloa and Kaiwilahilahi that operated as part of the Laupāhoehoe Sugar Company slowly closed their doors (Bowen and Bowen 1976). Photos published in the December 12th, 1976, edition of the *Hawai'i Tribune-Herald* show a dwindling Pāpa'aloa Village (Appendix E, Figure 36).

Despite the decline of sugar in this region, Pāpa'aloa Park persisted as an important social hub for area residents. As with the generations before, the park continued to thrive with sporting and social events for all ages. Sometime in the 1980s, the ownership of the Pāpa'aloa Park was transferred from Theo H. Davies to the County of Hawai'i and the County promoted many youth and elderly programs.

4.2.4 Summary of Previous Cultural Studies

In 1973, State Inventory of Historic Places (SIHP) Site number 50-10-16-7398 was assigned to the Pāpa‘aloa District (Appendix E, Figure 42), an approximately 40-acre “plantation community consisting of houses, commercial area, recreation facilities and religious structures” that includes the project area (Wright 1973). The Hawai‘i Register of Historic Places Site Form noted that this district “consists of several camp areas, an abandoned commercial area including five structures, a gym, the Sugikawa Store, several individual houses, a Hongwanji Mission and school buildings, the Papaaloa Community Store, a branch of Bank of Hawaii and St. James Episcopal Church” (Wright 1973:3). The creation of this district was recommended because of the combination of architectural and historic interest.

In 2006, Kumu Pono Associates prepared a cultural-historical study of the Laupāhoehoe Forest Section (Maly and Maly 2006). The study was initiated by the United States Department of Agriculture-Institute of Pacific Islands Forestry’s as part of their plan to include approximately 4,800 acres of the Laupāhoehoe forest in the Hawai‘i Experimental Tropical Forest (HETF) program. While the study was focused primarily on the *mauka* regions and the Pāpa‘aloa Park area was never part of the forest reserve, due to the traditional land divisions extending from *mauka* to *makai* and the interconnectivity of the adjoining lands, the study area included all lands between Waipunalei, to the north, and Maulunui, to the south.

Through the archival and historical research and oral history interviews, the authors of the 2006 study came to several conclusions about the lands in this area and provided recommendations. It was determined that the Laupāhoehoe forest is part of “an unique cultural landscape” (Maly and Maly 2006:3) and has long been utilized not only by residents of Laupāhoehoe but also the adjoining *ahupua‘a*, for gathering of natural resources, as well as religious and cultural practices. The early impacts of the transition from a subsistence lifestyle to that of capitalism is evidenced by “Blair Road” that extends from the Laupāhoehoe Homesteads (below 2,000 feet elevation) up into the forest at 5,000 feet elevation. The road was utilized for the collection of *koa* and *‘ōhi‘a* by wood-craft manufacturer, Blair Woods Hawaii; who manufactured lumber, utensils, dishes, platters and art work (Maly and Maly 2006:4).

Recommendations resulting from the 2006 study include, first and foremost, that the protection of the forest does not hinder or stop traditional and customary practices but rather that these practices be carried out “in a manner consistent with cultural subsistence, where each form of native life is treasured and protected” (Maly and Maly 2006:6). It was recommended that when work is done within the proposed Laupāhoehoe HETF, cultural remains remain unimpacted. Furthermore, it was recommended that all staff working on fencing or ground altering activities should consult with the SHPD to be informed of the Historic Preservation Guidelines and are made aware that should any stone features be discovered, all work in the area should be halted

and modified to minimize the impacts to such resources. Monitoring of all clearing is also recommended "to ensure proper treatment of sites" (Maly and Maly 2006:5). If cultural sites are identified during any work, consultation with the Hawaiian community of Laupāhoehoe and the SHPD would ensue to determine treatment of the site(s). Any inadvertent discoveries of human remains should be protected in place and work within the site's vicinity should be ended and SHPD notified of any findings. The final recommendation stated that if/when work begins, individuals with historical ties to the area be involved.

4.2.5 Cultural Informant Interviews

The CIA prepared by ASM and attached as Appendix E also includes the methods and results of the consultation process. In an effort to identify individuals knowledgeable about traditional cultural practices and/or uses associated with the current project and study area, a public notice containing (a) locational information about the project area, (b) a description of the proposed project, and (c) contact information was printed in a newspaper with state-wide readership. The public notice was submitted to the Office of Hawaiian Affairs (OHA) on January 17, 2024, for publication in their monthly newspaper, *Ka Wai Ola*. This notice was published in the February edition of *Ka Wai Ola* and a copy of the public notice is included in Appendix E.

Additionally, ASM staff contacted seven individuals and organizations via phone and email. These individuals were identified as persons who were long-time residents of the area and were believed to have knowledge of past land use, history, or cultural information. Each of the persons contacted was provided with a consultation packet that contained maps of the project area, a description of the proposed project, and the proposed plans. Of the seven individuals/organizations contacted, four agreed to be interviewed. Due to the pressing need to replace the old gym, the Draft EA was published in the February 8, 2024, issue of *The Environmental Notice*.

On February 26, 2024, the OHA wrote:

> *"OHA has concerns regarding the incompleteness of the cultural impact assessment (CIA) done for the DEA. The DEA mentions that 4 individuals had agreed to take part in interviews for the CIA, but that these interviews have not occurred yet. The DEA further states 'it is acknowledged that the entire picture of potential cultural impacts and mitigation measures cannot be concluded without the completion of the consultation process.' The CIA, included as Appendix E, indicates within the 'findings, recommendations, and conclusion' section that 'information will be included once the consultation is complete.'"* (See Appendix H)

OHA also wrote that since the CIA that was included in the Draft EA was incomplete, it "rendered the entire DEA incomplete." Of the four individuals interviewed, three approved their interview

summary for inclusion in the CIA. Refer to Appendix E for summaries of the interviews. Once the interviews were completed, the CIA was included in a second Draft EA for a second public review period that started on March 23, 2024 and ended on April 22, 2024.

4.2.6 Identification of Traditional and Customary Practices, Valued Cultural Resources

As a result of the cultural-historical background in conjunction with the results of the CIA interview process, the following have been identified as they relate to the presence of valued cultural, historical, or natural resources and or past or ongoing traditional customary practices within the project area (Appendix E):

Pāpa'aloa Park and Other Plantation-Era Infrastructure

Concerning valued cultural and historical resources, the majority of such resources identified in the project area are associated with the plantation era and the Laupāhoehoe Sugar Company. This includes five of the six sites documented during ASM's archaeological inventory survey of the project area, namely the concrete foundation (Site T-1), a terrace wall (Site T-2), two buildings (Site T-3), a flume foundation (Site T-4), and the Pāpa'aloa Park (Site T-5) (refer to Section 4.1 above, as well as Appendix D). Of these resources, those consulted as part of the CIA study shared detailed information about Site T-3 including its more recent use as a mechanic garage and base yard as well as the former stores and houses that once stood on the edge of Māmalahoa Highway (the remains of which have been associated with Site T-1 and Site T-2), and Pāpa'aloa Park (Site T-5).

Those interviewed during the CIA study shared fond memories of Pāpa'aloa Park, which was built during the late 1930s by the Laupāhoehoe Sugar Company. The interviewees shared how raising their families at the park fostered social bonds with their children and others in the community through various events and programs. They unanimously concluded that the park, in and of itself, is a valued resource because of its historic origins, design, and more importantly its long-standing history of hosting countless cultural, recreational, and social events that brought the community together. This sentiment was echoed throughout the interviews thus underscoring the significance of this park to this community's social capital. Furthermore, it is evident from the consultation process that the demolition of the original Pāpa'aloa Gym has led to some community members developing a sense of loss and nostalgia for their historic community, and mistrust of the County. Many of the interviewees expressed the initial sense of hope they experienced during the first community meeting, which quickly dissipated in subsequent meetings. As described by some of the interviewees, these feelings of mistrust and skepticism toward the County stem from perceived ingenuine interactions that leave the community feeling unheard and subjected to a top-down decision-making approach.

Regarding the original Pāpa'aloa Gym, it was echoed throughout the interviews that the gym served a purpose beyond organized recreation. Because of its design elements (stage, playcourt, seating, etc.), it served as a multi-functional gathering place for all ages and was the central hub for this community. There was a sense of concern that the proposed open play court design would not adequately fill the gap created by the loss of the original gym. The importance of Pāpa'aloa Park to this community cannot be understated. While opinions differ on the layout and design elements, there is a strong stance from those consulted to ensure this park remains in use by current and future generations and that it is built in a manner consistent with the needs and values of this community.

Old Māmalahoa Highway

The cultural-historical background identified the Old Māmalahoa Highway as a valued historical resource that extends along the mauka boundary of the project area. This road, other portions of which have been documented as a historic roadway and assigned as Site 30187, once served as the primary thoroughfare through Pāpa'aloa and other historic communities around Hawai'i Island. This road remained in use until 1953 at which point it was superseded – and in some places cut off – by the Hawai'i Belt Road (Highway 19). This road is not only valued for its historic importance, particularly its association with the establishment of a regional transportation network (Criterion a), but it remains a key feature that connects Pāpa'aloa Park with other valued historic and scenic elements of the Pāpa'aloa community.

Coconut Grove

One of the consulted parties spoke about the coconut grove located on the makai edge of the existing ball field. While the origins of this grove remain unknown, this consulted party shared that this grove has been utilized by the community whenever they needed material from coconut trees.

Pāpa'aloa Historic District

The cultural-historical background revealed that the project area is within the Pāpa'aloa [Historic] District (Site 7398), which was listed on the Hawai'i Register of Historic Places in 1973. The nomination form identified the key elements of this district including "several camp areas, an abandoned commercial area including five structures, a gym, the Sugikawa Store, several individual houses, a Hongwanji Mission and school building, the Papaaloa Community Store, a branch of Bank of Hawaii, and St. James Episcopal Church" (Wright 1973:2). This designation was based on the combination of architectural and historic interest. The original Pāpa'aloa Gym, which was considered a defining element of this district and was once located in the project area, was removed in 2022.

POTENTIAL IMPACTS AND MITIGATION MEASURES

It is the findings of the CIA that the proposed project has the potential to impact all of the above-identified valued cultural and historic resources and their associated past or ongoing traditional customary practices. The following recommendations are intended to help the County avoid and or mitigate impacts to the above-identified resources and associated practices.

Concerning the Pāpa'aloa Park, other plantation-era infrastructure, and the Old Māmalahoa Highway, it is recommended that the County submit the archaeological inventory survey to the SHPD for review and acceptance, and comply with any of the agreed-upon mitigative measures. With respect to Site T-5 (Pāpa'aloa Park), it is further recommended that the County develop its master plan in a manner that aligns with the needs of this community and does not necessitate the loss of existing recreational spaces or facilities. Examples of this include being considerate of the scale of the project, minimizing overdesigning, being sensitive to the natural, historic, and social context, and avoiding constructing new facilities at the expense of another valued space without exhausting all other alternatives. Because the original Pāpa'aloa Gym served as the main communal multi-function gathering place, it is also recommended that the County make efforts to understand how that facility served this community and incorporate as many of those elements into any future gym. As the park is within the Pāpa'aloa [Historic] District, it is also recommended that the County consult with SHPD to determine whether the proposed project may impact this historic district and adhere to any recommended mitigative measures. With regards to the coconut grove, it is recommended that the County avoid any construction activities in this area and maintain this grove as is.

It is strongly recommended that the County continue engaging with this community and make concerted efforts to hear their concerns and ideas and where feasible, incorporate them into the master plan. Garnering community support is crucial to the success of this project and the well-being of this community. Understandably, not all ideas and or recommendations can be incorporated into the master plan due to various regulatory, permitting, and other constraints. However, it is precisely these individuals who know the nuances of their community from its history, the local ecology, their needs, and aspirations. Their knowledge and recommendations are invaluable and it is recommended that the County recognize their knowledge as an asset to their planning and management process. The DPR is uniquely positioned to provide opportunities that help to strengthen our communities and these aspects must carry over into all park planning projects while respecting the unique historical, cultural, social, and environmental contexts. If the County continues to engage with and aspire to be of service to our Hawai'i Island communities, it is encouraged to seek models of engagement that promote well-being and unity.

Lastly, several of the interviewees felt that the County must improve its facilities management process as a means to avoid the loss or degradation of treasured facilities. It is recommended

that the County recognize that these wooden historic gyms are more than static structures, they are deeply tied to a community's collective identity, a place where memories are made, where family structures are fortified, and where community relationships are built. When a facility is lost, the community experiences a real sense of loss and this was evident in the interviews. It is recommended that the County provide space in its planning process that will allow those affected by the loss of the original Pāpa'aloa Gym to reflect on what this facility meant to them and help provide some closure and healing.

During the second Draft EA public review period, the OHA wrote:

> *"OHA acknowledges that the second DEA contains a complete cultural impact assessment (CIA), whereas the first release of the DEA did not. From the interviews in the CIA, it appears the community is very eager for a new park, but that there are some concerns that the County is not really listening to their requests. For this reason, the CIA recommends further community engagement. The CIA further recommends that the County submit their archaeological inventory survey (AIS) report to the State Historic Preservation Division (SHPD) as part of HRS 6E-8 review.*
>
> *OHA supports the recommendations in the CIA to further community engagement and submit the AIS report to SHPD. We further respectfully request a copy of the AIS report and any SHPD comments that should follow."* (See Appendix H)

An informational meeting was held on April 2, 2024, to present to the community the final design and plans for the proposed Pāpa'aloa Park facilities; this was met with positive response from the community. Refer to Section 8.1 of this EA for a discussion on community outreach for this Project.

4.3 ROADWAYS AND TRAFFIC

A traffic impact analysis report was prepared for the Pāpa'aloa Park Master Plan by WSP USA and is summarized below. The entire report is attached to this EA as Appendix F.

4.3.1 Roadways

From a transportation engineering standpoint, the Project study area centers around the Project's Old Māmalahoa Highway driveway and two access points to Hawai'i Belt Road at Pāpa'aloa Avenue and Old Māmalahoa Highway.

Hawai'i Belt Road

State Route 19 (SR 19) is a 99-mile highway around the island of Hawai'i. It originates in Hilo, traveling north and west through Waimea, then follows the west coast of the island, terminating

in Kailua-Kona where it transitions to State Route 11 (SR 11) at milepost 99.526. Within the study area, SR 19 is known as Hawai'i Belt Road and is a two-lane, undivided principal arterial which is a part of the National Highway System (NHS). The posted speed limit within the Project study area is 45 mph and 55 mph just east of the study area. Intersections are unsignalized with two-way stop control on the minor streets.

Old Māmalahoa Highway

Old Māmalahoa Highway is a two-lane roadway that provides local access in the vicinity of Pāpa'aloa Park. Twenty mph speed limit warning signs are posted approaching the park.

Pāpa'aloa Avenue

Pāpa'aloa Avenue is a two-lane private roadway connecting Old Māmalahoa Highway in the study area to Hawai'i Belt Road. It continues mauka of Hawai'i Belt Road, providing access to residential and agricultural land uses. The posted speed limit on Pāpa'aloa Avenue is 25 mph.

4.3.2 Existing Traffic

Traffic turning movement counts and pedestrian/bicycle counts were conducted on Wednesday, October 18, 2023, during the AM and PM peak hours at the study area intersections:

- Hawai'i Belt Road/Pāpa'aloa Avenue
- Hawai'i Belt Road/Old Māmalahoa Highway
- Old Māmalahoa Highway/Pāpa'aloa Park

The AM and PM peak hours were found to occur from 7:00 AM to 8:00 AM and from 4:00 PM to 5:00 PM, respectively. Figure 4 of Appendix F shows the existing peak hour traffic volumes for each turning movement at these intersections. Existing traffic count data can be found in Appendix F. Overall pedestrian volumes are low:

- Hawai'i Belt Road/Pāpa'aloa Avenue – five pedestrians crossed Hawai'i Belt Road during the AM peak hour. No pedestrians were observed during the PM peak hour.
- Hawai'i Belt Road/Old Māmalahoa Highway – No pedestrians were observed during either peak hour.
- Old Māmalahoa Highway/Pāpa'aloa Park Driveway – three pedestrians were observed at the Park entrance during the AM peak hour. Three pedestrians were observed at the Park entrance during the PM peak hour including kids who were playing near the driveway.

The above intersections were analyzed as described in Appendix F.

Operating conditions at an intersection by approach are expressed as a qualitative measure known as Level of Service (LOS) ranging from A to F. LOS A represents free-flow operations with low delay, while LOS F represents congested conditions with relatively high delay. The overall intersection LOS is a weighted average of the LOS of individual traffic movement groups. Appendix F has more detailed definitions of intersection LOS.

Table 3 displays the existing conditions LOS for each intersection.

Table 3: Existing Level of Service (LOS)

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Hawai'i Belt Rd/ Pāpa'aloa Ave	NB Pāpa'aloa Ave	LTR	B	11.5	0.07	B	12.4	0.04
	SB Pāpa'aloa Ave	LTR	B	11.0	0.04	B	11.0	0.04
	Highest Delay Movement		**B**	**11.5**	**0.07**	**B**	**12.4**	**0.04**
Hawai'i Belt Rd/Old Māmalahoa Hwy	NB Māmalahoa Hwy	LTR	B	11.0	0.03	B	11.6	0.03
	SB Māmalahoa Hwy	LTR	B	10.4	0.04	B	11.5	0.05
	Highest Delay Movement		**B**	**11.0**	**0.03**	**B**	**11.6**	**0.03**
Old Māmalahoa Hwy/ Pāpa'aloa Park Drwy	SB Pāpa'aloa Park Drwy	LR	A	8.5	0.01	A	8.6	0.01
	Highest Delay Movement		**A**	**8.5**	**0.01**	**A**	**8.6**	**0.01**

(Delay shown in seconds per vehicle, L=left turn, T=through movement, R=right turn)

The study area intersections operate well in the existing condition. As shown in Table 3, all stop-controlled approaches at the unsignalized intersections operate at LOS B or better with little delay to vehicle movements.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Construction of Phase I of the Pāpa'aloa Park Master Plan is planned to be completed in 2025. To assess the impacts of implementation of the Pāpa'aloa Park Master Plan on the Project study area intersections, the anticipated 2025 traffic conditions without the Project were analyzed. It is assumed that there will be no major changes to study area land uses or roadway system before and during 2025.

The Project study area intersections were analyzed for LOS in 2025. Table 4 displays the projected 2025 LOS without project for each intersection.

Table 4: Projected 2025 Without Project Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Hawai'i Belt Rd/ Pāpa'aloa Ave	NB Pāpa'aloa Ave	LTR	B	11.6	0.07	B	12.5	0.04
	SB Pāpa'aloa Ave	LTR	B	11.0	0.04	B	11.1	0.04
	Highest Delay Movement		**B**	**11.6**	**0.07**	**B**	**12.5**	**0.04**
Hawai'i Belt Rd/Old Māmalahoa Hwy	NB Māmalahoa Hwy	LTR	B	11.1	0.03	B	11.7	0.03
	SB Māmalahoa Hwy	LTR	B	10.5	0.04	B	11.6	0.05
	Highest Delay Movement		**B**	**11.1**	**0.03**	**B**	**11.7**	**0.03**
Old Māmalahoa Hwy/ Pāpa'aloa Park Drwy	SB Pāpa'aloa Park Drwy	LR	A	8.5	0.01	A	8.6	0.01
	Highest Delay Movement		**A**	**8.5**	**0.01**	**A**	**8.6**	**0.01**

(Delay shown in seconds per vehicle, L=left turn, T=through movement, R=right turn)

The Project study area intersections are projected to continue to operate well in the Future No Build condition. As shown in Table 4, all stop-controlled approaches at the unsignalized intersections are projected to operate at LOS B or better with little delay to vehicles.

Table 5 summarizes the trips generated by the proposed development in its build year 2025.

Table 5: Pāpa'aloa Master Plan Trip Generation Summary

Land Use		Density		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
495	Recreational Community Center	9.6	k SF	11	7	18	11	13	24
411	Public Park	2.3	acres	8	5	13	6	10	16
Total				**19**	**12**	**31**	**17**	**23**	**40**

The peak hour of generator equations were used to estimate vehicular traffic generated by the reconfigured Pāpa'aloa Park because they produce higher traffic volumes, reflecting a "worst-case" scenario. The project is estimated to generate 31 AM peak hour trips and 40 PM peak hour trips, an amount consistent with the proposed parking (48 stalls) that will be provided as part of the Project.

Existing traffic patterns into and out of the park and surrounding community indicate a preference for the eastern Hawai'i Belt Road/Old Māmalahoa Highway intersection. This preference is likely due to the closer proximity of this intersection to the park as well as allowing

traffic to avoid the single-lane Kaiwilahilahi Stream Bridge. Approximately two-thirds of the existing traffic is oriented towards Waimea while the other third is oriented towards Hilo.

Table 6 displays the projected 2025 LOS with project for each intersection.

Table 6: Projected 2025 With Project Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Hawai'i Belt Rd/ Pāpa'aloa Ave	NB Pāpa'aloa Ave	LTR	B	11.9	0.08	B	12.8	0.05
	SB Pāpa'aloa Ave	LTR	B	11.2	0.04	B	11.3	0.05
	Highest Delay Movement		**B**	**11.9**	**0.08**	**B**	**12.8**	**0.05**
Hawai'i Belt Rd/Old Māmalahoa Hwy	NB Māmalahoa Hwy	LTR	B	11.4	0.03	B	12.0	0.03
	SB Māmalahoa Hwy	LTR	B	10.7	0.07	B	11.7	0.09
	Highest Delay Movement		**B**	**11.4**	**0.03**	**B**	**12.0**	**0.03**
Old Māmalahoa Hwy/ Pāpa'aloa Park Drwy	SB Pāpa'aloa Park	LR	A	8.7	0.02	A	8.8	0.04
	Highest Delay Movement		**A**	**8.7**	**0.02**	**A**	**8.8**	**0.04**

(Delay shown in seconds per vehicle, L=left turn, T=through movement, R=right turn)

Based on the LOS analysis comparing the with and without project scenarios, it is concluded that the project will not impact traffic operations at the study area intersections in the vicinity of the project. As shown in Tables 1, 2 and 4, the study area intersections are projected to operate at LOS B or better during the existing, future without project, and future with project scenarios. LOS B indicates little delay to vehicles using these intersections.

During the Draft EA public review period, the DPW wrote:

> *"Construction within the Old Mamalahoa Highway right-of-way shall comply with Hawaii County Code (HCC), Chapter 22, County Streets."* (See Appendix H)

While there may be short-term impacts during the construction (movement of construction equipment on area roads before the start of (and after) construction; movement of construction materials to each construction site; construction workers' parking), no long-term, direct, or indirect adverse impacts are expected on area roads. Knowing area traffic patterns, area residents will probably try to schedule their visits to avoid afternoon traffic in the area.

During both the pre-Assessment consultation process and the Draft EA Public Review period, the County Police Department wrote: *"The Hawai'i Police Department has no concerns as it relates to traffic and public safety on this project"* (see Appendix A).

4.4 NOISE

Sources of noise at the Project site include: users of the Park; typical residential noise from neighboring homes; cars passing by on Old Māmalahoa Road; wind through vegetation; and birds vocalizing.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Construction on County park projects are generally restricted to weekdays, excluding state holidays and work must occur between 7:00 AM and 5:00 PM and is normally limited to an 8-hour period within that. Implementation of the Pāpa'aloa Park Master Plan will inevitably create temporary noise impacts whether development occurs on either TMK (3) 3-5-003: 035 or 088. The various building contractors may employ mitigation measures to minimize those temporary noise impacts including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, HAR, all project activities must comply with all community noise controls. Contractors are responsible to apply for and secure a Noise Permit from State DOH, as necessary for their anticipated construction means and methods.

Once in operation, users of the proposed improvements will generate noise consistent with the existing Park, especially when the previous gym was still in operation. The hours of operation of the proposed covered play court are planned to be limited from 7:00 AM to 8:00 PM. However, the Director has the authority to modify those times for special events or on a temporary or permanent basis. Orientation of the facility and choices of building materials and construction systems will be considered in the design process to mitigate noise generated at the covered play court as well as transmitted outward towards neighboring residences. No mitigation measures are proposed, as the noise generated as a result of the proposed covered play court should represent no substantial change from previous gymnasium noise occurrences. There will be no long-term, direct, indirect, or cumulative negative impacts on noise levels emanating from the Park after implementing various elements of the Pāpa'aloa Park Master Plan.

4.5 AIR QUALITY

Hawai'i Island is unique from the other islands in the State in terms of the natural volcanic air pollution emissions that occur. This is especially given eruptions at Kīlauea Volcano and Mauna Loa. Air pollution emissions from the Hawaiian volcanoes consist primarily of sulfur dioxide. After entering the atmosphere, these sulfur dioxide emissions are carried away by the wind and either washed out as acid rain or gradually transformed into particulate sulfates or acid aerosols. Emissions from Kīlauea are vented to the atmosphere over 39 miles south of the Project site, but the prevailing wind patterns carry the emissions away from the Project area.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Short-term impacts that would result from the implementation of the Pāpa'aloa Park Master Plan would be the generation of fugitive dust during site preparation and construction. As noted in Section 3.3, the NRCS classifies the underlying soil as Ookala medial silty clay loam, 10 to 20 percent slopes (952), and the erosion hazard is moderate. An effective dust control plan will be implemented as necessary. All construction activities must comply with the provisions of Section 11-60.1-33, HAR related to Fugitive Dust. Potential measures that could be employed to control dust during various phases of construction include:

- Providing an adequate water source at the site prior to start-up construction activities;
- Irrigating the construction site during periods of drought or high winds;
- Landscaping and rapid covering of bare areas, including any slopes, starting from the initial grading phase;
- Disturbing only the areas of construction that are in the immediate zone of construction to limit the amount of time that the areas will be subject to erosion;
- Providing adequate dust control measures during weekends, after hours, and before daily start-up of construction activities; and
- Installing silt screening in areas of disturbance.

No State or Federal air quality standards will be violated from the implementation of the Pāpa'aloa Park Master Plan.

Once construction is complete, long-term, direct, indirect, or cumulative negative impacts related to air quality from implementation of the Pāpa'aloa Park Master Plan is not expected on either TMK (3) 3-5-003: 035 or 088.

4.6 VISUAL RESOURCES

Pāpa'aloa Park is visible from the intersection of Māmalahoa Highway (Hawai'i Belt Road) and Old Māmalahoa Highway or from the stretch of Māmalahoa Highway (Hawai'i Belt Road) between the intersection of Old Māmalahoa Highway and Pāpa'aloa Avenue. The existing Park facilities on TMK 3-5-003:088 are highly visible from surrounding residential lots; however, the western portion of the Project site (TMK 3-5-003:035) is largely undeveloped and heavily vegetated. Passersby on Old Māmalahoa Highway and residents living across of TMK 3-5-003:035 have intermittent views of the ocean and the former Laupāhoehoe Sugar Company shop building and remnants of outdoor storage of tires, etc.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Pāpa'aloa Park Master Plan proposes future facilities including: a new covered play court facility and its future expansion, a community center, a skate park, a playground, picnic pavilions,

a perimeter walking path, and other park-related facilities to be determined. Since the preferred alternative is to place the proposed new covered play court facility within TMK 3-5-003:088, passersby on Old Māmalahoa Highway and residents living across of TMK 3-5-003:088 may have their open view towards the tree line on the makai side of the property (especially post-gym) be impacted by a new covered play court building (and its future expansion). Ultimately, the portion of the Park lands identified as TMK 3-5-003:035 will be developed with recreational facilities, such as a community center, and passersby on Old Māmalahoa Highway and residents living across of TMK 3-5-003:035 may be impacted if the vegetation along Old Māmalahoa Highway is removed to open views to the ocean. Opening views to the ocean (and removal of the remnants of plantation-era dilapidated buildings and outdoor storage) may increase the property values of property owners mauka of TMK 3-5-003: 035. Other proposed recreational facilities on TMK 3-5-003:035 and/or TMK 3-5-003:088, such as a playground, skate park, pavilions, and perimeter walking path are not anticipated to have a significant impact on visual resources.

4.7 INFRASTRUCTURE AND UTILITIES

Imata & Associates, Inc. provided the following information on the existing water, wastewater and drainage systems and the improvements required to implement the Pāpa'aloa Park Master Plan.

4.7.1 Water System

The existing water main in the Old Māmalahoa Highway is an 8-inch ductile iron pipe. It lies on the mauka (south) side of the ROW and was designed in 1981. The overflow weir elevation of the water source (tank name unknown) is 640 feet. Static water pressure at the site has been measured (at an outdoor hose bibb) to be 170 psi.

Currently parcel 088 has two domestic water meters. There are no existing meters on parcel 035.

One existing water meter (5/8-inch meter) is registered to the DPW and has an allocation of one water unit (400 gal/day). It is believed that this water meter is used to supply water to the community filling station located at the southwestern corner of the existing parking lot. The filling station consists of four hose bibbs where community members can fill their water tanks with potable water without charge.

The second existing water meter on parcel 088 (1-inch meter) is registered to the DPR and has an allocation of two water units. This meter provides water for the existing park.

POTENTIAL IMPACTS AND MITIGATION MEASURES

If the domestic water demand of the Phase I Development dictates, the existing 1-inch water meter that serves the park may be replaced by a larger water meter and corresponding backflow

preventer. Pressure reducing valves (PRVs) may be needed to protect fixtures from the high-water pressure. The water meter supporting the community water filling station will remain.

The DWS indicates that additional water units are available for purchase if needed for both parcels.

4.7.2 Wastewater System

The existing Individual Wastewater System (IWS File No. 12063, parcel 088) serves the existing Annex building. The existing IWS has a 1000-gallon septic tank leading to a seepage pit for disposal. The IWS received an Approval to Use (ATU) letter from the DOH in April, 2007. This existing system is likely to stay in service as no new wastewater flows will be added to it.

There are no IWSs registered with the DOH on parcel 035. However, one or more cesspools may be linked to the various abandoned buildings. Backfilling of any such unregistered cesspools should be addressed in later development phases.

POTENTIAL IMPACTS AND MITIGATION MEASURES

During the Draft EA Public Review period, the State DLNR Division of Aquatic Resources (DAR) wrote:

> *"The DAR highly recommends the installation of denitrification systems or capacities to any existing and proposed individual wastewater systems included within the scope of this project. Current approved septic systems and leach fields do not reduce excess nutrient concentrations, such as those of nitrogen and phosphorus, within wastewater. Highly elevated nutrient concentrations from these wastewater systems can directly impact groundwater and aquatic ecosystems. Specifically, given the proximity of the project area to the coastline, potential impacts to nearshore marine and coastal habitats are of concern as elevated nutrients within these ecosystems can trigger algal blooms, thereby altering the habitat and impacting inhabiting species. Such impacts have been studied and documented in Hawai'i and elsewhere."* (See Appendix H)

A new and separate IWS consisting of an appropriately sized septic tank and leach field will serve the new building in the Phase 1 Development.

4.7.3 Drainage System

There are two existing shallow drywells on parcel 088, they are located in the paved parking area. There are no existing drainage structures on parcel 035.

The two existing drywells on parcel 088 seem to accept stormwater runoff from the parking area and half of the existing building. Runoff from the tennis courts, half the existing building and baseball field are not directed toward the two existing drywells.

POTENTIAL IMPACTS AND MITIGATION MEASURES

During the Draft EA Public Review period, the DPW wrote:

> *"All development-generated runoff shall be disposed of on site and not directed toward any adjacent properties. A drainage study shall be prepared and the recommended drainage system shall be constructed meeting the approval of the Department of Public Works."* (See Appendix H)

It is unclear if typical drywells will be used (deeper than they are wide), or if shallow drywells will be used. It is also possible that a combination of typical and shallow drywells will be used to mitigate stormwater flows in the Phase 1 Development. Typical drywells are generally accepted (by DPW Engineering) to have the ability to mitigate up to 6.0 cubic feet per second (cfs) of stormwater, while shallow drywells have the ability to mitigate up to 2.0 cfs of stormwater.

4.7.4 Solid Waste

The County of Hawai'i Solid Waste Division is responsible for the operation and maintenance of 21 Transfer Stations, the West Hawai'i Sanitary Landfill, the East Hawai'i Reload Facility, Recycling, HI-5 Redemption, Reuse Centers, Derelict and Abandoned Vehicles and the East Hawai'i and West Hawai'i Organics "Greenwaste" Facilities.

The closest transfer station to the Project Site is the Laupāhoehoe Transfer Station, located less than a mile away on Old Māmalahoa Highway. Currently, the Pāpa'aloa Park generates solid waste related to facility operations and events. Whatever is not recycled, is placed in trash receptacles, the contents of which are collected and disposed of at the Laupāhoehoe Transfer Station by the Maintenance Division staff of the DPR or by facility users when the trash generated at the park exceeds the capacity of onsite trash receptacles.

POTENTIAL IMPACTS AND MITIGATION MEASURES

During the short-term, waste generated by site preparation will primarily consist of green waste from grading, and solid waste during demolition of any built facilities. Soil and rocks displaced from grading and clearing will be used as fill within the site as needed and where feasible. The construction contractor will be required to haul all trash generated by construction activities to the West Hawai'i Sanitary Landfill. Green waste will be required to be hauled to an approved composting operation and excavated soils and rock that are not reused on site shall be hauled to locations acceptable to the County for use as fill or other purposes.

No significant long-term, direct, indirect, or cumulative adverse impacts are expected after implementing the Pāpa'aloa Park Master Plan. After construction, the improved Pāpa'aloa Park will generate solid waste related to facility operations and events in similar quantities to the amount currently being generated. As is current practice, to minimize waste, recycling bins will be provided for staff and visitors. Waste that cannot be recycled will be disposed of at the Laupāhoehoe Transfer Station.

4.7.5 Electrical and Communications System

Electrical power, telephone and internet service is available from overhead lines along Old Māmalahoa Highway.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant long-term, direct, indirect, or cumulative adverse impacts are expected in implementing the Pāpa'aloa Park Master Plan. As the use of the Project site is not changing, electrical and telecommunications service is expected to remain adequate. After construction, the improved Pāpa'aloa Park will continue to rely on the overhead electrical and telecommunications lines along Old Māmalahoa Highway for service to the Project site. As the design of Phase I (and future phases) develops, KYA's electrical engineer will confirm if any new electrical poles will be required for the Phase 1 Development and/or if new transformer(s) will be required.

4.8 SOCIO-ECONOMIC CHARACTERISTICS

4.8.1 Population

Hawai'i County is the second most populous among the State's counties, following the City and County of Honolulu. According to the 2020 Census enumeration, the County had 200,629 residents. The Project site is located in the Laupāhoehoe Census-Designated Place, home to 1,147 persons, which ranked 35 out of 42 Census-Designated Places in the County, and 139 out of 151 Census-Designated Places in the State. As one of the smallest Census-Designated Places in the County and the State, existing land uses in the Laupāhoehoe Census-Designated Place are representative of land uses typically found in a rural community which is dependent on agriculture production. Much of the area is vacant, neither developed nor utilized for agriculture.

Since at least 1970, the County's resident population growth exceeded the statewide average, generally at a pace second only to Maui County. Average annual growth rates in each 5-year period between 1970 and 2010 ranged from 1.2% to 3.9%.

With the Island's extensive land and other resources, the State and other planners have long assumed that the County would continue to grow rapidly, exceeding growth rates of other

counties. The State Department of Business, Economic Development, and Tourism (DBEDT), in its most recent long-range projections (DBEDT, Research Economic Analysis Division, 2018), anticipated annual resident population growth of 1.0% to 1.3% over the 2016 to 2040 period. Likewise, in its annual population estimates, the Census estimated relatively robust growth, ranging from 1.7% to 2.3% per annum between 2010 and 2017. However, the Census' estimated rates of increase were subsequently reduced as evidence of out-migration was revealed. The Census' American Community Survey (ACS) 2019 estimate of the Island's population came in lower than the Census' 2018 estimate.

Based on the 2020 Census, the County population is now understood to have grown at an average 0.6% per annum between 2010 and 2020[1]. While 2021 Census estimates are not yet available by county, the statewide estimate reflects a loss of over 10,000 residents, or 0.7% of the population enumerated in 2020.

A March 2022 set of forecasts by the University of Hawai'i, Economic Research Organization (UHERO) addressed the economic and demographic impacts of the COVID-19 pandemic, with a two-year forecast to 2024. The outlook sees gradual recovery as the virus appears to be transitioning to an endemic disease and travel restrictions ease, permitting the return of international visitors. While optimistic, the report notes that "[c]onsiderable risks remain, including COVID-19 surprises, Fed tightening, and economic fallout from the Russian invasion of Ukraine" (University of Hawai'i, Economic Research Organization, 2022).

For Hawai'i County, UHERO forecasts population recovering to about the 2020 level by 2023, and 0.3% growth from 2023 to 2024.

Current indicators and prior studies are accounted for in the County population projections for 2021 to 2040. Future uncertainties are expressed as low and high scenarios in the projections used in this study.

- **Low range** – A low range estimate considers that County population stabilizes in 2022, recovering its growth in coming years as tourism and other sectors regain traction. On average, population change in the 2021 to 2030 period is forecast at 0.4% per annum, slower than the rate experienced between 2010 and 2020. From 2031 to 2040, growth is projected to return to the recent historical rate of 0.6% per annum.

[1] While it is understood that the State of Hawai'i lost population in 2020 and 2021 due to the economic and other impacts of COVID-19 in Hawai'i, those impacts should have been relatively limited at the time of the April 2020 Census enumeration, and thus may not be reflected in the 2020 Census. On the other hand, the 2020 Census enumeration is potentially low due to COVID-related conditions that discouraged more active in-person solicitation of responses at the time.

- **High range** – A high range estimate anticipates continued population growth, but at an average of 1.1% per annum through 2030, and 0.9% per annum thereafter. Both these rates are less than the 1.2% and 1.0% to 1.1% annual rates anticipated by DBEDT in its 2018 study. This outlook recognizes the ongoing recovery from COVID-19 setbacks, as noted in the UHERO study and anticipates robust growth thereafter.[2]

POTENTIAL IMPACTS AND MITIGATION MEASURES

Implementation of the Pāpa'aloa Park Master Plan will not result in generating new residents, and will not have any short-term, long-term, direct, indirect, primary, secondary, or cumulative impacts to the population of the North Hilo District or the County of Hawai'i.

4.8.2 Economy

According to the United States Census Bureau, 45.8% of the working population in the Laupāhoehoe Census-Designated Place are employed (American Community Survey, U.S. Census Bureau, 2021); this compares with the statewide employment rate of 57.4%.

The median household income in the Laupāhoehoe Census-Designated Place is $49,632; this compares with the median household income in the State ($92,458). As a result, 22.8% of all people in the Laupāhoehoe Census-Designated Place are impoverished, compared with a 10.2% poverty rate of all people in the State of Hawai'i.

Of those employed within the Laupāhoehoe Census-Designated Place, 62.7% were private company workers, and approximately 18.8% were local, state, and federal government workers.

The "Educational services, and health care and social assistance" sector provided 18.6% of the employment for residents of the Laupāhoehoe Census-Designated Place, with "Transportation, Warehousing, and Utilities" providing 16.4% of the jobs.

Nearly all of the jobs required commuting, whether by driving alone (64.2%) or by carpooling (19.0%). Approximately 13.3% worked from home.

4.8.3 Human Services

During the pre-Assessment consultation process, the State Department of Human Services (DHS) wrote: *"DHS has reviewed the Pāpa'aloa Park Master Plan and Phase I Development project and*

[2] The March 2022 UHERO forecast begins with a higher estimated 2020 population than the current analysis (210,300 vs. the 200,600 assumed herein). Thus, while the current assessment implies a higher rate of growth than UHERO in the coming years, by 2024, this assessment results in a population forecast that is 99% of the UHERO forecast for that year.

the map of the area. At this time, DHS has no comments." (See Appendix A.) DHS provided very similarly worded comments during both Draft EA public review periods (See Appendix H).

POTENTIAL IMPACTS AND MITIGATION MEASURES

During construction, there will be positive economic benefits in terms of construction jobs, construction spending, and multiplier effects on the local economy. Also, the acquisition of construction materials and the retention of design professionals (architects, engineers, landscape architects, etc.) will generate excise taxes. Also, all those employed during construction will generate income that in turn will generate personal and corporate income taxes.

While the Pāpa'aloa Park Master Plan is relatively modest in terms of other County projects, it will present beneficial short-term, direct, indirect and multiplier benefits to economy of Pāpa'aloa and surrounding communities.

4.9 PUBLIC SERVICES AND FACILITIES

4.9.1 Schools

Presently, the State Department of Education (DOE) operates 16 public schools in the Hilo-Laupāhoehoe-Waiākea Complex area. The only school in the Laupāhoehoe Complex is Laupāhoehoe Community Public Charter School (K-12). The next closest public schools are Pa'auilo Elementary & Intermediate School (K-8) and Prince Jonah Kūhiō Kalaniana'ole Elementary & Intermediate School (K-8). Table 7 presents the most recent school enrollment information.

Table 7: Enrollment for Public Schools

School	Enrollment in 2020-2021 School Year
Pa'auilo Elementary & Intermediate School (K-8)	183*
Prince Jonah Kūhiō Kalaniana'ole Elementary & Intermediate School (K-8)	274*
Laupāhoehoe Community Public Charter School (K-12)	336** (Spring 2024)

*Sources: *(State of Hawai'i Department of Education, 2021); **(Kurt Rix, Director of School)*

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Pāpa'aloa Park Master Plan will not generate new residents, and as a result, is not expected to have a significant direct, indirect cumulative or long-term impact on existing public or private school facilities.

4.9.2 Police, Fire and Medical

The Project Site is served by the County of Hawai'i Police Department through the North Hilo District (Laupāhoehoe) Police Substation located at Pu'u'alaea Homestead Road, approximately 1.5 miles or five minutes away, northwest toward Laupāhoehoe Lookout.

The Laupāhoehoe Fire Station No. 17 is located immediately adjacent to the Laupāhoehoe Police Station on Pu'u'alaea Homestead Road, approximately 1.5 miles or five minutes away from the Project Site. There are multiple fire hydrants in the Old Māmalahoa Highway ROW. One fire hydrant is located near the southeastern corner of the existing tennis courts (fronting parcel 088). The existing building on parcel 088 does not have a fire sprinkler system.

The nearest emergency room to the Site is Hale Ho'ola Hāmākua, located at 45-547 Plumeria Street, 20 miles (or 26 minutes) away in Honoka'a. The other closest emergency room is the Hilo Medical Center located at 1190 Waiānuenue Avenue in Hilo located 23.5 miles or 33 minutes away. The Hāmākua-Kohala Clinic at Laupāhoehoe provides non-emergency medical care during regular business hours. The Laupāhoehoe Health Clinic is located approximately 1.1 miles away at 35-2065 Old Māmalahoa Highway.

POTENTIAL IMPACTS AND MITIGATION MEASURES

During the pre-Assessment consultation process and Draft EA Public Review period, the Police Department wrote: *"The Hawai'i Police Department has no concerns as it relates to traffic and public safety on this project"* (see Appendix A and Appendix H).

It is yet to be determined if the Phase I Development will require a fire sprinkler system. If the play court expansion is contiguous with the Phase I covered play court structure, it may require the addition of a fire sprinkler system to the entire building. If a fire sprinkler system is required, an adequately sized fire protection water meter and backflow preventer will be included in the design.

The Pāpa'aloa Park Master Plan will not generate new residents, and as a result, is not expected to have a significant direct, indirect cumulative or long-term impact on existing Police, Fire, and Medical services, other than for occasional and unavoidable needs from employees and visitors.

4.9.3 Recreational Facilities

Per HCC 15-68.1, park facilities owned and managed by the County of Hawai'i in North Hilo include: Pāpa'aloa Park (the subject of this EA), 'Ō'ōkala Park, Waikaumalo Park, Laupāhoehoe Civic Building, Laupāhoehoe Playground, Laupāhoehoe Point Beach Park, Laupāhoehoe Senior Center, and Laupāhoehoe Swimming Pool.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Since the Pāpa'aloa Park Master Plan will not generate new residents needing recreational areas, it should not pose direct, long-term, or cumulative impacts to 'Ō'ōkala Park, Waikaumalo Park, Laupāhoehoe Civic Building, Laupāhoehoe Playground, Laupāhoehoe Point Beach Park, Laupāhoehoe Senior Center, and Laupāhoehoe Swimming Pool.

In addition, during the pre-Assessment consultation process, the County of Hawai'i Office of Housing and Community Development (OHCD) wrote: *"The OHCD supports the effort of the Department of Parks and Recreation in the development of the subject parcels. OHCD recently renovated and added to its elderly rental housing on TMK: (3) 3-5-003: 049 across of the Pāpa'aloa Park and serves as a valuable recreational resources for its residents"* (see Appendix A).

4.10 HAZARDOUS MATERIALS

During the Draft EA Public Review period, the DOH Hazard Evaluation and Emergency Response (HEER) Office wrote:

> *"1. The draft DEA/FONSI states that the Phase I Development will be limited to Tax Map Key (TMK) (3) 3-5-003: Parcel 035* [sic]*. Please note that there is a HEER Office site located at that TMK called Papaaloa Park ADA Construction.[3] The site documents are available on our iHEER website at https://eha-cloud.doh.hawaii.gov/iheer#!/site/3127/details/view. Based on a review of those documents, it appears that a limited soil assessment was conducted which identified lead contamination in the soil at the property. Additional contaminants that could be associated with historic structures at the property include arsenic and organochlorine pesticides which were commonly used in the past as insecticides around and beneath building foundations. If there was historical use of the site for pesticide mixing or other industrial activities during historic plantation-era use, then other contaminants of potential concern (COPCs) may also be present and should be investigated.*
>
> *Please plan to conduct a thorough environmental investigation in accordance with the HEER Office Technical Guidance Manual (TGM) to identify any other potential contaminant sources and to fully characterize the nature and extent of environmental contamination at the site prior to redevelopment. As described in Hawaii Revised Statute (HRS) 128D and Hawaii Administrative Rule (HAR) 11-451, following site characterization you should conduct an evaluation of remedial alternatives and implement a response*

[3] NOTE: This HEER Office site (iHEER ID #3127) is located on TMK (3) 3-5-003: Parcel 088.

action to address any identified contaminants that pose a potential threat to human health or the environment prior to redevelopment. Please plan to work with the HEER Office to develop an acceptable sampling and analysis plan (SAP) and other documents as required based on the results of the initial investigation.

2. The DEA/FONSI also states that if funding is available, demolition of one or more plantation-era structures will occur on TMK (3) 3-5-003: Parcel 0035. Please also conduct an initial environmental assessment (e.g., a Phase I Environmental Site Assessment) of this parcel to identify any potential COPCs, and if deemed appropriate, conduct additional site characterization and remediation of this parcel prior to redevelopment as well. Please plan to submit all SAPs and other environmental documents to the HEER Office for review and approval prior to conducting sampling and environmental response activities." (See Appendix H)

POTENTIAL IMPACTS AND MITIGATION MEASURES

As recommended by DOH HEER, a thorough environmental investigation of TMK (3) 3-5-003: 088 (HEER Site #3127) will be conducted in accordance with the HEER Office TGM to identify any other potential contaminant sources and to fully characterize the nature and extent of the environmental contamination at the site prior to redevelopment. DPR and/or its environmental engineering consultants will work with the HEER Office to develop an acceptable sampling and analysis plan and other documents as required based on the results of the initial investigation.

At the appropriate stage of development of TMK (3) 3-5-003: 035, DPR and/or its environmental engineering consultants will conduct an initial environmental assessment (e.g., a Phase I Environmental Site Assessment) of this parcel to identify any potential COPCs, and if deemed appropriate, DPR will conduct additional site characterization and remediation of this parcel prior to redevelopment. It is understood that DPR will submit all SAPs and other environmental documents to the HEER Office for review and approval prior to conducting sampling and environmental response activities.

5.0 RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS OF THE AFFECTED AREA

State and County land use plans and policies and required permits and approvals relevant to the Project are described below.

During the pre-Assessment consultation process, the County of Hawai'i Planning Department wrote:

> *"The subject area consists of two parcels with approximately 10.81 acres combined. The subject area is zoned Agricultural District (A-1a) and General Industrial District (MG-1a) by the County and designated as Urban…and Conservation by the State Land Use Commission. According to the County of Hawai'i General Plan 2005, amended December 2006, the subject area is designated as Important Agricultural Lands and Open Area by the Land Use Pattern Allocation Guide (LUPAG) Map. While the entire island of Hawai'i is within the Coastal Zone Management Area, the entire subject area is also located within the Special Management Area with frontage along the shoreline and subject to review against SMA rules and regulations"* (see Appendix A).

5.1 STATE OF HAWAI'I

5.1.1 State Land Use Law, Chapter 205, Hawai'i Revised Statutes

The State Land Use Law (Chapter 205, HRS) establishes the LUC and authorizes this body to designate all lands in the State into one of four Districts: Urban, Rural, Agricultural, or Conservation. During the pre-Assessment consultation process, the State DLNR Office of Conservation and Coastal Lands (OCCL) wrote:

> *"Staff's research identified that a makai portion of parcel 035 is within the State of Hawaii Land Use Conservation District's Resource Subzone. The remainder of parcel 035 and the entirety of parcel 088 is in the States[sic] Urban Land Use District.*
>
> *Please consult with the State Land Use Commission to determine what portion of parcel 035 lies within the Conservation District versus another State Land Use District. Proposed land uses within the Conservation District requires a Departmental review to determine what type of authorization may be required. Land uses outside of the Conservation District may proceed with permitting through the county."* (See Appendix A)

The Project site is located predominantly within the State Land Use Urban District, though a small portion is located in the State Land Use Conservation District (Appendix G, Figure 3). According to HRS Section 205-2(e): "Conservation Districts shall include areas necessary for protecting

watersheds and water sources; preserving scenic and historic areas; providing park lands, wilderness, and beach reserves; conserving indigenous or endemic plants, fish, and wildlife, including those which are threatened or endangered; preventing floods and soil erosion; forestry; open space areas whose existing openness, natural condition, or present state of use, if retained, would enhance the present or potential value of abutting or surrounding communities, or would maintain or enhance the conservation of natural or scenic resources; areas of value for recreational purposes; other related activities; and other permitted uses not detrimental to a multiple use conservation concept."

The Applicant (or its representative) will apply for a Boundary Interpretation from the LUC, to ensure that any planned park improvements in parcel 035 that may affect the Conservation District are responsibly programmed and carefully designed to be consistent with the intent and purpose of the Resource Subzone.

During the Draft EA Public Review period, OCCL wrote:

> *"Should the Boundary Interpretation show that there is proposed land use in the Conservation District or should this plan change, please contact the OCCL so that we may make a determination as to what type of authorization may be required."* (See Appendix H)

Should the Boundary Interpretation show that there is proposed land use in the Conservation District or should this plan change, DPR will contact OCCL so that it may make a determination as to what type of authorization may be required.

According to HRS Section 205-2(b): "Urban districts shall include activities or uses as provided by ordinances or regulations of the county within which the urban district is situated." Section 5.2 of this EA describes the County of Hawai'i regulations as applicable to this Project.

5.1.2 Coastal Zone Management Act, Chapter 205A, Hawai'i Revised Statutes

The U.S. Congress enacted the Coastal Zone Management (CZM) Act to assist States in better managing coastal and estuarine environments. The act provides grants to States that develop and implement Federally approved CZM plans. The State of Hawai'i's CZM Act Program was enacted pursuant to Chapter 205A, HRS.

The CZM area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" (HRS §205A-1). The Project site thus falls within the CZM area.

During the pre-Assessment consultation process, the OPSD wrote:

> *"Pursuant to HRS § 205A-4, in implementing the objectives of the CZM program, agencies shall consider ecological, cultural, historic, esthetic, recreational, scenic, open space values, coastal hazards, and economic development. As the proposed action is being proposed by the CoH, the Draft Environmental Assessment (Draft EA) should include a discussion on the project's consistency with the policies of the Hawai'i CZM Program, HRS § 205A-2, as amended.*
>
> *Disclosure of impacts on CZM objectives and supporting policies as it relates to HRS Chapter 343 requirements, will aid the State in determining impacts to the resources of the coastal zone, and mitigation measures on lands involved for this proposed action."* (See Appendix A.)

Also during the pre-Assessment consultation process, the Planning Department wrote:

> *"Describe the proposed project's consistency with Hawai'i Revised Statutes (HRS), Chapter 205A, Coastal Zone Management."* (See Appendix A.)

Table 8 below discusses the applicability of CZM Program objectives and policies (as described in HRS §205A-2) to the Pāpa'aloa Park Master Plan .

Table 8: Coastal Zone Management Act, Chapter 205A, HRS

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Recreational Resources			
Objective: (A) Provide coastal recreational opportunities accessible to the public.			
Policies:			
(A) Improve coordination and funding of coastal recreational planning and management; and			X
(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:			
(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;			X
(ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;			X
(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;			X

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS **(**Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;	X		
(v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;	X		
(vi) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;			X
(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and			X
(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.			X
Discussion: The proposed Pāpa'aloa Park Master Plan is a coastal development located on the coastline and within the SMA. The Phase I Development located on TMK 3-5-003: 088 is not located on the coastline and is separated from the ocean by parcels identified as TMK 3-5-003: 035 and 065. The Project proposes: a new covered play court facility, associated on-site and off-site infrastructure and utility improvements/modifications, replacement/improvement of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. The proposed improvements will help to ensure that the County-owned Pāpa'aloa Park will remain a quality recreational resource in the coastal area.			
Historic Resources			
Objective: (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.			
Policies:			
(A) Identify and analyze significant archaeological resources;			X
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and			X
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.			X
Discussion: Due to the extensive disturbance that the Project Site has experienced during the development of its previous use as Laupāhoehoe Sugar Company's vehicle repair shop buildings, gymnasium, and tennis courts, and its current use as a public park, it is unlikely that subsurface historic resources are present. Should any archaeological or cultural remains be encountered during construction, all work in the immediate vicinity of the find will cease and the SHPD will be contacted for establishment of appropriate mitigation in accordance with Chapter 6E, HRS.			
Scenic and Open Space Resources			
Objective: (A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.			

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS **(**Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Policies:			
(A) Identify valued scenic resources in the coastal zone management area;			X
(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;			X
(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and			X
(D) Encourage those developments that are not coastal dependent to locate in inland areas.			X
Discussion: Although a portion of the Pāpa'aloa Park properties (TMK 3-5-003: 035) abuts the coastline, the shoreline is not visible across or from the Project site due to extensive vegetation and trees between the Project site and the shoreline. Therefore, no existing visual or scenic resources will be impacted by the proposed park improvements.			
Coastal Ecosystems			
Objective: (A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.			
Policies:			
(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;	X		
(B) Improve the technical basis for natural resource management;			X
(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;			X
(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and			X
(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.	X		
Discussion: Implementation of the Pāpa'aloa Park Master Plan will not directly impact coastal ecosystems as it is located on a plateau and the plateau's cliff edge is approximately 150 feet from the water's edge. Furthermore, extensive vegetation and trees separate usable, graded areas of the Park from coastal waters, thereby acting as a natural buffer from intrusion of coastal resources. BMP will be implemented during construction to prevent erosion and stormwater runoff during the construction phase.			
Economic Uses			
Objective: (A) Provide public or private facilities and improvements important to the State's economy in suitable locations.			

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS **(**Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Policies:			
(A) Concentrate coastal dependent development in appropriate areas;			X
(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and			X
(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:			
(i) Use of presently designated locations is not feasible;			X
(ii) Adverse environmental effects are minimized; and			X
(iii) The development is important to the State's economy.			X
Discussion: Even with the proposed improvements, Pāpa'aloa Park is not considered a regional park capable of hosting sports tournaments with teams traveling from other areas of the State or from other States or Countries. Therefore, aside from short-term construction employment benefits, implementation of the Pāpa'aloa Park Master Plan is not expected to have an impact on the State's economy.			
Coastal Hazards			
Objective: (A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.			
Policies:			
(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;			X
(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;			X
(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and	X		
(D) Prevent coastal flooding from inland projects.			X
Discussion: As the Project site is already the site of an existing public park and is not located in a flood or tsunami zone, or subject to stream flooding, erosion, subsidence and pollution, the Project will not exacerbate or expose animals, staff, and visitors to coastal hazards. Pāpa'aloa Park is located on County-owned property, and proposed improvements to the Park will not impact existing lateral public access to the shoreline, publicly-owned or used beaches, recreation areas, and natural reserves. In addition, the proposed covered play court will be set back approximately 134 feet from the closest pali (cliff edge) and no development will occur within the Shoreline Setback area. Implementation of the Pāpa'aloa Park Master Plan will not result in adverse effects to water resources or scenic and recreational amenities or increase the danger of floods, wind damage, storm surge, landslides, erosion, siltation, or failure in the event of earthquake. (It should be noted that subsidence hazards along the Hāmākua coastline are not shown on Ground Fracture and Subsidence Hazards Zones map https://www.usgs.gov/observatories/hvo/science/ground-fractures-and-subsidence-hazards-island-hawaii.)			

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Managing Development			
Objective: (A) Improve the development review process, communication, and public participation in the management of coastal resources and hazards.			
Policies:			
(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;			X
(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and			X
(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.	X		
Discussion: A portion of the Pāpa'aloa Park properties (TMK 3-5-003: 035) will be a coastal development located in the SMA; however, as discussed above, the Project site is set back considerably from the shoreline and contains adequate natural buffers to prevent intrusion on coastal resources. Nevertheless, opportunities for public input are provided. Early consultation comments were obtained and are reproduced in Appendix A. In addition, this EA discusses potential impacts and mitigation measures of the Pāpa'aloa Park Master Plan and provided an opportunity for input during the Draft EA Public Comment period.			
Public Participation			
Objective: (A) Stimulate public awareness, education, and participation in coastal management.			
Policies:			
(A) Promote public involvement in coastal zone management processes;	X		
(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and			X
(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.			X
Discussion: A portion of the Pāpa'aloa Park properties (TMK 3-5-003: 035) will be a coastal development located in the SMA; however, as discussed above, the Project site is set back considerably from the shoreline and contains adequate natural buffers to prevent intrusion of coastal resources. Nevertheless, opportunities for public input are provided. Early consultation comments were obtained and are reproduced in Appendix A. In addition, this EA discusses potential impacts and mitigation measures of the Pāpa'aloa Park Master Plan and provided an opportunity for input during the Draft EA Public Comment period.			
Beach Protection			
Objective: (A) Protect beaches for public use and recreation.			

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS **(**Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Policies:			
(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;			X
(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and			X
(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.			X
(D) Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and			X
(E) Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.			X
Discussion: The Pāpa'aloa Park Master Plan has no relationship to beach protection or access, as it is located approximately 2 miles from the closest beach park, Laupāhoehoe Beach Park. Although Pāpa'aloa Park is a coastal development and located in the SMA, access to the water's edge is not feasible due to extensive vegetation and change in elevation (230 feet) between the lowest point on the cliff and water's edge. Therefore, the Pāpa'aloa Park Master Plan will not impact any beach protection or access.			
Marine Resources			
Objective: (A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.			
Policies:			
(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;			X
(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;			X
(C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;			X
(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and			X
(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.			X
Discussion: A portion of the Pāpa'aloa Park properties (TMK 3-5-003: 035) will be a coastal development located in the SMA; however, as discussed above, the Project site is set back considerably from the shoreline and contains adequate natural buffers that deter human interaction with marine and coastal resources.			

5.1.3 Hawai'i State Planning Act, Chapter 226, Hawai'i Revised Statutes

The Hawai'i State Plan, Chapter 226 HRS (2007) provides guidelines for the future growth of the State of Hawai'i. The Hawai'i State Plan identifies goals, objectives, policies, and priorities for allocating the State's resources, including public funds, services, human resources, land, energy, and water. The Plan was enacted to achieve "a desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people." Table 9 outlines the Pāpa'aloa Park Master Plan's conformance with each theme, goal, objective, policy, and guideline of the Plan.

5.1.4 Hawai'i State Plan, Part I: Overall Theme, Goals, Objectives and Policies

Table 9: Hawai'i State Plan, Chapter 226, HRS – Part I

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
HRS § 226-1: Findings and Purpose			
HRS § 226-2: Definitions			
HRS § 226-3: Overall Theme.			
Hawai'i's people, as both individuals and groups, generally accept and live by a number of principles or values which are an integral part of society. This concept is the unifying theme of the State Plan. The following principles or values are established as the overall theme of the Hawai'i State Plan: *(1) Individual and family self-sufficiency refers to the rights of people to maintain as much self-reliance as possible. It is an expression of the value of independence, in other words, being able to freely pursue personal interests and goals. Self-sufficiency means that individuals and families can express and maintain their own self-interest so long as that self-interest does not adversely affect the general welfare. Individual freedom and individual achievement are possible only by reason of other people in society, the institutions, arrangements and customs that they maintain, and the rights and responsibilities that they sanction.* *(2) Social and economic mobility refers to the right of individuals to choose and to have the opportunities for choice available to them. It is a corollary to self-sufficiency. Social and economic mobility means that opportunities and incentives are available for people to seek out their own levels of social and economic fulfillment.* *(3) Community or social well-being is a value that encompasses many things. In essence, it refers to healthy social, economic, and physical environments that benefit the community as a whole. A sense of social responsibility, of caring for others and for the well-being of our community and of participating in social and political life, are important aspects of this concept. It further implies the aloha spirit--attitudes of tolerance, respect, cooperation and unselfish giving, within which Hawai'i's society can progress.* *One of the basic functions of our society is to enhance the ability of individuals and groups to pursue their goals freely, to satisfy basic needs and to secure desired socio-economic levels. The elements of choice and mobility within society's legal framework are fundamental rights. Society's role is to encourage conditions within which individuals and groups can approach their desired levels of self-reliance and self-determination. This enables people to gain confidence and self-esteem; citizens contribute more when they possess such qualities in a free and open society.*			

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Government promotes citizen freedom, self-reliance, self-determination, social and civic responsibility and goals achievement by keeping order, by increasing cooperation among many diverse individuals and groups, and by fostering social and civic responsibilities that affect the general welfare. The greater the number and activities of individuals and groups, the more complex government's role becomes. The function of government, however, is to assist citizens in attaining their goals. Government provides for meaningful participation by the people in decision-making and for effective access to authority as well as an equitable sharing of benefits. Citizens have a responsibility to work with their government to contribute to society's improvement. They must also conduct their activities within an agreed-upon legal system that protects human rights.			
Discussion: While the Pāpa'aloa Park Master Plan would not appear to have a direct relation to the principles or values that are established as the overall theme of the Hawai'i State Plan, the provision of safe, high-quality recreational facilities promotes physical health and social opportunities for Hawai'i Island residents of all ages.			
HRS § 226-4: State Goals.			
In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve: *(1) A strong, viable economy, characterized by stability, diversity and growth that enables fulfillment of the needs and expectations of Hawai'i's present and future generations.* *(2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.* *(3) Physical, social and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring and of participation in community life.*			
Discussion: The provision of safe, high-quality recreational facilities promotes physical health and social opportunities for Hawai'i Island residents of all ages.			
HRS § 226-5: Objectives and policies for population.			
(a) Objective: *It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.*			
(b) Policies:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county.			X
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.			X
(3) Promote increased opportunities for Hawai'i's people to pursue their socio-economic aspirations throughout the islands.			X
(4) Encourage research activities and public awareness programs to foster an understanding of Hawai'i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai'i's population.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.			X
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.			X
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for population.			
HRS § 226-6: Objectives and policies for the economy in general.			
(a) Objectives: *Planning for the State's economy in general shall be directed toward achievement of the following objectives:*			
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			X
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.			X
(b) Policies:			
(1) Promote and encourage entrepreneurship within Hawai'i by residents and nonresidents of the State.			X
(2) Expand Hawai'i's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.			X
(3) Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people.			X
(4) Transform and maintain Hawai'i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.			X
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai'i.			X
(6) Seek broader outlets for new or expanded Hawai'i business investments.			X
(7) Expand existing markets and penetrate new markets for Hawai'i's products and services.			X
(8) Assure that the basic economic needs of Hawai'i's people are maintained in the event of disruptions in overseas transportation.			X
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai'i's small scale producers, manufacturers, and distributors.			X
(11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.			X
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai'i.			X
(13) Foster greater cooperation and coordination between the government and private sectors in developing Hawai'i's employment and economic growth opportunities.			X
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.			X
(15) Maintain acceptable working conditions and standards for Hawai'i's workers.			X
(16) Provide equal employment opportunities for all segments of Hawai'i's population through affirmative action and nondiscrimination measures.			X
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			X
(18) Encourage businesses that have favorable financial multiplier effects within Hawai'i's economy, particularly with respect to emerging industries in science and technology.			X
(19) Promote and protect intangible resources in Hawai'i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.			X
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular.			X
(21) Foster a business climate in Hawai'i--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			X
Discussion: Aside from the short-term economic benefits for the construction industry during construction of the proposed improvements, the Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for the economy in general.			
HRS § 226-7: Objectives and policies for the economy – agriculture			
(a) Objectives: *Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:*			
○ Viability of Hawai'i's sugar and pineapple industries.			X
○ Growth and development of diversified agriculture throughout the State.			X
○ An agriculture industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(b) Policies:			
(1) Establish a clear direction for Hawai'i's agriculture through stakeholder commitment and advocacy.			X
(2) Encourage agriculture by making best use of natural resources.			X
(3) Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture.			X
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			X
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai'i's economy.			X
(6) Seek the enactment and retention of federal and state legislation that benefits Hawai'i's agricultural industries.			X
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai'i's food producers and consumers in the State, nation, and world.			X
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.			X
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			X
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			X
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			X
(12) In addition to the State's priority on food, expand Hawai'i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			X
(13) Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency, including the increased purchase and use of Hawai'i-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.			X
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			X
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			X
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for agriculture.			

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
HRS § 226-8: Objectives and policies for the economy – visitor industry			
(a) Objectives: *Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai'i's economy.*			
(b) Policies:			
(1) Support and assist in the promotion of Hawai'i's visitor attractions and facilities.			X
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.			X
(3) Improve the quality of existing visitor destination areas by utilizing Hawai'i's strengths in science and technology.			X
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			X
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai'i's people.			X
(6) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the visitor industry.			X
(7) Foster a recognition of the contribution of the visitor industry to Hawai'i's economy and the need to perpetuate the aloha spirit.			X
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values.			X
Discussion: Even with the proposed improvements, Pāpa'aloa Park is not considered a regional park capable of hosting sports tournaments with teams traveling from other areas of the State or from other States or Countries. Therefore, implementation of the Pāpa'aloa Park Master Plan is not expected to impact the visitor industry.			
HRS § 226-9: Objective and policies for the economy – federal expenditures			
(a) Objective: *Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai'i's economy.*			
(b) Policies:			
(1) Encourage the sustained flow of federal expenditures in Hawai'i that generates long-term government civilian employment.			X
(2) Promote Hawai'i's supportive role in national defense, in a manner consistent with Hawai'i's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawai'i's economy.			X
(3) Promote the development of federally supported activities in Hawai'i that respect state-wide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai'i's environment.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(4) Increase opportunities for entry and advancement of Hawai'i's people into federal government service.			X
(5) Promote federal use of local commodities, services, and facilities available in Hawai'i.			X
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai'i.			X
(7) Pursue the return of federally controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies on federal expenditures.			
HRS § 226-10: Objectives and policies for the economy – potential growth and innovative activities.			
(a) Objective: *Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawai'i's economic base.*			
(b) Policies:			
(1) Facilitate investment and employment in economic activities that have the potential to expand and diversify Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors.			X
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai'i through the export of services or products or substitution of imported services or products.			X
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements.			X
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity.			X
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus.			X
(6) Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people.			X
(7) Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.			X
(8) Accelerate research and development of new energy- related industries based on wind, solar, ocean, and underground resources and solid waste.			X

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(9) Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new economic activities into the State.			X
(10) Provide public incentives and encourage private initiative to attract new industries that best support Hawai'i's social, economic, physical, and environmental objectives.			X
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research.			X
(12) Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i.			X
(13) Foster a broader public recognition and understanding of the potential benefits of new, or innovative growth-oriented industry in Hawai'i.			X
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives.			X
(15) Increase research and development of businesses and services in the telecommunications and information industries.			X
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation.			X
(17) Recognize and promote health care and health care information technology as growth industries.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies on potential growth and innovative activities.			
HRS § 226-10.5: Objectives and policies for the economy – information industry			
(a) Objective: *Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai'i as a leader in broadband and wireless communications and applications in the Pacific Region.*			
(b) Policies:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai'i and between Hawai'i and the world, and make high speed communication available to all residents and businesses in Hawai'i.			X
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai'i to accommodate future growth and innovation in Hawai'i's economy.			X
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai'i.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawai'i, using technology to communicate with their headquarters, offices, or customers located out-of-state.			X
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry.			X
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.			X
(7) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the information industry.			X
(8) Foster a recognition of the contribution of the information industry to Hawai'i's economy.			X
(9) Assist in the promotion of Hawai'i as a broker, creator, and processor of information in the Pacific.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies on the information industry.			
HRS § 226-11: Objectives and policies for the physical environment – land-based, shoreline, and marine resources.			
(a) Objectives: *Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:*			
(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.	X		
(2) Effective protection of Hawai'i's unique and fragile environmental resources.	X		
(b) Policies:			
(1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources.			X
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.			X
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.	X		
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.			X
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			X
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.			X
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			X
(8) Pursue compatible relationships among activities, facilities, and natural resources.	X		

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.	X		
Discussion: A portion of the Pāpa'aloa Park properties (TMK 3-5-003: 035) will be a coastal development located in the SMA; however, the Project Site does not lie in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, estuary, or freshwater resource. The Phase I Development located on TMK 3-5-003: 088 is not located on the coastline and is separated from the coastline by parcels identified as TMK 3-5-003: 035 and 065. Although the portion of the Park identified as TMK 3-5-003: 035 is located adjacent to the coastline, the developable portions of the Park are set back significantly (at least 150 feet) from the water's edge by a natural buffer of vegetation and trees. Moreover, the Park is vertically separated from the shoreline by a 230-foot cliff. Furthermore, extensive vegetation, trees, and changes in topography separate usable, graded areas of the Park from coastal waters and streams, thereby acting as a natural buffer from intrusion of coastal resources. BMP will be implemented during construction to prevent erosion and stormwater runoff during the construction phase. Therefore, implementation of the Pāpa'aloa Park Master Plan is not anticipated to have any impact on any natural hazard conditions.			
HRS § 226-12: Objective and policies for the physical environment – scenic, natural beauty, and historic resources.			
(a) Objective: *Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources.*			
(b) Policies:			
(1) Promote the preservation and restoration of significant natural and historic resources.			X
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.			X
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.			X
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.			X
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.			X
Discussion: The Pāpa'aloa Park Master Plan has no relationship to the promotion and/or availability of scenic and historic resources in the State of Hawai'i.			
HRS § 226-13: Objectives and policies for the physical environment – land, air, and water quality.			
(a) Objectives: *Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:*			
(1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.			X
(2) Greater public awareness and appreciation of Hawai'i's environmental resources.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(b) Policies:			
(1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.			X
(2) Promote the proper management of Hawai'i's land and water resources.			X
(3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.			X
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.			X
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.			X
(6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.			X
(7) Encourage urban developments in close proximity to existing services and facilities.			X
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.			X
Discussion: Although portions of the Pāpa'aloa Park Master Plan may be considered a coastal development, it has no relation to the State's objectives and policies for the physical environment – land, air, and water quality.			
HRS § 226-14: Objective and policies for facility systems – in general.			
(a) Objective: *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.*			
(b) Policies:			
(1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.			X
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.	X		
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			X
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for facility systems – in general. However, the Project may include improvements to water, sewer, power, data, fiber, etc. services as necessary for the Project and future uses of the park. Required utilities that do not have an appropriate means of off-site connection that can be provided onsite (such as gas, wastewater, etc.) will be accommodated by other appropriate means.			

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HRS § 226-15: Objectives and policies for facility systems – solid and liquid wastes.			
(a) Objectives: *Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:*			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.			X
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.			X
(b) Policies:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			X
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			X
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for facility systems – solids and liquid wastes. However, the Project may include improvements to sewer systems as necessary for the Project and future uses of the park.			
HRS § 226-16: Objective and policies for facility systems – water.			
(a) Objective: *Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.*			
(b) Policies:			
(1) Coordinate development of land use activities with existing and potential water supply.			X
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.			X
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.			X
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			X
(5) Support water supply services to areas experiencing critical water problems.			X
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			X
Discussion: However, the Pāpa'aloa Park Master Plan may include improvements to water systems as necessary for the Project and future uses of the park.			

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HRS § 226-17: Objectives and policies for facility systems – transportation.			
(a) Objective: *Planning for the State's facility systems with regard to transportation shall be directed toward the achievement of the following objectives:*			
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.			X
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.			X
(b) Policies:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;			X
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;			X
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;			X
(4) Provide for improved accessibility to shipping, docking, and storage facilities;			X
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;			X
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;			X
(7) Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods;			X
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;			X
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;			X
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment;			X
(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;			X
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and			X
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for facility systems – transportation.			

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HRS § 226-18: Objectives and policies for facility systems – energy.			
(a) Objectives: *Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:*			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			X
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawai'i's dependence on imported fuels for electrical generation and ground transportation;			X
(3) Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems;			X
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			X
(5) Utility models that make the social and financial interests of Hawai'i's utility customers a priority.			X
(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand.			
(c) Other Policies:			
(1) Support research and development as well as promote the use of renewable energy sources;			X
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			X
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;			X
(4) Promote all cost-effective conservation of power and fuel supplies through measures including:			
(A) Development of cost-effective demand-side management programs;			X
(B) Education;			X
(C) Adoption of energy-efficient practices and technologies; and			X
(D) Increasing energy efficiency and decreasing energy use in public infrastructure;			X
(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies;			X

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(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies;			X
(7) Promote alternate fuels and transportation energy efficiency;			X
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications;			X
(9) Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives.			X
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;			X
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and			X
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai'i.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for facility systems – energy. However, the Project may include improvements to electrical systems as necessary for the Project and future uses of the park.			
HRS § 226-18.5: Objectives and policies for facility systems – telecommunications.			
(a) Objective: *Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.*			
(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.			
(c) Other Policies:			
(1) Facilitate research and development of telecommunications systems and resources;			X
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			X
(3) Promote efficient management and use of existing telecommunications systems and services; and			X
(4) Facilitate the development of education and training of telecommunications personnel.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for facility systems – telecommunications. However, the Project may include improvements to internet and telecommunications systems as necessary for the Project and future uses of the park.			

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HRS § 226-19: Objectives and policies for socio-cultural advancement – housing.			
(a) Objectives: *Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:*			
(1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawai'i's population.			X
(2) The orderly development of residential areas sensitive to community needs and other land uses.			X
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.			X
(b) Policies:			
(1) Effectively accommodate the housing needs of Hawai'i's people.			X
(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.			X
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.			X
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.			X
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.			X
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			X
(7) Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community.			X
(8) Promote research and development of methods to reduce the cost of housing construction in Hawai'i.			X
Discussion: The Pāpa'aloa Park Master Plan has no relationship to the availability of housing in the State of Hawai'i.			
HRS § 226-20: Objectives and policies for socio-cultural advancement – health			
(a) Objectives: *Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:*			
(1) Fulfillment of basic individual health needs of the general public.	X		
(2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities.			X

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(3) Elimination of health disparities by identifying and addressing social determinants of health.	X		
(b) Policies:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			X
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			X
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.	X		
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.	X		
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			X
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			X
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.			X
Discussion: The objective of the proposed action is to develop a master plan for Pāpa'aloa Park that identifies and best addresses the current and long-term recreational needs of the community, including the replacement of the demolished gym, while minimizing disruptions to current Park operations. Depending on the availability of funding, future facilities at the Park may include: a new covered play court facility and its future expansion, a community center, a skate park, a playground, picnic pavilions, a perimeter walking path, and other park-related facilities to be determined, associated on-site and off-site infrastructure and utility improvements/modifications, replacement/improvement/modification of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. Refer to Appendix G, Figure 9, Master Plan. These improvements are expected to enhance recreational opportunities for local residents and have a net positive effect on public health.			
HRS § 226-21: Objective and policies for socio-cultural advancement – education.			
(a) Objectives: *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.*			

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(b) Policies:			
(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.	X		
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.	X		
(3) Provide appropriate educational opportunities for groups with special needs.			X
(4) Promote educational programs which enhance understanding of Hawai'i's cultural heritage.			X
(5) Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.			X
(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.			X
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.			X
(8) Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence.			X
(9) Support research programs and activities that enhance the education programs of the State.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the State's objectives and policies for socio-cultural advancement – education, except that the proposed improvements may enhance opportunities for local residents to develop recreational skills and participate in activities promoting social interaction.			
HRS § 226-22: Objective and policies for socio-cultural advancement – social services.			
(a) Objective: *Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.*			
(b) Policies:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.			X
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.			X
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities.			X
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			X
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.			X
Discussion: The Pāpa'aloa Park Master Plan has no direct relation to the State's policies on social services.			
HRS § 226-23: Objective and policies for socio-cultural advancement – leisure.			
(a) Objective: *Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.*			
(b) Policies:			
(1) Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.	X		
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.	X		
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.	X		
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.			X
(5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources.	X		
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.	X		
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people.	X		
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			X
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts.			X
(10) Assure adequate access to significant natural and cultural resources in public ownership.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Discussion: The objective of the proposed action is to develop a master plan for Pāpa'aloa Park that identifies and best addresses the current and long-term recreational needs of the community, including the replacement of the demolished gym, while minimizing disruptions to current Park operations. Depending on the availability of funding, future facilities at the Park may include: a new covered play court facility and its future expansion, a community center, a skate park, a playground, picnic pavilions, a perimeter walking path, and other park-related facilities to be determined, associated on-site and off-site infrastructure and utility improvements/modifications, replacement/improvement/modification of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. Refer to Appendix G, Figure 9, Master Plan. These improvements are expected to enhance recreational opportunities for local residents and have a net positive effect on leisure.			
HRS § 226-24: Objective and policies for socio-cultural advancement – individual rights and personal well-being.			
(a) Objective: *Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.*			
(b) Policies:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			X
(2) Uphold and protect the national and state constitutional rights of every individual.			X
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			X
(4) Ensure equal opportunities for individual participation in society.			X
Discussion: The Pāpa'aloa Park Master Plan has no direct relation to the provision of resources to promote socio-cultural advancement - individual rights and personal well-being.			
HRS § 226-25: Objective and policies for socio-cultural advancement – culture.			
(a) Objective: *Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people.*			
(b) Policies:			
(1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.			X
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs.	X		
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors.			X
Discussion: The Pāpa'aloa Park Master Plan has no direct relation to the State's goals for the advancement of culture, aside from what may be provided through the Pāpa'aloa Park Master Plan and Phase I Development promoting community recreational opportunities.			
HRS § 226-26: Objectives and policies for socio-cultural advancement – public safety.			
Objectives: *Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:*			
(1) Assurance of public safety and adequate protection of life and property for all people.	X		
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.			X
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.	X		
(b) Policies related to public safety:			
(1) Ensure that public safety programs are effective and responsive to community needs.	X		
(2) Encourage increased community awareness and participation in public safety programs.			X
(c) Policies related to criminal justice:			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			X
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			X
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			X
(d) Policies related to emergency management:			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.			X
(2) Enhance the coordination between emergency management programs throughout the State.			X
Discussion: The Pāpa'aloa Park Master Plan has no relation to the objectives and policies for socio-cultural advancement – public safety. Although it is recognized that security improvements to Pāpa'aloa Park may help to enhance the safety of park users.			
HRS § 226-27: Objectives and policies for socio-cultural advancement – government.			
(a) Objectives: *Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:*			

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(1) Efficient, effective, and responsive government services at all levels in the State.			X
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			X
(b) Policies:			
(1) Provide for necessary public goods and services not assumed by the private sector.	X		
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.			X
(3) Minimize the size of government to that necessary to be effective.			X
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai'i.			X
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.	X		
(6) Provide for a balanced fiscal budget.			X
(7) Improve the fiscal budgeting and management system of the State.			X
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			X
Discussion: The Pāpa'aloa Park Master Plan is expected to improve an aging public recreational facility, thereby enhancing recreational opportunities for local residents.			

5.1.5 Hawai'i State Plan, Part II: Planning Coordination and Implementation

Part II of the State Plan establishes a statewide planning system to coordinate and guide all major state and county activities and to implement the overall theme, goals, objectives, policies, and priority guidelines. The system implements the State Plan through the development of functional plans and county general plans. Functional plans, general plans, and the formulation, administration, and implementation of state programs must be in conformance with the State Plan.

STATE FUNCTIONAL PLANS

State Functional Plans (SFPs) set forth the policies, statewide guidelines, and priorities within a specific field of activity, when such activity or program is proposed, administered, or funded by any agency of the state. Functional plans are developed by the state agency primarily responsible for a given functional area, which include: Agriculture, Conservation Lands, Education, Employment, Energy, Health, Higher Education, Historic Preservation, Housing, Human Services,

Recreation, Tourism, and Transportation. Functional plans must identify priority issues in the functional area and contain objectives, policies, and implementing actions to address those priority issues. Actions may include organizational or management initiatives, facility or physical infrastructure development initiatives, initiatives for programs and services, or legislative proposals. Functional plans are approved by the governor and serve as guidelines for funding and implementation by state and county agencies. In addition, functional plans shall be used to guide the allocation of resources for the implementation of state policies adopted by the legislature.

The State Recreation Plan is the most applicable SFP to the Pāpa'aloa Park Master Plan .

Objective II-C: Improve and expand the provision of creation facilities in urban areas and local communities

- ***Policy II-C(1):*** *Meet the demand for recreational opportunities in local communities.*
- ***Implementing Action II-C(1)b:*** *Provide additional playing fields and upgrade existing fields for both youth and adult sports leagues.*

Objective V-A: Properly maintain existing parks and recreation areas

- ***Policy V-A(1):*** *Improve the maintenance of existing parks.*
- ***Implementing Action V-A(1)c:*** *Increase funding and staffing for maintenance of State and County parks and recreation facilities.*

Discussion: The Pāpa'aloa Park Master Plan is in accordance with the above Objectives, Policies, and Implementing Actions of the State Recreation Functional Plan as the improvements to Pāpa'aloa Park will enhance recreational opportunities for local residents.

COUNTY GENERAL PLAN

As established in Part II of the State Plan, a statewide planning system implements the State Plan through the development of SFPs and county general plans. The applicable county general plan is the County of Hawai'i General Plan, which is discussed in Section 5.2.1 of this EA below.

5.1.6 Hawai'i State Plan, Part III: Priority Guidelines

Table 10: Hawai'i State Plan, Chapter 226, HRS – Part III

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
HRS § 226-101: Purpose. *The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.*			
HRS § 226-102: Overall direction. *The State shall strive to improve the quality of life for Hawai'i's present and future present and future population through the pursuit of desirable courses of action in five major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.*			
HRS § 226-103: Economic priority guidelines.			
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai'i's people and achieve a stable and diversified economy:			
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.			X
(A) Encourage investments which:			
(i) Reflect long term commitments to the State;			X
(ii) Rely on economic linkages within the local economy;			X
(iii) Diversify the economy;			X
(iv) Reinvest in the local economy;			X
(v) Are sensitive to community needs and priorities; and	X		
(vi) Demonstrate a commitment to provide management opportunities to Hawai'i residents; and			X
(B) Encourage investments in innovative activities that have a nexus to the State, such as:			
(i) Present or former residents acting as entrepreneurs or principals;			X
(ii) Academic support from an institution of higher education in Hawai'i;			X
(iii) Investment interest from Hawai'i residents;			X
(iv) Resources unique to Hawai'i that are required for innovative activity; and			X
(v) Complementary or supportive industries or government programs or projects.			X
(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.			X
(3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.			X
(5) Streamline the processes for building and development permit and review and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety, and welfare would not be adversely affected.			X
(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai'i's small-scale producers, manufacturers, and distributors.			X
(7) Continue to seek legislation to protect Hawai'i from transportation interruptions between Hawai'i and the continental United States.			X
(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:			
(A) An industry that can take advantage of Hawai'i's unique location and available physical and human resources.			X
(B) A clean industry that would have minimal adverse effects on Hawai'i's environment.			X
(C) An industry that is willing to hire and train Hawai'i's people to meet the industry's labor needs at all levels of employment.			X
(D) An industry that would provide reasonable income and steady employment.			X
(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai'i business.			X
(10) Enhance the quality of Hawai'i's labor force and develop and maintain career opportunities for Hawai'i's people through the following actions:			
(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.			X
(B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.			X
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.			X
(D) Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents.			X
(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities.			X
(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawai'i's residents and visitors.			X
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.			X
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			X
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai'i's significant natural, scenic, historic, and cultural resources.			X
(5) Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions.			X
(6) Support and coordinate tourism promotion abroad to enhance Hawai'i's share of existing and potential visitor markets.			X
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			X
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			X
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.			X
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			X
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai'i.			X
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			X
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			X
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			X
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			X
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai'i's agricultural community.			X
(6) Seek favorable freight rates for Hawai'i's agricultural products from interisland and overseas transportation operators.			X
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			X
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			X
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			X
(10) Support the continuation of land currently in use for diversified agriculture.			X
(11) Encourage residents and visitors to support Hawai'i's farmers by purchasing locally grown food and food products.			X
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			X
(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.			X
(3) Increase the support for research and development of economically feasible alternative water sources.			X
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			X
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.			X
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			X
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			X
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			X
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability, that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawai'i.			X
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(3) Encourage the development of small businesses in the information field such as software development, the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.			X
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			X
(5) Encourage research activities, including legal research in the information and telecommunications fields.			X
(6) Support promotional activities to market Hawai'i's information industry services.			X
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			X
Discussion: The objective of the proposed action is to develop a master plan for Pāpa'aloa Park that identifies and best addresses the current and long-term recreational needs of the community, including the replacement of the demolished gym, while minimizing disruptions to current Park operations. Depending on the availability of funding, future facilities at the Park may include: a new covered play court facility and its future expansion, a community center, a skate park, a playground, picnic pavilions, a perimeter walking path, and other park-related facilities to be determined, associated on-site and off-site infrastructure and utility improvements/modifications, replacement/improvement/modification of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. Refer to Appendix G, Figure 9, Master Plan. These improvements are expected to enhance recreational opportunities for local residents and have a net positive effect on public health.			
HRS § 226-104: Population growth and land resources priority guidelines.			
(a) Priority guidelines to effect desired statewide growth and distribution:			
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai'i's people.			X
(2) Manage a growth rate for Hawai'i's economy that will parallel future employment needs for Hawai'i's people.			X
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.	X		
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.			X
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			X
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			X
(7) Support the development of high technology parks on the neighbor islands.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.			X
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.	X		
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			X
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			X
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.			X
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			X
(7) Pursue rehabilitation of appropriate urban areas.			X
(8) Support the redevelopment of Kaka'ako into a viable residential, industrial, and commercial community.			X
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.			X
(10) Identify critical environmental areas in Hawai'i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.	X		
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			X
(12) Utilize Hawai'i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.	X		
(13) Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources.			X
Discussion: Although the Pāpa'aloa Park Master Plan is located within the State Land Use Agricultural District, according to the NRCS soil survey, the underlying soil is designated Class IVe, meaning the soils have very severe limitations that restrict the choice of plants, require very careful management, or both. The soils of the Project site are either not classified or are classified as class E (the lowest level of soil productivity) by the LSB classification system. Also, the entire Project Site is unclassified under the ALISH system, indicating that the Project Site is not agriculturally significant. Finally, as the site has been previously developed and used as a public park, the Pāpa'aloa Park Master Plan will, where feasible, re-use existing onsite facilities instead of building them on a previously			

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
undeveloped site. As such, the Pāpa'aloa Park Master Plan is in line with the State's priorities for population growth and land resources.			
HRS § 226-105: Crime and criminal justice.			
Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			X
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			X
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			X
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			X
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			X
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			X
Discussion: The Pāpa'aloa Park Master Plan has no direct relationship to criminal justice.			
HRS § 226-106: Affordable housing.			
Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.			X
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			X
(3) Improve information and analysis relative to land availability and suitability for housing.			X
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's low- and moderate-income households, gap-group households, and residents with special needs.			X
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner- occupied housing.			X
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.			X
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i.			X
Discussion: The Pāpa'aloa Park Master Plan has no relationship to affordable housing.			
HRS § 226-107: Quality education.			
Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;			X
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;			X
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force;			X
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision-making responsibilities;			X
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:			
(A) The electronic exchange of information;			X
(B) Statewide electronic mail; and			X
(C) Access to the Internet.			X
Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;			X
(6) Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific;			X
(7) Develop resources and programs for early childhood education;			X
(8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and			X
(9) Strengthen and expand educational programs and services for students with special needs.			X
Discussion: The Pāpa'aloa Park Master Plan has no direct relationship to the State's priority guidelines to promote quality education as listed above. However, through its programming, the Project will support the DPR's Culture and Education Division's mission to provide educational and leisure time activities to share, preserve, perpetuate, and foster the appreciation of the community's rich multi-cultural heritage in the arts, history, and the humanities.			
HRS § 226-108: Sustainability.			
Priority guidelines and principles to promote sustainability shall include:			
(1) Encouraging balanced economic, social, community, and environmental priorities;	X		

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;			X
(3) Promoting a diversified and dynamic economy;			X
(4) Encouraging respect for the host culture;			X
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;			X
(6) Considering the principles of the ahupua'a system; and			X
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai'i.			X
Discussion: By improving an existing County-operated park, the Pāpa'aloa Park Master Plan will, where feasible, re-use existing onsite facilities, instead of building on a previously undeveloped site. The Pāpa'aloa Park Master Plan will also implement energy efficient fixtures as feasible to reduce overall energy consumption.			
HRS § 226-109: Climate change adaptation priority guidelines.			
Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall:			
(1) Ensure that Hawai'i's people are educated, informed, and aware of the impact's climate change may have on their communities;			X
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			X
(3) Invest in continued monitoring and research of Hawai'i's climate and the impacts of climate change on the State;			X
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			X
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;			X
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;			X
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;			X
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			X
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.			X
Discussion: The Pāpa'aloa Park Master Plan has no direct relationship to the State's climate change adaptation priority guidelines. The Pāpa'aloa Park Master Plan is located not only outside the 3.2-foot SLR-XA as modeled by the University of Hawai'i CGG, but also beyond the 6-foot SLR line as modeled by the NOAA Digital Coast Sea Level Rise Viewer.			

5.1.7 State Environmental Policy, Chapter 344, Hawai'i Revised Statutes

The State Environmental Policy, as defined in Chapter 344, HRS, establishes the policy of the State of Hawai'i on natural resource conservation and the environment. The Project's consistency with the State Environmental Policy is outlined in the table below:

Table 11: State Environmental Policy, Chapter 344, HRS

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
State Environmental Policy			
§344-3 Environmental policy. *It shall be the policy of the State, through its programs, authorities, and resources to:*			
(1) Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which humanity and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawaii.			X
(2) Enhance the quality of life by:			
(A) Setting population limits so that the interaction between the natural and artificial environments and the population is mutually beneficial;			X
(B) Creating opportunities for the residents of Hawaii to improve their quality of life through diverse economic activities which are stable and in balance with the physical and social environments;			X
(C) Establishing communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian; and			X
(D) Establishing a commitment on the part of each person to protect and enhance Hawaii's environment and reduce the drain on nonrenewable resources.			X
Discussion: The Pāpa'aloa Park Master Plan is partially located on State Conservation lands. As of this writing, the Applicant (or its representative) is in the process of applying for a Boundary Interpretation from the LUC, to ensure			

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
that any planned park improvements in parcel 035 that may affect the Conservation District are responsibly programmed and carefully designed to be consistent with the intent and purpose of the Resource Subzone.			
Guidelines			
§344-4 Guidelines. *In pursuance of the state policy to conserve the natural resources and enhance the quality of life, all agencies, in the development of programs, shall, insofar as practicable, consider the following guidelines:*			
(1) Population.			
(A) Recognize population impact as a major factor in environmental degradation and adopt guidelines to alleviate this impact and minimize future degradation;			X
(B) Recognize optimum population levels for counties and districts within the State, keeping in mind that these will change with technology and circumstance, and adopt guidelines to limit population to the levels determined.			X
Discussion: The Pāpa'aloa Park Master Plan will neither encourage nor discourage population growth.			
(2) Land, water, mineral, visual, air, and other natural resources.			
(A) Encourage management practices which conserve and fully utilize all natural resources;			X
(B) Promote irrigation and waste water management practices which conserve and fully utilize vital water resources;			X
(C) Promote the recycling of waste water;			X
(D) Encourage management practices which conserve and protect watersheds and water sources, forest, and open space areas;			X
(E) Establish and maintain natural area preserves, wildlife preserves, forest reserves, marine preserves, and unique ecological preserves;			X
(F) Maintain an integrated system of state land use planning which coordinates the state and county general plans;			X
(G) Promote the optimal use of solid wastes through programs of waste prevention, energy resource recovery, and recycling so that all our wastes become utilized.			X
Discussion: The Pāpa'aloa Park Master Plan has no direct relationship to the management of land, water, mineral, visual, air, and other natural resources, other than the Project's coastal location.			
(3) Flora and fauna.			
(A) Protect endangered species of indigenous plants and animals and introduce new plants or animals only upon assurance of negligible ecological hazard;			X
(B) Foster the planting of native as well as other trees, shrubs, and flowering plants compatible to the enhancement of our environment.			X
Discussion: The Pāpa'aloa Park Master Plan and Phase I Development is not located in any critical habitat areas and will have no impact on endangered species.			

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(4) Parks, recreation, and open space.			
(A) Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational, and scientific uses;			X
(B) Protect the shorelines of the State from encroachment of artificial improvements, structures, and activities;			X
(C) Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people.			X
Discussion The Phase I Development located on TMK 3-5-003: 088 is not located on the coastline and is separated from the coastline by parcels identified as TMK 3-5-003: 035 and 065. Although the portion of the Park identified as TMK 3-5-003: 035 is located adjacent to the coastline, the developable portions of the Park are set back significantly (at least 150 feet) from the water's edge by a natural buffer of vegetation and trees. Moreover, the Park is vertically separated from the shoreline by a 230-foot cliff. Depending on the availability of funding, future facilities at the Park may include: a new covered play court facility and its future expansion, a community center, a skate park, a playground, picnic pavilions, a perimeter walking path, and other park-related facilities to be determined, associated on-site and off-site infrastructure and utility improvements/modifications, replacement/improvement/modification of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. The proposed improvements will help to ensure that the County-owned Pāpa'aloa Park will remain a quality recreational resource in the coastal area.			
(5) Economic development.			
(A) Encourage industries in Hawaii which would be in harmony with our environment;			X
(B) Promote and foster the agricultural industry of the State; and preserve and conserve productive agricultural lands;			X
(C) Encourage federal activities in Hawaii to protect the environment;			X
(D) Encourage all industries including the fishing, aquaculture, oceanography, recreation, and forest products industries to protect the environment;			X
(E) Establish visitor destination areas with planning controls which shall include but not be limited to the number of rooms;			X
(F) Promote and foster the aquaculture industry of the State; and preserve and conserve productive aquacultural lands.			X
Discussion: The Pāpa'aloa Park Master Plan is not directly related to the State's goals for economic development.			
(6) Transportation.			
(A) Encourage transportation systems in harmony with the lifestyle of the people and environment of the State;			X
(B) Adopt guidelines to alleviate environmental degradation caused by motor vehicles;			X
(C) Encourage public and private vehicles and transportation systems to conserve energy, reduce pollution emission, including noise, and provide safe and convenient accommodations for their users.			X
Discussion: The Pāpa'aloa Park Master Plan is not anticipated to have any impact on transportation systems.			

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(7) Energy.			
(A) Encourage the efficient use of energy resources.	X		
Discussion: The Pāpa'aloa Park Master Plan is not anticipated to have any impact on energy resources.			
(8) Community life and housing.			
(A) Foster lifestyles compatible with the environment; preserve the variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods which reflect the culture and mores of the community;	X		
(B) Develop communities which provide a sense of identity and social satisfaction in harmony with the environment and provide internal opportunities for shopping, employment, education, and recreation;	X		
(C) Encourage the reduction of environmental pollution which may degrade a community;			X
(D) Foster safe, sanitary, and decent homes;			X
(E) Recognize community appearances as major economic and aesthetic assets of the counties and the State; encourage green belts, plantings, and landscape plans and designs in urban areas; and preserve and promote mountain-to-ocean vistas.			X
Discussion: Aside from providing enhanced opportunities for communal recreation, the Pāpa'aloa Park Master Plan is not expected to have an impact on community life and housing.			
(9) Education and culture.			
(A) Foster culture and the arts and promote their linkage to the enhancement of the environment;	X		
(B) Encourage both formal and informal environmental education to all age groups.	X		
Discussion: The Pāpa'aloa Park Master Plan is not anticipated to have any adverse impacts on education and culture. Through its programming, the Project will support the DPR's Culture and Education Division's mission to provide educational and leisure time activities to share, preserve, perpetuate, and foster the appreciation of the community's rich multi-cultural heritage in the arts, history, and the humanities.			
(10) Citizen participation.			
(A) Encourage all individuals in the State to adopt a moral ethic to respect the natural environment; to reduce waste and excessive consumption; and to fulfill the responsibility as trustees of the environment for the present and succeeding generations; and			X
(B) Provide for expanding citizen participation in the decision making process so it continually embraces more citizens and more issues.	X		
Discussion: This EA discusses potential impacts and mitigation measures of the Pāpa'aloa Park Master Plan and provided an opportunity for resident input during the Draft EA Public Comment period.			

5.2 COUNTY OF HAWAI'I

County-specific land use plans and ordinances that could pertain to the Project include the General Plan of the County of Hawai'i, the Hāmākua Community Development Plan (CDP), and the Hawai'i County Zoning Code, and the SMA.

5.2.1 County of Hawai'i General Plan

During the pre-Assessment consultation process, the County Planning Department wrote:

> *"Describe how the proposed use is consistent with the policies, standards and courses of action of the County of Hawai'i General Plan, which can be found electronically at https://www.planning.hawaiicounty.gov/general-plan-community-planning/gp/plan"* (See Appendix A).

The County of Hawai'i General Plan is the policy document for the long-range comprehensive development of the Island of Hawai'i. Among the purposes of the General Plan is to guide the pattern of development in Hawai'i County and to provide the framework for regulatory decisions and capital improvement projects. The General Plan undergoes a comprehensive review every ten years, with the last review being completed in 2005. The County of Hawai'i is currently engaged in a comprehensive review of the General Plan:

https://www.planning.hawaiicounty.gov/general-plan-community-planning/gp

The policy land use map, referred to as the LUPAG Map, is intended to guide the direction and quality of future developments in a coordinated and rational manner. During the pre-Assessment consultation process, the County Planning Department wrote: *"According to the County of Hawai'i General Plan 2005, amended December 2006, the subject area is designated as Important Agricultural Lands and Open Area by the Land Use Pattern Allocation Guide (LUPAG) Map"* (see Appendix A). Generally, these designations do not apply to public facilities, so the LUPAG designation does not affect the proposed Pāpa'aloa Park Master Plan and Phase I Development.

While there are no specific General Plan goals, policies, and courses of action that are obviously applicable to the Pāpa'aloa Park Master Plan , the most relevant goals, policies, and courses of action are discussed below.

Recreation

Section 12.2: Recreation Goals

(a) Provide a wide variety of recreational opportunities for the residents and visitors of the County.

(b) Maintain the natural beauty of recreation areas.
(c) Provide a diversity of environments for active and passive pursuits.

Section 12.3: Recreation Policies

(a) Strive to equitably allocate facility-based parks among the districts relative to population, with public input to determine the locations and types of facilities.
(b) Improve existing public facilities for optimum usage.
(c) Recreational facilities shall reflect the natural, historic, and cultural character of the area.
(d) The use of land adjoining recreation areas shall be compatible with community values, physical resources, and recreation potential.
(e) Develop short and long range capital improvement programs and plans for recreational facilities that are consistent with the General Plan.
(f) The "County of Hawaii Recreation Plan" shall be updated to reflect newly identified recreational priorities.
(g) Facilities for compatible multiple uses shall be provided.
(h) Provide facilities and a broad recreational program for all age groups, with special considerations for the handicapped, the elderly, and young children.
(i) Coordinate recreational programs and facilities with governmental and private agencies and organizations. Innovative ideas for improving recreational facilities and opportunities shall be considered.
(j) Develop local citizen leadership and participation in recreation planning, maintenance, and programming.
(k) Adopt an on-going program of identification, designation, and acquisition of areas with existing or potential recreational resources, such as land with sandy beaches and other prime areas for shoreline recreation in cooperation with appropriate governmental agencies.
(l) Public access to the shoreline shall be provided in accordance with an adopted program of the County of Hawaii.
(m) Develop a network of pedestrian access trails to places of scenic, historic, natural or recreational values. This system of trails shall provide, at a minimum, an islandwide route connecting major parks and destinations.
(n) Establish a program to inventory ancient trails, cart roads and old government roads on the island in coordination with appropriate State agencies.
(o) Develop facilities and safe pathway systems for walking, jogging, and biking activities.
(p) Develop a recreation information dissemination system for the public's use.
(q) Revise the ordinance requiring subdivisions to provide land area for park and recreational use or pay a fee in lieu thereof.
(r) Develop and adopt an Impact Fees Ordinance.

(s) Consider alternative sources of funding for recreational facilities.
(t) Develop best management practices for the development of golf courses in coordination with developers, State Department of Health, and other government agencies.
(u) Provide access to public hunting areas.

Discussion: The Pāpa'aloa Park Master Plan is consistent with the above Goals and Policies of the County of Hawai'i General Plan. When implemented, the Pāpa'aloa Park Master Plan will provide a variety of enhanced recreational opportunities for residents of the County. Depending on the availability of funding, future facilities at the Park may include: a new covered play court facility and its future expansion, a community center, a skate park, a playground, picnic pavilions, a perimeter walking path, and other park-related facilities to be determined, associated on-site and off-site infrastructure and utility improvements/modifications, replacement/improvement/modification of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind.

5.2.2 Land Use Pattern Allocation Guide

The General Plan's accompanying LUPAG Map establishes the future land use patterns for the island, including the community of Pāpa'aloa.

During the pre-Assessment consultation process, the County Planning Department wrote: *"From the 2005 General Plan, we note the Land Use Pattern Allocation Guide (LUPAG) designations for the noted parcels are a mixture of Open and Urban Expansion"* (see Appendix A).

The LUPAG designates nearly all of the Project site as an "Urban Expansion", which *"allows for a mix of high density, medium density, low density, industrial, industrial-commercial and/or open designations in areas where new settlements may be desirable, but where the specific settlement pattern and mix of uses have not yet been determined."* A small portion of the Project site is designated "Open." The Pāpa'aloa Park Master Plan is consistent with both the "Urban Expansion" and "Open" LUPAG designations, as the Pāpa'aloa Park Master Plan involves recreational facilities and related functions within an area designated as desirable for new settlements.

5.2.3 Hāmākua Community Development Plan

During the pre-Assessment consultation period, the County Planning Department wrote:

> *"Describe how the proposed project is in alignment with the Hāmākua Community Development Plan (CDP), which can be found electronically at*

https://www.planning.hawaiicounty.gov/general-plan-community-planning/cdp/hamakua" (see Appendix A).

The County of Hawai'i General Plan authorizes CDPs to translate broad General Plan Goals, Policies and Standards as they apply to specific geographic regions on Hawai'i Island. The CDPs are also intended to serve as a forum for community input into land use, delivery of government services, and other land use issues relating to the CDP area.

During the pre-Assessment consultation process, the Planning Department wrote:

> *"The project site is located in the Hāmākua Community Development Plan (CDP) planning area. The Hāmākua CDP was adopted by Ordinance No. 2018-078, effective as of August 2018. The following Hāmākua CDP policies may be relevant to the project:*
>
> - *Policy 102 – Complete the following recreation improvement projects:*
> - ***Hazardous materials abatement at Pāpa'aloa Gym***
> - *Policy 129 – Develop underutilized private and public properties within existing towns to be used as gathering places, community gardens, open squares and markets, auxiliary parking lots (including park and ride areas), and parks (including pocket and art parks, and outdoor amphitheaters, etc.). Examples of underutilized parcels owned by the County are:*
> - ***Pāpa'aloa: TMK 3-5-003:035 next to the Pāpa'aloa Gym****"* (see Appendix A).

Discussion: Policy 102 is no longer applicable. In 2020, due to the COVID-19 pandemic, the Park and Gym were temporarily closed, and in the fall of 2021, it was determined that the Gym was unsalvageable due to extensive termite damage. The Gym was subsequently demolished in 2022 (during demolition, hazardous materials were abated).

The Pāpa'aloa Park Master Plan involves both TMK 3-5-003:088 (the parcel containing the existing park facilities) and TMK 3-5-003:035 (the undeveloped, lower portion of the park lands). Depending on the availability of funding, future facilities at the Park may include: a new covered play court facility and its future expansion, a community center, a skate park, a playground, picnic pavilions, a perimeter walking path, and other park-related facilities to be determined, associated on-site and off-site infrastructure and utility improvements/modifications, replacement/improvement/modification of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. The Project fulfills the relevant policies of the Hāmākua CDP and is expected to enhance recreational opportunities for residents of the Laupāhoehoe-Pāpa'aloa neighborhood.

5.2.4 County of Hawai'i Zoning

The zoning regulations for the County of Hawai'i are prescribed in Chapter 25 HCC. This Zoning Code is applied and administered within the framework of the General Plan, and for the purpose of promoting health, safety, morals, and the general welfare of the County. Hawai'i County zoning designations, Chapter 25 HCC, are more specific in terms of describing permitted land uses. Refer to Appendix G, Figure 6.

During the pre-Assessment consultation process, the County of Hawai'i Planning Department wrote:

> *"The subject area is zoned Agricultural District (A-1a) and General Industrial District (MG-1a) by the County and designated as Urban…and Conservation by the State Land Use Commission…*
>
> *In the Conservation District, there is no county zoning, per se. Therefore, the Department of Land and Natural Resources (DLNR) Office of Conservation and Coastal Lands (OCCL) has jurisdiction over any use or activity in the Conservation portion of the subject area. However, in the Urban District, county zoning takes precedence.*
>
> *Hawai'i County Code, Chapter 25 (Zoning Code), Section 25-4-11(c) notes public uses, structures and buildings and community buildings are permitted uses in any district, provided that the director has issued plan approval for such use. Therefore, plan approval will be required for the proposed structures within the subject area"* (see Appendix A).

The zoning code specifies building height limits, minimum building site areas, minimum building site average widths, and minimum yard widths. In the Agricultural zone, the height limit is 35 feet for residential buildings, and 45 feet for non-residential buildings (Section 25-5-73 HCC). The minimum yard widths are 35 feet for front and rear yards, and 25 feet for side yards (Section 25-5-76 HCC). In the General Industrial zone, the height limit is 50 feet (Section 25-5-153 HCC). The minimum yard widths are 20 feet for front yards, and 0 feet for side and rear yards (Section 25-5-156 HCC).

The Project site is currently used as a public park and open space (Appendix G, Figure 7 and Figure 8). Depending on the availability of funding, future facilities at the Park may include: a new covered play court facility and its future expansion, a community center, a skate park, a playground, picnic pavilions, a perimeter walking path, and other park-related facilities to be determined, associated on-site and off-site infrastructure and utility improvements/modifications, replacement/improvement/modification of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. Since the contemplated future uses fall into the category of

"public uses, structures and buildings and community buildings," no rezoning would be required, but a Plan Approval would need to be applied for.

5.2.5 Special Management Area

During the pre-Assessment consultation process, the OPSD wrote: *"We recommend that the CoH, Planning Department be consulted on the applicability of SMA Use permitting"* (see Appendix A). During the pre-Assessment consultation process, the County Planning Department wrote: *"While the entire island of Hawai'i is within the Coastal Zone Management Area, the entire subject area is also located within the Special Management Area with frontage along the shoreline and subject to review against SMA rules and regulations"* (see Appendix A).

While the entire Project Site is located within the SMA, the Phase I Development located on TMK 3-5-003: 088 is not located on the coastline and is separated from the coastline by parcels identified as TMK 3-5-003: 035 and 065. It should be noted that TMK 3-5-003: 088 already has a current SMA Permit (No. 14-000303) in place.

Apparently TMK 3-5-003: 035 does not have a SMA Permit. If development is proposed on TMK 3-5-003: 035, it is acknowledged that an application for a SMA Use Permit – Major must be applied for upon completion of the Final EA/Finding of No Significant Impact (FONSI).

5.3 APPROVALS AND PERMITS

A listing of anticipated permits and approvals required for the Project is presented below:

Table 12: Anticipated Approvals and Permits

Permit/Approval	Responsible Agency
Chapter 343, HRS Compliance	County of Hawai'i Department of Parks and Recreation
Special Management Area Use Permit - Major	County of Hawai'i Planning Department
Plan Approval	County of Hawai'i Planning Department
Grading, Grubbing, and Building Permits	County of Hawai'i Department of Public Works
National Pollutant Discharge Elimination System (NPDES) Permit	State Department of Health

6.0 ALTERNATIVES TO THE PROPOSED ACTION

In compliance with the provisions of Section 11-200.1-18(d)(7), HAR relating to Environmental Assessments, an environmental assessment must discuss potential alternatives to the proposed action which could attain the objectives of the action in sufficient detail to explain why they were rejected. The alternatives considered include the "No Action Alternative."

6.1 NO ACTION ALTERNATIVE/SCENARIO

The no-action alternative is no change to the Project site, which includes the site of the former gym. This alternative would not meet the objectives of the Project, as described in Section 2.2:

> *The objective of the proposed action is to develop a master plan for Pāpa'aloa Park that identifies and best addresses the current and long-term recreational needs of the community, including the replacement of the demolished gym, while minimizing disruptions to current Park operations.*

Under this alternative, the proposed Pāpa'aloa Park Master Plan and Phase I Development would not be implemented and park users would continue to not have access to play courts protected from rain and the sun. Additionally, residents of the area would not have a place to hold larger gatherings.

6.2 PARK IMPROVEMENTS ON TMK 3-5-003:088 ONLY ALTERNATIVE/SCENARIO

Under this alternative, all new park amenities and improvements would be developed on parcel TMK 3-5-003:088 only. This alternative supports rapidly replacing the demolished gymnasium and would require less site preparation, but it does not account for the derelict buildings and potential environmental hazards on parcel TMK 3-5-003:035. Additionally, the amenities favored by the community would exceed the available area.

6.3 PARK IMPROVEMENTS ON TMK 3-5-003:035 ONLY ALTERNATIVE/SCENARIO

Under this alternative, all new park amenities and improvements would be developed on parcel TMK 3-5-003:035 only. This alternative supports demolishing derelict buildings and mitigating environmental hazards on parcel TMK 3-5-003:035 but would not support rapidly replacing the demolished gymnasium. The site preparation required after demolition and hazard mitigation would leave insufficient funding to construct a covered play court. This alternative also preserves all of the recent improvements to the existing park. TMK 3-5-003:035 has enough area to support all of the amenities favored by the community.

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7.0 FINDINGS AND DETERMINATION

To determine whether the Pāpa'aloa Park Master Plan and Phase I Development may have a significant impact on the physical and human environment, all phases and expected consequences of the Pāpa'aloa Park Master Plan have been evaluated, including potential primary, secondary, short-range, long-range, and cumulative impacts. Based on this evaluation, the Approving Agency (County of Hawai'i, Department of Parks and Recreation) anticipates issuing a FONSI for the Project. The supporting rationale for this finding is presented in this chapter.

7.1 THE PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT, INCLUDING CUMULATIVE IMPACTS

Implementation of the Pāpa'aloa Park Master Plan is not expected to have an adverse effect on public health impacts related to noise, air or water quality during construction and operation.

Ambient Noise Levels: Construction activities for the Project will inevitably create temporary noise impacts. DPR's contractors may employ mitigation measures to minimize those temporary noise impacts including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, HAR, the Project activities will comply with all community noise controls.

Air Quality: No State or Federal air quality standards are expected to be violated during or after the construction of the Project.

Water Quality: No State or Federal water quality standards are anticipated to be violated during or after the construction of the Project.

The Project site contains no habitat for rare, threatened, or endangered plant or animal species or their respective habitats, that could be impacted by the Pāpa'aloa Park Master Plan .

The Project Site does not lie in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, estuary, or freshwater resource. The Phase I Development located on TMK 3-5-003: 088 is not located on the coastline and is separated from the coastline by parcels identified as TMK 3-5-003: 035 and 065. Although the portion of the Park identified as TMK 3-5-003: 035 is located adjacent to the coastline, the developable portions of the Park are set back significantly (at least 150 feet) from the water's edge by a natural buffer of vegetation and trees. Moreover, the Park is vertically separated from the shoreline by a 230-foot cliff. Therefore, the Pāpa'aloa Park Master Plan is not anticipated to have any impact on any natural hazard conditions.

The proposed Pāpa'aloa Park Master Plan will not have any substantial negative secondary impacts on the environment. Implementation of the proposed Master Plan will not commit the DPR to any other larger actions and will not generate any additional actions having a cumulative effect on the environment.

Cumulative impacts are impacts on the environment that result from the action when added to other past, present, and foreseeable future actions by other agencies or persons. Examples of possible cumulative impacts of a proposed action could be those related to introducing new residents, adding new industrial activities or new commercial businesses, or building a new school in a community. Since a substantial amount of new residential, business, or industrial uses is not being proposed or anticipated in the area surrounding Pāpa'aloa Park, the Pāpa'aloa Park Master Plan is not anticipated to generate cumulative impacts on traffic, noise, and air quality.

7.2 MITIGATING MEASURES PROPOSED TO MINIMIZE IMPACT

The potential temporary impacts related to noise, air, or water quality during construction will be addressed through construction management practices in compliance with Federal, State, and County requirements. Once completed, the proposed improvements will promote physical activity in a safe and convenient environment for local residents.

Some ground disturbance will be necessary for construction and new landscaping related to the Pāpa'aloa Park Master Plan . Plant and soil movement will be minimized where possible for these activities, and excess soil and debris will be removed from all equipment, materials, and personnel to avoid the risk of spreading invasive species. New landscaping for the Project will incorporate native plant species where appropriate and practicable for the intended uses of the new building(s) as well as the surrounding climate conditions.

Existing activities in the Project area make it fairly unlikely that the listed species of fauna would frequent the area. However, possible avoidance and impact minimization measures for the listed species include:

- Hawaiian hoary bat or 'ōpe'ape'a. Potential adverse impacts from disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 meters (15 feet) between June 1 and September 15, the period in which bats may have pups. The design of the Project will not include any barbed wire.
- Hawaiian petrel, Newell's shearwater, and Band-rumped storm-petrel (collectively referred to as Hawaiian seabirds). The principal potential impact that the Project poses to protected seabirds is an increased threat that birds will be downed after becoming disoriented by lights. The two ways outdoor lighting can pose a threat to nocturnally flying seabirds is if: 1) during construction it is deemed expedient or necessary to conduct night-time construction

activities; or, 2) following build-out, incorrectly directed security lighting is operated during the seabird nesting season.

- Hawaiian hawk or 'io. If removal of large stature trees on the Project site is contemplated, it is recommended that a qualified biologist conduct a Hawaiian Hawk nesting survey to ensure that the action will not result in a deleterious impact to this raptor species.
- Hawaiian goose or nēnē. If any Hawaiian Goose (nēnē) are present during construction, all activities within 100 feet (30 meters) will cease and the bird or birds shall not be approached. Work may continue after the bird or birds leave the area of their own accord. If a nest is discovered at any point, the Hawai'i Island Branch DOFAW Office will be contacted and a buffer zone around the nest will be established.

For any outdoor lighting, the design will specify shielded lights as required under the County's outdoor lighting ordinance (Section 14-52 HCC). It is recommended that outdoor lights be fully shielded so the bulb is visible only from below bulb-height and be used only when necessary. It is also recommended that automatic motion sensor switches and controls be installed on all outdoor lights, or that these lights be turned off when human activity is not occurring in the lighted area. Further, nighttime construction should be avoided during the seabird fledging season (September 15 through December 15).

7.3 ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Construction activities for the Project will inevitably create temporary noise impacts. However, as mentioned above, DPR's contractors may employ mitigation measures to minimize those temporary noise impacts including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, HAR, the Project activities will comply with all community noise controls.

Once in operation, users of the proposed improvements will generate noise consistent with the existing Park, especially when the previous gym was still in operation. However, the hours of operation of the proposed covered play court are planned to be limited to 7:00 AM to 8:00 PM. No mitigation measures are proposed as the noise generated as a result of the Pāpa'aloa Park Master Plan should represent no substantial change from previous gymnasium noise occurrences.

7.4 ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

The Pāpa'aloa Park Master Plan is not anticipated to involve any irreversible and irretrievable commitment of natural, cultural, or historic resources.

As previously mentioned, the Project site contains no habitat for rare, threatened, or endangered plant or animal species or their respective habitats, that could be impacted by the Pāpa'aloa Park Master Plan.

In addition, large portions of the Project site (TMK 3-5-003: 035) were previously graded and improved for the Laupāhoehoe Sugar Company's vehicle repair shop buildings, gymnasium, and tennis courts. The presence of the softball field, tennis courts, and parking lots on TMK 3-5-003: 088 indicates the absence of natural, cultural, or historic resources on that parcel that would be potentially subject to irrevocable loss as a result of construction.

Finally, the Pāpa'aloa Park Master Plan will not require substantial energy consumption nor produce substantial greenhouse gases. As the Park previously operated a gymnasium on the site, the proposed covered play court is expected to consume a similar amount of energy and emit a similar amount of greenhouse gasses. Additionally, the Project will implement energy efficient fixtures as feasible to reduce overall energy consumption.

7.5 SIGNIFICANCE CRITERIA

Based upon the previous information presented in this document the proposed permitting and construction of the Project will likely have no significant environmental impacts. This determination is based upon the 13 Significance Criteria outlined in Chapter 343, HRS, as amended and Title 11 Chapter 200.1-13 HAR 1996, discussed below.

(1) Irrevocably commit a natural, cultural, or historic resource;

Large portions of the Project site (TMK 3-5-003: 035) were previously graded and improved for the Laupāhoehoe Sugar Company's vehicle repair shop buildings, gymnasium, and tennis courts. The presence of the softball field, tennis courts, and parking lots on TMK 3-5-003: 088 indicates the absence of natural, cultural, or historic resources on that parcel that would be potentially subject to irrevocable loss as a result of construction.

Six historic properties were identified during the current AIS. All of the sites are considered significant under Criterion d for the information they yielded during the current study. Additionally, Sites 30187, T-3, T-4, and T-5 are assessed as significant under Criterion a for being associated with, and contributing information to, the overall history of the sugarcane plantation era in Hawai'i and specifically to the Laupāhoehoe and Honoka'a Sugar Companies. Sites 30787, T-1, T-2, and T-4 were adequately documented during the current study and are recommended for no further historic preservation work.

Following an Architectural RLS at Sites T-3 and T-5 to fully document the Historic structures present in the project area, no further historic preservation work is recommended. Historic

elements of the Pāpa'aloa Park and Pāpa'aloa District should be considered if significant changes are proposed to the park's overall appearance.

(2) Curtail the range of beneficial uses of the environment;

The Project will not curtail the range of beneficial uses of the environment as most of TMK 3-5-003: 035 is not currently available to the general public, either for use, or even visually.

(3) Conflict with the State's environmental policies or long-term environmental goals established by law;

The Environmental Policies enumerated in Chapter 344, HRS promote conservation of natural resources, and an enhanced quality of life for all citizens. As detailed in Section 5.1.7 above, the Pāpa'aloa Park Master Plan does not conflict with the State's long-term environmental policies, goals, or guidelines as expressed in Chapter 344, HRS, and will not significantly impact natural resources due to the fact that the Site is already developed and has been subject to human utilization since the establishment of Laupāhoehoe Sugar Company.

(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;

Implementation of the Pāpa'aloa Park Master Plan will have a long-term positive effect on the social welfare of residents in the area. The proposed Phase I Development of the Park Master Plan will positively influence social welfare by providing a covered play court for residents, after the loss of Pāpa'aloa Gym.

(5) Have a substantial adverse effect on public health;

The potential temporary impacts related to noise, air, or water quality during construction will be addressed through construction management practices in compliance with Federal, State and County requirements. Once completed, the proposed improvements will promote physical activity in a safe and convenient environment for local residents.

(6) Involve adverse secondary impacts, such as population changes or effects on public facilities;

The Pāpa'aloa Park Master Plan will not affect population growth. However, implementation of the Pāpa'aloa Park Master Plan will have a positive effect on public recreational facilities. Phase I of the Pāpa'aloa Park Master Plan will supplement public facilities by addressing the loss of the former of Pāpa'aloa Gymnasium. No substantial environmental degradation is anticipated.

(7) Involve a substantial degradation of environmental quality;

No substantial environmental degradation is anticipated as a result of the Pāpa'aloa Park Master Plan. Potential impacts to the environment resulting from development, and appropriate mitigation measures, have been identified throughout this EA. Where feasible, sustainable design features will be incorporated and Project landscaping will utilize native plant species where appropriate and practicable for the intended uses of the new building(s) as well as the surrounding climate conditions. Also, as the Project will be in compliance with all pertinent statutes and regulations (e.g., regulations pertaining to grading), no substantial environmental degradation is anticipated.

(8) Be individually limited but cumulatively have substantial adverse effect upon the environment, or involves a commitment for larger actions;

The Pāpa'aloa Park Master Plan will not have any substantial negative secondary impacts on the environment. Implementation of the Pāpa'aloa Park Master Plan will not commit the DPR to any other larger actions and will not generate any additional actions having a cumulative effect on the environment.

(9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;

The Project site contains no habitat for rare, threatened or endangered plant or animal species or their respective habitats, that could be impacted by the implementation of the Pāpa'aloa Park Master Plan .

(10) Have a substantial adverse effect on air or water quality or ambient noise levels;

Air Quality: No State or Federal air quality standards will be violated during or after the construction of the Project.

Water Quality: No State or Federal water quality standards will be violated during or after the construction of the Project. A NPDES permit will be required since the implementation of the Pāpa'aloa Park Master Plan will involve the demolition, construction and staging areas that will result in the disturbance of over one acre of land area. BMP will be implemented to prevent pollution and protect the environment. If required, implementation of the Pāpa'aloa Park Master Plan will have an erosion and sedimentation control plan prepared to address all construction activities.

Ambient Noise Levels: Construction activities for the Pāpa'aloa Park Master Plan will inevitably create minor temporary noise impacts. The County may employ mitigation measures to minimize those temporary noise impacts including the use of mufflers and implementing construction

curfew periods. Pursuant to Chapter 11-46, HAR, the project activities will comply with all community noise controls.

(11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

The Project Site does not lie in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, estuary, or freshwater resource. The Phase I Development located on TMK 3-5-003: 088 is not located on the coastline and is separated from the coastline by parcels identified as TMK 3-5-003: 035 and 065. Although the portion of the Park identified as TMK 3-5-003: 035 is located adjacent to the coastline, the developable portions of the Park are set back significantly (at least 150 feet) from the water's edge by a natural buffer of vegetation and trees. Moreover, the Park is vertically separated from the shoreline by a 230-foot cliff. Therefore, the Pāpa'aloa Park Master Plan is not anticipated to have any impact on any natural hazard conditions.

(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or,

Although the Pāpa'aloa Park Master Plan is a coastal development, the shoreline is not visible across or from the Project site due to extensive vegetation and trees between the Project site and the shoreline. Therefore, no significant scenic vistas or viewplanes would be impacted by the proposed Pāpa'aloa Park Master Plan.

(13) Require substantial energy consumption or emit substantial greenhouse gases.

The Pāpa'aloa Park Master Plan will not require substantial energy consumption nor produce substantial greenhouse gases. As the Park previously operated a gymnasium on the site, the proposed covered play court is expected to consume a similar amount of energy and emit a similar amount of greenhouse gasses. Additionally, the Project will implement energy efficient fixtures as feasible to reduce overall energy consumption.

7.6 DETERMINATION

On the basis of impacts and mitigation measures examined in this document and analyzed under the above criteria, it is anticipated that the Project will not have a significant effect on the physical or human environments. Pursuant to Chapter 343, HRS, the approving agency, the County of Hawai'i Department of Parks and Recreation, issues a FONSI.

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8.0 CONSULTATION

8.1 COMMUNITY INPUT

In the course of planning for the proposed Pāpa'aloa Park Master Plan and Phase I Development Project, DPR and its prime contractor, KYA, Inc., held three meetings with community stakeholders on November 16, 2023, December 7, 2023, and December 21, 2023. Appendix B contains separate summary reports for each meeting including copies of each meeting's announcement flyer, a list of participants that attended each meeting, each meeting's agenda, a copy of the presentation for each meeting, results of any live polling conducted at the meetings, and notes from any meeting activity stations. In addition, PBR HAWAII prepared and updated a Project website (https://tinyurl.com/papaaloa) to provide information about the Project site, history and background about the Park Master Plan, a recap about the community input process (and meetings), as well as online surveys (SurveyMonkey). An informational meeting was held on April 2, 2024, to present to the community the final design and plans for the proposed Pāpa'aloa Park facilities; this was met with a positive response from the community.

8.2 INDIVIDUALS AND ORGANIZATIONS CONSULTED WITH DURING THE PREPARATION OF THE EA

A pre-Assessment consultation was conducted from November 3, 2023, to December 6, 2023, prior to the preparation of the Draft EA. The purpose of the pre-Assessment consultation was to consult with agencies, organizations, and individuals with technical expertise or an interest in, or will be affected by, the Pāpa'aloa Park Master Plan. This process is part of the scoping process for the Draft EA. Comments and input received during this period were used to identify environmental issues and concerns to be addressed in the Draft EA.

As part of this early consultation process, the agencies, organizations, and individuals who were sent pre-Assessment consultation letters are listed in Table 13 below. Those who provided written comments (either by hard copy or electronically) are indicated in Table 13. Copies of the written comments and responses are reproduced in Appendix A.

Table 13: List of Pre-Assessment Consulted Parties

Agencies/Organizations/Individuals	Pre-Assessment Consultation Sent	Comment Date	Reply Date
County of Hawai'i, Department of Parks and Recreation (Proposing/Approving Agency)	No	None	n/a
STATE			
Environmental Review Program	Yes	None	n/a
Department of Accounting & General Services	Yes	None	n/a

Agencies/Organizations/Individuals	Pre-Assessment Consultation Sent	Comment Date	Reply Date
Department of Agriculture	Yes	None	n/a
Department of Business, Economic Development & Tourism	Yes	None	n/a
Hawai'i State Energy Office / Strategic Industries Division	Yes	None	n/a
Office of Planning & Sustainability Development	Yes	12/7/23	2/1/24
Department of Defense – Engineering Office	Yes	11/28/23	2/1/24
Department of Hawaiian Home Lands	Yes	None	n/a
Department of Health	Yes	None	n/a
Department of Health - Environmental Health Administration	Yes	None	n/a
Department of Health – Hazard Evaluation & Emergency Response Office	Yes	None	n/a
Department of Human Services	Yes	12/1/23	2/1/24
Department of Land and Natural Resources (DLNR)	Yes	12/5/23, 12/14/23	2/1/24
DLNR – Division of Forestry & Wildlife		12/13/23	2/1/24
DLNR - Engineering Division		11/28/23	2/1/24
DLNR - Land Division, Hawai'i District Office	Yes	12/4/23	2/1/24
DLNR – Office of Conservation & Coastal Lands		11/28/23	2/1/24
Department of Transportation (DOT)	Yes	None	n/a
Office of Hawaiian Affairs (OHA)	Yes	None	n/a
FEDERAL			
U.S. Army Corps of Engineers	Yes	None	n/a
U.S. Fish and Wildlife Service	Yes	None	n/a
U.S. Department of Agriculture - Natural Resources Conservation Service	Yes	None	n/a
Federal Emergency Management Agency	Yes	None	n/a
COUNTY			
Department of Environmental Management	Yes	None	n/a
Department of Parks and Recreation	Yes	None	n/a
Department of Planning	Yes	12/15/23	2/1/24
Department of Public Works	Yes	None	n/a
Department of Research and Development	Yes	None	n/a
Department of Water Supply	Yes	None	n/a
Office of Housing and Community Development	Yes	11/17/23	2/1/24
Fire Department	Yes	None	n/a
Mass Transit Agency	Yes	None	n/a
Police Department	Yes	11/13/23	2/1/24
ELECTED OFFICIALS			
Mayor Mitch Roth	Yes	None	n/a
State Senator Herbert M. "Tim" Richards, III	Yes	None	n/a
State Representative Mark Nakashima	Yes	None	n/a
County Council Member Heather Kimball	Yes	None	n/a

Agencies/Organizations/Individuals	Pre-Assessment Consultation Sent	Comment Date	Reply Date
County Council Member Jennifer Kagiwada	Yes	None	n/a
County Council Member Susan Lee Loy	Yes	None	n/a
County Council Member Ashley Kierkiewicz	Yes	None	n/a
County Council Member Matt Kanealii-Kleinfelder	Yes	None	n/a
County Council Member Michelle Galimba	Yes	None	n/a
County Council Member Rebecca Villegas	Yes	None	n/a
County Council Member Holeka Inaba	Yes	None	n/a
County Council Member Cynthia Evans	Yes	None	n/a
UTILITIES			
Hawaii Electric Company	Yes	None	n/a
Hawaiian Telcom	Yes	11/3/23	2/1/24
Spectrum	Yes	None	n/a
LIBRARIES			
Hawai'i State Library – Hawai'i Documents Center	Yes	None	n/a
Laupāhoehoe Public and School Library	Yes	None	n/a
MEDIA			
Honolulu Star Advertiser	Yes	None	n/a
Honolulu Civil Beat	Yes	None	n/a
Hawai'i Tribune Herald	Yes	None	n/a
CITIZEN GROUPS/INDIVIDUALS			
North Hilo Community Council	Yes	None	n/a
Laupāhoehoe Community Public Charter School	Yes	None	n/a
Dwight Takamine	Yes	None	n/a
Lucille Chung	Yes	None	n/a
Pam Elders	Yes	None	n/a
Thomas Bearden	Yes	None	n/a
Sidra Vaines	Yes	None	n/a
Shilla Romero	Yes	None	n/a
Niki Hubbard	Yes	None	n/a
Jerry and Rose Broughten	Yes	None	n/a
Ta'sa McDonald	Yes	None	n/a
Josh Garey and Chiho Udagawa	Yes	None	n/a
Bethany Morrison	Yes	None	n/a
Carole Carvalho	Yes	None	n/a
Sunee Campbell and Lynn Dehmar	Yes	None	n/a
Kelley Campbell	Yes	None	n/a
Gary Miller	Yes	None	n/a
Lisa Barton	Yes	None	n/a
Katy Metzler Nagata	Yes	None	n/a
Big Island Housing Foundation	Yes	None	n/a

Agencies/Organizations/Individuals	Pre-Assessment Consultation Sent	Comment Date	Reply Date
Savin Knoblauch	Yes	None	n/a
Paula Miller	Yes	None	n/a
Luke Hubbard	Yes	None	n/a
Meizhu Lui	Yes	None	n/a
Senthil Kulandaivel	Yes	None	n/a
Rae Therrien	Yes	None	n/a
Stephanie Green	Yes	None	n/a
Malialani Dullanty	Yes	None	n/a
Frances Parianous	Yes	None	n/a
Jaz Nathanial	Yes	None	n/a
Roy Valera	Yes	None	n/a
Julie Becker	Yes	None	n/a
Carole Welden	Yes	None	n/a
Denise Wallace	Yes	None	n/a
Malia Sheehan	Yes	None	n/a
Betty Conrad	Yes	None	n/a
Rachel Conder	Yes	None	n/a
George Martin	Yes	None	n/a
Kenneth Bugado	Yes	None	n/a
Sheldon Ah Choy	Yes	None	n/a
Pauline Ah Choy	Yes	None	n/a
Kurt Rix	Yes	None	n/a
Dave Molenaar	Yes	None	n/a
Harriet Bloom	Yes	None	n/a
Sol Ammon	Yes	None	n/a
Terence Ryan	Yes	None	n/a
John Hammerstrom	Yes	None	n/a
Robert Gonsalves	Yes	None	n/a
Florence Pua	Yes	None	n/a

8.3 DRAFT EA PUBLIC REVIEW COMMENTS

After the Pre-Assessment consultation, the Draft EA was prepared and submitted for publication in the OPSD Environmental Review Program's February 8, 2024, issue of *The Environmental Notice*. The agencies, organizations, and individuals that were mailed a notification that the Draft EA was available for public comment are listed below in Table 14. The statutory 30-day public review and comment period ended on March 11, 2024. However, it was decided to publish a second Draft EA and Anticipated Finding of No Significant Impact (AFNSI) to include the findings of a final CIA. The second Draft EA-AFNSI was published in the March 23, 2024, issue of The

Environmental Notice; the second 30-day comment period ended on April 22, 2024. Comments received during the first and second comment periods have been responded to in writing, and comments and responses from both comment periods are included in this Final EA.

Table 14 also notes which parties provided comments within the two statutory 30-day public review periods. Written responses were provided to all comments received during the two statutory 30-day public review periods. Comments and input received during these periods were incorporated into this Final EA and reproduced in their entirety in Appendix H.

Table 14: List of Public Review Comments

Agencies/Organizations/Individuals	DEA Publication Notification Sent	Comment Date(s)	Reply Date
STATE			
Environmental Review Program	Yes	None	n/a
Department of Accounting & General Services	Yes	2/13/24 & 4/8/24	5/16/24
Department of Agriculture	Yes	None	n/a
Department of Business, Economic Development & Tourism	Yes	None	n/a
Hawai'i State Energy Office / Strategic Industries Division	Yes	None	n/a
Office of Planning & Sustainability Development	Yes	None	n/a
Department of Defense – Engineering Office	Yes	2/22/24	5/16/24
Department of Hawaiian Home Lands	Yes	None	n/a
Department of Health	Yes	None	n/a
Department of Health - Environmental Health Administration	Yes	None	n/a
Department of Health – Hazard Evaluation & Emergency Response Office	Yes	4/18/24	5/16/24
Department of Human Services	Yes	2/26/24 & 4/1/24	5/16/24
Department of Land and Natural Resources (DLNR)	Yes	3/8/24, 4/8/24 & 4/19/24	5/16/24
DLNR – Division of Aquatic Resources (DAR)		4/16/24	5/16/24
DLNR – Division of Forestry & Wildlife (DOFAW)	Yes	4/5/24	5/16/24
DLNR - Engineering Division	Yes	None	n/a
DLNR - Land Division, Hawai'i District Office	Yes	3/4/24 & 4/15/24	5/16/24
DLNR – Office of Conservation & Coastal Lands (OCCL)	Yes	2/15/24 & 4/4/24	5/16/24
Department of Transportation (DOT)	Yes	None	n/a
Office of Hawaiian Affairs (OHA)	Yes	2/26/24 & 4/12/24	5/16/24

Agencies/Organizations/Individuals	DEA Publication Notification Sent	Comment Date(s)	Reply Date
FEDERAL			
U.S. Army Corps of Engineers	Yes	3/25/24	5/16/24
U.S. Fish and Wildlife Service	Yes	3/13/24 & 3/26/24	5/16/24
U.S. Department of Agriculture - Natural Resources Conservation Service	Yes	None	n/a
Federal Emergency Management Agency	Yes	None	n/a
COUNTY			
Department of Environmental Management	Yes	None	n/a
Department of Parks and Recreation (Proposing/Approving Agency)	Yes	None	n/a
Department of Planning	Yes	None	n/a
Department of Public Works	Yes	3/8/24	5/16/24
Department of Research and Development	Yes	None	n/a
Department of Water Supply	Yes	None	n/a
Office of Housing and Community Development	Yes	None	n/a
Fire Department	Yes	None	n/a
Mass Transit Agency	Yes	None	n/a
Police Department	Yes	2/12/24 & 4/1/24	5/16/24
ELECTED OFFICIALS			
Mayor Mitch Roth	Yes	None	n/a
State Senator Herbert M. "Tim" Richards, III	Yes	None	n/a
State Representative Mark Nakashima	Yes	None	n/a
County Council Member Heather Kimball	Yes	None	n/a
County Council Member Jennifer Kagiwada	Yes	None	n/a
County Council Member Susan Lee Loy	Yes	None	n/a
County Council Member Ashley Kierkiewicz	Yes	None	n/a
County Council Member Matt Kanealii-Kleinfelder	Yes	None	n/a
County Council Member Michelle Galimba	Yes	None	n/a
County Council Member Rebecca Villegas	Yes	None	n/a
County Council Member Holeka Inaba	Yes	None	n/a
County Council Member Cynthia Evans	Yes	None	n/a
UTILITIES			
Hawaii Electric Company	Yes	None	n/a
Hawaiian Telcom	Yes	None	n/a
Spectrum	Yes	None	n/a
LIBRARIES			
Hawai'i State Library – Hawai'i Documents Center	Yes	None	n/a
Laupāhoehoe Public and School Library	Yes	None	n/a

Agencies/Organizations/Individuals	DEA Publication Notification Sent	Comment Date(s)	Reply Date
MEDIA			
Honolulu Star Advertiser	Yes	None	n/a
Honolulu Civil Beat	Yes	None	n/a
Hawai'i Tribune Herald	Yes	None	n/a
CITIZEN GROUPS/INDIVIDUALS			
North Hilo Community Council	Yes	None	n/a
Laupāhoehoe Community Public Charter School	Yes	None	n/a
Dwight Takamine	Yes	None	n/a
Lucille Chung	Yes	3/11/24	5/16/24
Pam Elders	Yes	None	n/a
Thomas Bearden	Yes	None	n/a
Sidra Vaines	Yes	None	n/a
Shilla Romero	Yes	None	n/a
Niki Hubbard	Yes	None	n/a
Jerry and Rose Broughten	Yes	None	n/a
Ta'sa McDonald	Yes	None	n/a
Josh Garey and Chiho Udagawa	Yes	None	n/a
Bethany Morrison	Yes	None	n/a
Carole Carvalho	Yes	None	n/a
Sunee Campbell and Lynn Dehmar	Yes	None	n/a
Kelley Campbell	Yes	None	n/a
Gary Miller	Yes	None	n/a
Lisa Barton	Yes	None	n/a
Katy Metzler Nagata	Yes	None	n/a
Big Island Housing Foundation	Yes	None	n/a
Savin Knoblauch	Yes	None	n/a
Paula Miller	Yes	None	n/a
Luke Hubbard	Yes	None	n/a
Meizhu Lui	Yes	None	n/a
Senthil Kulandaivel	Yes	None	n/a
Rae Therrien	Yes	None	n/a
Stephanie Green	Yes	None	n/a
Malialani Dullanty	Yes	None	n/a
Frances Parianous	Yes	None	n/a
Jaz Nathanial	Yes	None	n/a
Roy Valera	Yes	None	n/a
Julie Becker	Yes	None	n/a
Carole Welden	Yes	None	n/a
Denise Wallace	Yes	None	n/a
Malia Sheehan	Yes	None	n/a

Agencies/Organizations/Individuals	DEA Publication Notification Sent	Comment Date(s)	Reply Date
Betty Conrad	Yes	None	n/a
Rachel Conder	Yes	None	n/a
George Martin	Yes	None	n/a
Kenneth Bugado	Yes	None	n/a
Sheldon Ah Choy	Yes	None	n/a
Pauline Ah Choy	Yes	None	n/a
Kurt Rix	Yes	None	n/a
Dave Molenaar	Yes	4/21/24 & 4/22/24	5/16/24
Harriet Bloom	Yes	None	n/a
Sol Ammon	Yes	None	n/a
Terence Ryan	Yes	None	n/a
John Hammerstrom	Yes	None	n/a
Robert Gonsalves	Yes	None	n/a
Florence Pua	Yes	None	n/a
Andrea Hess	Yes	None	n/a
Matt Meyer	Yes	None	n/a
Hampton McCrady	Yes	None	n/a
Tracy Jardine	Yes	None	n/a
Michael Morrison	Yes	None	n/a
Elizabeth "Kaliko" Canario	Yes	None	n/a
Sam Poomaihealani	Yes	None	n/a
Kyra Bernhardt	Yes	None	n/a
Erika Closter	Yes	None	n/a
Peter Pua	Yes	None	n/a
Savin Lun	Yes	None	n/a
Tenille AhChoy	Yes	None	n/a
Valarie Peters	Yes	None	n/a
James Tyree	Yes	None	n/a
Holly Young	Yes	None	n/a
Kristina Ammon	Yes	None	n/a
Sumiko Yoshida	Yes	None	n/a
Estreela Gutierrez	Yes	None	n/a
Cedar Satyada	Yes	None	n/a
Paul Schurch	Yes	None	n/a
Mary Blyth	Yes	None	n/a
David Sheehan	Yes	None	n/a
Keith Kropf	Yes	None	n/a
Fred Kent	Yes	None	n/a
Bert Dickerson	Yes	None	n/a

Agencies/Organizations/Individuals	DEA Publication Notification Sent	Comment Date(s)	Reply Date
Paige Breen-Page	Yes	None	n/a
Wesley Salboro	Yes	None	n/a
Anne Farrell	Yes	None	n/a
David Kumagai	Yes	None	n/a
Carol Weldon	Yes	None	n/a
Romeo Garcia	Yes	None	n/a
Howard Constantino	Yes	None	n/a
Heather Bloom	Yes	None	n/a
Leslie Fawcett	Yes	None	n/a
Gilbert Gutierrez	Yes	None	n/a
Paula Dickey	Yes	None	n/a
Carolyn Goff	Yes	None	n/a
Matt Dill	Yes	None	n/a
Nicole Tergeoglou	Yes	None	n/a
Lorraine Shin	Yes	None	n/a
Thatcher Moats	Yes	None	n/a

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APPENDIX A

Pre-Assessment Consultation Comments & Responses

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STATE OF HAWAIʻI
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT

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Mailing Address: P.O. Box 2359, Honolulu, Hawaiʻi 96804

Telephone: (808) 587-2846
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JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

MARY ALICE EVANS
INTERIM DIRECTOR

Coastal Zone Management Program

Environmental Review Program

Land Use Commission

Land Use Division

Special Plans Branch

State Transit-Oriented Development

Statewide Geographic Information System

Statewide Sustainability Program

DTS 202311081037NA

December 7, 2023

Mr. Greg Nakai
Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Pre-Assessment Consultation for the Papaʻaloa Park Master Plan and Phase I Development, North Hilo District, Island of Hawaiʻi TMK (3) 3-5-003: 035 & 088

Thank you for the opportunity to provide comments on your pre-consultation request for the proposed Papaʻaloa Park Master Plan and Phase I Development, located in the North Hilo District, Island of Hawaiʻi. The review material was received by our office via memo dated November 3, 2023.

It is our understanding that the County of Hawaiʻi (CoH), Department of Parks and Recreation is proposing the Papaʻaloa Park Master Plan and Phase I Development. The Project would involve the construction of a new covered play court facility, associated infrastructure, and utility improvements, replacement of existing park amenities, recreational features, connectivity to the features of the park, and improvements to administrative functions.

The Office of Planning and Sustainable Development (OPSD) has reviewed the submitted material and has the following comments to offer:

1. Hawaiʻi Coastal Zone Management (CZM) Program
   The CZM area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" under Hawaiʻi Revised Statutes (HRS) § 205A-1.

   Pursuant to HRS § 205A-4, in implementing the objectives of the CZM program, agencies shall consider ecological, cultural, historic, esthetic, recreational, scenic, open space values, coastal hazards, and economic

development. As the proposed action is being proposed by the CoH, the Draft Environmental Assessment (Draft EA) should include a discussion on the project's consistency with the policies of the Hawai'i CZM Program, HRS § 205A-2, as amended.

Disclosure of impacts on CZM objectives and supporting policies as it relates to HRS Chapter 343 requirements, will aid the State in determining impacts to the resources of the coastal zone, and mitigation measures on lands involved for this proposed action.

2. Special Management Area (SMA) Use Permitting
We note that the Mamalahoa Highway, Route 19, along the Hamakua Coast of Hawai'i Island, frequently constitutes the outermost boundary of the SMA as delineated by the CoH. We recommend that the CoH, Planning Department be consulted on the applicability of SMA Use permitting.

3. Stormwater Runoff, Erosion, and Water Resources
Pursuant to Hawai'i Administrative Rules (HAR) § 11-200.1-18(d)(7) – identification and analysis of impacts and alternatives considered; to ensure that nearshore marine resources along the coastal areas of the project area remain protected, the negative effects of stormwater inundation and sediment loading surrounding the proposed project site, ensuing from park improvements during the construction and operational phase should be evaluated.

Issues that may be examined include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, vulnerability of the nearshore environment any increase in volume or flow rate of stormwater runoff. Developing mitigation measures for the protection for surface water resources and the coastal ecosystem should take this into account, pursuant to HAR § 11-200.1-18(d)(8).

4. Climate Change Adaptation/Sea Level Rise (SLR)
Pursuant to HAR § 11-200.1-13(b)(11) Significance Criteria, the Draft EA should evaluate the project area location in relation to environmentally sensitive regions such as SLR exposure areas. Due to the limited information provided, we are unable to determine if the Park Master Plan site has vulnerability to coastal inundation and SLR impacts. We suggest the Draft EA refer to the findings of the Hawai'i Sea Level Rise Vulnerability and Adaptation Report 2017, accepted by the Hawai'i Climate Change Mitigation and Adaptation Commission.

The Report, and Hawaii Sea Level Rise Viewer at https://www.pacioos.hawaii.edu /shoreline/slr-hawaii/ identifies a 3.2-foot SLR exposure area across the main Hawaiian Islands, as a starting evaluation point. The Draft EA should provide a map of 3.2-foot SLR exposure area in relation to the project area, and consider site-specific mitigation measures, including setbacks from the shoreline or relocation options further inland, increasing the height of the support facilities to accommodate higher water levels, or various climate change adaptation strategies to respond to impacts of 3.2-foot SLR or greater.

If you have any questions or concerns about this agency pre-consultation response letter, please contact Joshua Hekekia of our office at (808) 587-2845.

Sincerely,

Mary Alice Evans

Mary Alice Evans,
Interim Director

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
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printed on recycled paper

February 1, 2024

Mary Alice Evans
Interim Director
State of Hawai'i
Office of Planning & Sustainable Development
P.O. Box 2359
Honolulu, HI 96804

Attn: Joshua Hekekia

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Ms. Evans,

Thank you for your letter dated December 7, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), we are appreciative of the information provided in your letter and provide the following responses.:

1. Hawai'i Coastal Zone Management (CZM) Program
   As recommended, the Draft Environmental Assessment (Draft EA) will include a discussion on the project's consistency with the policies of the Hawai'i CZM Program, HRS § 205A-2, as amended.

2. Special Management Area (SMA) Use Permitting
   We can confirm the proposed Project is located within the SMA, and an SMA Use Permit is required. That information will be provided in the Draft EA.

3. Stormwater Runoff, Erosion, and Water Resources
   The Draft EA will address the potential for stormwater runoff and erosion on surface water resources and the coastal ecosystem.

4. Climate Change Adaptation/Sea Level Rise (SLR)
   The Draft EA will include a map of a 3.2-foot SLR and discuss whether the site would be impacted by SLR.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

KENNETH S. HARA
MAJOR GENERAL
ADJUTANT GENERAL
KA 'AKUKANA KENELALA

STEPHEN F. LOGAN
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL
KA HOPE 'AKUKANA KENELALA

STATE OF HAWAI'I
KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF DEFENSE
KA 'OIHANA PILI KAUA
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAI'I 96816-4495

November 28, 2023

Mr. Greg Nakai, Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

SUBJECT: Pre-Assessment Consultation Environmental Assessment – Papaaloa Park Master Plan and Phase I Development, North Hilo District, Hawaii Island, Hawaii
TMK: (3) 3-5-003:035 and 088

Dear Mr. Nakai:

Thank you for the opportunity to comment on the above project. The State of Hawaii Department of Defense has no comments to offer relative to the project at this time.

Should there be any questions, please contact Mr. Tad T. Nakayama at 808-369-3490 or tad.t.nakayama@hawaii.gov.

Sincerely,

Shao Yu L. Lee, R.A.
Major, Hawaii National Guard
Chief Engineering Officer

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
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W. FRANK BRANDT, FASLA
Founding Partner

February 1, 2024

Ms. Shao Yu L. Lee, R.A.
Major, Hawai‘i National Guard
Chief Engineering Officer
State of Hawai‘i
Department of Defense
Office of the Adjutant General
3949 Diamond Head Road
Honolulu, HI 96816-4495

Attn: Mr. Tad T. Nakayama

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Major Lee,

Thank you for your letter dated November 28, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that DOD has no comments to offer relative to the project at this time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
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KA HOPE LUNA HO'OKELE

TRISTA SPEER
DEPUTY DIRECTOR
KA HOPE LUNA HO'OKELE

STATE OF HAWAII
KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF HUMAN SERVICES
KA 'OIHANA MĀLAMA LAWELAWE KANAKA
BENEFIT, EMPLOYMENT AND SUPPORT SERVICES DIVISION
1010 Richards Street, Suite 512
Honolulu, Hawaii 96813

Re: 23-00284

December 1, 2023

Mr. Greg Nakai
Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Pre-Assessment Consultation for a HRS Chapter 343 Environmental Assessment – Papa'aloa Park Master Plan and Phase 1 Development, North Hilo District, Hawai'i Island, Hawai'i, TMK (3) 3-5-003: 035 and 088

This is in response to letter dated November 3, 2023 requesting the Department of Human Services (DHS) to comment on the above-named project.

DHS has reviewed the Papa'aloa Park Master Plan and Phase I Development project and the map of the area. At this time, DHS has no comments.

Should you have any questions regarding this matter, please contact Ms. Tracy Oshita, Acting Child Care Regulation Program Specialist at (808) 586-5243.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Cathy Betts, Director

PBR HAWAII
& ASSOCIATES, INC.

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Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
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E-mail: sysadmin@pbrhawaii.com

February 1, 2024

Mr. Scott Nakasone
Assistant Division Administrator
State of Hawai'i
Department of Human Services
Benefit, Employment and Support Services Division
1010 Richards Street, Suite 512
Honolulu, HI 96813

Attn: Ms. Tracy Oshita, Acting Child Care Regulation Program Specialist

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Nakasone,

Thank you for your letter dated December 1, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), we acknowledge that DHS has no comments at this time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

December 5, 2023

PBR HAWAII & Associates, Inc.
Attn: Mr. Greg Nakai, Senior Associate via email: gnakai@pbrhawaii.com
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Nakai:

SUBJECT: Pre-Assessment Consultation for EA for the Proposed **Papa'aloa Park Master Plan and Phase I Development** located at North Hilo, Island of Hawaii; TMKs: (3) 3-5-003: 035 and 088 on behalf of the County of Hawaii, Department of Parks and Recreation

Thank you for the opportunity to review and comment on the subject matter. The Land Division of the Department of Land and Natural Resources (DLNR) distributed or made available a copy of your request pertaining to the subject matter to DLNR's Divisions for their review and comments.

At this time, enclosed are comments from the (a) Engineering Division, (b) Office of Conservation & Coastal Lands, and (c) Land Division-Hawaii District on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

December 14, 2023

PBR HAWAII & Associates, Inc.
Attn: Mr. Greg Nakai, Senior Associate
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

via email: gnakai@pbrhawaii.com

Dear Mr. Nakai:

SUBJECT: Pre-Assessment Consultation for EA for the Proposed **Papa'aloa Park Master Plan and Phase I Development** located at North Hilo, Island of Hawaii; TMKs: (3) 3-5-003: 035 and 088 on behalf of the County of Hawaii, Department of Parks and Recreation

Thank you for the opportunity to review and comment on the subject matter. In addition to our previous comments dated December 5, 2023, enclosed are comments from the Division of Forestry & Wildlife on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

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& ASSOCIATES, INC.

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BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

February 1, 2024

Mr. Russell Y. Tsuji
Land Administrator
State of Hawai‘i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

Attn: Darlene K. Nakamura

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Tsuji,

Thank you for your letters dated December 5 and 14, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we wish to inform you that separate responses were prepared and mailed directly to: (a) Engineering Division, (b) Office of Conservation & Coastal Lands, (c) Land Division-Hawai‘i District, and (d) Division of Forestry and Wildlife.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation

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COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

November 9, 2023

MEMORANDUM

FROM: **DLNR Agencies:**
X Div. of Aquatic Resources (kendall.i.tucker@hawaii.gov)
___Div. of Boating & Ocean Recreation
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
X Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
X Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Pre-Assessment Consultation for EA for the Proposed **Papa'aloa Park Master Plan and Phase I Development**
LOCATION: North Hilo, Island of Hawaii; TMKs: (3) 3-5-003: 035 and 088
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the County of Hawaii, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by **December 5, 2023.**

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(☑) Comments are included/attached.

Signed: *Afsheen Siddiqi*
Print Name: Afsheen Siddiqi, Acting Wildlife Prog. Mgr.
Division: Forestry and Wildlife
Date: Dec 13, 2023

Attachments
cc: Central Files

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA ʻOIHANA KUMUWAIWAI ʻĀINA

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

December 13, 2023

Log no. 4326

MEMORANDUM

TO: RUSSELL Y. TSUJI, Administrator
Land Division

FROM: AFSHEEN A. SIDDIQI, Acting Wildlife Program Manager
Division of Forestry and Wildlife

SUBJECT: **Request for Comments on the Pre-Assessment Consultation for EA for the Proposed Papaʻaloa Park Master Plan and Phase 1 Development in North Hilo, Hawaiʻi**

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your request for comments on the Pre-Assessment Consultation for EA for the proposed Papaʻaloa Park Master Plan and Phase 1 Development in North Hilo on the island of Hawaiʻi; TMKs: (3) 3-5-003:035 and 088. The proposed project is located in the North Hilo Judicial District on Hawaiʻi Island. The project would involve a new covered play court facility, associated on-site and off-site infrastructure and utility improvements/ modifications, replacement/improvement of existing park amenities and recreational features impacted by any new/ required work, and related improvements necessary to connect all new and existing features of the park.

DOFAW recommends the following measures be included in the project design to avoid construction and operational impacts to State-listed species.

The State listed ʻōpeʻapeʻa or Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) could potentially occur at or in the vicinity of the project and may roost in nearby trees. Any required site clearing should be timed to avoid disturbance to bats during their birthing and pup rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be avoided for any construction because bats can become ensnared and killed by such fencing material during flight.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in their collision with manmade structures or the grounding of birds. For nighttime work that might be required, DOFAW recommends that all lights used be fully shielded to minimize the attraction of seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15, when young seabirds make their maiden voyage to sea.

If nighttime construction is required during the seabird fledgling season (September 15 to December 15), we recommend that a qualified biologist be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling the area, lights should then be turned off. If a downed seabird is detected, please follow DOFAW's recommended response protocol by visiting https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/#response.

Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai‘i please visit https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf.

The State listed nēnē or Hawaiian Goose (*Branta sandvicensis*) could potentially occur in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any are present during construction, all activities within 100 feet (30 meters) should cease and the bird or birds should not be approached. Work may continue after the bird or birds leave the area of their own accord. If a nest is discovered at any point, please contact the Hawai‘i Island Branch DOFAW Office at (808) 974-4221 and establish a buffer zone around the nest.

The State listed ‘io or Hawaiian Hawk (*Buteo solitarius*) may occur in the project vicinity. Before undertaking vegetation clearing, DOFAW recommends that pre-construction surveys of the area be conducted by a qualified biologist following appropriate survey methods[1] (Gorressen et al., 2008) to ensure no Hawaiian Hawk nests are present, which may occur during the breeding season from March to September. The survey should be conducted at least 10 days before the start of construction. If an ‘io nest is detected, a buffer zone of 100 meters (330 feet) should be established around it where no construction shall occur until the chick or chicks have fledged, or the nest is abandoned and. DOFAW staff should be immediately notified. If adult individuals are detected in the area during construction, all activities within 30 meters (100 feet) of the bird should cease. Work may continue when the bird has left the area on its own.

The endemic pueo or Hawaiian Short-Eared Owl (*Asio flammeus sandwichensis)* could potentially nest in the project area. Before any potential vegetative alteration, especially ground-based disturbance, we recommend that line transect surveys are conducted during crepuscular hours through the project area. If a pueo nest is discovered, a minimum buffer distance of 100 meters from the nest should be established until chicks are capable of flight.

[1] Gorresen, P. M., R. J. Camp, J. L. Klavitter, and T. K. Pratt. 2008. Abundance, distribution and population trend of the Hawaiian Hawk: 1998-2007. Hawai`i Cooperative Studies Unit Technical Report HCSU-009. University of Hawai`i at Hilo. 53 pp., incl. 8 figures, 3 tables & 1 appendix.

DOFAW recommends minimizing the movement of plant or soil material between worksites. Soil and plant material may contain detrimental fungal pathogens (e.g., Rapid ʻŌhiʻa Death), vertebrate and invertebrate pests (e.g., Little Fire Ants, Coqui Frogs, etc.), or invasive plant parts (e.g., African Tulip, Octopus Tree, Trumpet Tree, etc.) that could harm our native species and ecosystems. We recommend consulting the Big Island Invasive Species Committee (BIISC) at (808) 933-3340 to help plan, design, and construct the project, learn of any high-risk invasive species in the area, and ways to mitigate their spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.

DOFAW is concerned about impacts to vulnerable birds from nonnative predators such as cats, rodents, and mongooses. We recommend taking action to minimize predator presence; remove cats, place bait stations for rodents and mongoose, and provide covered trash receptacles.

We recommend that Best Management Practices are employed during and after construction to contain any soils and sediment with the purpose of preventing damage to near-shore waters and marine ecosystems.

We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Myrna N. Girald Pérez, Protected Species Habitat Conservation Planning Coordinator at (808) 265-3276 or myrna.girald-perez@hawaii.gov.

Sincerely,

Afsheen Siddiqi

AFHSEEN A. SIDDIQI
Acting Wildlife Program Manager

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

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GREG NAKAI
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BRADLEY FURUYA, AICP
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W. FRANK BRANDT, FASLA
Founding Partner

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Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

printed on recycled paper

February 1, 2024

Ms. Afsheen Siddiqi
Acting Wildlife Program Manager
State of Hawai'i
Department of Land and Natural Resources
Division of Forestry and Wildlife
P.O. Box 621
Honolulu, HI 96809

Attn: Myrna N. Girald Perez, Protected Species Habitat Conservation Planning Coordinator

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Ms. Siddiqi,

Thank you for your memorandum dated December 13, 2023 (Log no. 4326), regarding the subject project. As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), we greatly appreciate the general guideline recommendations to include in the project design to avoid construction and operational impacts to State-listed species. As noted in the memorandum, "It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts." To that end, the Applicant (the County of Hawai'i Department of Parks and Recreation) has contracted AECOS Inc. to conduct a natural resources assessment of the Project site. The natural resources assessment report will be summarized in (and attached to) the Draft EA.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

November 9, 2023

MEMORANDUM

FROM: ~~TO:~~ **DLNR Agencies:**

- X Div. of Aquatic Resources (kendall.i.tucker@hawaii.gov)
- ___ Div. of Boating & Ocean Recreation
- X Engineering Division (DLNR.ENGR@hawaii.gov)
- X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
- ___ Div. of State Parks
- X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
- X Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
- X Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
- X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: ~~FROM:~~ Russell Y. Tsuji, Land Administrator *Russell Tsuji*

SUBJECT: Pre-Assessment Consultation for EA for the Proposed **Papa'aloa Park Master Plan and Phase I Development**

LOCATION: North Hilo, Island of Hawaii; TMKs: (3) 3-5-003: 035 and 088

APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the County of Hawaii, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by **December 5, 2023.**

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

( ) We have no objections.

( ) We have no comments.

( ) We have no additional comments.

(✓) Comments are included/attached.

Signed: *CSC*

Print Name: Carty S. Chang, Chief Engineer

Division: Engineering Division

Date: Nov 28, 2023

Attachments

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji

Ref: Pre-Assessment Consultation for EA for the Proposed Papa'aloa Park Master Plan and Phase I Development
Location: North Hilo, Island of Hawaii
TMK(s): (3) 3-5-003: 035 and 088
Applicant: PBR Hawaii & Associates, Inc. on behalf of the County of Hawaii, Department of Parks and Recreation

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high-risk areas). Be advised that 44CFR, Chapter 1, Subchapter B, Part 60 reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood zones subject to NFIP requirements are identified on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (fhat.hawaii.gov) could also be used to research flood hazard information.

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7139.
- Kauai: County of Kauai, Department of Public Works (808) 241-4849.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: Nov 28, 2023

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
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Cultural Sustainability Planner

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Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

printed on recycled paper

February 1, 2024

Carty S. Chang, Chief Engineer
State of Hawai'i
Department of Land and Natural Resources
Engineering Division
P.O. Box 621
Honolulu, HI96809

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Chang,

Thank you for your memorandum dated November 28, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), we are appreciative of the information provided in your letter.

Based upon our research, the Draft EA will state that according to the Flood Insurance Rate Map (FIRM) Panel 1551660450, prepared by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program, the Project site is in Zone X, or areas determined to be outside the 0.2% annual chance of floodplain.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation

11/28/23

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

November 9, 2023

MEMORANDUM

TO: **DLNR Agencies:**
_X_ Div. of Aquatic Resources (kendall.i.tucker@hawaii.gov)
___ Div. of Boating & Ocean Recreation
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___ Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
_X_ Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
_X_ Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Pre-Assessment Consultation for EA for the Proposed **Papa'aloa Park Master Plan and Phase I Development**
LOCATION: North Hilo, Island of Hawaii; TMKs: (3) 3-5-003: 035 and 088
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the County of Hawaii, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by **December 5, 2023.**

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

(✓) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
( ) Comments are included/attached.

Signed: _____
Print Name: GORDON C. HEIT
Division: Land Division
Date: 12/04/23

Attachments
cc: Central Files

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

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Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

February 1, 2024

Gordon C. Heit
State of Hawai‘i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Heit,

Thank you for your memorandum dated December 4, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that Land Division – Hawai‘i District has no objections.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
OFFICE OF CONSERVATION AND COASTAL LANDS
P.O. BOX 621
HONOLULU, HAWAII 96809

REF:OCCL:CM

Correspondence: HA 24-68

Nov 28, 2023

Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813
sysadmin@pbrhawaii.com

SUBJECT: Pre-Assessment Consultation for a HRS Chapter 343 Environmental Assessment – Papaaloa Park Master Plan and Phase I Development; North Hilo, Hawaii; Tax Map Keys (TMKs): (3) 3-5-003:035 and 088

Dear Mr. Nakai,

The Office of Conservation and Coastal Lands (OCCL) has reviewed your correspondence regarding the subject matter. The park's master plan project area is in the Papaaloa district on the Big Island and the two parcels are owned by the County of Hawaii. According to the information you provided, the proposed project will include the construction of a new covered play court facility, associated onsite and offsite infrastructure, utility replacement/improvements, replacement/improvement of the existing park amenities, and improvements necessary to connect all the new and existing park features.

Staff's research identified that a makai portion of parcel 035 is within the State of Hawaii Land Use Conservation District's Resource Subzone. The remainder of parcel 035 and the entirety of parcel 088 is in the States Urban Land Use District.

Please consult with the State Land Use Commission to determine what portion of parcel 035 lies within the Conservation District versus another State Land Use District. Proposed land uses within the Conservation District requires a Departmental review to determine what type of authorization may be required. Land uses outside of the Conservation District may proceed with permitting through the county.

Should you have any questions regarding this correspondence, please contact Cal Miyahara of the Office of Conservation and Coastal Lands at (808) 798-6147 or calen.miyahara@hawaii.gov.

Sincerely,

S Michael Cain

Michael Cain, Administrator
Office of Conservation and Coastal Lands

C: HDLO
Hawaii County Planning Department

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
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Tel: (808) 521-5631
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E-mail: sysadmin@pbrhawaii.com

printed on recycled paper

February 1, 2024

Michael Cain, Administrator
State of Hawai'i
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, HI 96809

Attn: Cal Miyahira

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Cain,

Thank you for your letter dated November 28, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), we are appreciative of the information provided in your letter. We understand that the prime consultant's surveying consultant is in the process of applying for a Boundary Interpretation from the Land Use Commission, to ensure that any planned park improvements in parcel 035 that may affect the Conservation District are responsibly programmed and carefully designed to be consistent with the intent and purpose of the Resource Subzone.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation

Mitchell D. Roth
Mayor

Lee E. Lord
Managing Director

West Hawai'i Office
74-5044 Ane Keohokālole Hwy
Kailua-Kona, Hawai'i 96740
Phone (808) 323-4770
Fax (808) 327-3563

County of Hawai'i

PLANNING DEPARTMENT

Zendo Kern
Director

Jeffrey W. Darrow
Deputy Director

East Hawai'i Office
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720
Phone (808) 961-8288
Fax (808) 961-8742

December 15, 2023

PBR HAWAII & Associates, Inc.
Attn: Greg Nakai
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Greg Nakai:

SUBJECT: Pre-Assessment Consultation for Environmental Assessment
Project: Pāpa'aloa Park Master Plan and Phase 1 Development
TMK: (3) 3-5-003:035 and 088, North Hilo District, Hawai'i

Thank you for your letter dated November 3, 2023, requesting comments from this office regarding the preparation of a Hawai'i Revised Statutes (HRS) Chapter 343 Environmental Assessment (EA) for the subject project.

The applicant is proposing a new covered play court facility, associated on- site and off-site infrastructure and utility improvements/ modifications, replacement/ improvement of existing park amenities and recreational features impacted by any new/required work, and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind.

The subject area consists of two parcels with approximately 10.81 acres combined. The subject area is zoned Agricultural District (A-1a) and General Industrial District (MG-1a) by the County and designated as Urban, Agricultural, and Conservation by the State Land Use Commission. According to the County of Hawai'i General Plan 2005, amended December 2006, the subject area is designated as Important Agricultural Lands and Open Area by the Land Use Pattern Allocation Guide (LUPAG) Map. While the entire island of Hawai'i is within the Coastal Zone Management Area, the entire subject area is also located within the Special Management Area with frontage along the shoreline and subject to review against SMA rules and regulations.

In the Conservation District, there is no county zoning, per se. Therefore, the Department of Land and Natural Resources (DLNR) Office of Conservation and Coastal Lands (OCCL) has jurisdiction over any use or activity in the Conservation portion of the subject area. However, in the Urban District, county zoning takes precedence.

Hawai‘i County Code, Chapter 25 (Zoning Code), Section 25-4-11(c) notes *public uses, structures and buildings and community buildings are permitted uses in any district, provided that the director has issued plan approval for such use*. Therefore, plan approval will be required for the proposed structures within the subject area.

The project site is located in the Hāmākua Community Development Plan (CDP) planning area. The Hāmākua CDP was adopted by Ordinance No. 2018-078, effective as of August 2018. The following Hāmākua CDP policies may be relevant to the project:

- *Policy 102 – Complete the following recreation improvement projects:*
  - ***Hazardous materials abatement at Pāpa‘aloa Gym***
- *Policy 129 – Develop underutilized private and public properties within existing towns to be used as gathering places, community gardens, open squares and markets, auxiliary parking lots (including park and ride areas), and parks (including pocket and art parks, and outdoor amphitheaters, etc.). Examples of underutilized parcels owned by the County are:*
  - ***Pāpa‘aloa: TMK 3-5-003:035 next to the Pāpa‘aloa Gym.***

With the submittal of a proposed site plan more specific information regarding the project can be provided. Based on the information provided, our recommendation is to include the following information in the EA:

- Proposed site plan
- Describe the proposed project’s consistency with Hawai‘i Revised Statutes (HRS), Chapter 205A, Coastal Zone Management.
- Describe how the proposed use is consistent with the policies, standards and courses of action of the County of Hawai‘i General Plan, which can be found electronically at https://www.planning.hawaiicounty.gov/general-plan-community-planning/gp/plan.
- Describe how the proposed project is in alignment with the Hāmākua Community Development Plan (CDP), which can be found electronically at https://www.planning.hawaiicounty.gov/general-plan-community-planning/cdp/hamakua.

We have no further comments to offer, at this time. However, please provide our department with a copy of the Environmental Assessment for our review and comment.

If you have any questions or if you need further assistance, please feel free to contact Maryam Palma at (808) 961-8139.

Sincerely,

Zendo Kern
Zendo Kern (Dec 18, 2023 14:08 HST)

ZENDO KERN
Planning Director

MP:tc
P\wpwin60\Maryam\Letters\EA-EIS Review\PreconsultPapaaloaParkMasterPlan.doc

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

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Associate Principal

MARC SHIMATSU, ASLA
Associate Principal

DACHENG DONG, LEED® AP
Associate Principal

NATHALIE RAZO
Associate Principal

ANN MIKIKO BOUSLOG, PhD
Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

MICAH McMILLEN, ASLA, LEED® AP
Senior Associate

ETSUYO KILA
Senior Associate

GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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February 1, 2024

Mr. Zendo Kern, Planning Director
County of Hawai‘i
Planning Department
101 Pauahi Street, Suite 3
Hilo, HI 96720

Attn: Maryam Palma

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Kern,

Thank you for your letter dated December 15, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we are appreciative of the information provided in your letter, including confirming the zoning districts, the LUPAG designations, and the fact that the entire subject area is located within the Special Management Area.

We would just note that according to the State Department of Land and Natural Resources Office of Conservation and Coastal Lands: *“Staff’s research identified that a makai portion of parcel 035 is within the State of Hawaii Land Use Conservation District’s Resource Subzone. The remainder of parcel 035 and the entirety of parcel 088 is in the States[sic] Urban Land Use District.”* Apparently no portion of the subject area is designated as “Agricultural” by the State Land Use Commission.

We also acknowledge that a Plan Approval will be required for the proposed structures within the Project area.

Thank you for identifying the Hāmākua CDP policies may be relevant to the project.

As recommended, the Draft EA will include the following information:

- Proposed site plan.
- Description of the proposed project’s consistency with Hawai‘i Revised Statutes (HRS), Chapter205A, Coastal Zone Management.
- Description of how the proposed use is consistent with the policies, standards and courses of action of the County of Hawai‘i General Plan, which can be found electronically at https://www.planning.hawaiicounty.gov/general-plan-community-planning/gp/plan.

- Description of how the proposed project is in alignment with the Hāmākua Community Development Plan (CDP), which can be found electronically at https://www.planning.hawaiicounty.gov/general-plan-community-planning/cdp/hamakua.

As requested, a copy of the Draft EA will be provided to the Planning Department for its review and comments.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation

Mitchell D. Roth
Mayor

Lee E. Lord
Managing Director

Robert H. Command
Deputy Managing Director

Susan K. Kunz
Housing Administrator

Harry M. Yada
Assistant Housing Administrator

County of Hawai'i
Office of Housing and Community Development

1990 Kino'ole Street, Suite 102 • Hilo, Hawai'i 96720 • (808) 961-8379 • Fax (808) 961-8685
Existing Housing: (808) 959-4642 • Fax (808) 959-9308
Kona: (808) 323-4300 • Fax (808) 323-4301

November 17, 2023

Greg Nakai, Senior Associate
PBR HAWAI'I & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484
Email: sysadmin@pbrhawaii.com

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK: (3) 3-5-003:035 AND 088

The County of Hawai'i Office of Housing and Community Development (OHCD) acknowledges your letter dated November 3, 2023, regarding "Pre-Assessment Consultation for the Pāpa'aloa Park Master Plan and Phase I development" involving TMKs: (3) 3-5-003: 035 and 088.

The OHCD supports the effort of the Department of Parks and Recreation in the development of the subject parcels. OHCD recently renovated and added to its elderly rental housing on TMK: (3) 3-5-003: 049 across of the Pāpa'aloa Park and serves as a valuable recreational resource for its residents.

Thank you for the opportunity to provide input on the proposed project. Should you have any further questions, feel free to contact Assistant Housing Administrator Harry Yada at (808) 961-8379 or by email at harry.yada@hawaiicounty.gov.

Susan K. Kunz
Housing Administrator

2319ajmk

EQUAL HOUSING OPPORTUNITY

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

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Associate Principal

NATHALIE RAZO
Associate Principal

ANN MIKIKO BOUSLOG, PhD
Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

MICAH McMILLEN, ASLA, LEED® AP
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ETSUYO KILA
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GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

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W. FRANK BRANDT, FASLA
Founding Partner

1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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February 1, 2024

Ms. Susan K. Kunz, Housing Administrator
County of Hawai‘i
Office of Housing and Community Development
1900 Kino‘ole Street, Suite 102
Hilo, HI 96720

Attn: Harry Yada, Assistant Housing Administrator

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Ms. Kunz,

Thank you for your letter dated November 17, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that the OHCD supports the efforts of DPR in the development of the subject parcels. It is further recognized that OHCD recently renovated and added to its elderly rental housing across Pāpa‘aloa Park and the Park “serves as a valuable recreational resource for its residents.”

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation

Mitchell D. Roth
Mayor

Benjamin T. Moszkowicz
Police Chief

Reed K. Mahuna
Acting Deputy Police Chief

County of Hawai`i

POLICE DEPARTMENT
349 Kapi'olani Street • Hilo, Hawai'i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

November 13, 2023

Greg Nakai, Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Nakai:

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PAPAALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Staff has reviewed your request for comments regarding your proposed project.

The Hawai'i Police Department has no concerns as it relates to traffic and public safety on this project.

Should you need further assistance, you may contact Captain Reynold Kahalewai, Honokaa district commander at (808)775-7533 or by email at reynold.kahalewai@hawaiicounty.gov.

Sincerely,

KENNETH A.K. QUIOCHO
ASSISTANT POLICE CHIEF
AREA I OPERATIONS

PBR HAWAII
& ASSOCIATES, INC.

1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

February 1, 2024

Kenneth A.K. Quiocho, Assistant Police Chief
Area I Operations
County of Hawai‘i
Police Department
349 Kapi‘olani Street
Hilo, HI 96720-3998

Attn: Captain Reynold Kahalewai, Honoka‘a District Commander

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Quiocho,

Thank you for your letter dated November 13, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that the Police Department has no concerns as it relates to traffic and public safety on this project.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation

From: HT-Plan Reviews <HT-PlanReviews@hawaiiantel.com>
Sent: Friday, November 3, 2023 1:49 PM
To: sysadmin <sysadmin@pbrhawaii.com>; HT-Plan Reviews <HT-PlanReviews@hawaiiantel.com>
Subject: RE: Pāpa'aloa Park Master Plan Pre-Assessment Consultation

Aloha,

Thank you for your email. I sent this over to the team to see if they had anything to call out for the project area. Please let us know if you folks had any further questions as well. Thank you!

Greg Kawachi
Specialist – Structure Engineer
O: 808.546.7666
C: 808.779.8324

From: sysadmin <sysadmin@pbrhawaii.com>
Sent: Friday, November 3, 2023 1:44 PM
To: HT-Plan Reviews <HT-PlanReviews@hawaiiantel.com>
Subject: Pāpa'aloa Park Master Plan Pre-Assessment Consultation

Aloha,

PBR HAWAII & Associates, Inc., is supporting the County of Hawai'i Department of Parks and Recreation in preparing a Hawai'i Revised Statutes (HRS) Chapter 343 Environmental Assessment (EA) for the proposed **Pāpa'aloa Park Master Plan and Phase I Development** ("Project"), which is located in the North Hilo Judicial District on Hawai'i Island.

We seek your input on the Project and comments as to whether the proposed Project may have an impact on any of your existing or proposed projects, plans, policies, or programs that we should consider when preparing the HRS Chapter 343 Draft EA. Please send us any comments you may have by December 6, 2023.

Mahalo,

PBR HAWAII & ASSOCIATES, INC.

PBR HAWAII
Land Planning | Landscape Architecture
Environmental Planning | Land Use Entitlements
1001 Bishop Street Suite 650
Honolulu, HI 96813
Phone: 808-521-5631
Fax: 808-523-1402
Email: sysadmin@pbrhawaii.com
www.pbrhawaii.com

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& ASSOCIATES, INC.

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President / Chairman

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Executive Vice-President / Principal

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Senior Vice-President / Principal

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Vice-President / Principal

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Vice-President / Principal

TOM SCHNELL, AICP
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Associate Principal

MARC SHIMATSU, ASLA
Associate Principal

DACHENG DONG, LEED® AP
Associate Principal

NATHALIE RAZO
Associate Principal

ANN MIKIKO BOUSLOG, PhD
Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

MICAH McMILLEN, ASLA, LEED® AP
Senior Associate

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Senior Associate

GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

February 1, 2024

Mr. Greg Kawachi
Specialist – Structure Engineer
Hawaiian Telcom
1177 Bishop Street
Honolulu, HI 96813

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Kawachi,

Thank you for your email dated November 3, 2023, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that you are coordinating comments from Hawaiian Telcom’s team.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

APPENDIX B

Community Meetings Summaries

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APPENDIX B1

Community Meeting #1 Summary

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PĀPA‘ALOA PARK MASTER PLAN COMMUNITY MEETING 1

NOV 16, 2023
MEETING TIME: 5–7 PM

LAUPĀHOEHOE COMMUNITY PUBLIC CHARTER SCHOOL CAFETERIA

SUMMARY REPORT

TABLE OF CONTENTS

PĀPA‘ALOA PARK MASTER PLAN COMMUNITY MEETING

NOV 16, 2023
MEETING TIME: 5-7 PM
(CHECK-IN: 4:45 PM)

LAUPĀHOEHOE COMMUNITY PUBLIC CHARTER SCHOOL CAFETERIA

ABOUT THE COMMUNITY MEETING

Join us on November 16th for a community meeting on the Pāpa‘aloa Park Master Plan to provide input on the project.

During the community meeting, attendees will have the opportunity to learn about, and comment on potential covered play court locations, and more!

ACTIVITY STATIONS

Visit activity stations to learn more & provide feedback!

- General discussion on the Papa‘aloa property
- Potential locations for a covered play court
- Keiki station

Flyer

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Senior Vice-President / Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
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CATIE CULLISON, AICP
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ETSUYO KILA
Senior Associate

GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
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W. FRANK BRANDT, FASLA
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November 10, 2023

SUBJECT: COMMUNITY MEETING FOR THE PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT

Aloha!

The County of Hawai‘i Department of Parks and Recreation, along with its consultant KYA Design Group, will be holding a community meeting for the Pāpa‘aloa Park Master Plan and Phase I Development (“Project”).

This Project will involve the creation of a master plan for the Pāpa‘aloa Community Park to provide a new covered play court facility, as well as associated infrastructure and utility improvements/modifications, replacement/improvement of existing park amenities and recreational features impacted by any new/required work, and other related improvements. An Environmental Assessment (EA) will also be conducted to assess existing conditions, possible alternatives, and potential impacts the Project may have on the environment.

You are invited to the community meeting to be held on the following date:

Date: November 16, 2023 (Thursday)
Time: 5:00-7:00 PM (check-in begins at 4:45 PM)
Location: Laupāhoehoe Community Public Charter School Cafeteria
35-2065 Old Māmalahoa Highway
Laupāhoehoe, HI 96764

You will have the opportunity to learn more about the Project, as well as to provide comments and input.

If you need an auxiliary aid/service or other accommodation due to a disability for the November 16th meeting, please contact PBR HAWAII via email at PapaaloaPark@pbrhawaii.com as soon as possible. Requests made as early as possible have a greater likelihood of being fulfilled.

A StoryMap (website) for the Project will also be available online shortly, which will include information on the Project and will provide an additional opportunity to provide your input. Please contact PBR HAWAII for more information.

We look forward to hearing from you at the meeting on November 16. Mahalo!

Invitation Letter

First and Last Name	Organization/Association (State, Community, etc)
Tracy Jardine	Laupahoehoe Community PCS
Bethany Morrison	North Hilo Community Council
Kurt Rix	Laupahoehoe Community School
Michael Morrison	Self Employed
Lucille Chung	NHCC
Pam Elders	Community
Harriet Bloom	
Terence Ryan	Community Member
John Hammerstrom	
Mitch Roth	
ELizabeth "Kaliko" Canario	
Sam Poomaihealani	democratic party
Heather Kimball	Hawaii County Council
Kyra Bernhardt	community
Matt Meyer	
Sol Ammon	
denise Wallace	community memeber
Erika Closter	parent in community
Ken Bugado	community member
Norma Thomas	
Peter Pua	
Savin Lun	
Tenille AhChoy	community
Sheldon AhChoy	community
mcdonald	
Valarie Peters	
Michelle Hiraishi	COH Parks & Rec
Thomas Bearden	
Rachel Conder	
Pauline Ah Choy	
Kyra Bernhardt	
James Tyree	
Holly Young	
Kristina Ammon	Papaaloa Country Store
Sumiko Yoshida	
Estreela Gutierrez	
Jerry Broughton	
Dwight Takamine	
Cedar Satyada	
Dave Molenaar	
Paul Schurch	
Niki Hubbard	
Mary Blyth	
David Sheehan	
Keith Kropf	
Lisa Barton	
Fred Kent	
Luke Hubbard	
Bert Dickerson	
Pete & Flo Pua	
Paige Breen-Page	
Rose Broughton	

List of Participants

PĀPA‘ALOA PARK MASTER PLAN COMMUNITY MEETING

NOVEMBER 16, 2023

Program

4:45 - 5:00 pm	Registration
5:00 - 5:20 pm	Presentation
5:20 - 6:45 pm	Activity Stations
6:45 - 6:50 pm	Break
6:50 - 7:00 pm	Summary and Q&A

Learn More

Join our email list to stay up to date on project updates:

http://eepurl.com/isDDMg

MAHALO FOR JOINING US!

PĀPAʻALOA PARK COMMUNITY MEETING

November 16, 2023

Laupāhoehoe Community Public Charter School Cafeteria

COUNTY OF HAWAIʻI PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Presentation

AGENDA

1 Introduction

2 Project History & Objectives

3 Project Overview

4 Project Timelines

5 Site Constraints

6 Activity Stations

INTRODUCTION

NORTH HILO COMMUNITY COUNCIL

DEPT. OF PARKS AND RECREATION

KYA INC.

PBR HAWAII

PROJECT HISTORY & OBJECTIVES

COUNTY OF HAWAIʻI PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

Pāpaʻaloa Park Community Meeting
November 16, 2023

Project History

Pāpa'aloa Park

2020

Park and Gym temporarily closed for construction & renovations to meet ADA standards

2021

Gym determined unsalvageable due to extensive termite damage

2022

Gym demolished. Community has been advocating for a new gym since

COUNTY OF HAWAI'I PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

2023

(3/2/23)
$5 million in State general obligation bond funds will be released for a new Pāpa‘aloa gym

2023

County will match with another $5 million to equal a total of $10 million

2023

County has estimated $10 million is insufficient for a new, enclosed gym so is proposing a new, covered play court

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Pāpa‘aloa Park Community Meeting
November 16, 2023

PROJECT OBJECTIVES

To develop a **master plan** for Pāpaʻaloa Park that identifies and best addresses the current and long-term recreational needs of the community, including the replacement of the demolished gym, while minimizing disruptions to current Park operations to the extent possible.

PROJECT OVERVIEW

COUNTY OF HAWAI'I PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting
November 16, 2023

PROJECT OVERVIEW

New covered play court

Associated infrastructure and utility improvements/ modifications

Replacement/ improvement of existing park amenities and recreational features impacted by any new/required work

Other related improvements

PROJECT TIMELINES

COUNTY OF HAWAI'I PARKS & RECREATION

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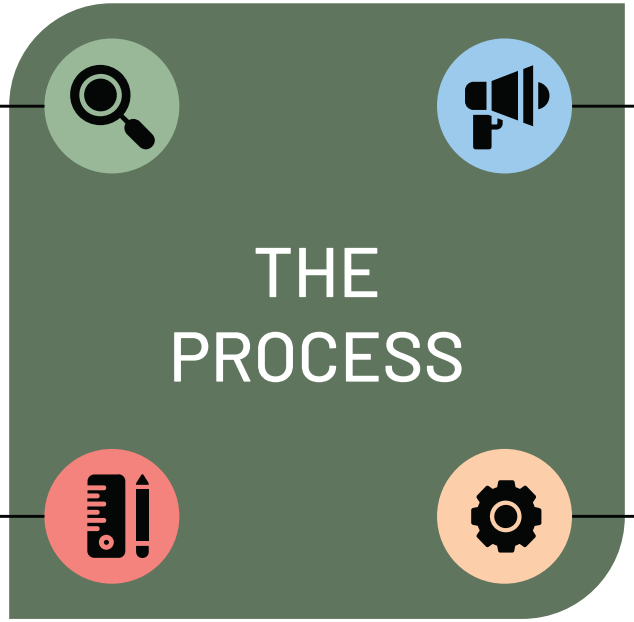
MULTIPLE PROCESSES

ENVIRONMENTAL ASSESSMENT

Surveys and studies conducted contributing to a final EA

SPECIAL MANAGEMENT AREA PERMIT

Application preparation along with hearings from public and Planning Commission



MASTER PLAN & COMMUNITY OUTREACH

Master plan report created. Community outreach done simultaneously as EA.

DESIGN

Creation of preliminary plans before going to bid.

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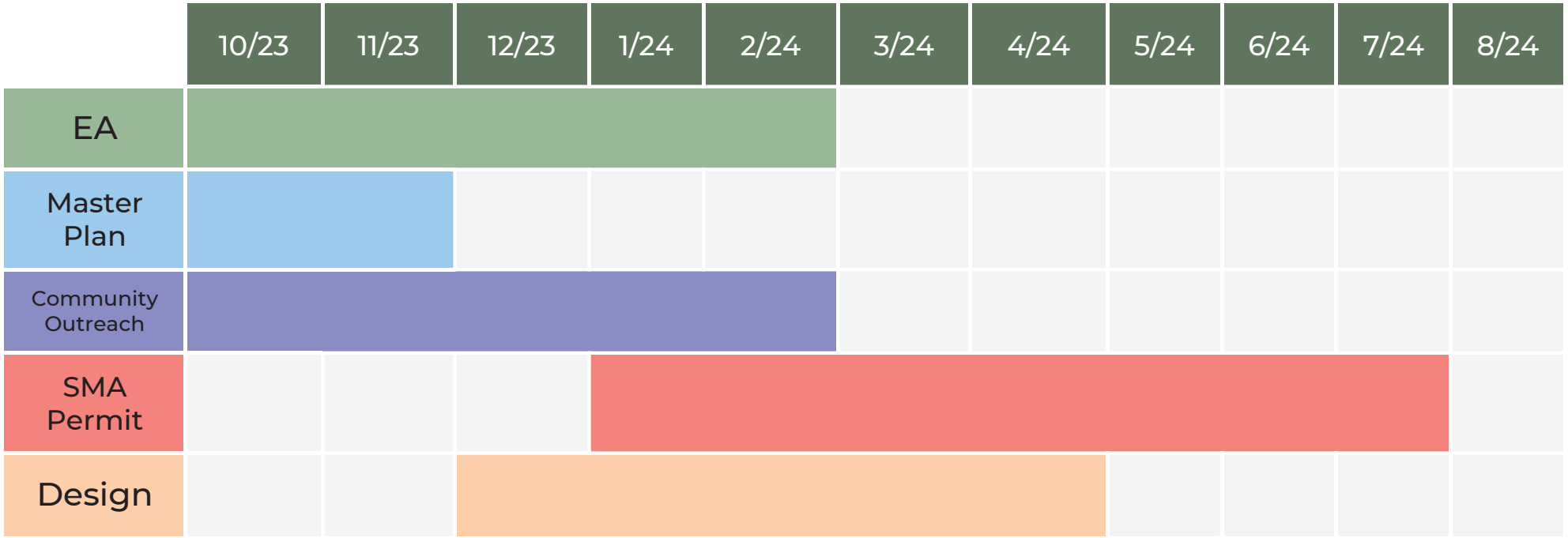

Construction start date: 1/2025

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SITE CONSTRAINTS

COUNTY OF HAWAI'I PARKS & RECREATION

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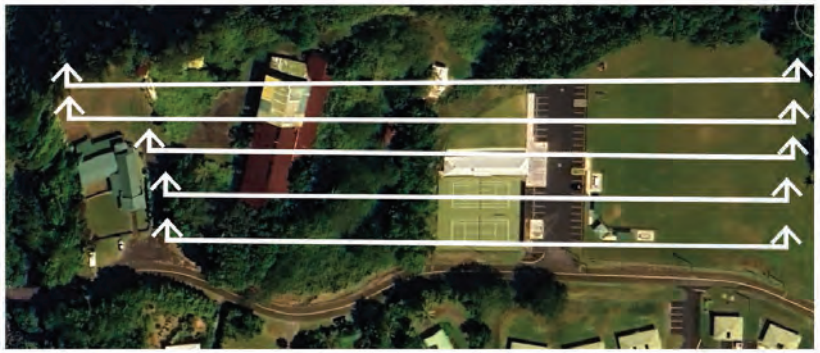

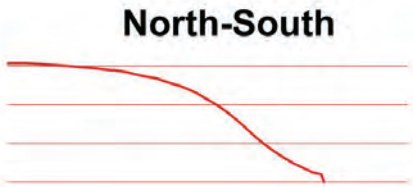

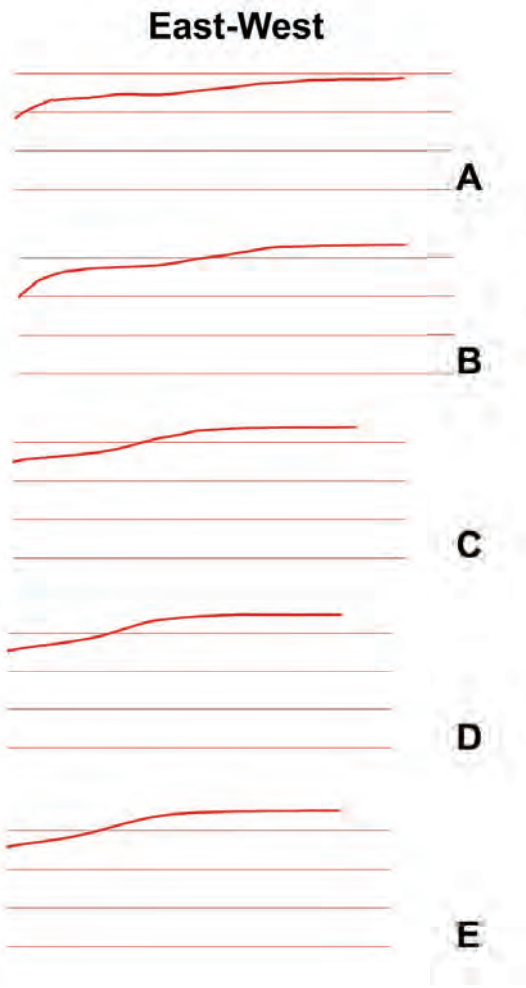

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ACTIVITY STATIONS

COUNTY OF HAWAIʻI PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

Pāpaʻaloa Park Community Meeting
November 16, 2023

ACTIVITY STATIONS

History and General Questions/ Comments

Provide thoughts on park history, general Parks and Recreation comments

Potential Location for Covered Play Court

Participate in a visioning exercise about potential locations for a play court

Stations: 5:20-6:45pm

Break: 6:45-6:50pm

Summary and Q&A: 6:50-7pm

MAHALO!

Contact Info:
papaaloapark@pbrhawaii.com

More feedback or know someone who couldn't make it today? Take our survey!

https://www.surveymonkey.com/r/papaaloapark

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

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Results of Activity Stations

GENERAL #1

(1)

- where would activites held in enclosed gym be held?

!! - make sure rain doesn't come in
- want to make sure activites done in gym can be continued
- bathrooms (accessible) inside court
- room/seats for spectators
- retractable cover/wall
- flooring quality is key!
  - not slippery/quality ↑
- potential dividers inside court
  - divide space/wind slow-down

(2)

- Salt durable !!!
- dividers provide flexibilty
- multi-purpose flooring
  - all sports
- worried about remediation costs
- ball park vacant
- pickle ball hotly used by seniors
- changing demographics impact who uses park
  - transportation barrier
  - working farther away
- trending towards senior activites
- walking/running path !!!!
  - conservation-inside park

Walking/ Running Path

(3)

- effective soil conservation management along coast
  - vetiver + clumping bamboo (grass)

#1 plants for soil erosion.

- local farm (vetiver farms HI)
- protect coastlines

- consider flooding impacts
  - play fields on higher ground
  - think about water flow

- old Hangwanji → comm. center
- waimea open court is model → inspiration

STATION #1

(1)

Upper to Lower
- Route

MISSION → MASTER PLAN – COMM. CENTER
- Stage
- Music
- Meeting area
- Skate Park

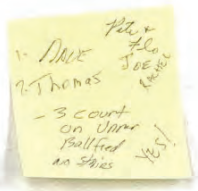
Walking/ Running Path

Lower Area
- If not used, what will happen?, leave as is?
- Safety issues
- 2 Court Building where Exist plantation Shop is

MATT MCGEE
2-COURT GYM IN LOWER SITE

Skate Park!

UPPER – Exist Ballfield
- 3 Court Building
- Will Block view of adjacent property owners



Skate Park!!!

Walking Path around Park Facility

Traffic Concerns

use unused. rain, drainage
growing s

use what have. pickleball + outdoor
sports in comm

bumps (speed)
1 w/ prep → 2 import
utilizing lower

Halloween parking
people come
sidewalks → cs.

Lisa. kaliko
walking trail
retaining wall

STATION #2 (1)

Do we have the demographics of the users?

No one said we wanted 3 courts

Parking can be down below

What size are the models?

Baseball field is existing and can't move

Can it go in the place of the old gym

How would you get from lower area to upper area?

Could a ballfield go on lower level?

Is there a date when money runs out?

Station #2 (2)

funds run out July 2024

It seems like it fits in the tennis court area

smaller gym might be easier and we can add onto

theres a gym at the school already DOE

need a facility for the youth to feed HS

like it all together and not separated

shouldn't you have information about hazardous mitigation needed before siting building

what size was the old gym?

Like using the lower space

Walking/ Running Path

people want to keep softball field

Station #2 (P)

Is it feasible to build on lower hole with budget and timeframe?

Do you need to add restrooms to building?

Heizenot will eat most of budget

Single court could fit in contours of land

Ideally great to put it back where it was

Single court based on budget

could move the tennis court to another location and put the building there

1 soccer field or baseball field

Hongwanji could provide additional parking

skate park where old gym was

Deal with the lower stage later

STATION #3 (1)

1) Soccer field needed / keep upper field
2) Contamination concerns / Higher costs
3) Walking/Running Path circling entire property: upper and lower
4) Place gym on softball field, play that @ school.
5) Skate Park @ former gym site
6) Soccer field (upper), skate park, then double court lower
7) Don't touch Baseball field.
8) Develop lower area - even though it's more expensive
9) Clean up lower areas - make it a flat area
10) Ramps from upper to lower
11) Covered tennis courts / multi use, ie baskeball, etc.
12) Place for events / concerts, moveable bleachers
13) Lower area: 2 court covered play court
14) Skatepark at lower site
15) Soccer field does not need to be developed separately - can be put in existing field.

Jaime, Cedar, Keahi

16) Old buildings MUST go. No matter what.

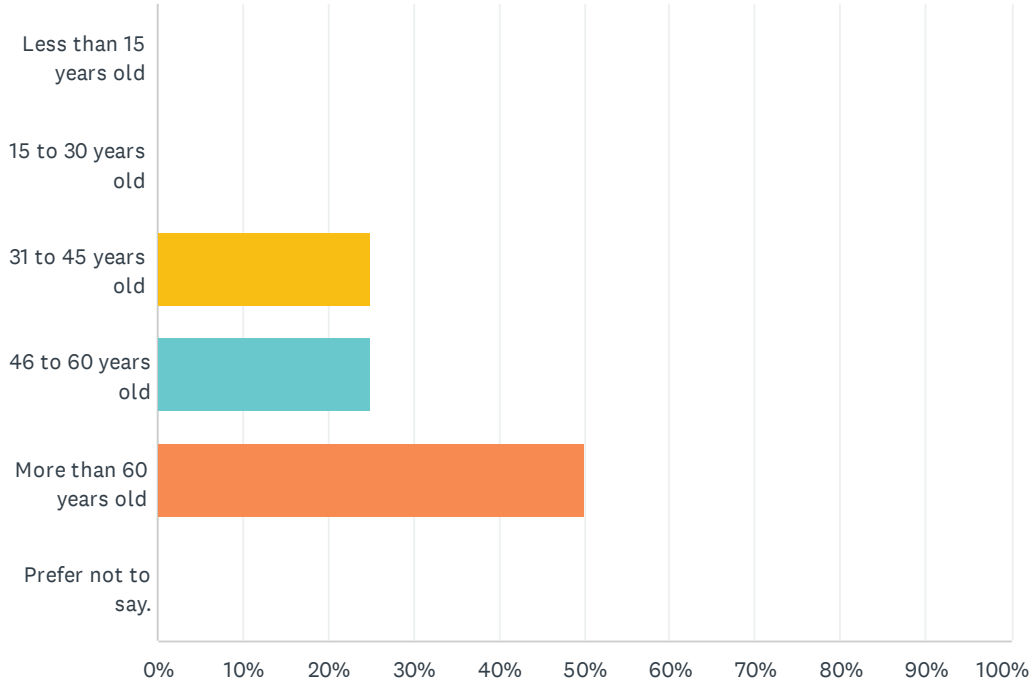
17) Only one court on the bottom side. (Less cost, better equipped)

18) Court def. needs to be covered.

19) Need to take good care of the facilities.

Q1 What is your age?

Answered: 20 Skipped: 0



ANSWER CHOICES	RESPONSES	
Less than 15 years old	0.00%	0
15 to 30 years old	0.00%	0
31 to 45 years old	25.00%	5
46 to 60 years old	25.00%	5
More than 60 years old	50.00%	10
Prefer not to say.	0.00%	0
TOTAL		20

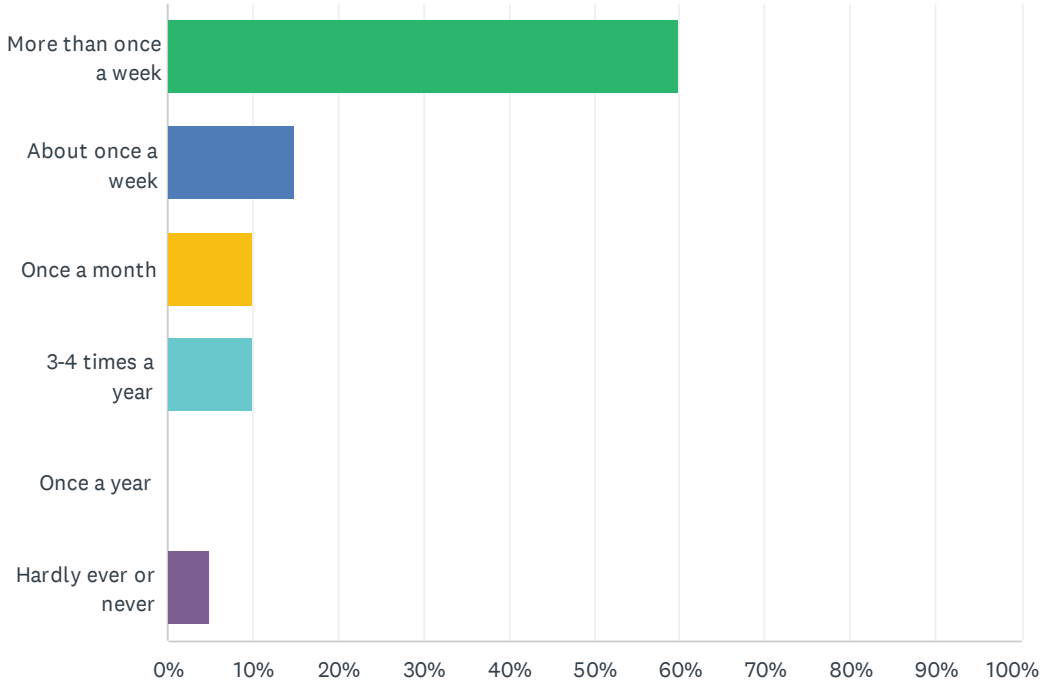
Q2 What community do you live in? (i.e. Pāpa‘aloa, etc.)

Answered: 20 Skipped: 0

#	RESPONSES	DATE
1	Laupahoehoe	12/3/2023 6:42 PM
2	Ninole	12/2/2023 2:43 PM
3	Papaaloa	12/2/2023 8:31 AM
4	Laupāhoehoe	12/1/2023 8:04 PM
5	Hakalau	11/30/2023 11:44 AM
6	Laupahoehoe	11/30/2023 10:14 AM
7	Papaaloa	11/30/2023 6:39 AM
8	Ookala	11/29/2023 8:48 PM
9	Laupahoehoe	11/29/2023 8:02 PM
10	Papa'aloa	11/29/2023 5:14 PM
11	Pāpa‘aloa	11/29/2023 12:13 PM
12	Laupahoehoe	11/29/2023 11:39 AM
13	Hilo, but work in Laupahoehoe as director of the school	11/29/2023 9:51 AM
14	Papa’aloa	11/29/2023 9:43 AM
15	Papa'aloa	11/20/2023 11:37 AM
16	Papaaloa	11/20/2023 11:15 AM
17	Papaaloa	11/18/2023 9:48 PM
18	Laupahoehoe	11/18/2023 3:22 PM
19	Ookala	11/18/2023 2:27 PM
20	Laupahoehoe	11/18/2023 6:59 AM

Q3 How often do you visit or use Pāpa‘aloa Park?

Answered: 20 Skipped: 0



ANSWER CHOICES	RESPONSES	
More than once a week	60.00%	12
About once a week	15.00%	3
Once a month	10.00%	2
3-4 times a year	10.00%	2
Once a year	0.00%	0
Hardly ever or never	5.00%	1
TOTAL		20

Q4 What is one word that you would use to describe the Pāpa‘aloa Park?

Answered: 20 Skipped: 0

#	RESPONSES	DATE
1	Underutilized	12/3/2023 6:42 PM
2	underdeveloped	12/2/2023 2:43 PM
3	Family	12/2/2023 8:31 AM
4	Community connections	12/1/2023 8:04 PM
5	Empty	11/30/2023 11:44 AM
6	Gatheringplace	11/30/2023 10:14 AM
7	Convenient	11/30/2023 6:39 AM
8	Memories	11/29/2023 8:48 PM
9	Individual	11/29/2023 8:02 PM
10	under-utilized	11/29/2023 5:14 PM
11	Underused	11/29/2023 12:13 PM
12	Community	11/29/2023 11:39 AM
13	Essential	11/29/2023 9:51 AM
14	Underutilized	11/29/2023 9:43 AM
15	Active	11/20/2023 11:37 AM
16	Scenic	11/20/2023 11:15 AM
17	Kasama (to be together)	11/18/2023 9:48 PM
18	A crucial part of learning Aloha here!	11/18/2023 3:22 PM
19	Gather	11/18/2023 2:27 PM
20	Great location for a large new gym for all the Hamakua Coast Communities	11/18/2023 6:59 AM

Q5 In 5 years, describe what Pāpa‘aloa Park looks like? What do you imagine it to be, to have, and to mean to you?

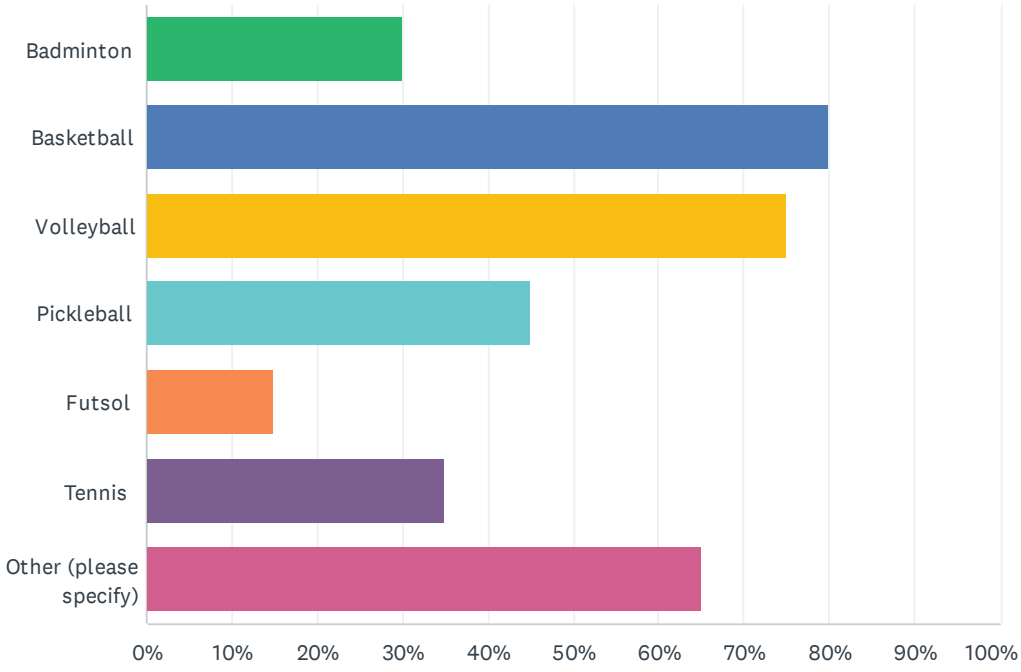
Answered: 20 Skipped: 0

#	RESPONSES	DATE
1	A big community gathering place on the Hamakua Coast	12/3/2023 6:42 PM
2	Three covered playcourts, allowing basketball and pickleball. Room for food concessions and a weight room. Possibly a soccer field .	12/2/2023 2:43 PM
3	It would have an indoor play court and a playground for children to play together	12/2/2023 8:31 AM
4	Young and old connect - like the one in honokaa a play ground . Swings for the young and old , a walking path and bike path for the young kids possibly attach a skate park a well diversified park where old and young connect	12/1/2023 8:04 PM
5	A gathering place and emergency shelter large enough to accommodate the growing population 50 years from now	11/30/2023 11:44 AM
6	a place where people of all ages can go to recreate and engage. Covered play courts that can accommodate different sporting activities. This contribute to the overall good health of old and young people of the community	11/30/2023 10:14 AM
7	A new gym with parking and a walking track around the entire 11 acres connection between the old gym area and the new gym area enough indoor space to do that at least two things at once	11/30/2023 6:39 AM
8	Somewhere the community, especially kids can gather and participate in both indoor and outdoor physical activities	11/29/2023 8:48 PM
9	Kids recreation programs, playground structure with swing set	11/29/2023 8:02 PM
10	A thriving, busy community hub	11/29/2023 5:14 PM
11	Place for all ages to participate in physical and educational opportunities.	11/29/2023 12:13 PM
12	The park would include Pickleball, courts, basketball, courts, volleyball, courts, community involvement in meetings, gatherings indoor and outdoor activities, bike path, walking path	11/29/2023 11:39 AM
13	A functional covered court space, an walking path and/or skate space in the lower area, extensive use of the hongwanji building and parking area for P&R activities, a longterm plan to work with the school and library for baseball and softball, as well a gym, pool, and indoor opportunities	11/29/2023 9:51 AM
14	A place for the community to frequent for a large variety of sporting activities with family and friends	11/29/2023 9:43 AM
15	I would like to see the Papa'aloa Park as active as it is now - we live at the back of the upper field and observe children and adult using the green space everyday: running, children just playing, riding bikes and other vehicles, teens and adult practicing archery or their golf swing, and lots of people just walking. I've heard other say that nobody uses the upper green field; this is not an accurate statement as far as I can see from my backyard. In 5 years I would like to see the upper area include a soccer field to compliment the baseball diamond, a track-type space for running or walking and possibly walking trails along the conservation area. I vehemently oppose a covered sports court for this upper area for many reasons, but primarily because it doesn't sound like it is designed in alignment with what the community desires.	11/20/2023 11:37 AM
16	I'm imagining a gymnasium in the area now occupied by the derelict sugar mill, with a skate park, childrens plaground and walking paths connecting the upper and lower facilities.	11/20/2023 11:15 AM
17	Open Volleyball & Basketball back to keep adults active. My daughter 9 now. I would imagine me coaching her & her classmates basketball and/or volleyball team.	11/18/2023 9:48 PM
18	We need two courts to have different sports at the same time Volleyball and basketball are the	11/18/2023 3:22 PM

	ways ohana here pass along healthy living and friendly competition.	
19	Papaaloa park is a place where the community comes together. A place where people of all ages can go to have fun and play sports. Open gym for adults and P&R league games gift the children. A place where the keiki can go to after school to play sports. It would create feeder programs for the high school - just like the good old days. When I was growing up I was at that gym 5 days a week playing sports or in the annex doing activities. I would love for the young children to have that same experience instead of their parents having to drive them to Hilo or Honokaa to participate in these activities.	11/18/2023 2:27 PM
20	Seeing a large gym on the field, with lots of parking around it. With the tennis pickleball courts, and perhaps a kids playground where the old gym was, this spot will be highly used by community members and will be a key gathering place for decades to come. Using the flat areas will eliminate the need for any stairs. Stairs are costly and not elder friendly. Everything should be built on one level.	11/18/2023 6:59 AM

Q6 What activities would you like to see accommodated within the proposed covered play court?

Answered: 20 Skipped: 0



ANSWER CHOICES	RESPONSES	
Badminton	30.00%	6
Basketball	80.00%	16
Volleyball	75.00%	15
Pickleball	45.00%	9
Futsol	15.00%	3
Tennis	35.00%	7
Other (please specify)	65.00%	13
Total Respondents: 20		

#	OTHER (PLEASE SPECIFY)	DATE
1	Hula, Yoga, exercise classes, gym with exercise equipment & weights	12/3/2023 6:42 PM
2	Row walk run mobility and flexibility	12/1/2023 8:04 PM
3	Yoga	11/30/2023 11:44 AM
4	Dance, exercise, weightlifting, judo,	11/30/2023 6:39 AM
5	Dodgeball, Russian Dodgeball, summer fun program, weightlifting, wrestling, boxing, mixed martial arts	11/29/2023 8:48 PM

6	Kickball	11/29/2023 8:02 PM
7	yoga	11/29/2023 5:14 PM
8	Walking and biking path	11/29/2023 11:39 AM
9	large gatherings, cooperative opportunities with Hilo Food Back or similar	11/29/2023 9:51 AM
10	I OPPOSE A COVERED SPORTS COURT IN THE UPPER GREEN FIELD. A sports court in the lower field should include a skate park, playground equipment for younger children and a basketball court	11/20/2023 11:37 AM
11	Dances, plays, concerts, children's activities	11/20/2023 11:15 AM
12	Indoor soccer for rainy times	11/18/2023 3:22 PM
13	A section set aside for a "gym" area with weights and exercise equipment. The nearest gyms are in Hilo. Too far for many and too expensive. Our seniors need a local spot nearby to keep activity and keep their bodies strong. If not, they become weaker and weaker as they age. Then they become a burden to others. We are stronger together if we can maintain our body strength by lifting weights and using exercise equipment. Yoga classes could also be used in the space, which seniors need as well.	11/18/2023 6:59 AM

Q7 What other Dept of Parks and Recreation services would you like to see in the Pāpa‘aloa Park Master Plan? (senior activities, multi-use facilities, etc.)

Answered: 20 Skipped: 0

#	RESPONSES	DATE
1	Senior activities, tournaments of all kinds, concerts, large private parties	12/3/2023 6:42 PM
2	weight oom	12/2/2023 2:43 PM
3	Children Playground	12/2/2023 8:31 AM
4	A walk loop or track for everyone to run or walk on , rowing , outdoor equipment for a parcourse	12/1/2023 8:04 PM
5	Community activities & classes for all ages,	11/30/2023 11:44 AM
6	Senior activities and youth activities as well	11/30/2023 10:14 AM
7	Halloween activities, Christmas activities, Valentine’s Day activities, summer fun and Easter Thanksgiving . Everything we had at the old gym when we had a Director that actually participated in the community.	11/30/2023 6:39 AM
8	Summer fun activities, senior activities	11/29/2023 8:48 PM
9	Senior & kid activities, fitness classes	11/29/2023 8:02 PM
10	senior activities, community social events	11/29/2023 5:14 PM
11	Picnic area, meeting rooms	11/29/2023 12:13 PM
12	Senior club meetings Kamana classes after school activities and classes for kids	11/29/2023 11:39 AM
13	honwanji for non athletics, skate park, walking trail,	11/29/2023 9:51 AM
14	Sand volleyball court(s)	11/29/2023 9:43 AM
15	I would like to see walking trails in the conservation areas, as well a running/walking track.	11/20/2023 11:37 AM
16	I think there's a need for play facilities for young children. When our 2- and 5-year-old grandkids come to visit, the only play facilities we could find were inside the Papaaloa School. I can't imagine the school staff would look kindly on our trespassing. Also, teens and pre-teens in our neighborhood spend virtually every afternoon driving ATVs and motor scooters on the public road (and across Papaaloa Park) for hours on end. This may just be a cultural thing, but its possible that a skate park or other teen-targeted activity might provide a safer alternative for these kids.	11/20/2023 11:15 AM
17	Sauna and Cold Plunge room	11/18/2023 9:48 PM
18	Ability to use the space for wedding receptions and parties	11/18/2023 3:22 PM
19	Senior activities, after school activities. Open gym in the evenings for adults to play volleyball and basketball	11/18/2023 2:27 PM
20	The senior population on the Hamakua Coast is growing rapidly. Seniors need coverage areas to exercise. In addition, having a kids playground area will also be important.	11/18/2023 6:59 AM

Q8 What types of services and activities would you like to see available at the Pāpa‘aloa Park? (senior recreation, rec leagues, etc.)

Answered: 20 Skipped: 0

#	RESPONSES	DATE
1	Senior, adult and kids rec leagues. Plus, yoga, hula, exercise classes.	12/3/2023 6:42 PM
2	Pickleball run by park.	12/2/2023 2:43 PM
3	AYSO	12/2/2023 8:31 AM
4	Regular activities diversified movement cardio strength flexibility	12/1/2023 8:04 PM
5	Pickleball, basketball, yoga, holiday events, community meetings	11/30/2023 11:44 AM
6	I agree that recreational basketball and volleyball leagues along with senior recreation should be available	11/30/2023 10:14 AM
7	Seasonal activities, Christmas, Thanksgiving, Easter, Valentines summer fun classes offered for all ages art, movement	11/30/2023 6:39 AM
8	Senior rec, rec leagues, sports tournaments	11/29/2023 8:48 PM
9	Kids recreation, recreation leagues, sports clubs/teams	11/29/2023 8:02 PM
10	senior recreation, social events, health and wellness	11/29/2023 5:14 PM
11	Voting	11/29/2023 12:13 PM
12	We keep repeating the same activates as long as there is ample storage to house what is needed for all the various activities	11/29/2023 11:39 AM
13	see above	11/29/2023 9:51 AM
14	Rec leagues, rentable equipment (tennis ball machine as an example)	11/29/2023 9:43 AM
15	I would like to see far more organized activities for children and teens; recreation sports, dance, yoga, etc. specifically for families are essential to a vibrant, healthy community. Papa'aloa is not a retirement neighborhood and the Park should not default to serving the wealthiest amongst the community.	11/20/2023 11:37 AM
16	It would be nice to have senior tennis, pickleball and basketball activities.	11/20/2023 11:15 AM
17	After school program. Winter, Spring, and Summer break	11/18/2023 9:48 PM
18	Rec leagues and seniors should be there ,too.	11/18/2023 3:22 PM
19	Same as previous response	11/18/2023 2:27 PM
20	Yes, senior recreation, plus a gym large enough to hold basketball, volleyball and pickleball tournaments. We also need a large concession area for making and sharing / selling food.	11/18/2023 6:59 AM

Q9 Any general thoughts, comments, questions on the Pāpa‘aloa Park Conceptual Master Plan? (optional)

Answered: 17 Skipped: 3

#	RESPONSES	DATE
1	Use the field for the new gym. It should be a minimum of two full sized covered basketball courts, plus big concession area, stage area, kids play ground, etc.	12/3/2023 6:42 PM
2	It appears the only cost effective option is to place the covered playcourts in the baseball field, which in 30 years I have seen used maybe twice. play	12/2/2023 2:43 PM
3	I want to be actively involved	12/1/2023 8:04 PM
4	In the 20yrs I’ve lived here, I’ve only seen the ball field used 3x. Get rid of it. Baseball is a dying sport.	11/30/2023 11:44 AM
5	The lower site seems like the perfect option. Kill two birds with one stone, cover up the whatever environmental hazard there may or may not be down there with cement make a nice parking area for the new facility which is going to be on concrete slab anyway	11/30/2023 6:39 AM
6	What is the Papaaloa Park Conceptual Master Plan?	11/29/2023 8:48 PM
7	Please put it up quickly! Need something for kids during school breaks.	11/29/2023 8:02 PM
8	Let's get this done without too much hesitation. Thanks.	11/29/2023 5:14 PM
9	Whatever makes the most sense financially and physically is what should be done. Not everyone will be happy until it’s completed and in use	11/29/2023 11:39 AM
10	I don't believe it is appropriate for the county to allow the lower area to go on as unusable. while other factor may make cleaning it up to be used as an ideal gym space, it, nevertheless must be addressed sooner that later. Not just fenced off, but cleanup up and utilized. It is a black eye for the community to simply dimiss cleanup as "too expensive". Coastal property like that must a highlight for P&R and the community.	11/29/2023 9:51 AM
11	Please try to make the area useful for as many types of activities as possible, not just a large area dedicated to just one sport (like baseball, that pretty much no one uses)	11/29/2023 9:43 AM
12	There are a couple of things which I have not heard mentioned in the decision to put a covered sports court in the upper green field: noise and light pollution. We live along the south side of the green space; the upgrades to the sports courts are wonderful, but we are impacted by the new lights and the pock-pock noise of tennis and pickleball at night. Putting a covered sports court in the upper field will negatively impact all of the families living at this end of the field. Putting a covered space in the lower field will enhance our whole community without creating a problem for those living along Kekoa Camp Loop.	11/20/2023 11:37 AM
13	I understand the potential challenges involved in building at the lower site. However, it just seems like good stewardship to build the new facility there, rather than pave over the multi-use sports field, which actually gets use daily.	11/20/2023 11:15 AM
14	Is there a current “blue print” facility that we can model? So we can see what’s our options	11/18/2023 9:48 PM
15	Can we start having soccer and outdoor volleyball at Laupahoehoe Point? And maybe set up a second basketball hoop ?	11/18/2023 3:22 PM
16	I hope that these plans can come to fruition so that the common can thrive	11/18/2023 2:27 PM
17	We need to use the funds in the best way. The larger the gym the better. Three courts just like Panaewa Gym in Hilo, with a concession area and bathrooms. The third court could intitially be used for all types of other activities, such as yoga classes, plus have a large spot for weights and exercise equipment.	11/18/2023 6:59 AM

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APPENDIX B2

Community Meeting #2 Summary

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PĀPA‘ALOA PARK MASTER PLAN COMMUNITY MEETING #2

LAUPĀHOEHOE COMMUNITY PUBLIC CHARTER SCHOOL CAFETERIA

35-2065 OLD MAMALAHOA HWY,
LAUPAHOEHOE, HI 96764

5 PM - 7 PM

DEC
07
2023

Summary Report

TABLE OF CONTENTS

Join us for the...

PĀPA'ALOA PARK MASTER PLAN COMMUNITY MEETING #2

A discussion on potential play court locations, future expansion, and more!

LAUPĀHOEHOE COMMUNITY PUBLIC CHARTER SCHOOL CAFETERIA

35-2065 OLD MAMALAHOA HWY,
LAUPAHOEHOE, HI 96764

5 PM - 7 PM

CHECK IN AT 4:45 PM

DEC
07
2023

Hold your calendars!

COMMUNITY MEETING #3

DECEMBER 21, 2023 FROM 5-7PM
@ LAUPĀHOEHOE COMMUNITY PUBLIC CHARTER SCHOOL CAFETERIA

Learn more about the project...

CHECK OUT THE PROJECT WEBSITE FOR MORE INFORMATION!

https://tinyurl.com/papaaloa

Flyer

Pāpa'aloa Park Master Plan Community Meeting Sign In Sheet
December 7, 2023

Please print legibly, so we can keep in touch.

NAME	COMPANY	PHONE	EMAIL
Wesley Salbora		[redacted]	
ANNE FARRELL			
DAVE MOLEMAKE			
DAVID SHEEHAN			
DAVID KUMAGAI			
Luke Hubbard			
Pam Elders			
Heather Kimball			
Thomas Bearden			
HARRIET BLOOM			

List of Participants

Pāpa'aloa Park Master Plan Community Meeting Sign In Sheet

December 7, 2023

Please print legibly, so we can keep in touch.

NAME	COMPANY	PHONE	EMAIL
Gary Miller	Self	[redacted]	[redacted]
Carol Weldon	Self		
Lindsey Lau	Co-Hl		
Ramon Garcia	—		[redacted]

Meeting Name: papaaloa Mtg

Date: 12/7/2023

SIGN IN SHEET

Please print legibly, so we can keep in touch.

NAME	COMPANY	ADDRESS	PHONE	EMAIL
Bethany Morrison			[redacted]	[redacted]
Peter + Flo C. Pisa				
Kenneth Bugado, Jr.				
Terence Ryan				

Pāpa‘aloa Park Master Plan
Community Meeting #2 Agenda

December 7, 2023

1. **Registration (4:45-5:00 pm)**
2. **Presentation on Play Court Options (5:00 pm-5:30pm)**
3. **Discussion on Play Court Options (5:30-6:30pm)**
    - **<u>Table Discussions</u>**
        - Option 1 (upper site) incl. expansion
        - Option 2 (lower site) incl. expansion
        - Floorplan
        - Park Amenities
        - Mentimeter set-up/warm-up
4. **Wrap Up & Next Steps (6:30-7:00 pm) (PBR)**
    - Interactive questions
    - Next Steps and Project Schedule

PĀPAʻALOA PARK COMMUNITY MEETING

December 7, 2023

Laupāhoehoe Community Public Charter School Cafeteria
5-7pm

Presentation

PRESENTATION AGENDA

1. Takeaways from Meeting #1
2. Play Court and Gym Discussion
3. Survey #1 Results
4. Project Timeline & Consultant Reports
5. Potential Play Court Locations
6. Discussion Stations

INTRODUCTION

DEPT. OF PARKS AND RECREATION

KYA INC.

PBR HAWAII

TAKEAWAYS FROM MEETING #1

COUNTY OF HAWAIʻI PARKS & RECREATION

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Pāpaʻaloa Park Community Meeting #2
December 7, 2023

MEETING #1: HIGHLIGHTS

Use the unused

- Use the undeveloped lower site

Preserve existing outdoor programming

- Recent upgrades to facilities should remain untouched

Open to future expansion

- Phased approach
- These efforts are a part of a larger Master Plan

COUNTY OF HAWAIʻI PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

MEETING #1: AMENITIES DISCUSSED

- Skate park
- Playground
- Walking/running paths
- Sidewalks, ramps to connect upper and lower sites
- Community center
- Event space (Halloween, etc.)
- Stage (for concerts, etc.)
- Meeting area
- Moveable bleachers/ spectator seating
- Senior and keiki activities
- Pickleball courts
- Covered tennis courts
- Multi-use courts

PLAYCOURT & GYM DISCUSSION

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Pāpa'aloa Park Community Meeting #2
December 7, 2023

WHAT IS A "GYM"?

2018 IBC

No official definition.

ASSEMBLY OCCUPANCY
"A building, or portion thereof, used
for the gathering of persons for recreation."

Basketball, volleyball, tennis, martial arts, swimming,
weightlifting, yoga, futsol, etc.

COMPARISON

Kaʻū District Gym

Panaʻewa Play Courts

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Pāpaʻaloa Park Community Meeting #2
December 7, 2023

COMPARISON

Conventional

- Fully enclosed
- Full-height walls w/ windows
- Required to meet hurricane shelter requirements (State Building Code)
- Requires mechanical ventilation (air conditioning, ceiling fans, etc.)
- More costly to design and build
- More costly to operate and maintain

Kaʻū District Gym

Covered Play Court

- Partially enclosed
- Chain-link fence perimeter
- Not required to to be a hurricane shelter
- Maximizes natural ventilation
- Enhanced security
- Less costly to construct
- Less costly to maintain

Panaʻewa Play Courts

COUNTY OF HAWAIʻI PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

SURVEY #1 RESULTS

COUNTY OF HAWAI'I PARKS & RECREATION

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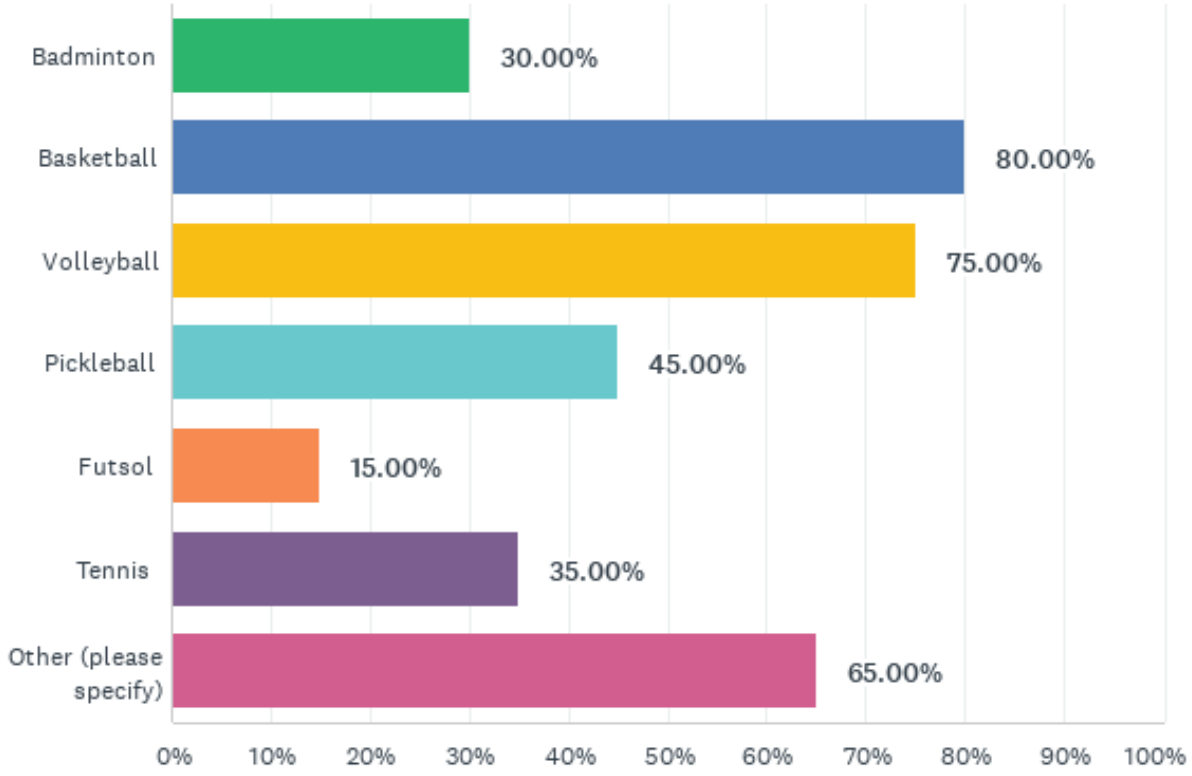
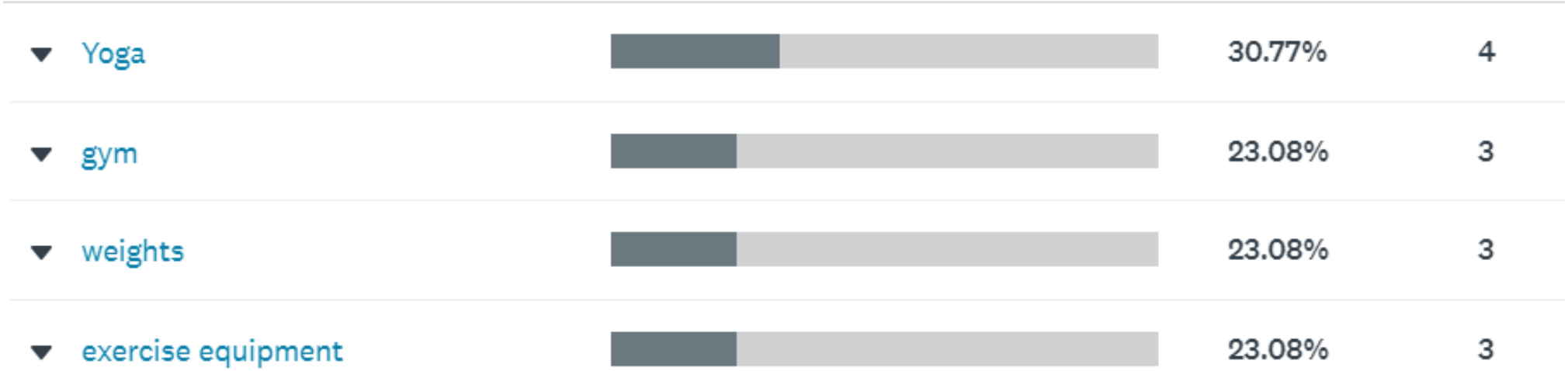
Pāpa'aloa Park Community Meeting #2
December 7, 2023

Q6 – What activities would you like to see accommodated within the proposed covered play court?



Q6 – "Other" Responses



Q7 - What other Dept of Parks and Recreation services would you like to see in the Pāpa'aloa Park Master Plan? (senior activities, multi-use facilities, etc.)

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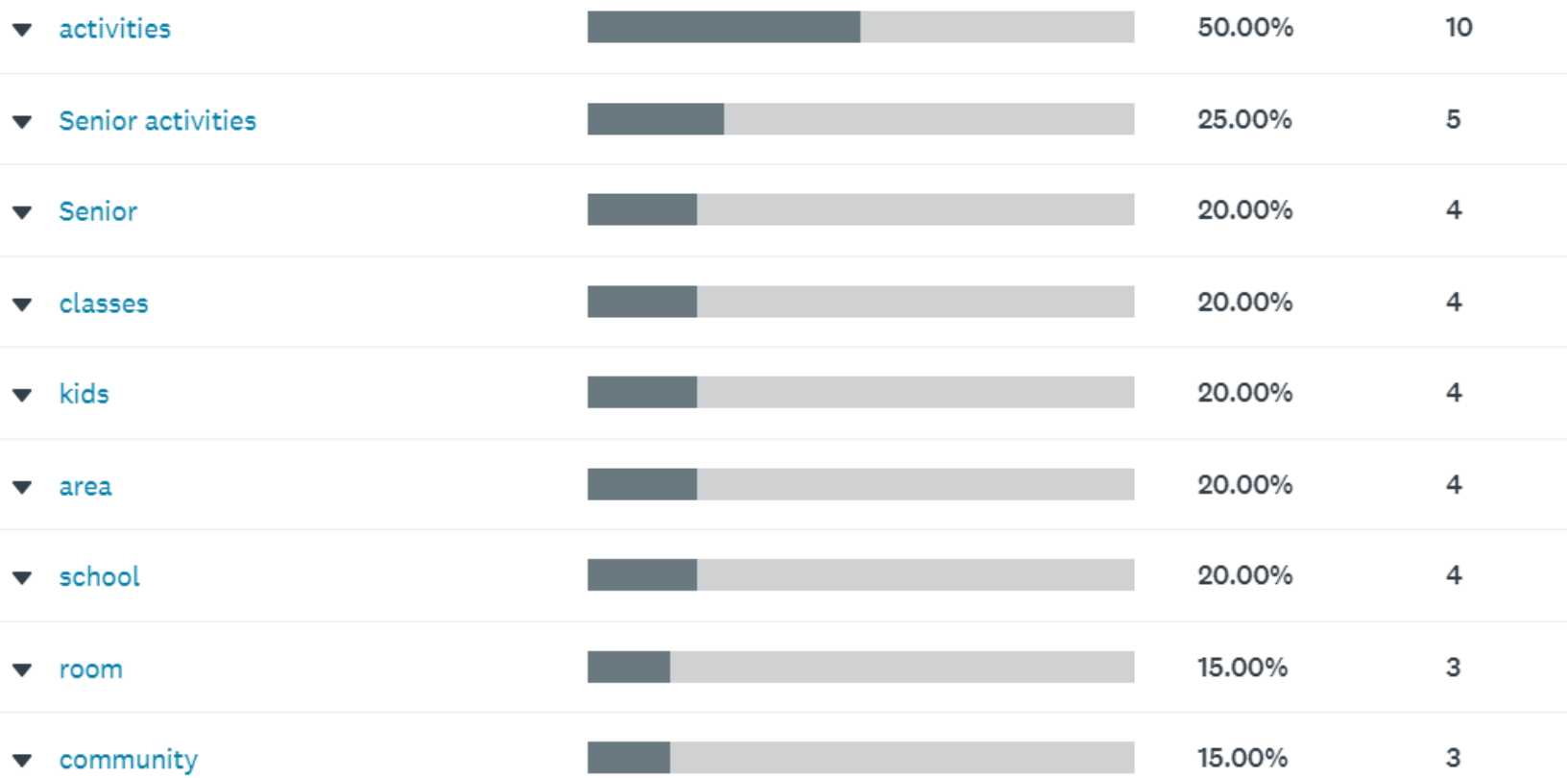
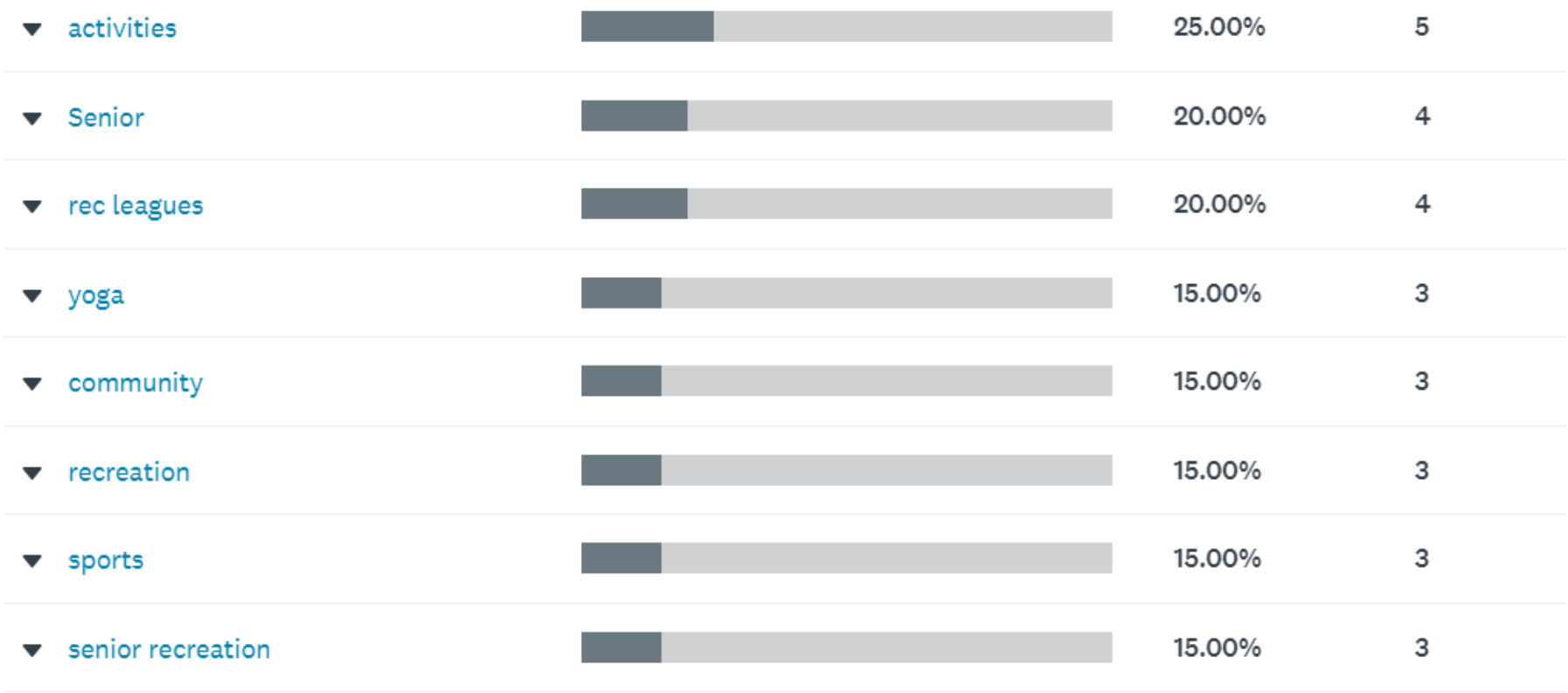


Q8 - What types of services and activities would you like to see available at the Pāpa'aloa Park? (senior recreation, rec leagues, etc.)

Q8 - What types of services and activities would you like to see available at Pāpaʻaloa Park? (senior recreation, rec leagues, etc.)



activities	25.00%	5
Senior	20.00%	4
rec leagues	20.00%	4
yoga	15.00%	3
community	15.00%	3
recreation	15.00%	3
sports	15.00%	3
senior recreation	15.00%	3

TIMELINE & CONSULTANT REPORTS

COUNTY OF HAWAI'I PARKS & RECREATION

KYA

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Pāpa'aloa Park Community Meeting #2
December 7, 2023

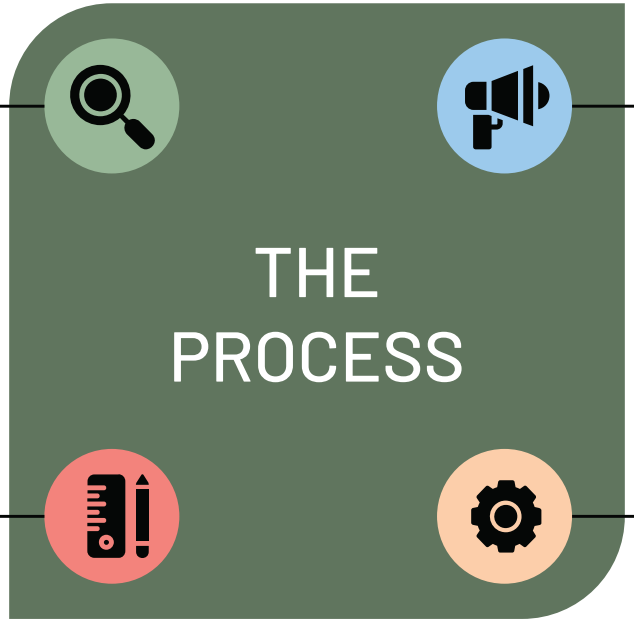
MULTIPLE PROCESSES

ENVIRONMENTAL ASSESSMENT

Surveys and studies conducted contributing to a final EA

SPECIAL MANAGEMENT AREA PERMIT

Application preparation along with hearings from public and Planning Commission



MASTER PLAN & COMMUNITY OUTREACH

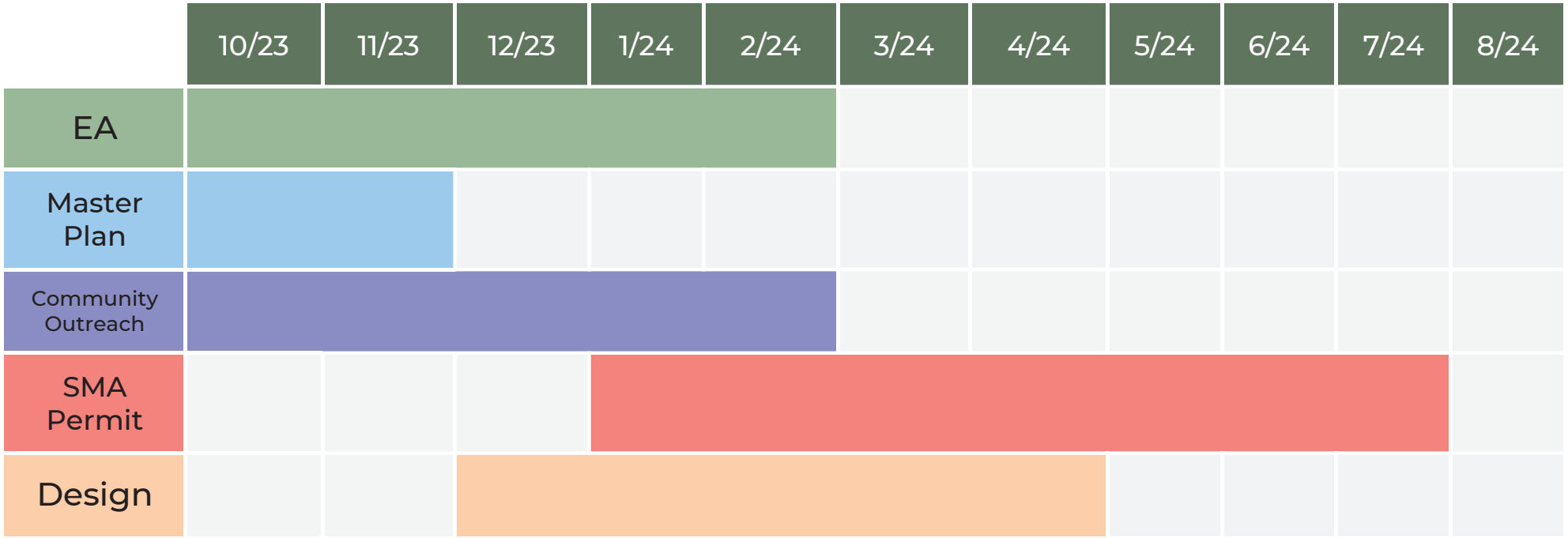
Master plan report created. Community outreach done simultaneously as EA.

DESIGN

Creation of preliminary plans before going to bid.

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

TIMELINES



Construction start date: 1/2025

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

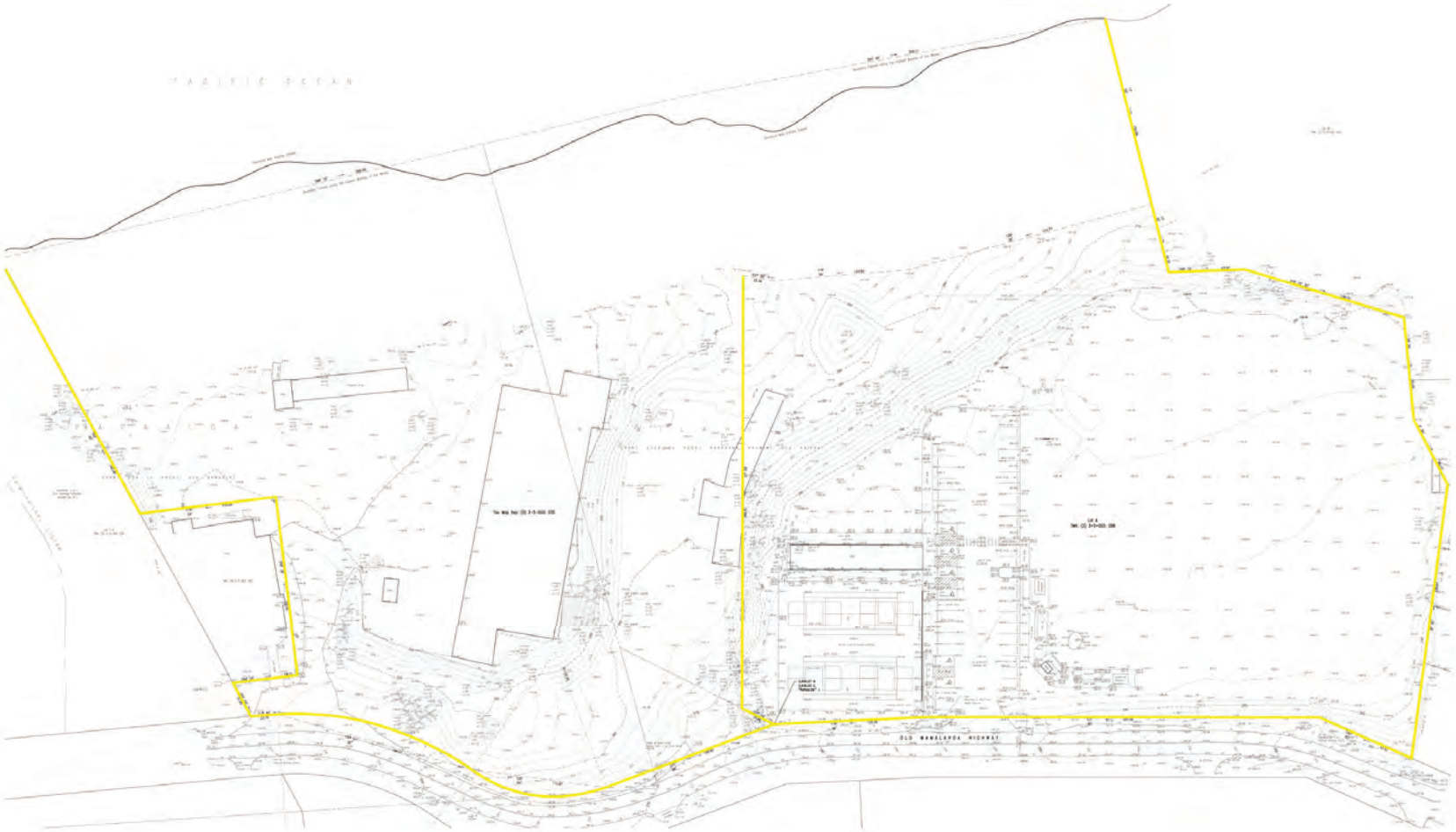
Pāpa'aloa Park Community Meeting #2
December 7, 2023

CONSULTANT REPORTS

Survey/Study	Consultant	Status
Archaeological / Cultural	ASM	TBD
Environmental Survey	ERA	TBD based on scope of project
Flora and Fauna	AECOS	Survey completed; first draft report under review
Geotechnical (Soils)	Geolabs	TBD based on building site selection
Topographical Survey	Imata	Completed
Traffic	WSP	Traffic recording completed; under analysis; report to be complete end of Dec. 2023

TOPOGRAPHICAL MAP

COUNTY OF HAWAIʻI PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.



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Pāpaʻaloa Park Community Meeting #2
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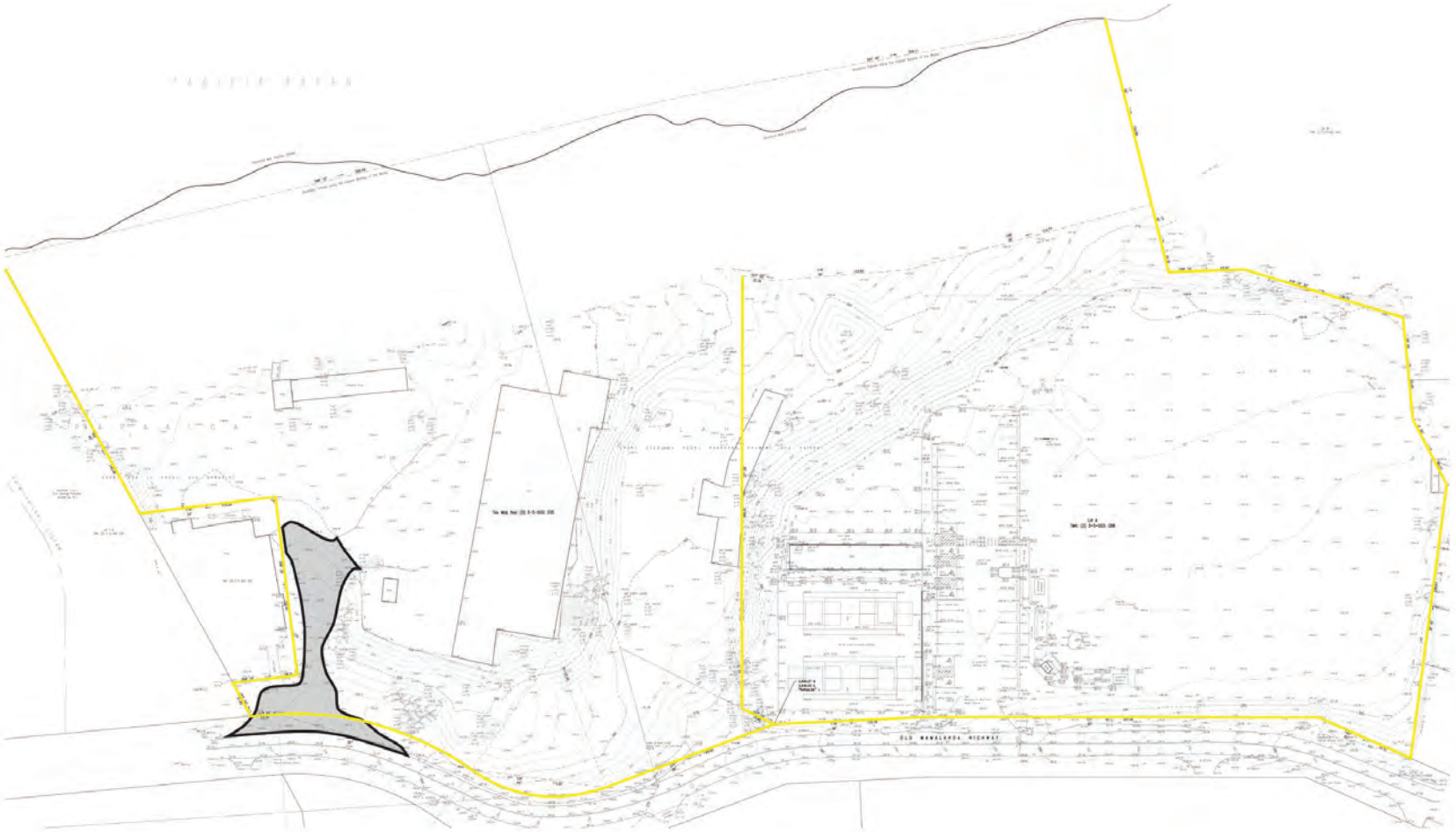

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Pāpaʻaloa Park Community Meeting #2
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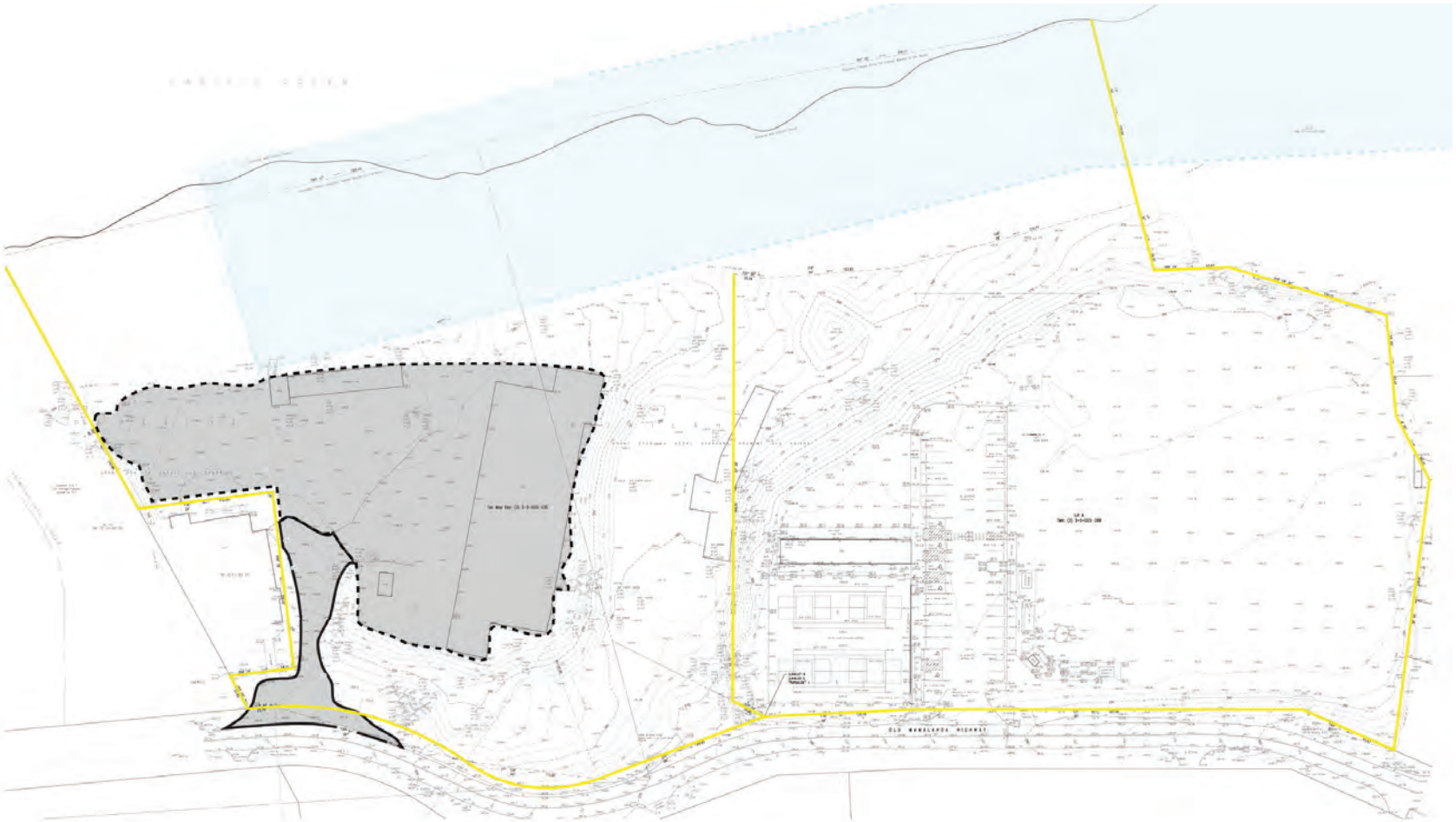

COUNTY OF HAWAIʻI PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Pāpaʻaloa Park Community Meeting #2
December 7, 2023

SURVEY MAP

COUNTY OF HAWAI'I PARKS & RECREATION

KYA

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Pāpa'aloa Park Community Meeting #2
December 7, 2023

POTENTIAL PLAY COURT LOCATIONS

COUNTY OF HAWAI'I PARKS & RECREATION

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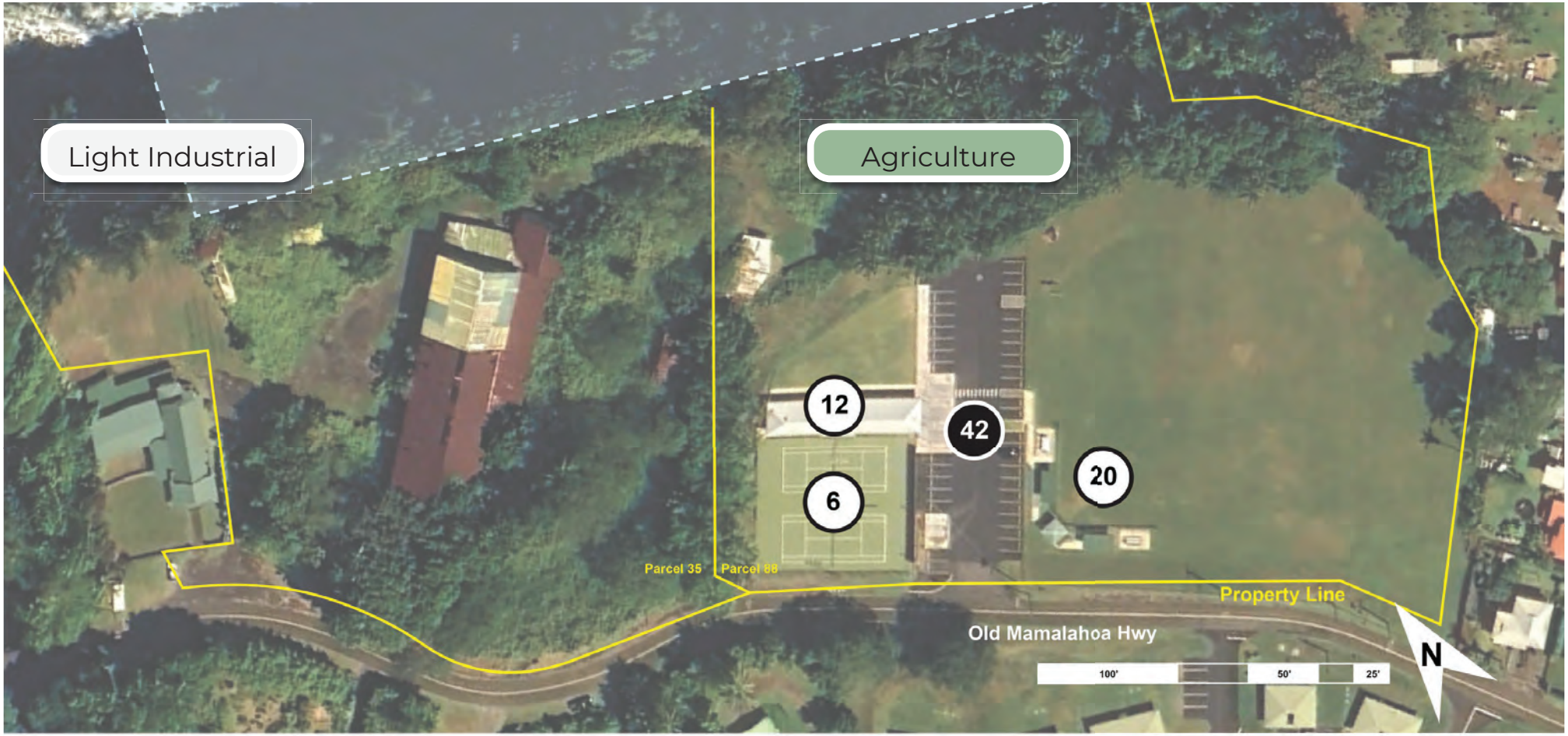
Pāpa'aloa Park Community Meeting #2
December 7, 2023

PARKING REQUIREMENTS



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Pāpa'aloa Park Community Meeting #2
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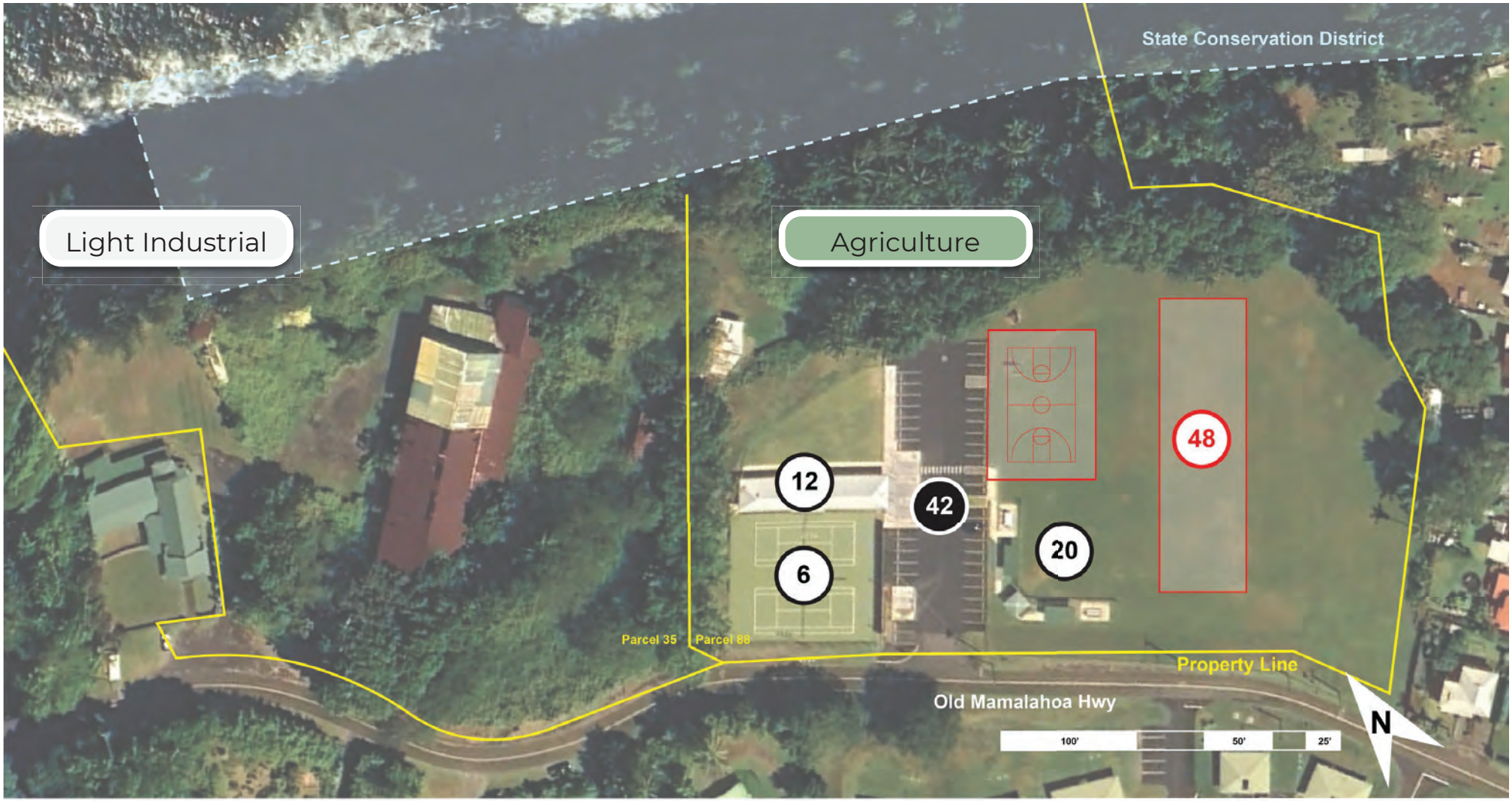

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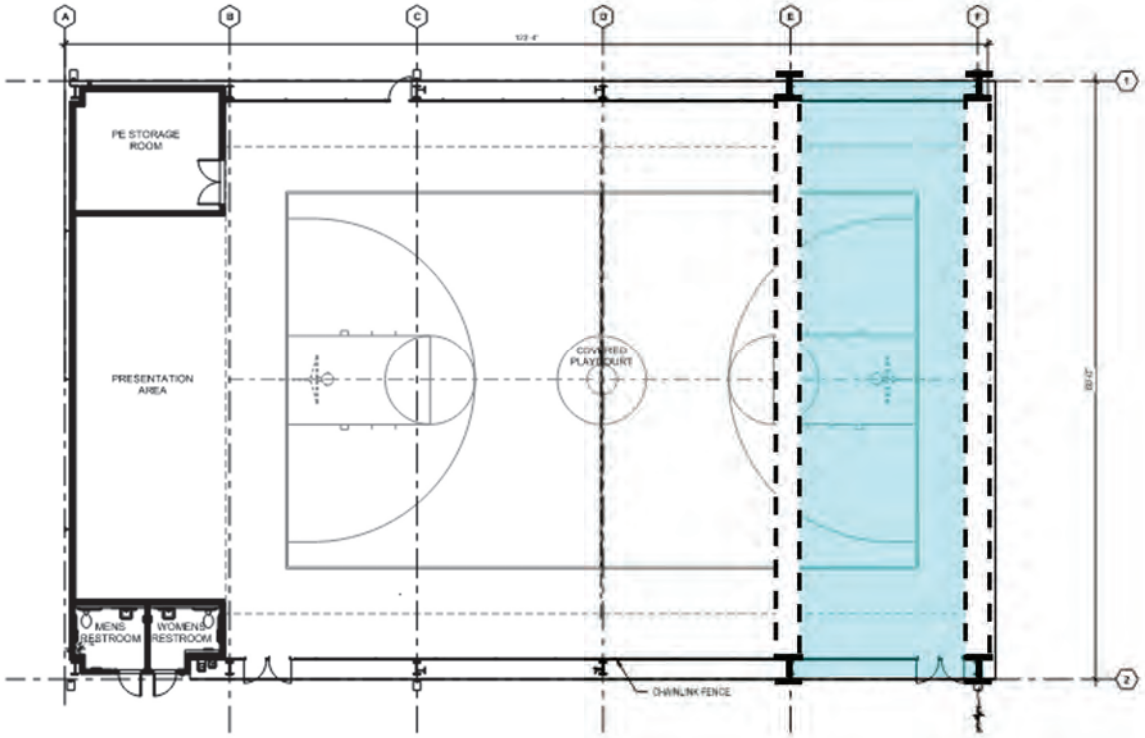
Pāpa'aloa Park Community Meeting #2

December 7, 2023

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting #2
December 7, 2023

FLOOR PLAN + EXPANSION METHODS



COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

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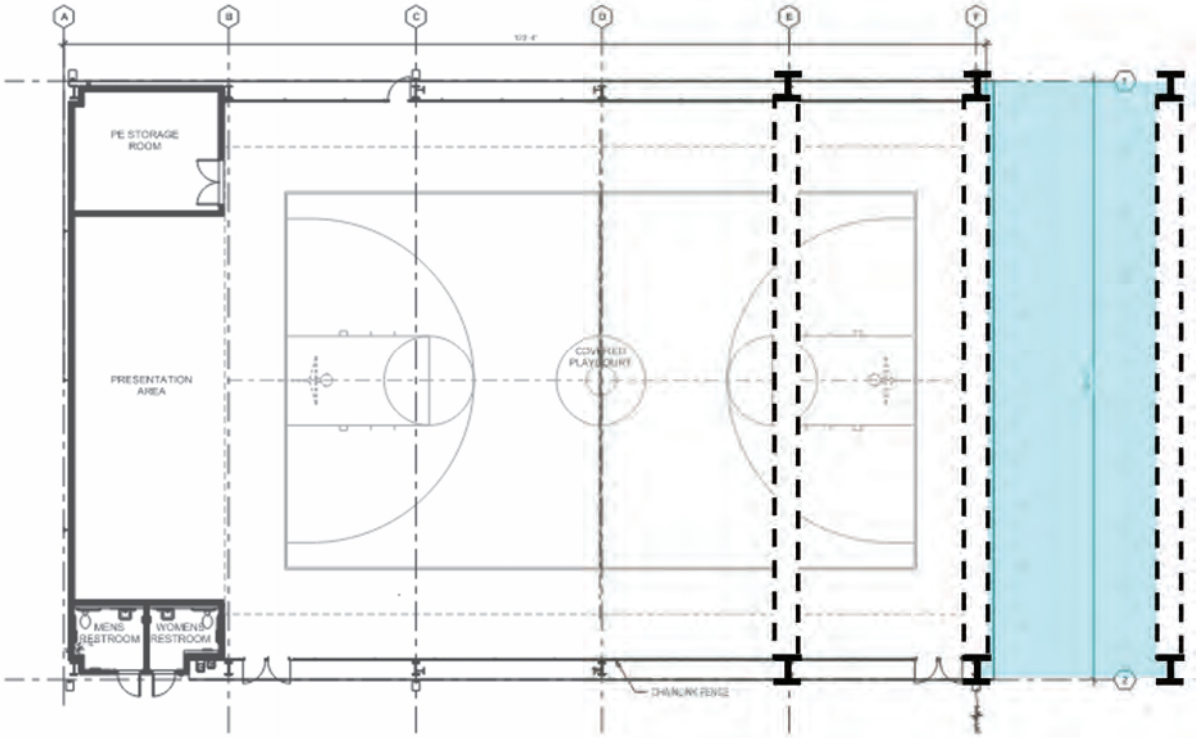
FLOOR PLAN + EXPANSION METHODS



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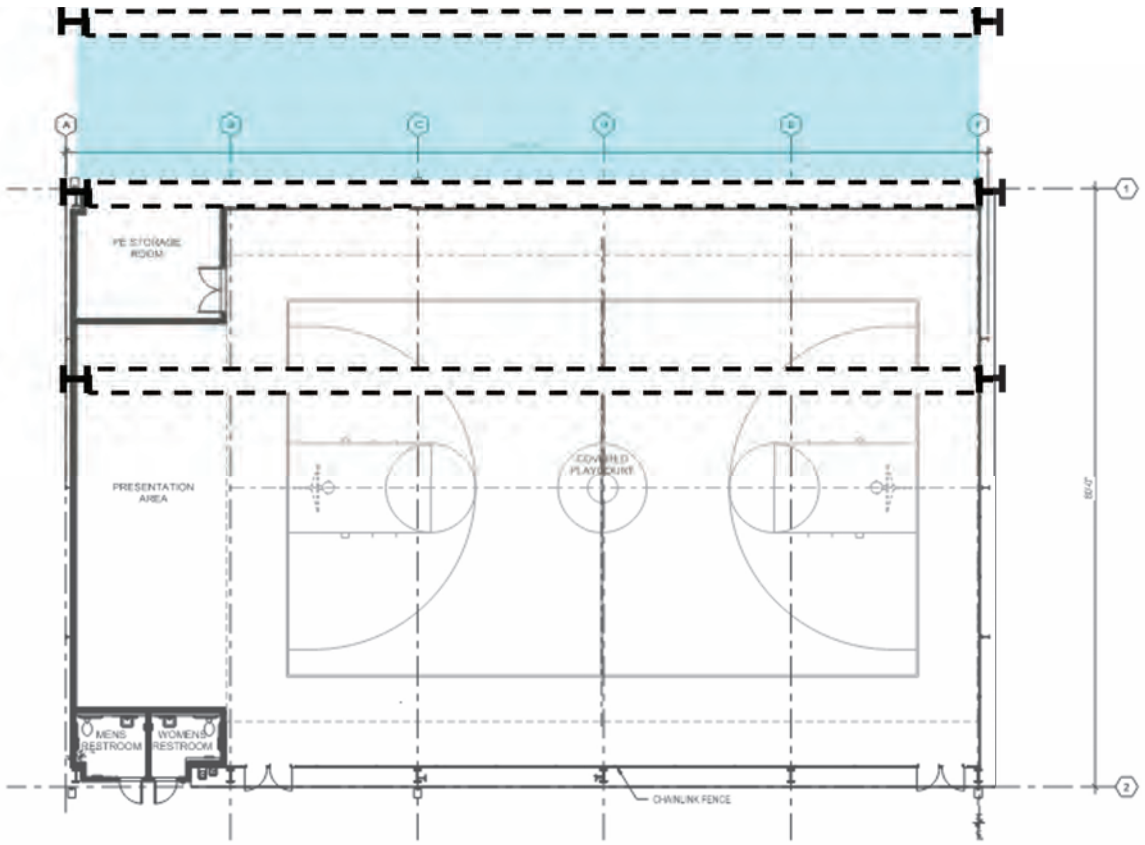
Pāpa'aloa Park Community Meeting #2
December 7, 2023

FLOOR PLAN + EXPANSION METHODS



COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting #2
December 7, 2023

OPTION 1: UPPER SITE

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting #2
December 7, 2023

OPTION 1: UPPER SITE + FUTURE EXPANSION

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting #2
December 7, 2023

OPTION 2: LOWER SITE

COUNTY OF HAWAI'I PARKS & RECREATION
KYA
PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting #2
December 7, 2023

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting #2

December 7, 202

ACTIVITY STATIONS

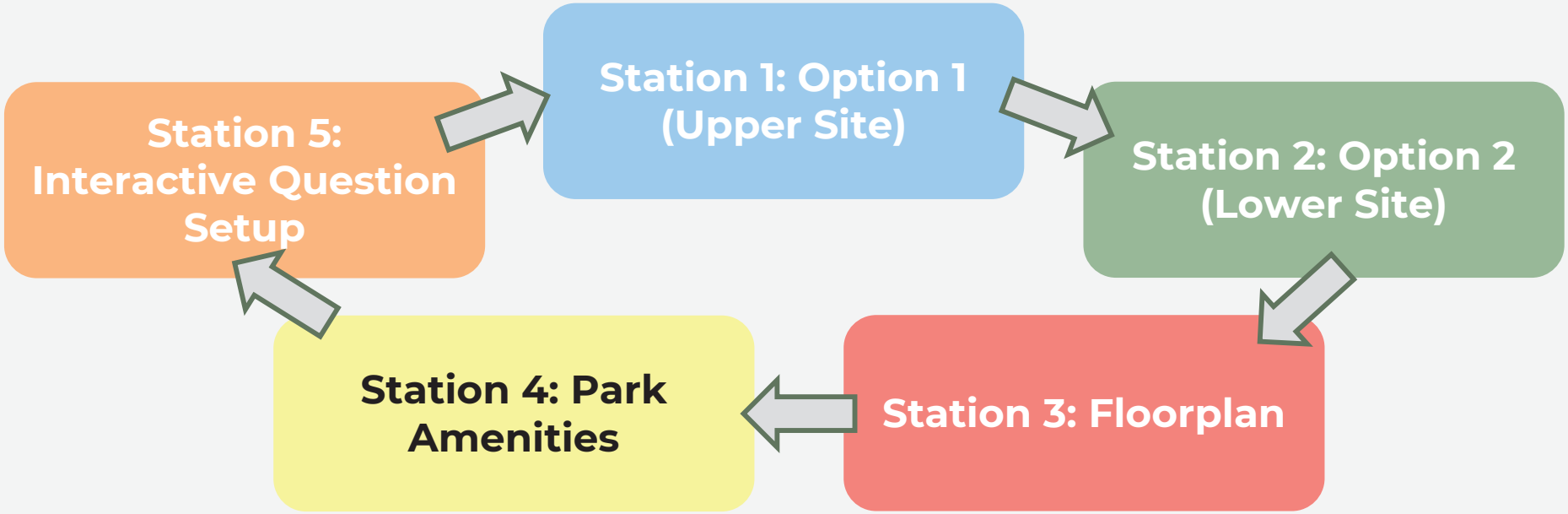
COUNTY OF HAWAIʻI PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

Pāpaʻaloa Park Community Meeting #2
December 7, 2023

ACTIVITY STATIONS



- Each person has a colored dot correlating to station color
- 12 minutes at each station, rotate clockwise

Stations: 5:30-6:30pm

Wrap Up & Next Steps: 6:30-7pm

WRAP UP & NEXT STEPS

COUNTY OF HAWAI'I PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting #2
December 7, 2023

MEETING #3

12/21, 5-7pm at Laupāhoehoe Community Public Charter School Cafeteria

Check in at 4:45pm

Purpose – Presentation of preferred final layout, discussion on amenities

MAHALO!

Contact Info:
papaaloapark@pbrhawaii.com

Have more thoughts on potential play court location? Know someone who couldn't make it today? Take our second survey!

https://www.surveymonkey.com/r/papaaloapark2

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

Pāpa'aloa Park Community Meeting #2
December 7, 2023

OPTION 1 - UPPER SITE

+ APPRECIATE THAT BALLFIELD & CPC FIT IN UPPER FIELD - + ADDITIONAL SUPPORT STATEMENT

- DIDN'T REALIZE WE'D NEED SO MANY PARKING STALLS

? CAN CPC BE ROTATED?

? HOW DO WE ACCESS LOWER SITE FROM ~~@~~ UPPER SITE?

+ CHEAPER OPTION - GRASS PARKING

✓ SUGGEST PARKING ONLY ON LOWER SITE

+ LIKE THE WALKING PATH

✓ SUGGEST ROTATE CPC TO ~~LOWER~~ AREA ALONG HIGHWAY

Results of Activity Stations

OPTION 1

√ SUGGEST FENCING THRU MIDDLE OF LOWER SITE

√ SUGGEST MOVE PLAYGROUND TO OPEN SPACE BY EXISTING COMMUNITY CENTER

√ SUGGEST "FLIPPING" BASEBALL FIELD, & MOVE GYM TO ALONG HWY; MULTI-USE SPACE FOR PARKING, ETC.

— CPC IS TOO CLOSE TO THE EDGE SUGGEST MOVING CPC TOWARD HWY,

OPTION 2 (LOWER) GROUP #1

1) DISLIKE CHANGE IN ELEVATION.

2) CAN THE GYM BE CLOSER TO THE ROAD?

3) TOO CLOSE TO THE PALI, HARD TO EXPAND.

4) POTENTIAL FOR LANDSLIDE?

5) DOESN'T LIKE THE LOWER SITE BECAUSE OF INFRASTRUCTURE. / HIGH COSTS

6) MAYBE FLIP BUILDING & PARKING LOT

7) WOULD WE NOT HAVE TO EXPAND SEWER INFRA. W/ UPPER GYM?

8) GEO-TECH SURVEY IS IMPORTANT.

9) WHAT ABOUT SWAPPING (FIELD ON BOTTOM)?

10) GROUP CONSENSUS: NOT POSITIVE, STAY ON TOP

OPTION 2 (LOWER)

GROUP #2

1) LIKES THE PARKING ALL IN ONE AREA

2) LIKES THAT IT PRESERVES THE EXISTING FIELD.

3) WORRIED ABOUT CLEANUP COSTS

4) OFFICE IN THE GYM? PLACE FOR STORAGE?

5) WHERE WOULD PARKING EXPANSION BE?

6) GYM CLOSER TO ROAD. FLIP PARKING LOT TO MAKAI SIDE.

7) ACCESS / WALKWAYS BETWEEN UPPER & LOWER AREAS.

8) MORE COURT / GYM SPACE

9) MORE PEOPLE WILL BE COMING.

10) THE CURRENT FUNDING WILL RUN OUT, SO WHERE WILL ADDITIONAL $ COME FROM?

OPTION 2 (LOWER) GROUP #3

1) LESS IF A CLUSTER.

2) IS IT WITHIN THE BUDGET?

3) START PROJECT W/OUT ALL FUNDING?

4) K.S. cesspool remediation? More Parking?

5) FAR AWAY FROM ANNEX.

6) CONNECTIONS BETWEEN TOP & BOTTOM?

7) COST/BUDGET INFORMATION? WHEN WILL WE KNOW THE COST?

8) UNKNOWN CONTAMINATION LEVELS?

9) PARKING/AMENITIES FOR EXPANSION? PARKING VARIANCE?

10) USING THE FIELD FOR GYM BECAUSE FASTER & CHEAPER.

11) NO FIELD USE ANYWAY.

OPTION 2 (LOWER)

GROUP #4

1) Are there enough kids for the various sports? (baseball, soccer)

2) LOOKS GOOD BUT QUESTION ABOUT CONTAMINATION.

3) THEY LIKE IT.

4) WALKING PATH PLEASE.

5) WHY SO FAR FROM THE ROAD?

6) GOOD BECAUSE IT'S LESS INTRUSIVE TO CAMP REGIMENTS.

7) IF IT'S CLOSER TO THE ROAD, IT'S SHELTERED FROM WIND & RAIN.

8) NEED CANVAS OR SOMETHING TO PROTECT FROM WEATHER.

OPTION 2 (LOWER) GROUP #5

1) How much will this cost?

2) Cost differential?

3) 5-6 million to clean up site.

4) 2 courts up top, take out baseball & move it to opposite side.

5) Need stairs & ramps → very expensive.

6) Yes on the lower development.

7) Future dream, can't afford this now.

8) Field use is minimal, gym would be more used.

9) Cut trees on makai side of field.

RED - FP

GROUP 1

PICKLE BALL - 8' MIN BUFFER

3'-4' BUFFER TO BLEACHERS

10' BUFFER BETWEEN COURTS

BASKETBALL HOOPS MUST MOVE BACK - NOT UP

PLASTIC FLOOR TILES - NOT GOOD FOR PLAY

— SINGLE BB COURT SIZE WILL NOT ACCOMODATE DEMAND

MINIMUM 2 COURTS

GREEN - GROUP 2

PICKLE BALL - SAME COMMENTS AS GROUP 1

10' BUFFER ON ALL SIDES (12')

M-W-F 5PM-8PM @ TENNIS COURTS (NOW)

3 COURTS IN NEW COVERED PC WILL HELP W/DEMAND

BLUE - GROUP 3

BB COURT – 1 ACCESSIBLE

– PHASING TO ADD MORE

ORANGE - GROUP 4

SINGLE COURT - AGREE

- OPTIMIZE AVAILABLE SPACE

YELLOW – GROUP 5

SINGLE COURT - AGREE (UPPER SITE)

OPTIMIZE PRESENTATION AREA FOR OTHER PROGRAMS/SERVICES

+ O − PARK AMENITIES

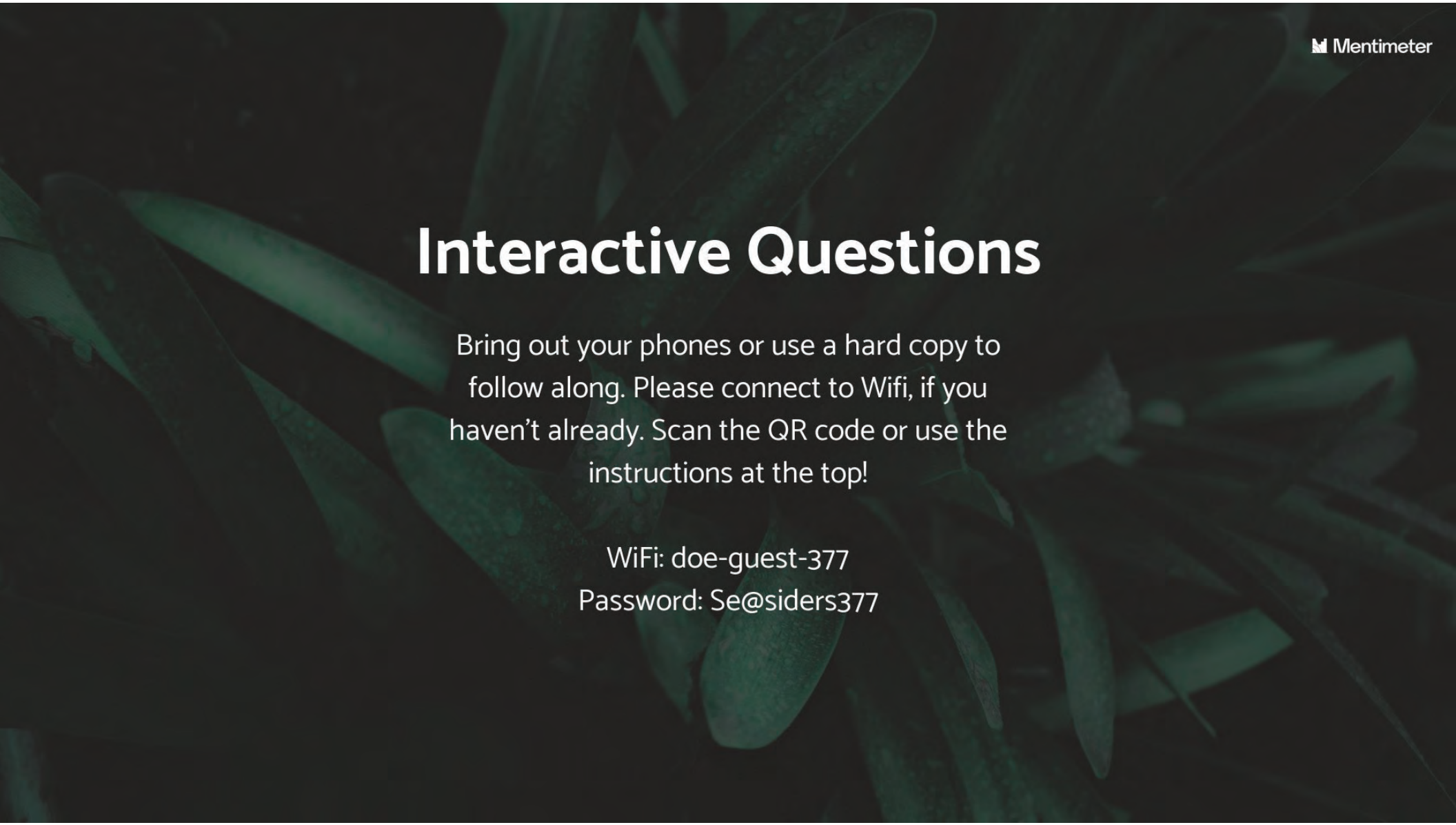
Yellow

+ Keep Ballfield
+ Walking Path III
+ Parking @ lower level to
+ playcourt @ lower level

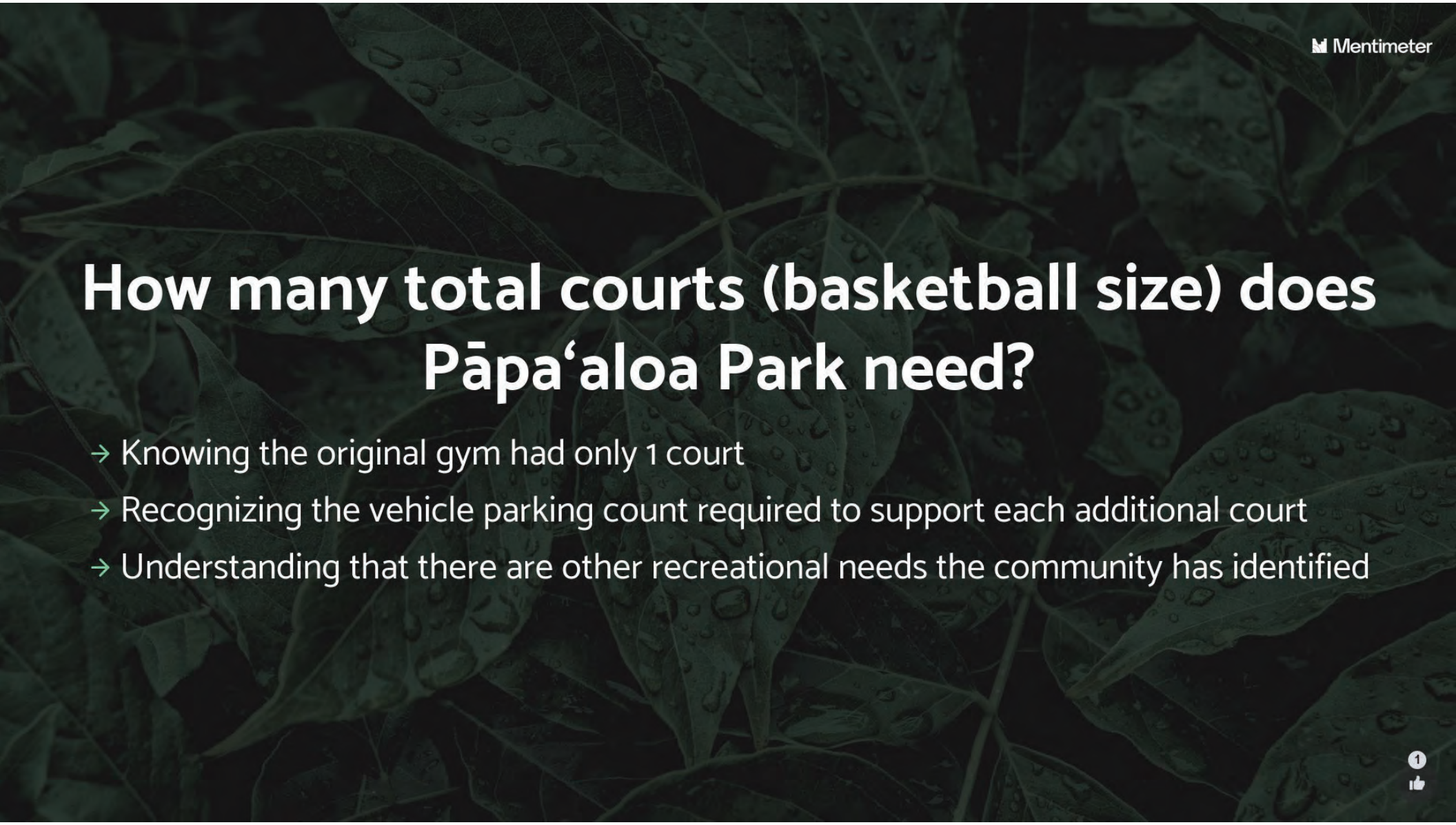
O - address Rain @ playcourt
O - potential expansion @ hongwanji
O - more senior activities
O - minor baseball to makai side + playcourts closest to road
O - remove trees @ makai side open view up
O - playground @ existing gym location II
O - move field to lower level
O - playcourt @ ballfield w/playground
O -

− shinanigans @ skatepark
− No work on lower level
II - get rid of field + put playcourt in its place
- change use of field to soccer, etc. not baseball
- too costly to develope lower level

- place playcourt on upper level w/ least amount of space + parking + phase 2, @ lower level



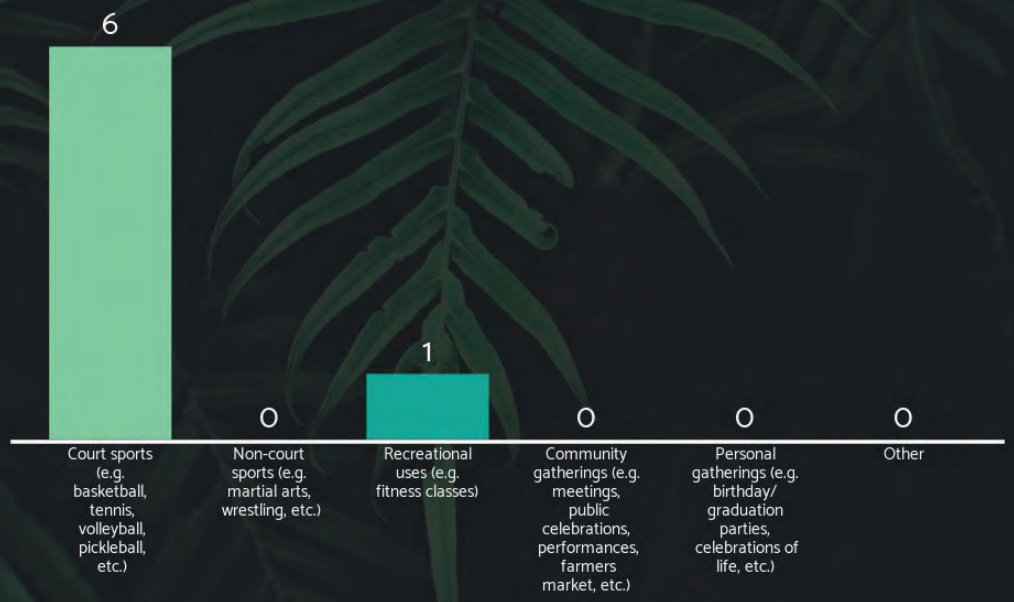
Results of Mentimeter Polling


Mentimeter
How many total courts (basketball size) does Pāpa‘aloa Park need?
→ Knowing the original gym had only 1 court
→ Recognizing the vehicle parking count required to support each additional court
→ Understanding that there are other recreational needs the community has identified
1


Mentimeter
How many total courts (basketball size) does Pāpa‘aloa Park need?
7
1 Court
3
1.5 Courts
1
2 Courts
0
More than 2 courts
9

Mentimeter

What is your principal interest or primary intended use of the proposed covered play court facility?

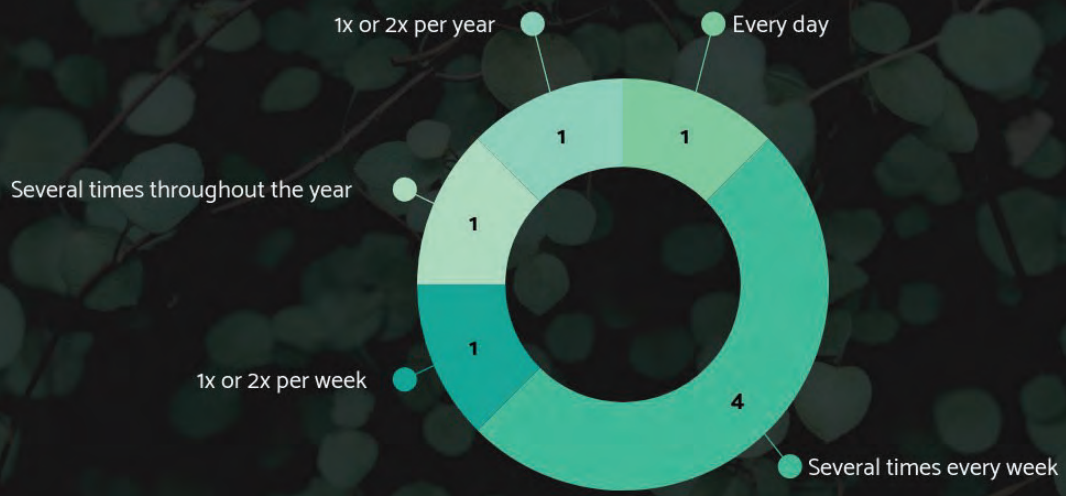


7


Mentimeter
If you answered ”other”, please describe here

Mentimeter

How often do you anticipate using the proposed covered play court facility for your primary interest?



8

Mentimeter

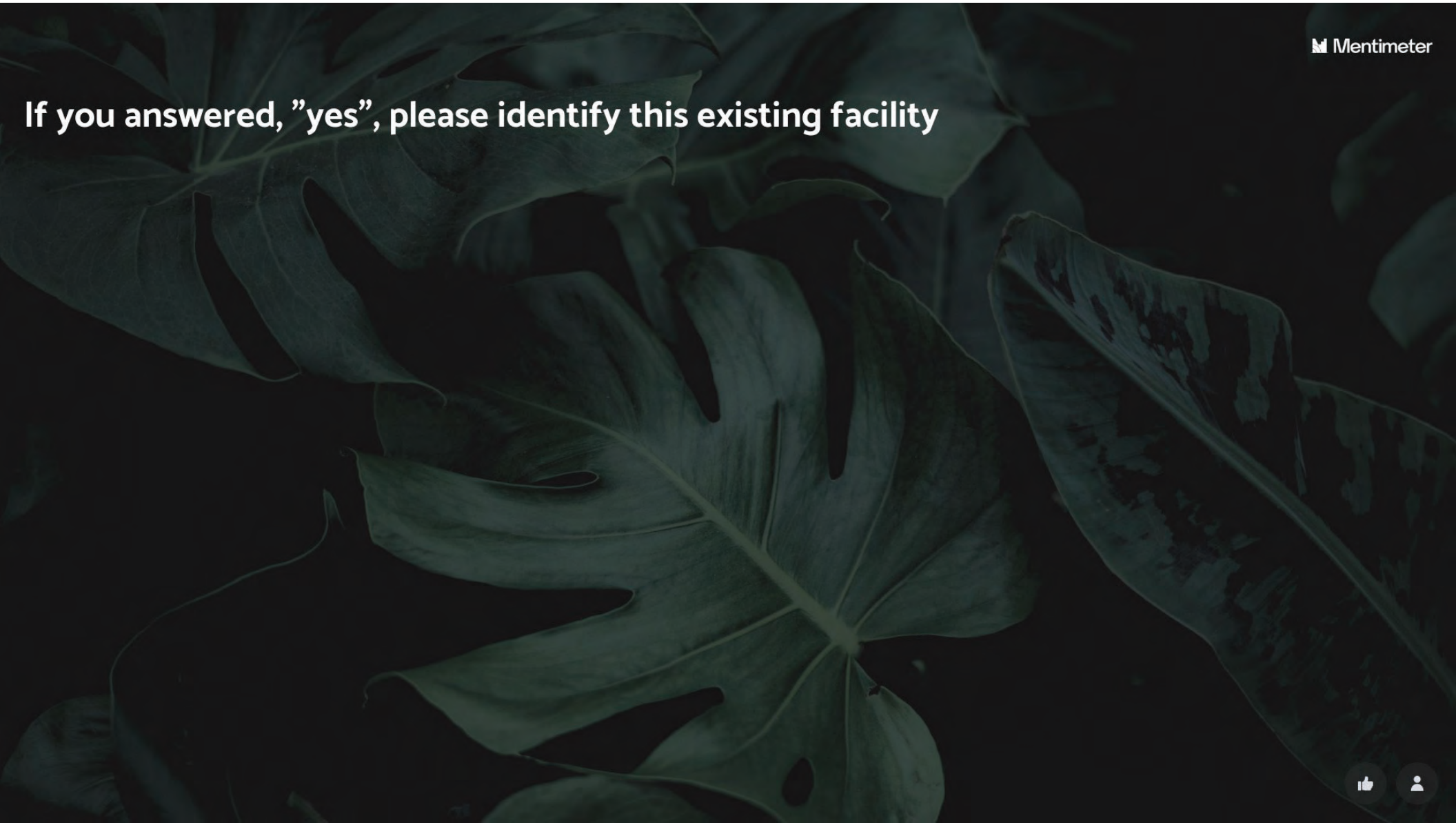
Can your primary intended use of the proposed covered play court facility occur while another use is ongoing?

2 5

Mentimeter

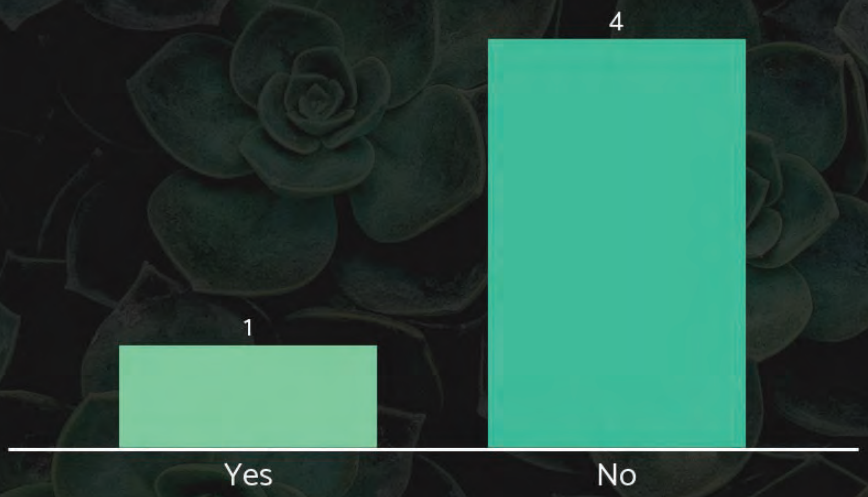
Can your primary intended use of the proposed covered play court facility be successfully hosted at an existing facility in the community?

1 4


Mentimeter
If you answered, ”yes”, please identify this existing facility

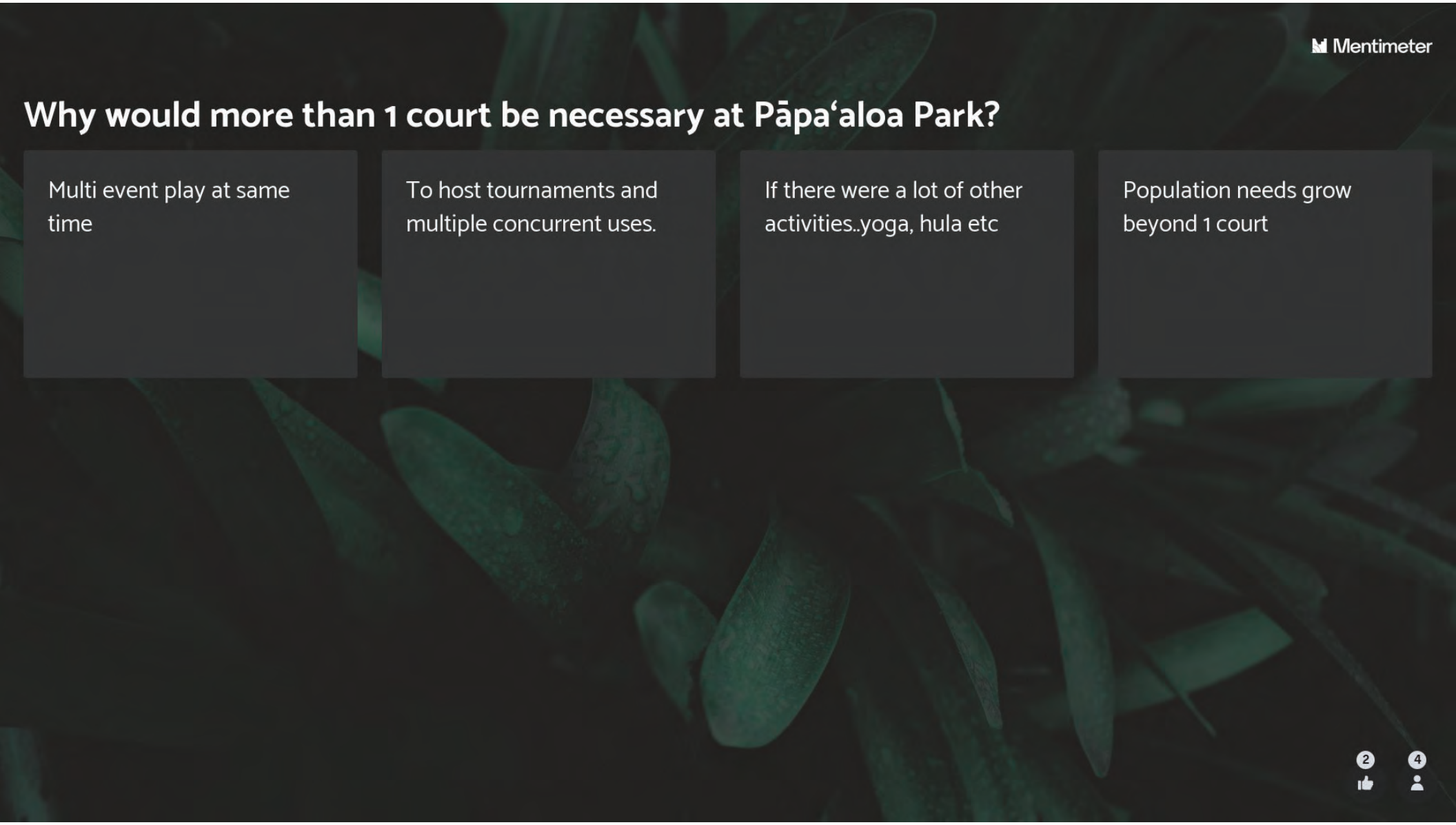
Mentimeter

Can your primary intended use be better hosted at a future recreational building either at Pāpa‘aloa Park or another nearby public site?



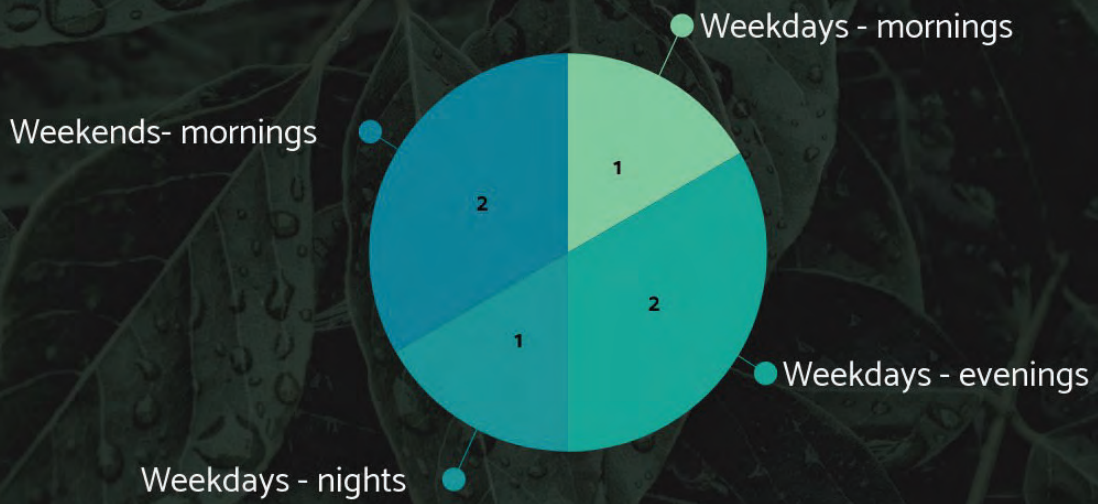
5


Mentimeter
If you answered, ”yes”, please identify this future facility
No
1


Mentimeter
Why would more than 1 court be necessary at Pāpaʻaloa Park?
Multi event play at same time
To host tournaments and multiple concurrent uses.
If there were a lot of other activities..yoga, hula etc
Population needs grow beyond 1 court
2
4

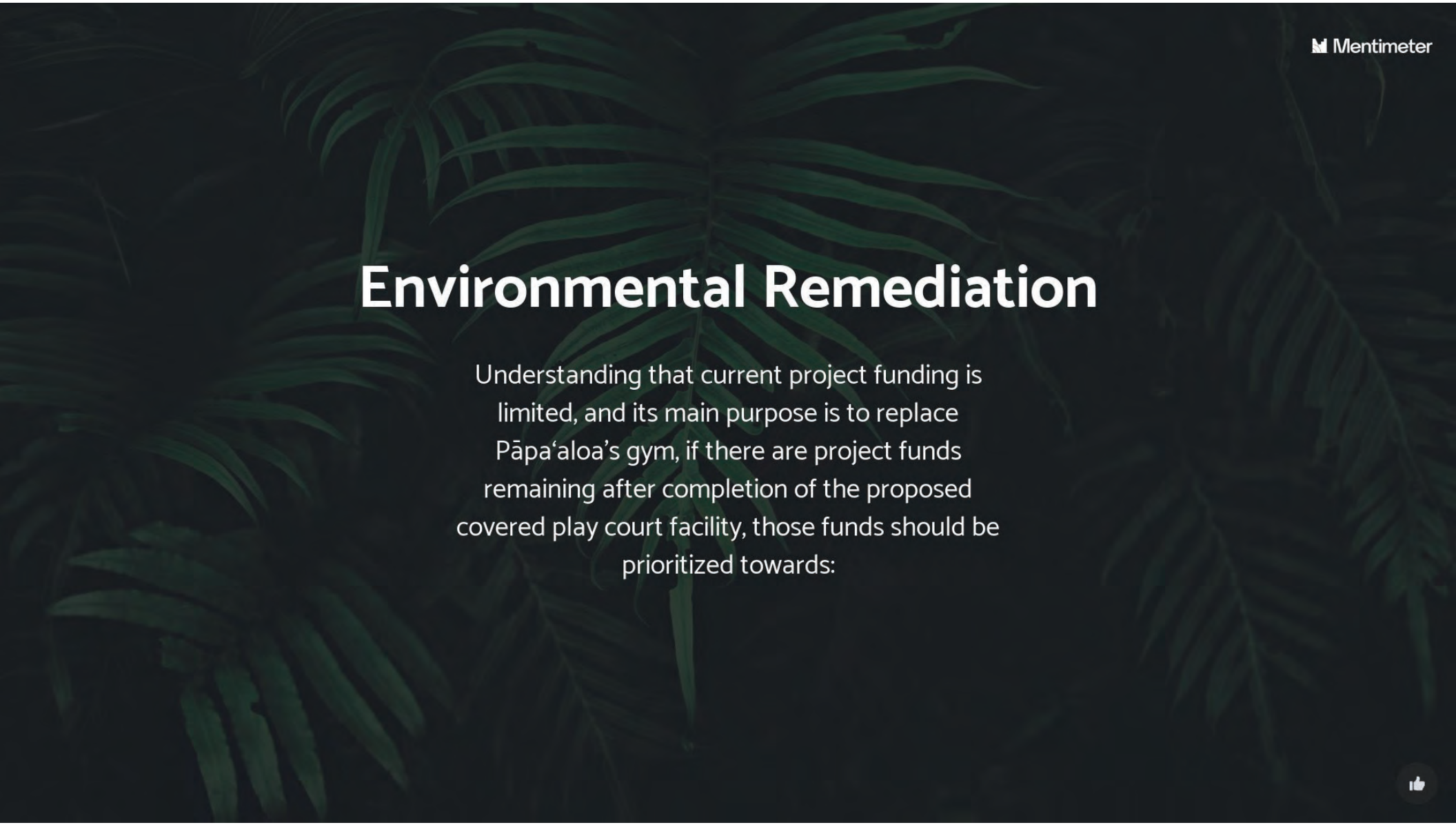
Mentimeter

When would there be competing demands for use of the covered play court facility?



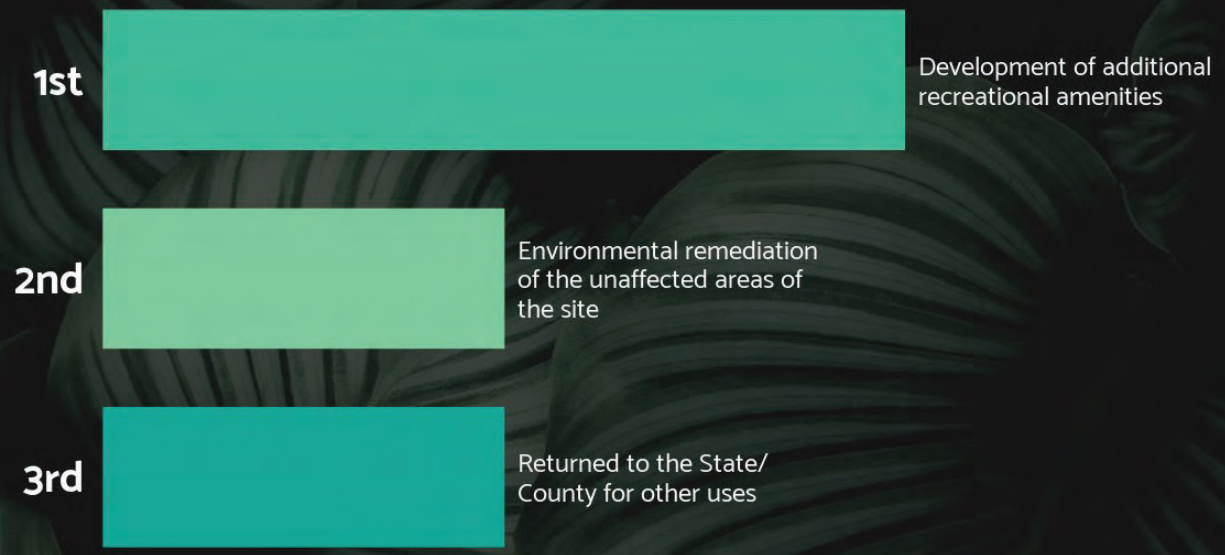
6


Mentimeter
How often would multiple activities occur simultaneously at the play court facility?
1
Every day
2
Weekly
3
Occasionally
0
Hardly ever
0
Never
5

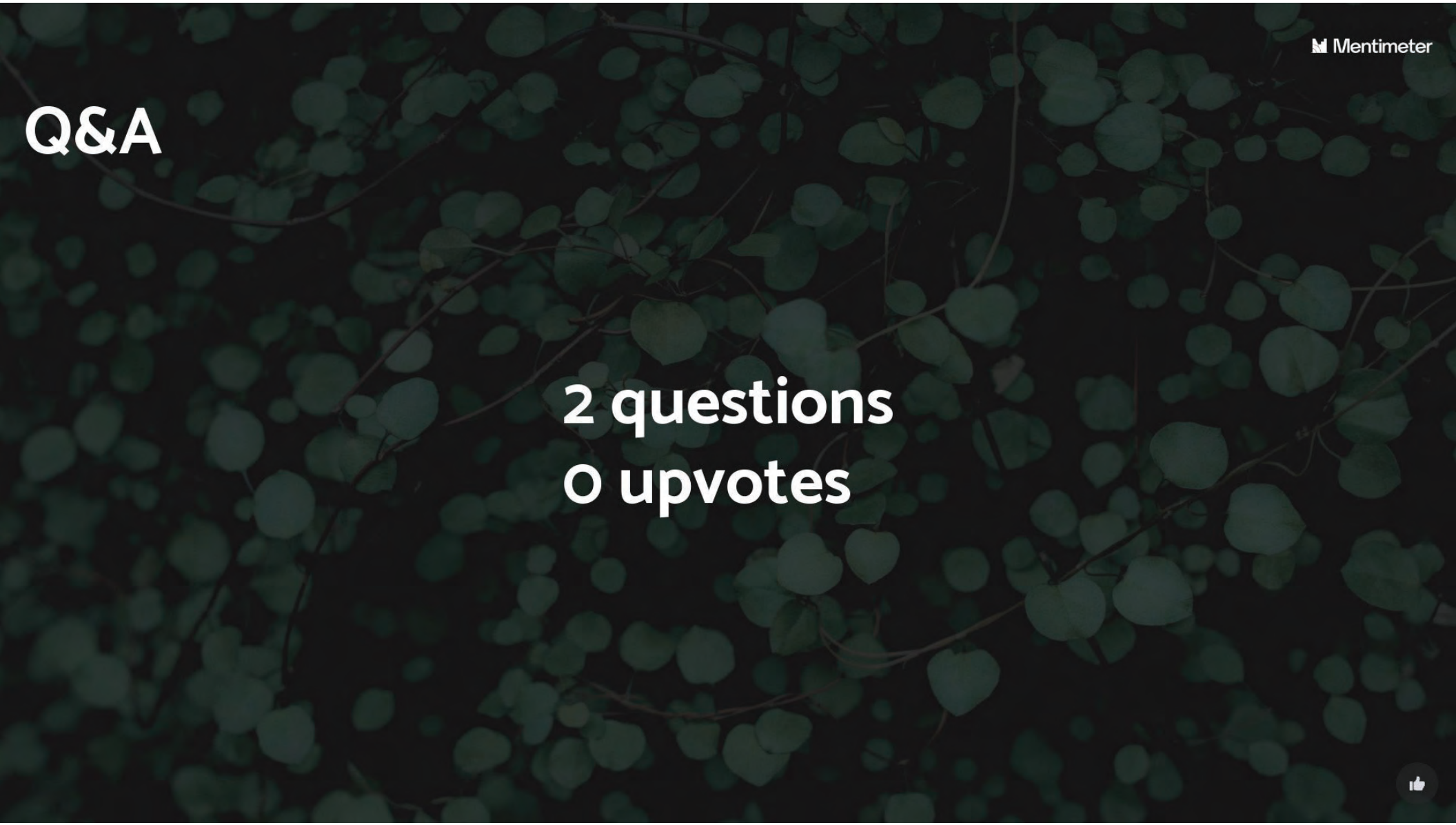

Mentimeter
Environmental Remediation
Understanding that current project funding is limited, and its main purpose is to replace Pāpa‘aloa’s gym, if there are project funds remaining after completion of the proposed covered play court facility, those funds should be prioritized towards:

Mentimeter

Funds should be prioritized towards:



4


Mentimeter
Q&A
2 questions
0 upvotes


Mentimeter
Mahalo!

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APPENDIX B3

Community Meeting #3 Summary

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PĀPA'ALOA PARK MASTER PLAN COMMUNITY MEETING #3

MEETING DETAILS

Where

Laupāhoehoe Community Public Charter School Cafeteria

When

Thursday, December 21, 2023
5-7pm

SUMMARY REPORT

TABLE OF CONTENTS

PĀPA'ALOA PARK MASTER PLAN COMMUNITY MEETING #3

MEETING DETAILS

Where

Laupāhoehoe Community Public Charter School Cafeteria

When

Thursday, December 21, 2023
5-7pm
Check in at 4:45pm

Agenda

Presentation of preferred layout.
Discussion on park amenities and programming of covered play court.

Refreshments Provided

Courtesy of Councilmember Heather Kimball and your Department of Parks and Recreation

Survey 2

Scan the QR code to take our second survey!

Contact - Dept of Parks and Rec

Hawai'i County Parks and Recreation

@hicountyparkandrec

More Information

https://tinyurl.com/papaaloa

5 PM - 7 PM

21 DECEMBER

LAUPĀHOEHOE SCHOOL CAFETERIA

35-2065 OLD MĀMALAHOA HWY, LAUPĀHOEHOE, HI 96764

Flyer

First Name	Last Name
Lucille	Chung
Wesley	Salboro
Dave	Molenaar
Howard	Costantino
Heather	Bloom
Kenneth	Peters
Pam	Elders
Niki	Hubbard
Luke	Hubbard
Lisa	Barton
Jake	HubbardN
Leslie	Fawcett
Gary	Miller
Andrea	Hess
Gilbert	Gutierrez
Dwight	Takamine
Thomas	Bearden
Paula	Dickey
Ela	Kowardy
Carol	Weldon
Audrey	Mills
Kaliko	Canario
Carolyn	Goff
Matt	Dill
Nicole	Tergeoglou
Rachel	Conder
Bethany	Morrison
Harriet	Bloom
Lorraine	Shin
Thatcher	Moats
Noland	Esicaran
Melinda	Souza
Jeff	Ochi
Tammy	Antonio
Mark	Osorio
Jerry	Brougeta
Rose	Brougeta
Milo	Morrison
Sean	Morrison

List of Participants

Pāpa‘aloa Park Master Plan
Community Meeting #3 Agenda
December 21, 2023

1. **Registration (4:45-5:00 pm)**
2. **Presentation on Conceptual Plan (5:00 pm-5:45 pm) (KYA/PBR)**
3. **Break (5:45-6:00 pm)**
4. **Question and Answer + Next Steps (6:00-7:00 pm) (Team)**
    - Interactive questions
    - Next Steps and Project Schedule

PĀPAʻALOA PARK COMMUNITY MEETING

December 21, 2023

Laupāhoehoe Community Public Charter School Cafeteria
5-7pm

INTRODUCTION

DEPT. OF PARKS AND RECREATION

KYA INC.

PBR HAWAII

MEETING AGENDA

1. Takeaways from Meeting #2
2. Project Timeline & Consultant Reports
3. Conceptual Plan
4. Break
5. Interactive Questions; Q&A
6. Wrap-Up & Next Steps

TAKEAWAYS FROM MEETING #2

COUNTY OF HAWAIʻI PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

Pāpaʻaloa Park Community Meeting #3
December 21, 2023

MEETING #2: HIGHLIGHTS

Monetary Constraints

Budget reality is main constraint

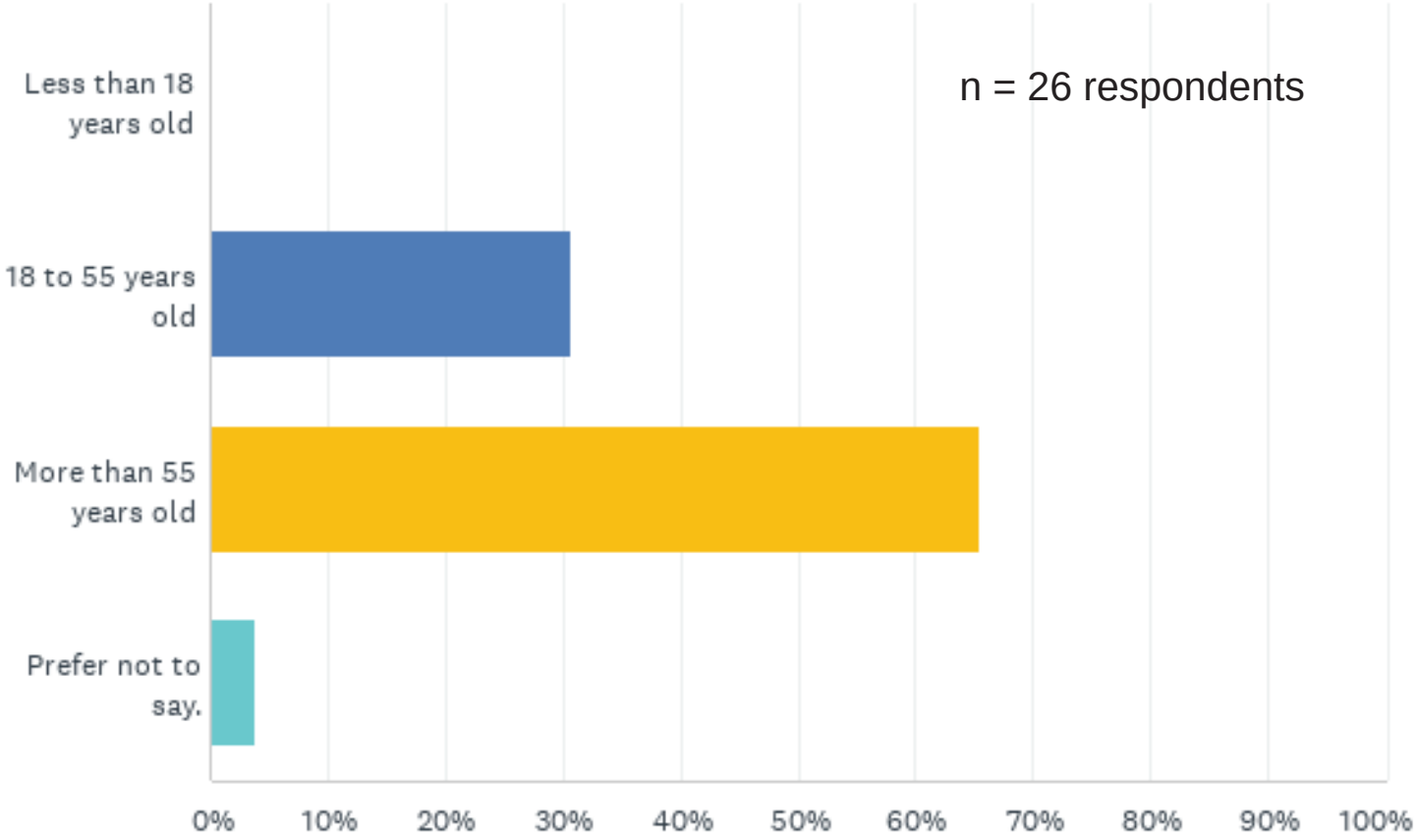
Parking requirements

- Additional parking is an added constraint
- Required spaces and cost
- Potential parking on grass or implementing park rules

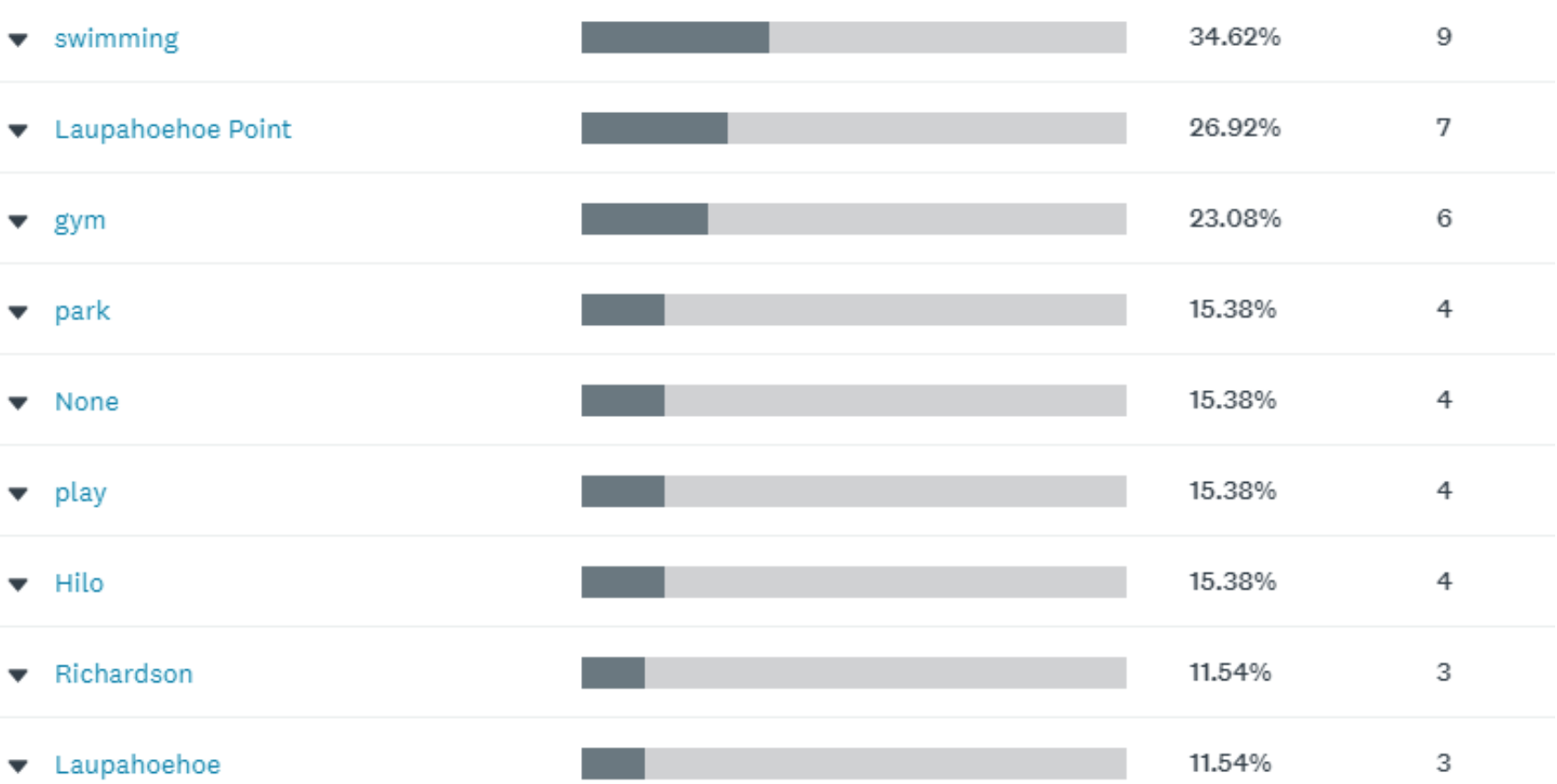
Smaller facility on upper site + future expansion

Facility desired now with options to expand in the future

Q1 - What is your age?



Q11 - Other than Pāpa'aloa Park, what County Park(s) do you visit/use most often and for what purpose(s)? Please list park(s) and corresponding uses. *(e.g. Pahoa Park - running)*



swimming	34.62%	9
Laupahoehoe Point	26.92%	7
gym	23.08%	6
park	15.38%	4
None	15.38%	4
play	15.38%	4
Hilo	15.38%	4
Richardson	11.54%	3
Laupahoehoe	11.54%	3

Q11 (cont'd) - Other than Pāpa'aloa Park, what County Park(s) do you visit/use most often and for what purpose(s)? Please list park(s) and corresponding uses. *(e.g. Pahoa Park - running)*

walking		11.54%	3
parties		11.54%	3
class		11.54%	3
Honokaa		11.54%	3
basketball		11.54%	3
Beach Park		11.54%	3
line dance		11.54%	3

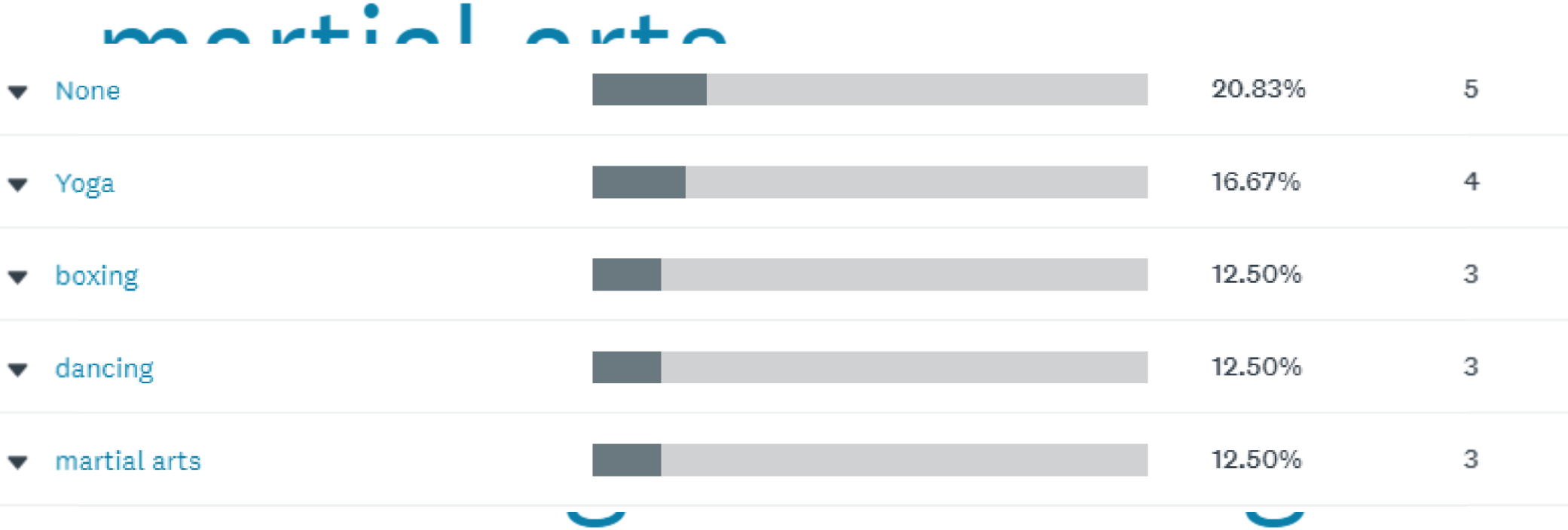
Q12 - How far from Pāpa'aloa are you willing to travel to access public recreational facilities and for what use(s)? Please provide travel time and/or distance with corresponding use(s) (e.g. 60 min -football field)

RESPONSES
Snorkeling – 90 min Hiking – 30 min Basketball – 10 min
Depends on activity
I prefer to stay in my neighborhood.
None
It really depends on sport, who is participating, etc.
30 minutes, swimming or hiking
15min
Kawamoto Swimming Pool, Hilo, 26 miles.
10 miles 10minutes
Willing isn't quite the word here.. forced to travel into Hilo for hula
20 miles, for basketball
I prefer to have all my future recreational needs and interests to be available to me at Papaaloa Park so I dont have to waste time and gas money driving. We need a new gym ASAP!

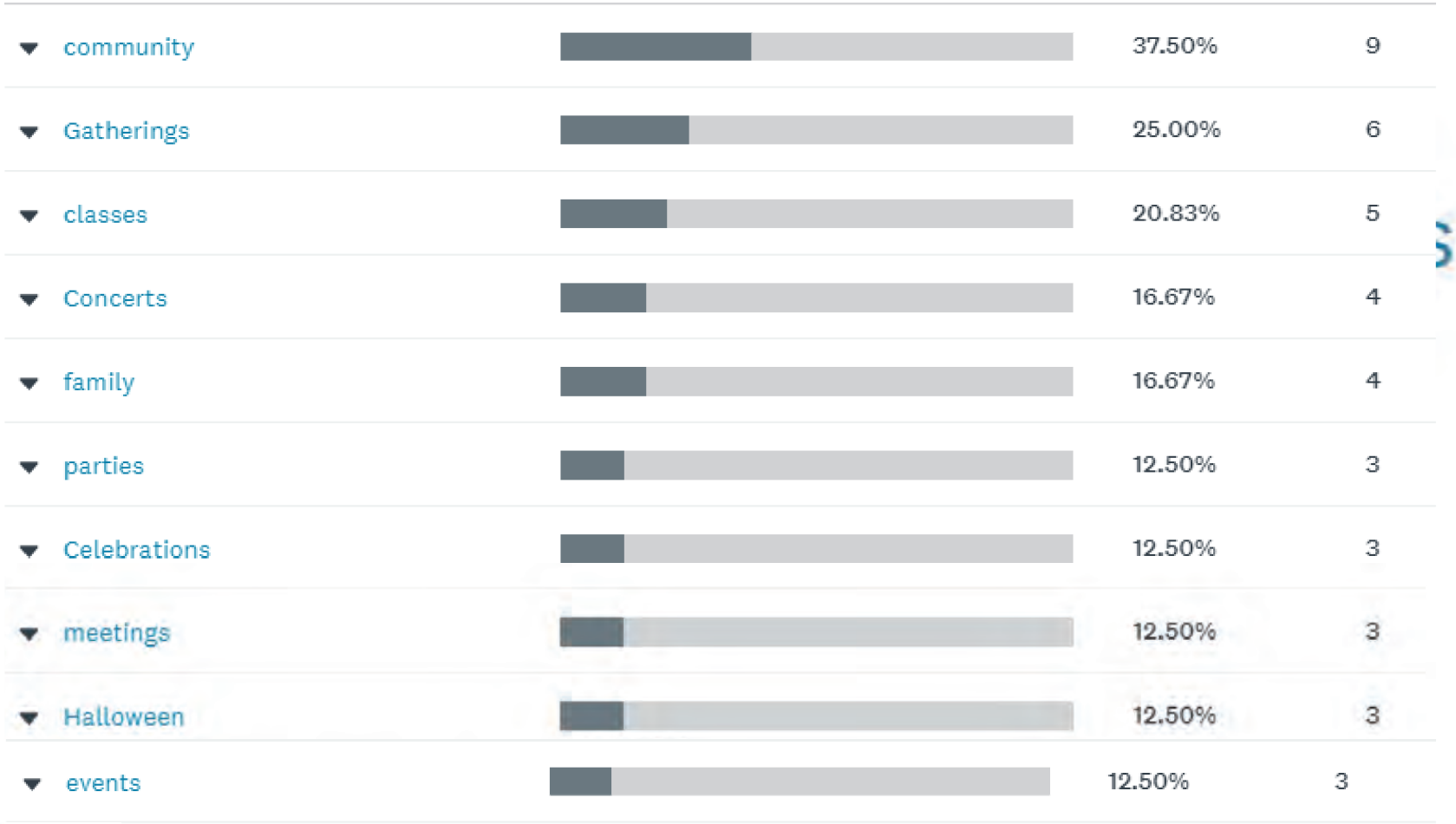
Q12 (cont'd) - How far from Pāpa'aloa are you willing to travel to access public recreational facilities and for what use(s)? Please provide travel time and/or distance with corresponding use(s)

Up to 1 1/2 hr for swimming or a hiking trail But obviously not very often
n/a
25 minutes, beach
I'd like to have activities right here in Papa'aloa, but we are forced to travel 30-45 minutes because there is little or nothing here now. Thanks for opening the Laupahoehoe pool. Please fix the indoor showers.
10 miles
Unwilling to travel farther than Papa'aloa
30 minutes to practice softball
10-15 minutes for basketball
4 miles
45-60mins travel time, and to utilize other gyms to play basketball in.
15min
20 miles (30 min) for sport events for the kids
30 minutes-walking trails
I want a local park with lots of activities for adults and seniors.

Q25 - Besides basketball, volleyball, and pickleball, what other sports uses should the facility be designed to accommodate?

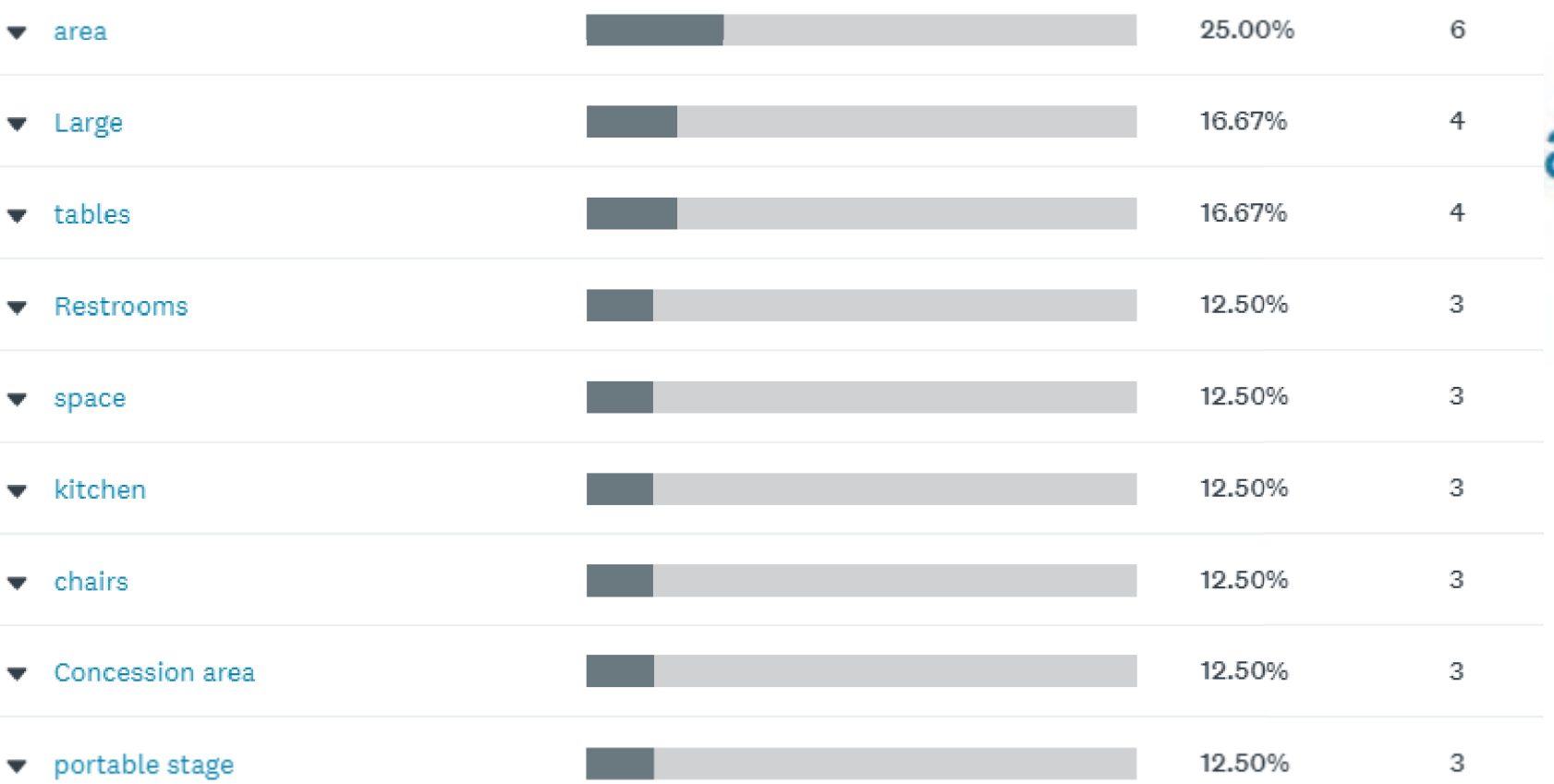


Q26 - Besides sports uses, what other recreational uses should the facility be designed to host?



community	37.50%	9
Gatherings	25.00%	6
classes	20.83%	5
Concerts	16.67%	4
family	16.67%	4
parties	12.50%	3
Celebrations	12.50%	3
meetings	12.50%	3
Halloween	12.50%	3
events	12.50%	3

Q27 - Relative to your previous response, what special features are needed in this facility to host those uses?



area	25.00%	6
Large	16.67%	4
tables	16.67%	4
Restrooms	12.50%	3
space	12.50%	3
kitchen	12.50%	3
chairs	12.50%	3
Concession area	12.50%	3
portable stage	12.50%	3

TIMELINE & CONSULTANT REPORTS

COUNTY OF HAWAIʻI PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

Pāpaʻaloa Park Community Meeting #3
December 21, 2023

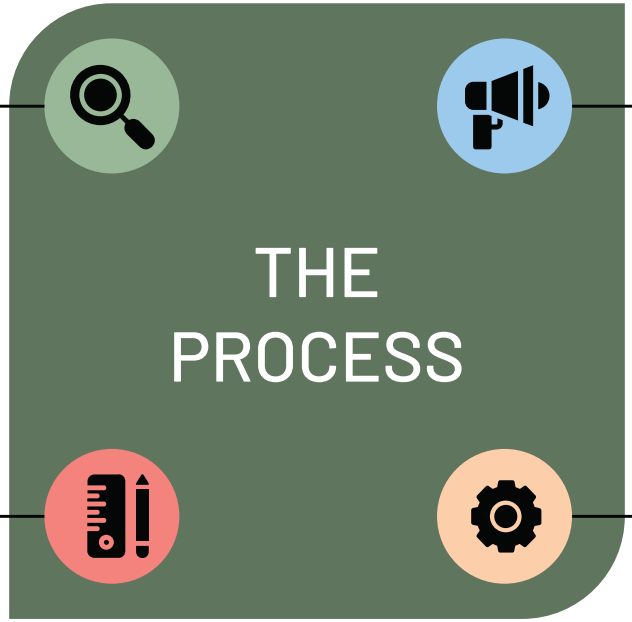
MULTIPLE PROCESSES

ENVIRONMENTAL ASSESSMENT

Surveys and studies conducted contributing to a final EA

SPECIAL MANAGEMENT AREA PERMIT

Application preparation along with Planning Commission Public Hearing



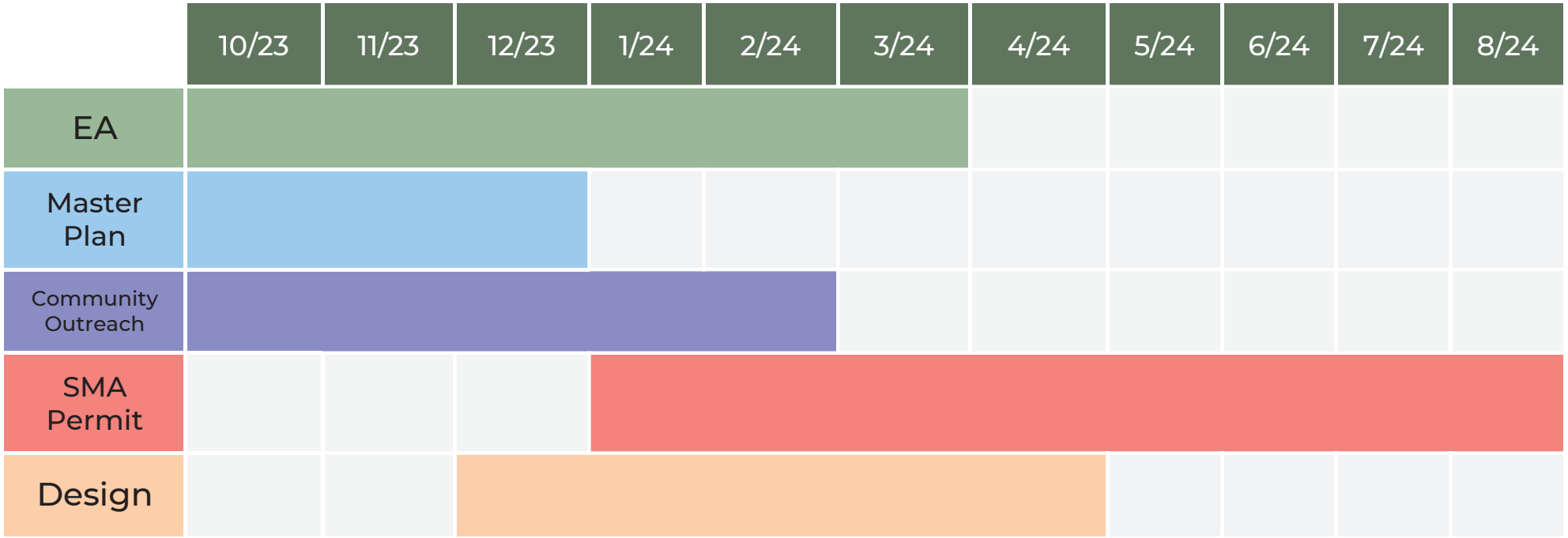
MASTER PLAN & COMMUNITY OUTREACH

Master plan report created. Community outreach done simultaneously as EA.

DESIGN

Creation of preliminary plans before going to bid.

COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.



Construction start date: 1/2025

COUNTY OF HAWAIʻI PARKS & RECREATION

KYA

PBR HAWAII & ASSOCIATES, INC.

Pāpaʻaloa Park Community Meeting #3
December 21, 2023

CONSULTANT REPORTS

Survey/Study	Consultant	Status
Archaeological / Cultural	ASM	Complete ASM beginning cultural interviews
Environmental Survey	ERA	Drilling in January
Flora and Fauna	AECOS	Survey completed; first draft report under review
Geotechnical (Soils)	Geolabs	TBD based on building site selection
Topographical Survey	Imata	Completed
Traffic	WSP	Traffic counts completed; under analysis; report to be complete mid-January 2024

CONCEPTUAL PLAN

COUNTY OF HAWAI'I PARKS & RECREATION

KYA

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Pāpa'aloa Park Community Meeting #3
December 21, 2023

Conceptual Master Plan

COUNTY OF HAWAI'I PARKS & RECREATION

KYA

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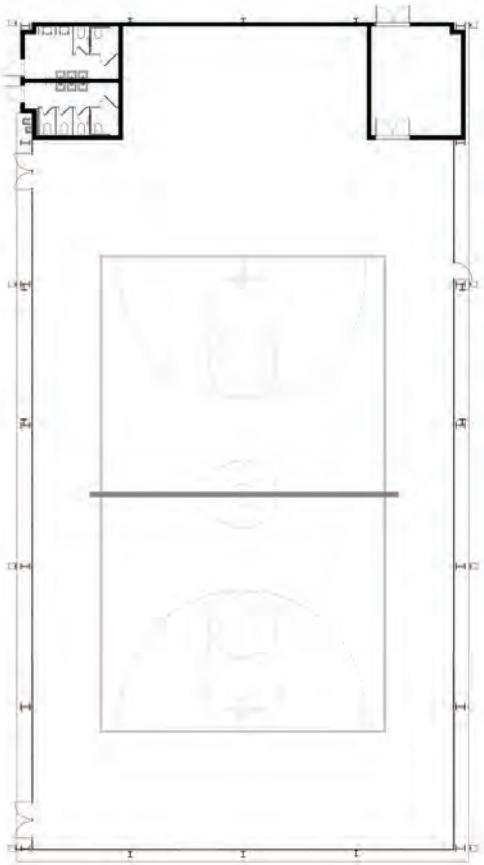
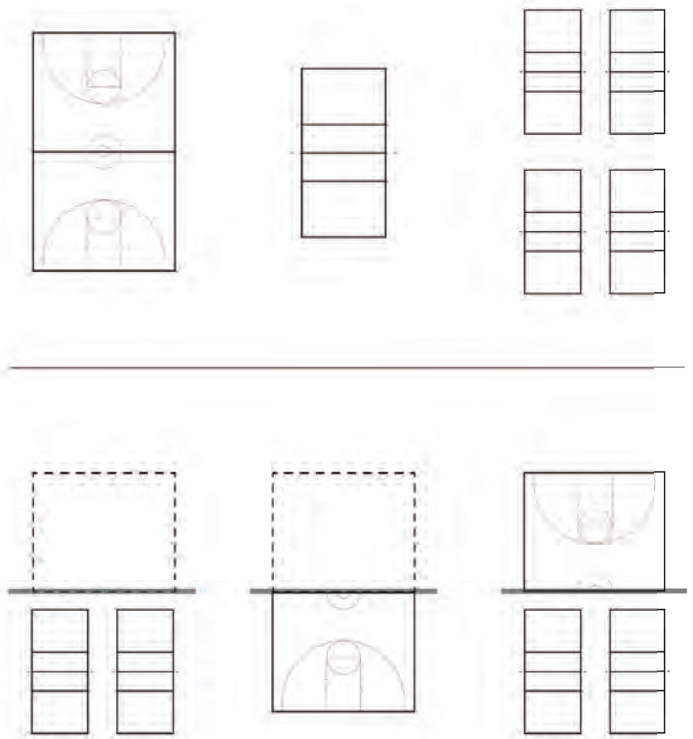
December 21, 2023

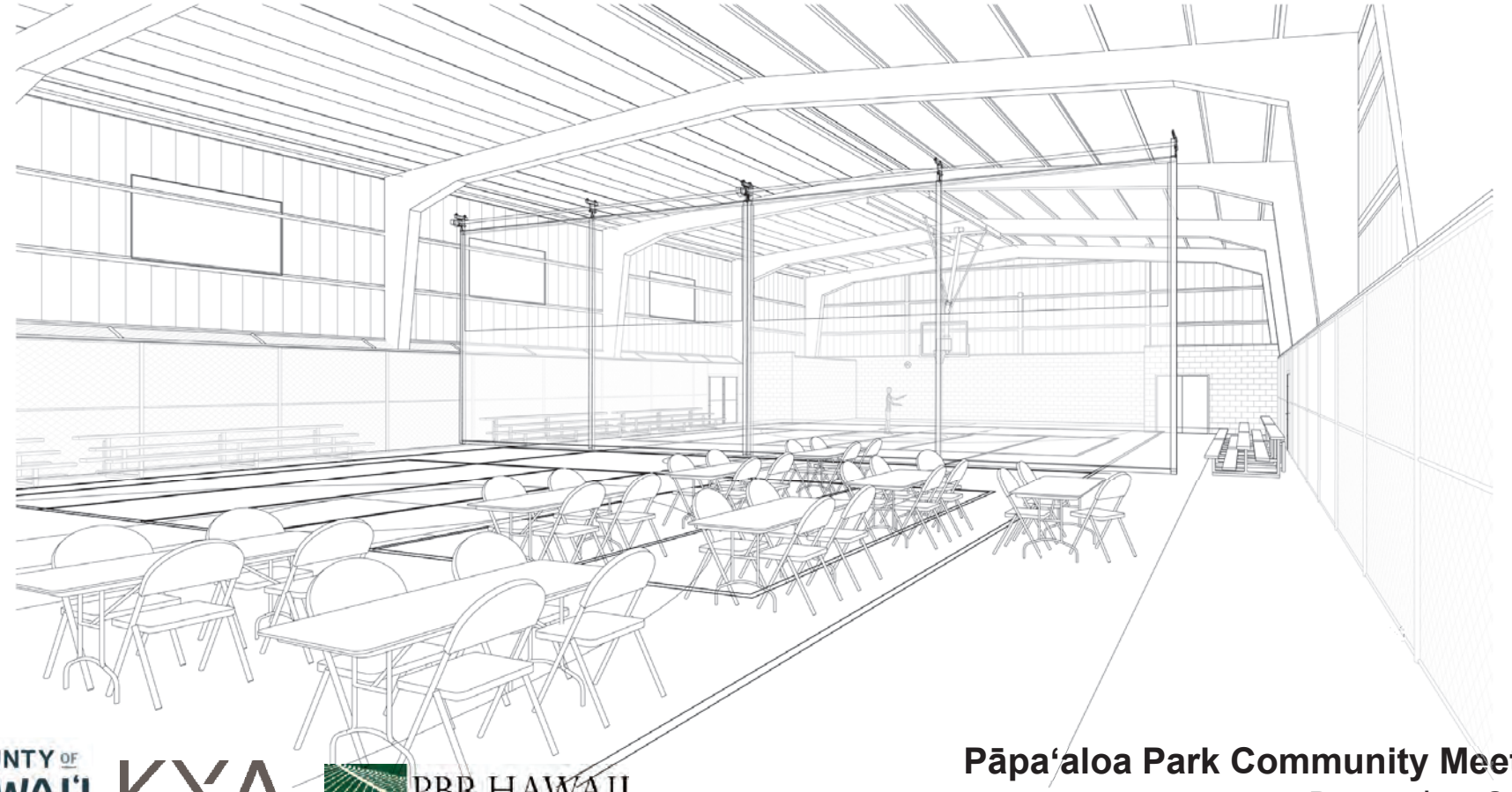
Upper Site (Phase 1)

Covered Play Court (Layout)





Covered Play Court (Perspective)



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Pāpaʻaloa Park Community Meeting #3
December 21, 2023

Conceptual Master Plan

COUNTY OF HAWAI'I PARKS & RECREATION

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Pāpa'aloa Park Community Meeting #3
December 21, 2023

BREAK TIME

COUNTY OF HAWAI'I PARKS & RECREATION

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December 21, 2023

INTERACTIVE QUESTIONS; Q&A

COUNTY OF HAWAI'I PARKS & RECREATION

KYA

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Pāpa'aloa Park Community Meeting #3
December 21, 2023

WRAP UP & NEXT STEPS

COUNTY OF HAWAI'I PARKS & RECREATION

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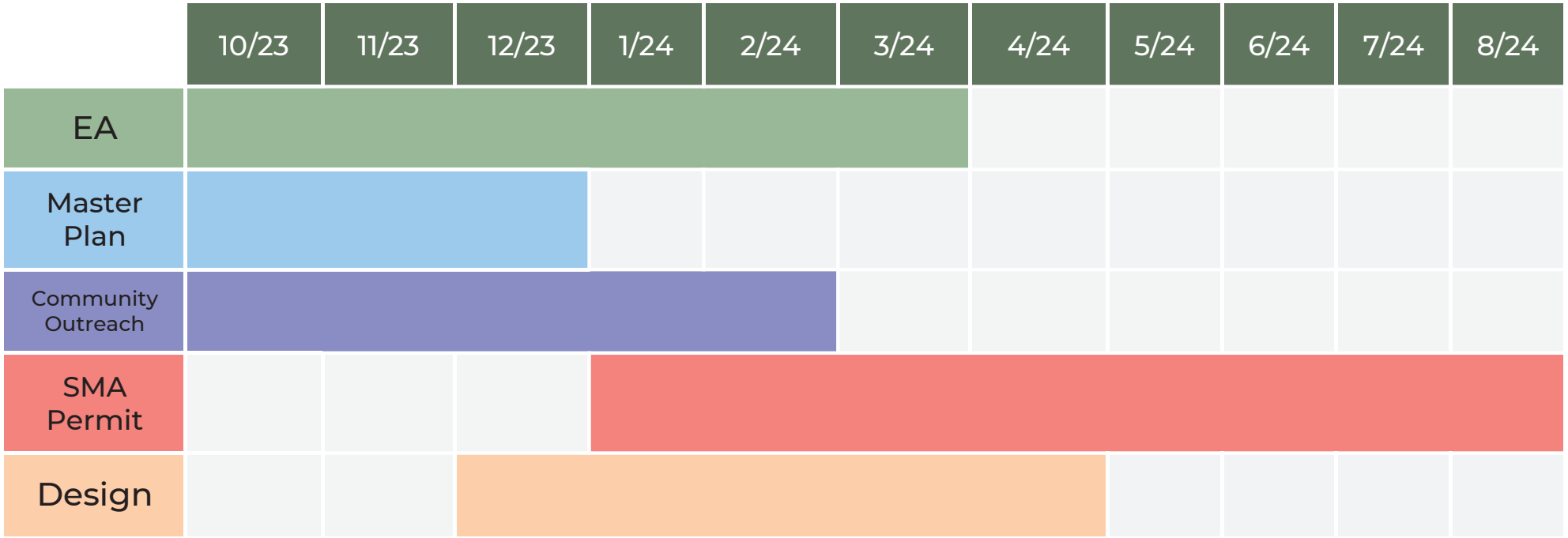
Pāpa'aloa Park Community Meeting #3
December 21, 2023

NEXT STEPS

TIMELINES



Construction start date: 1/2025

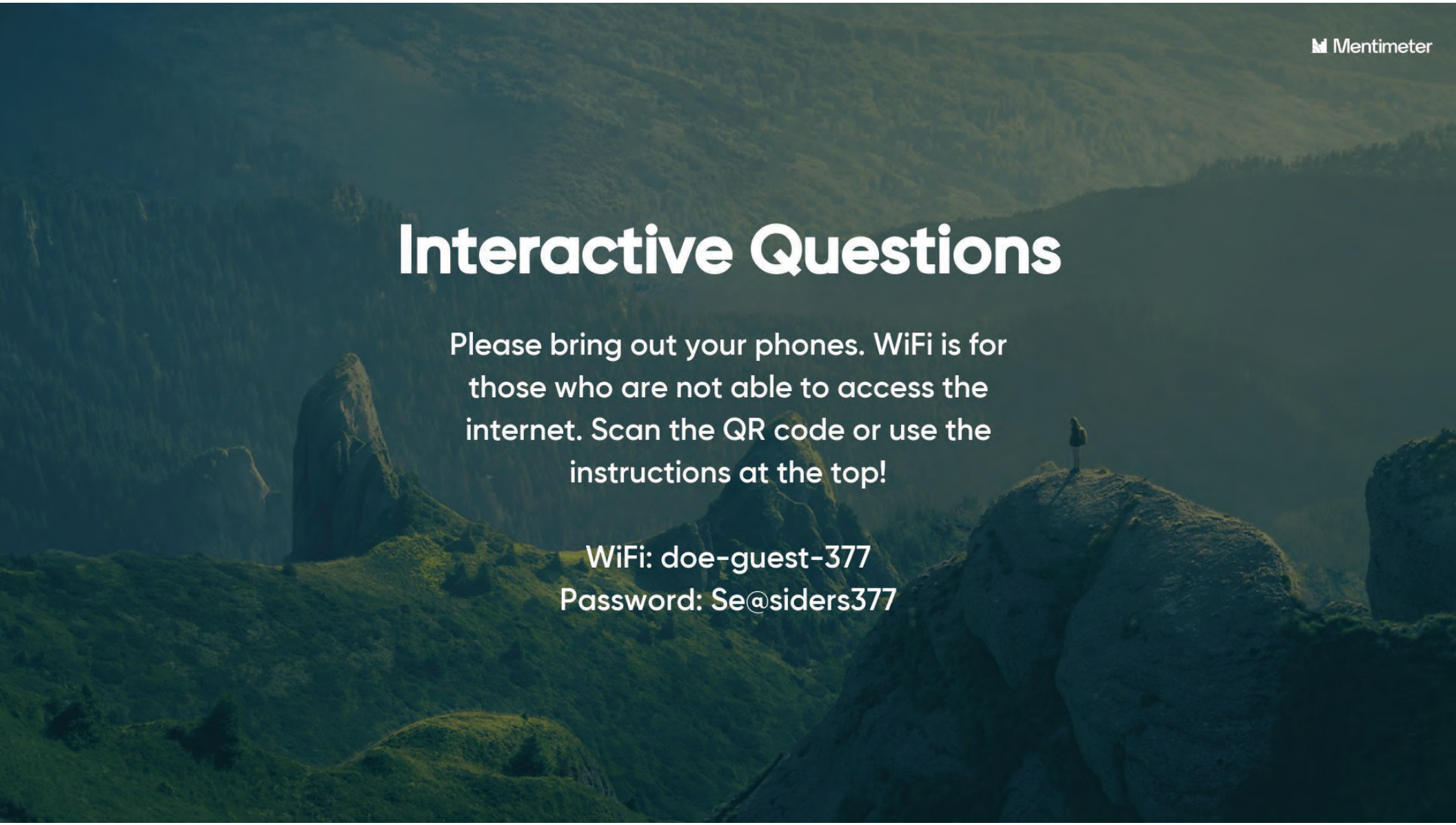
COUNTY OF HAWAI'I PARKS & RECREATION KYA PBR HAWAII & ASSOCIATES, INC.

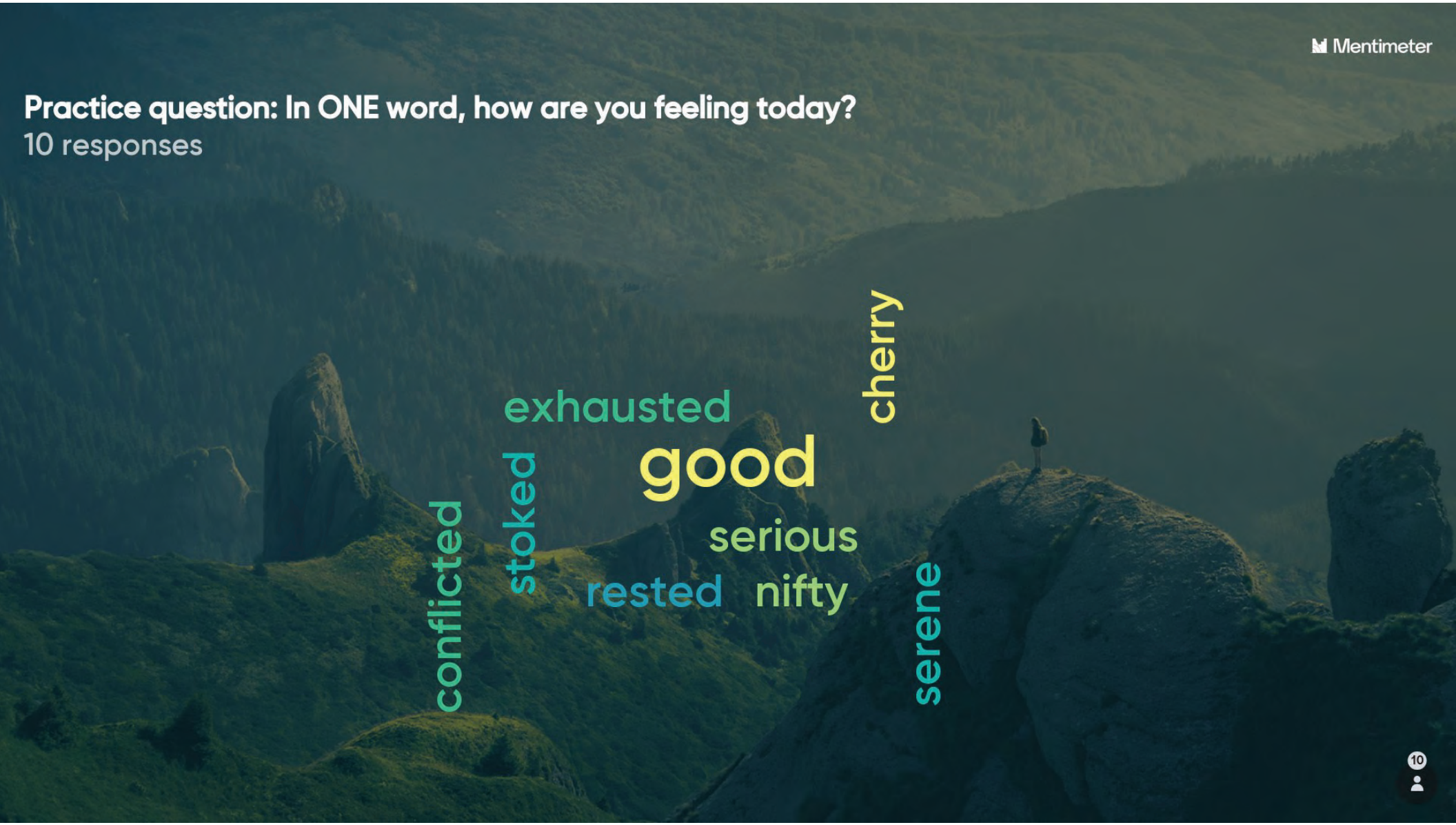
Pāpa'aloa Park Community Meeting #3
December 21, 2023

MAHALO!

Contact Info:
papaaloapark@pbrhawaii.com

Results of Mentimeter Polling

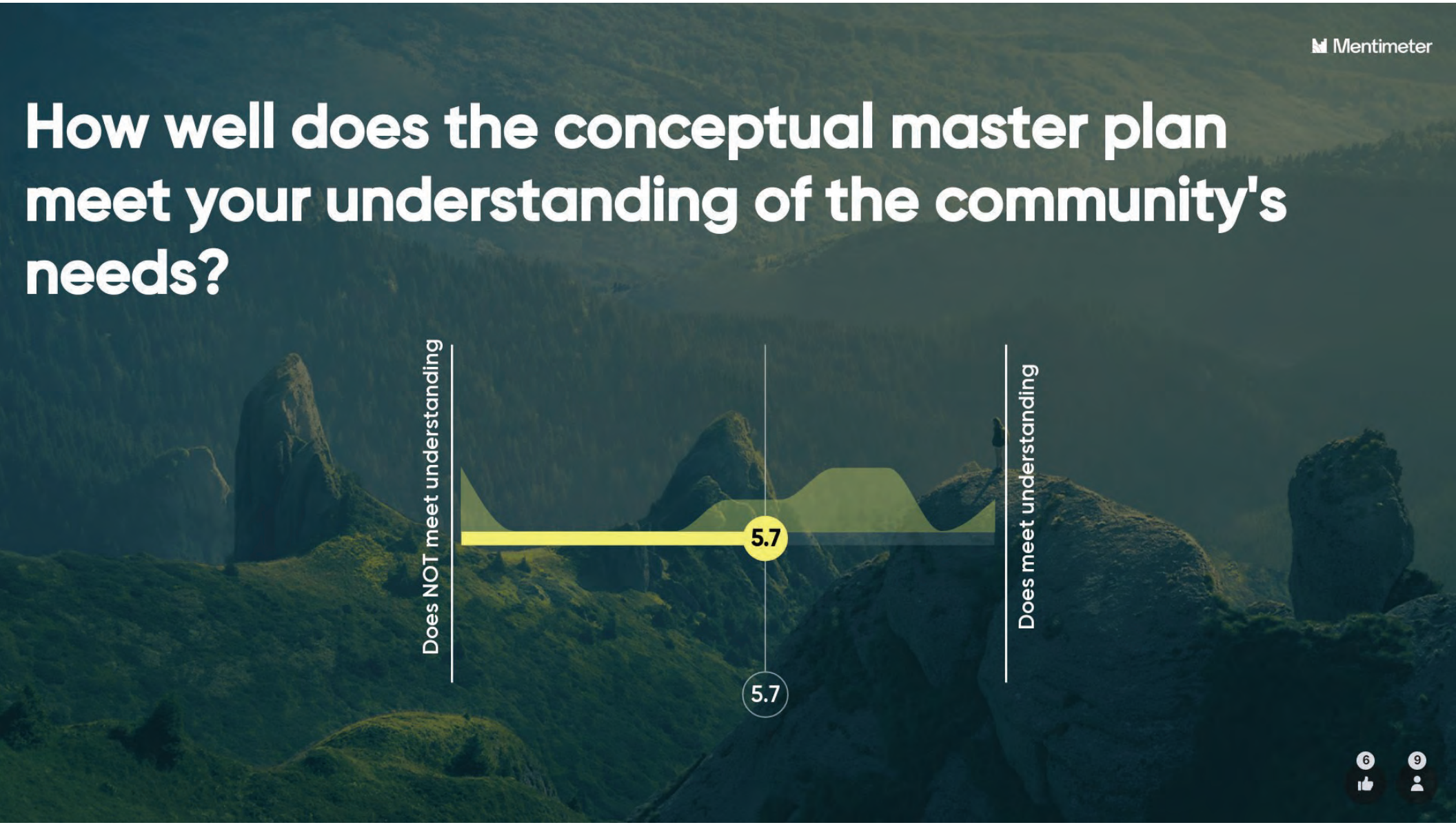

Mentimeter
Interactive Questions
Please bring out your phones. WiFi is for those who are not able to access the internet. Scan the QR code or use the instructions at the top!
WiFi: doe-guest-377
Password: Se@siders377


Mentimeter
Practice question: In ONE word, how are you feeling today?
10 responses
cherry
exhausted
good
stoked
conflicted
serious
rested
nifty
serene
10

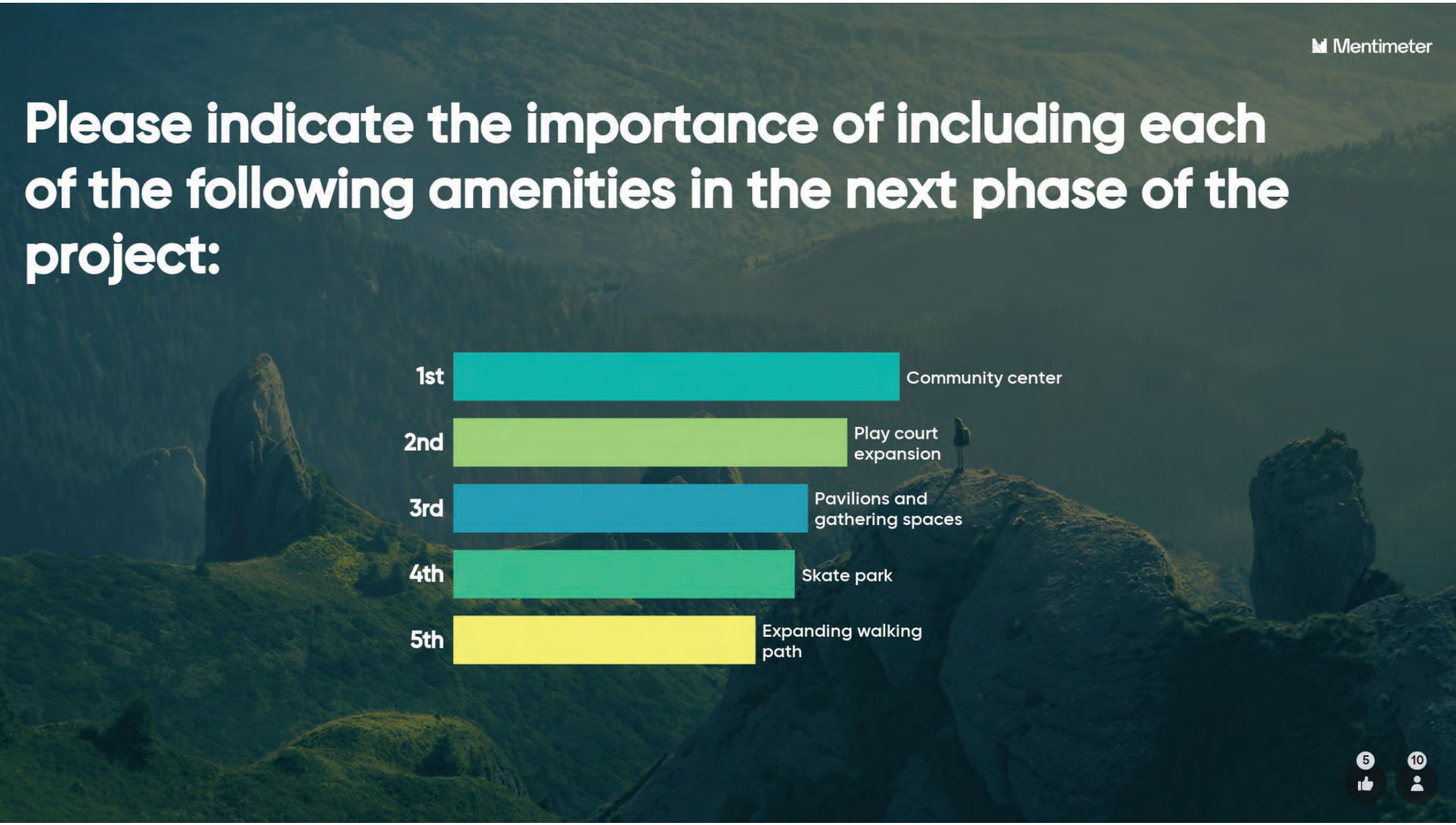
Mentimeter

Where do you live?

10

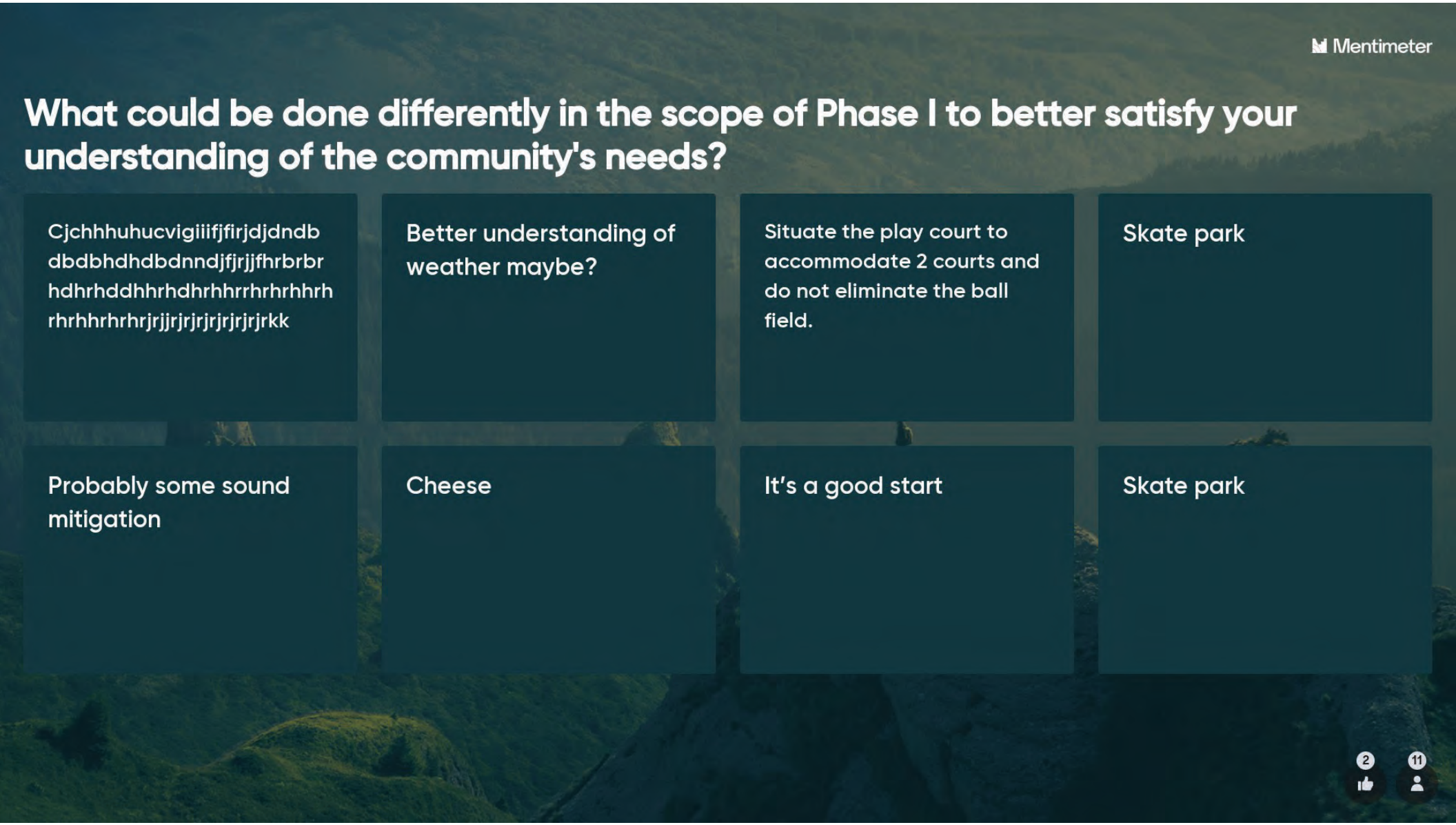

Mentimeter
How well does the conceptual master plan meet your understanding of the community's needs?
Does NOT meet understanding
Does meet understanding
5.7
5.7
6
9

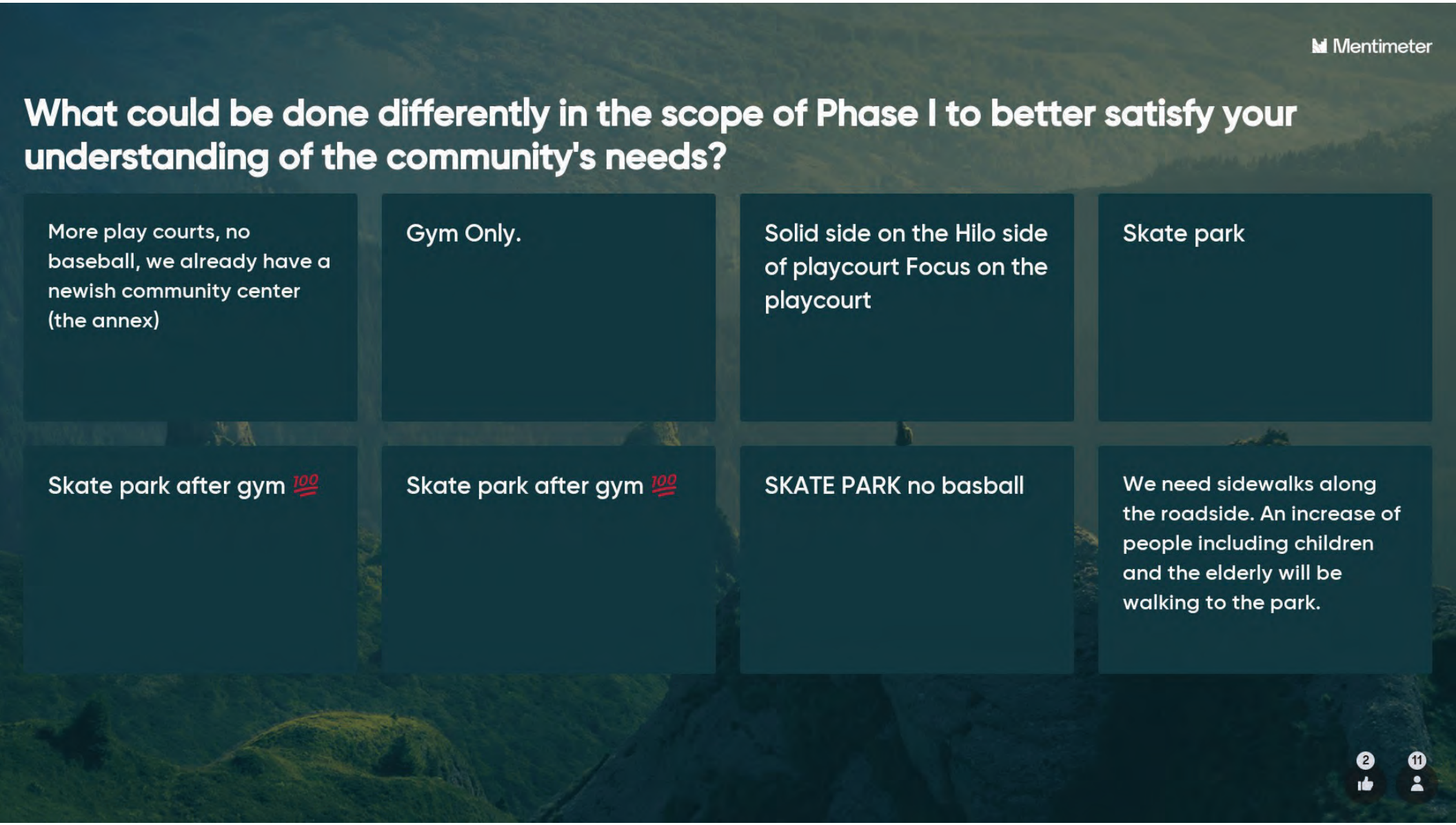

Mentimeter
Phase I identifies top priority elements such as:
→ covered play court
→ children's playground
→ walking path, etc.
2


Mentimeter
Please indicate the importance of including each of the following amenities in the next phase of the project:
1st
Community center
2nd
Play court expansion
3rd
Pavilions and gathering spaces
4th
Skate park
5th
Expanding walking path
5
10


Mentimeter
Phase I Proposed Plan
Does NOT meet community's need
How well does the proposed project - Phase I of the master plan - with its set budget, meet your understanding of the community's needs?
6.4
Meets community's needs
6.4
5
11

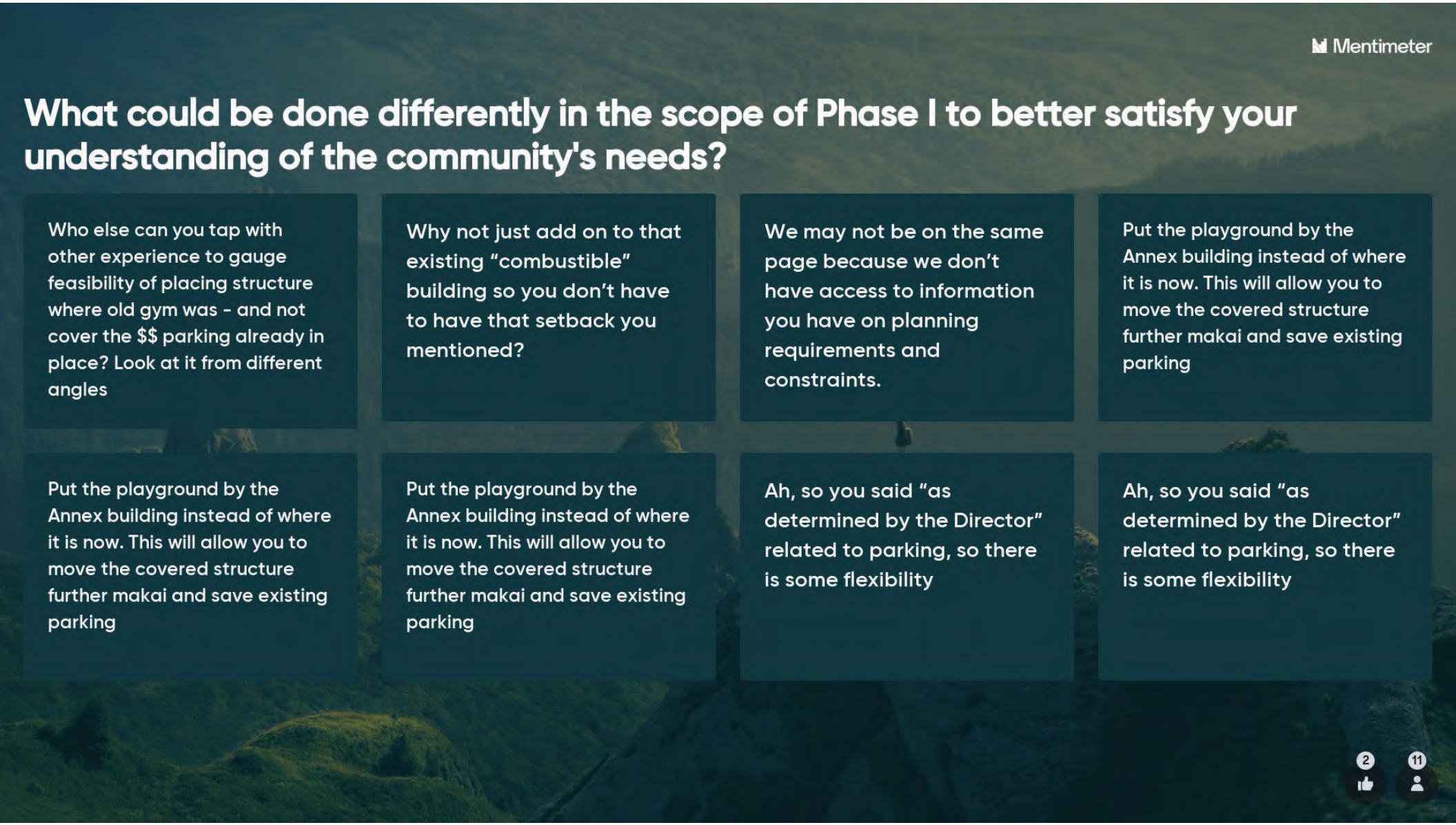

Mentimeter
Play Court Facility Proposed Plan
Does NOT meet community's need
Meets community's needs
How well does the proposed covered play court facility's proposed plan - with its set budget, meet your understanding of the community's needs?
5.8
5.8
4
10

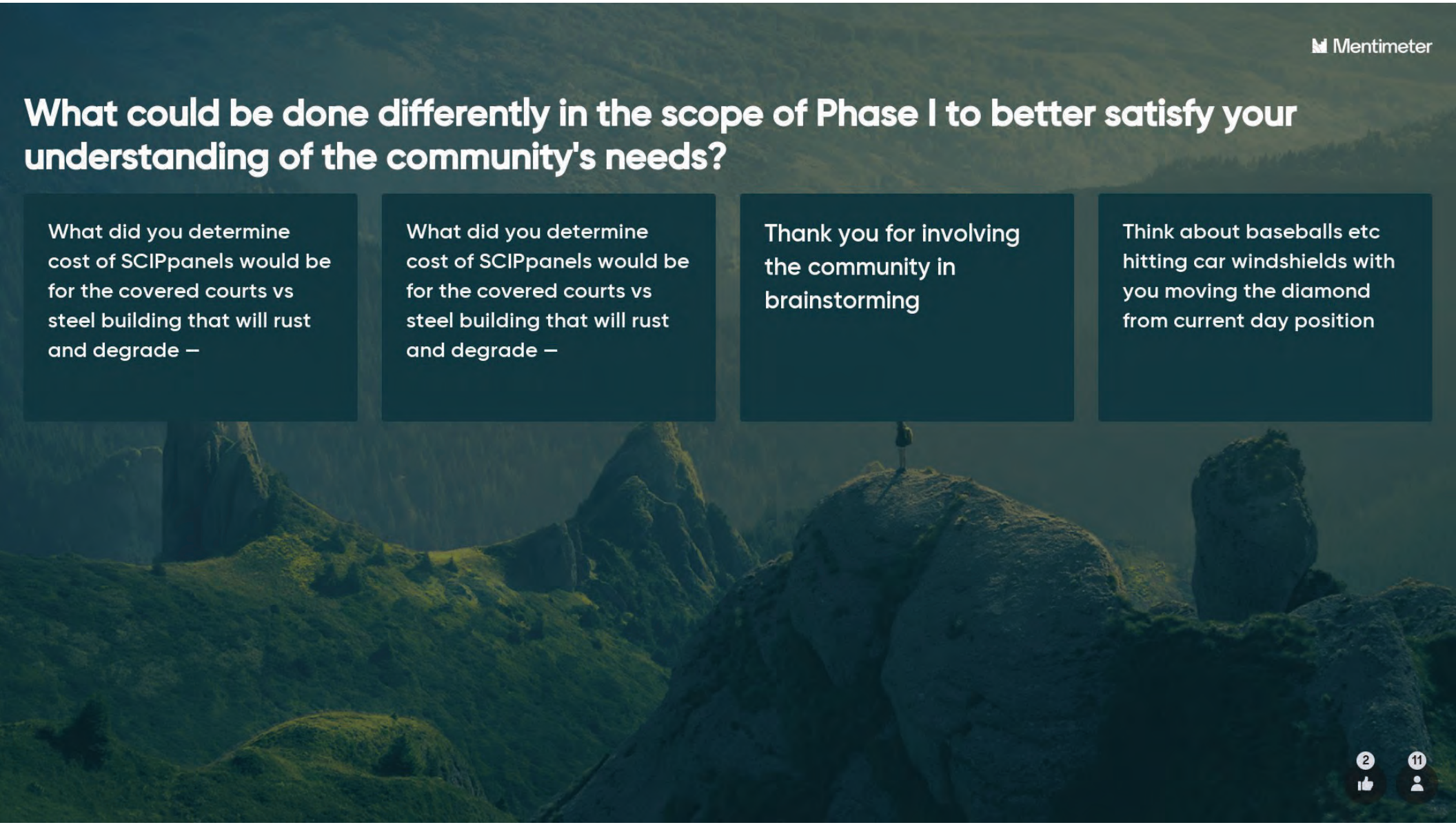

Mentimeter
What could be done differently in the scope of Phase I to better satisfy your understanding of the community's needs?
Cjchhhuhucvigiiifjfirjdjdndb dbdbhdhdbdnndjfjrjjfhrbrbr hdhrhddhhrhdhrhhrrhrhrhhrh rhrhhrhrhrjrjjrjrjrjrjrjrjrkk
Better understanding of weather maybe?
Situate the play court to accommodate 2 courts and do not eliminate the ball field.
Skate park
Probably some sound mitigation
Cheese
It's a good start
Skate park
2
11

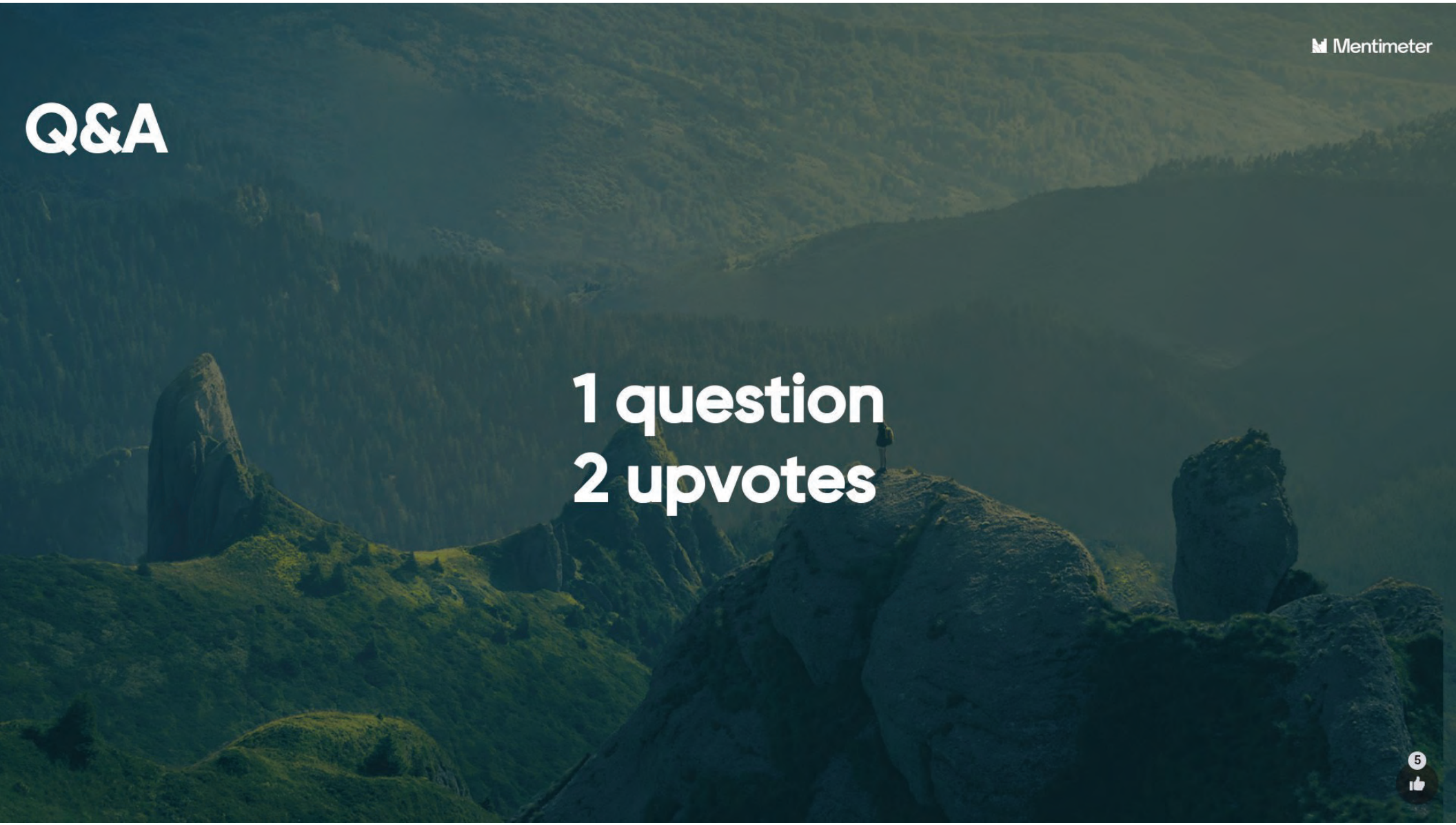

Mentimeter
What could be done differently in the scope of Phase I to better satisfy your understanding of the community's needs?
More play courts, no baseball, we already have a newish community center (the annex)
Gym Only.
Solid side on the Hilo side of playcourt Focus on the playcourt
Skate park
Skate park after gym 💯
Skate park after gym 💯
SKATE PARK no basball
We need sidewalks along the roadside. An increase of people including children and the elderly will be walking to the park.
2
11


Mentimeter
What could be done differently in the scope of Phase I to better satisfy your understanding of the community's needs?
Add pavilions
Hold the next meeting at Papaaloa Park. So you know more about the site.
Build the structure so cost & long-term maintenance are low (not steel) to save $$ upfront and in the long term so $$ goes to community needs of site
Build the structure so cost & long-term maintenance are low (not steel) to save $$ upfront and in the long term so $$ goes to community needs of site
Is it possible to have the skate park & Playground in the open field across the Laupahoehoe Post Office?
Express your challenges as you take community input so we can brainstorm with you
Share with us the challenges you may be experiencing as you work to incorporate community input - so we may all brainstorm with you
Pre-engineered metal building by the ocean is not a sound idea at all - house by the water have yearly issues with rust and degraded building materials not specially suited to salt water exposure
2
11


Mentimeter
What could be done differently in the scope of Phase I to better satisfy your understanding of the community's needs?
Are you dead set on metal despite all proven logic against such material use? Panaewa Pahoa and Waimea structures aren't by the Pacific Ocean's cliff side - not good $ stewardship
Are you dead set on metal despite all proven logic against such material use? Panaewa Pahoa and Waimea structures aren't by the Pacific Ocean's cliff side - not good $ stewardship
Show us all the uses you envision the site to support by complex location
Does your site show different cost estimates for different parts of the upper site for public to view - estimates are fine
Would help to know more what Planning Dept constraints are in building up the site - you mentioned required parking - is "required" hard and fast or is there "give?"
Would help to know more what Planning Dept constraints are in building up the site - you mentioned required parking - is "required" hard and fast or is there "give?"
Would help to know more what Planning Dept constraints are in building up the site - you mentioned required parking - is "required" hard and fast or is there "give?"
Who else can you tap with other experience to gauge feasibility of placing structure where old gym was - and not cover the $$ parking already in place? Look at it from different angles
2
11

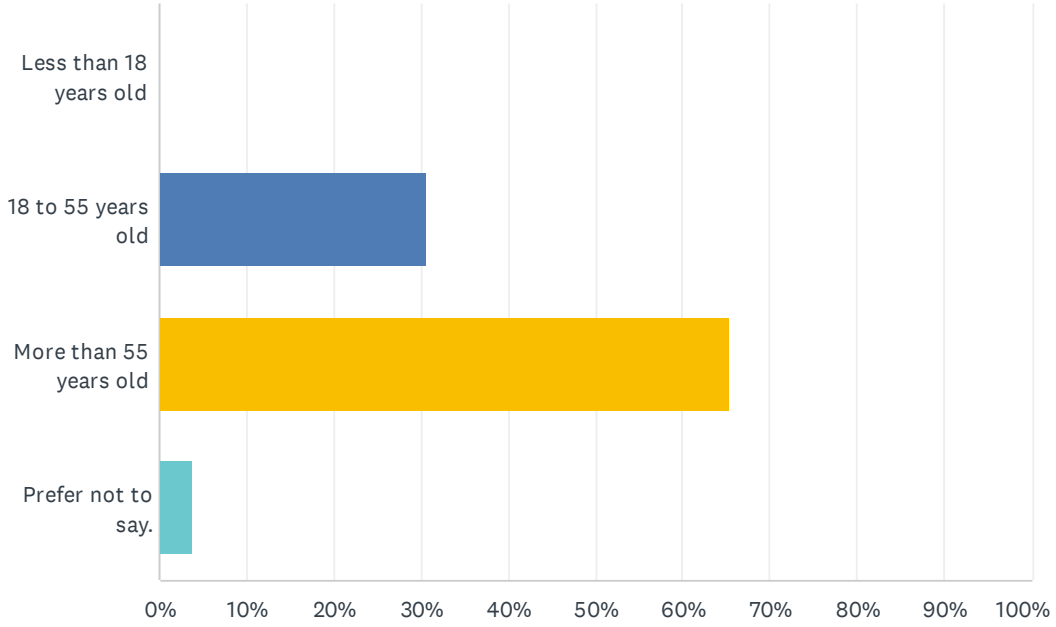

Mentimeter
What could be done differently in the scope of Phase I to better satisfy your understanding of the community's needs?
Who else can you tap with other experience to gauge feasibility of placing structure where old gym was - and not cover the $$ parking already in place? Look at it from different angles
Why not just add on to that existing "combustible" building so you don't have to have that setback you mentioned?
We may not be on the same page because we don't have access to information you have on planning requirements and constraints.
Put the playground by the Annex building instead of where it is now. This will allow you to move the covered structure further makai and save existing parking
Put the playground by the Annex building instead of where it is now. This will allow you to move the covered structure further makai and save existing parking
Put the playground by the Annex building instead of where it is now. This will allow you to move the covered structure further makai and save existing parking
Ah, so you said "as determined by the Director" related to parking, so there is some flexibility
Ah, so you said "as determined by the Director" related to parking, so there is some flexibility
2
11


Mentimeter
What could be done differently in the scope of Phase I to better satisfy your understanding of the community's needs?
What did you determine cost of SCIPpanels would be for the covered courts vs steel building that will rust and degrade —
What did you determine cost of SCIPpanels would be for the covered courts vs steel building that will rust and degrade —
Thank you for involving the community in brainstorming
Think about baseballs etc hitting car windshields with you moving the diamond from current day position
2
11


Mentimeter
Q&A
1 question
2 upvotes
5

Q1 What is your age?

Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES	
Less than 18 years old	0.00%	0
18 to 55 years old	30.77%	8
More than 55 years old	65.38%	17
Prefer not to say.	3.85%	1
TOTAL		26

Q2 What community do you live in? (i.e. Pāpa‘aloa, etc.)

Answered: 26 Skipped: 0

#	RESPONSES	DATE
1	Papaaloa	12/19/2023 8:17 AM
2	Laupahoehoe	12/18/2023 4:25 PM
3	Pāpa’aloa	12/18/2023 11:30 AM
4	Laupahoehoe	12/18/2023 11:13 AM
5	Laupahoehoe	12/18/2023 10:28 AM
6	Papa'aloa	12/18/2023 10:25 AM
7	Laupahoehoe	12/16/2023 7:33 AM
8	Papaaloa	12/15/2023 7:08 PM
9	Papaaloa	12/15/2023 1:09 PM
10	Papa’aloa	12/14/2023 6:05 PM
11	Papa’aloa	12/14/2023 5:12 PM
12	Laupahoehoe	12/14/2023 4:16 PM
13	Papaaloa	12/14/2023 3:44 PM
14	Papa’aloa	12/14/2023 2:46 PM
15	Ninole	12/14/2023 1:23 PM
16	Papa'aloa	12/14/2023 1:19 PM
17	Ninole	12/14/2023 11:10 AM
18	Ninole	12/14/2023 9:00 AM
19	Laupahoehoe	12/14/2023 8:49 AM
20	Laupahoehoe	12/13/2023 5:10 PM
21	Waipunalei	12/13/2023 12:30 PM
22	Laupahoehoe	12/13/2023 10:21 AM

23	Laupahoehoe	12/13/2023 7:13 AM
24	Hakalau	12/13/2023 6:33 AM
25	Papaaloa	12/13/2023 6:05 AM
26	Laupahoehoe	12/12/2023 7:14 PM

Q3 What was the reason for your most recent visit/use of Pāpa‘aloa Park? Please describe.

Answered: 26 Skipped: 0

#	RESPONSES	DATE
1	Walking recreationally	12/19/2023 8:17 AM
2	Just to see improvements	12/18/2023 4:25 PM
3	Played pickle ball. Before pickle ball becaMe an activity locally, I went to the gym to play and watch keiki play volleyball.	12/18/2023 11:30 AM
4	Volleyball	12/18/2023 11:13 AM
5	Blessing and opening of the annex building	12/18/2023 10:28 AM
6	Walking	12/18/2023 10:25 AM
7	Children’s crafts	12/16/2023 7:33 AM
8	walk my dog	12/15/2023 7:08 PM
9	Watching pickle ball	12/15/2023 1:09 PM
10	I haven’t used it yet. No gym.	12/14/2023 6:05 PM
11	I take my kids to go run around down there.	12/14/2023 5:12 PM
12	Playing pick	12/14/2023 4:16 PM
13	look at the land	12/14/2023 3:44 PM
14	outdoor time in the park	12/14/2023 2:46 PM
15	pickleball	12/14/2023 1:23 PM
16	To talk to Matt and donate sports equipment.	12/14/2023 1:19 PM
17	Pickleball	12/14/2023 11:10 AM
18	Halloween event, manning table for candy distribution representing Pickleball group	12/14/2023 9:00 AM
19	Will be taking my special needs daughter to practice her softball.	12/14/2023 8:49 AM
20	Community Activity- Halloween	12/13/2023 5:10 PM
21	Reopening ceremony	12/13/2023 12:30 PM
22	Halloween function, prior to that it was playing basketball in the former gym complex that got condemned and torn down.	12/13/2023 10:21 AM

23	Sports Practices for my children	12/13/2023 7:13 AM
24	Halloween event	12/13/2023 6:33 AM
25	Attending a community meeting	12/13/2023 6:05 AM
26	I last visited the park for a meeting some months ago about replacing the gym.	12/12/2023 7:14 PM

Q4 Approximately when was this?

Answered: 24 Skipped: 2

ANSWER CHOICES	RESPONSES	
Date	100.00%	24

#	DATE	DATE
1	11/17/2023	12/19/2023 8:17 AM
2	09/01/2023	12/18/2023 4:25 PM
3	10/01/2022	12/18/2023 11:30 AM
4	10/01/2022	12/18/2023 10:28 AM
5	12/12/2023	12/18/2023 10:25 AM
6	01/22/2020	12/16/2023 7:33 AM
7	12/15/2023	12/15/2023 7:08 PM
8	12/04/2023	12/15/2023 1:09 PM
9	12/14/2021	12/14/2023 5:12 PM
10	12/12/2023	12/14/2023 4:16 PM
11	12/08/2023	12/14/2023 3:44 PM
12	12/02/2023	12/14/2023 2:46 PM
13	12/13/2023	12/14/2023 1:23 PM
14	10/20/2023	12/14/2023 1:19 PM
15	12/08/2023	12/14/2023 11:10 AM
16	10/26/2023	12/14/2023 9:00 AM
17	12/17/2023	12/14/2023 8:49 AM
18	10/26/2023	12/13/2023 5:10 PM
19	04/08/2023	12/13/2023 12:30 PM
20	10/15/2023	12/13/2023 10:21 AM

21	12/05/2023	12/13/2023 7:13 AM
22	10/28/2023	12/13/2023 6:33 AM
23	10/19/2023	12/13/2023 6:05 AM
24	08/10/2023	12/12/2023 7:14 PM

Q5 What was the last community-wide gathering/event that was hosted at Pāpa‘aloa Park that you remember (even if you didn’t attend)? (Name/describe function)

Answered: 26 Skipped: 0

#	RESPONSES	DATE
1	Halloween car trick-or-treating	12/19/2023 8:17 AM
2	Food and nutrition Christmas parties	12/18/2023 4:25 PM
3	Annual Trunk or Treat event for Halloween.	12/18/2023 11:30 AM
4	Protesting tear down of gym	12/18/2023 11:13 AM
5	Blessing and opening of the annex building	12/18/2023 10:28 AM
6	Halloween festivities	12/18/2023 10:25 AM
7	Early 2020	12/16/2023 7:33 AM
8	Halloween trunk or treat	12/15/2023 7:08 PM
9	None	12/15/2023 1:09 PM
10	I used to use gym for our hula practices	12/14/2023 6:05 PM
11	The meeting!When the gym was getting demolished.	12/14/2023 5:12 PM
12	The opening ceremony of the reopening of the Annex building and the tennis/pickleball courts (April 8th, 2023).	12/14/2023 4:16 PM
13	meeting about the gym removal	12/14/2023 3:44 PM
14	Halloween trunk or treat	12/14/2023 2:46 PM
15	dedication	12/14/2023 1:23 PM
16	Trunk or Treat, Halloween	12/14/2023 1:19 PM
17	Halloween	12/14/2023 11:10 AM
18	Halloween	12/14/2023 9:00 AM
19	Its been a very long time since the gym wasn't being repaired. The biggest event I seen there was a tournament for baseball, volleyball and basket ball with vendors selling food.	12/14/2023 8:49 AM
20	Halloween Activity 10/26/23 Easily more than 200 people in attendance.	12/13/2023 5:10 PM

21	Reopening ceremony	12/13/2023 12:30 PM
22	Halloween event	12/13/2023 10:21 AM
23	Halloween event	12/13/2023 7:13 AM
24	Halloween Event	12/13/2023 6:33 AM
25	The Halloween party and trick or treat	12/13/2023 6:05 AM
26	Town Hall meeting with MitchbRoth	12/12/2023 7:14 PM

Q6 How many people attended?

Answered: 26 Skipped: 0

#	RESPONSES	DATE
1	80	12/19/2023 8:17 AM
2	20	12/18/2023 4:25 PM
3	100	12/18/2023 11:30 AM
4	200	12/18/2023 11:13 AM
5	60	12/18/2023 10:28 AM
6	150	12/18/2023 10:25 AM
7	53	12/16/2023 7:33 AM
8	150	12/15/2023 7:08 PM
9	0	12/15/2023 1:09 PM
10	6	12/14/2023 6:05 PM
11	100	12/14/2023 5:12 PM
12	60	12/14/2023 4:16 PM
13	80	12/14/2023 3:44 PM
14	40	12/14/2023 2:46 PM
15	40	12/14/2023 1:23 PM
16	50	12/14/2023 1:19 PM
17	65	12/14/2023 11:10 AM
18	100	12/14/2023 9:00 AM
19	150	12/14/2023 8:49 AM
20	200	12/13/2023 5:10 PM
21	2	12/13/2023 12:30 PM
22	150	12/13/2023 10:21 AM

23	100	12/13/2023 7:13 AM
24	200	12/13/2023 6:33 AM
25	50	12/13/2023 6:05 AM
26	50	12/12/2023 7:14 PM

Q7 What was the last sports activity or event you participated in or attended at Pāpa‘aloa Park? Please describe.

Answered: 25 Skipped: 1

#	RESPONSES	DATE
1	I watched a gent set up a flag and practice golfing	12/19/2023 8:17 AM
2	Many years ago> 10	12/18/2023 4:25 PM
3	Keiki Volleyball. 2018	12/18/2023 11:30 AM
4	Volleyball	12/18/2023 11:13 AM
5	None	12/18/2023 10:28 AM
6	None	12/18/2023 10:25 AM
7	Track-n-field for keiki	12/16/2023 7:33 AM
8	There has been none since I moved here in 2011 that I know of. We used to use the gym for volleyball when the Puas had the key. We followed the basketball kids. This was 2011-2015.	12/15/2023 7:08 PM
9	Pickle ball	12/15/2023 1:09 PM
10	None	12/14/2023 6:05 PM
11	P&R basketball	12/14/2023 5:12 PM
12	Pickleball	12/14/2023 4:16 PM
13	walk around the grounds	12/14/2023 3:44 PM
14	PNR basketball and boxing classes	12/14/2023 2:46 PM
15	pickleball	12/14/2023 1:23 PM
16	Pickleball	12/14/2023 1:19 PM
17	Not sports, community trick or treat	12/14/2023 11:10 AM
18	Pickleball	12/14/2023 9:00 AM
19	Open Gym/Freeplay Basketball and Volleyball	12/13/2023 5:10 PM
20	Trunk or treat a few years ago	12/13/2023 12:30 PM

21	Basketball in the former gym	12/13/2023 10:21 AM
22	Basketball Keiki	12/13/2023 7:13 AM
23	Before they tore down the gym.	12/13/2023 6:33 AM
24	Pickleball	12/13/2023 6:05 AM
25	I have walked around the ball field.	12/12/2023 7:14 PM

Q8 Approximately when was this?

Answered: 23 Skipped: 3

ANSWER CHOICES	RESPONSES	
Date / Time	100.00%	23

#	DATE / TIME	DATE
1	11/13/2023	12/19/2023 8:17 AM
2	09/01/2013	12/18/2023 4:25 PM
3	09/01/2018	12/18/2023 11:30 AM
4	06/10/2020	12/18/2023 11:13 AM
5	04/08/2023	12/18/2023 10:28 AM
6	12/30/2023	12/18/2023 10:25 AM
7	05/08/2019	12/16/2023 7:33 AM
8	12/15/2023	12/15/2023 7:08 PM
9	12/04/2023	12/15/2023 1:09 PM
10	03/01/2012	12/14/2023 5:12 PM
11	12/12/2023	12/14/2023 4:16 PM
12	12/06/2023	12/14/2023 3:44 PM
13	06/14/2016	12/14/2023 2:46 PM
14	12/13/2023	12/14/2023 1:23 PM
15	12/01/2023	12/14/2023 1:19 PM
16	10/26/2023	12/14/2023 11:10 AM
17	12/08/2023	12/14/2023 9:00 AM
18	06/01/2019	12/13/2023 5:10 PM
19	10/30/2019	12/13/2023 12:30 PM
20	10/20/2023	12/13/2023 10:21 AM

21	01/01/2019	12/13/2023 6:33 AM
22	07/14/2023	12/13/2023 6:05 AM
23	11/30/2023	12/12/2023 7:14 PM

Q9 What was the last non-sports activity or event you participated in or attended at Pāpa‘aloa Park? Please describe.

Answered: 24 Skipped: 2

#	RESPONSES	DATE
1	Halloween car trick-or-treating	12/19/2023 8:17 AM
2	Voting Haunted house	12/18/2023 4:25 PM
3	Community meetings.	12/18/2023 11:30 AM
4	Protest at gym tear down	12/18/2023 11:13 AM
5	Too long to remember	12/18/2023 10:28 AM
6	Halloween	12/18/2023 10:25 AM
7	Fill up water	12/16/2023 7:33 AM
8	Line dancing with Carol, in the new activity center.	12/15/2023 7:08 PM
9	None	12/15/2023 1:09 PM
10	Hula practices	12/14/2023 6:05 PM
11	Halloween party	12/14/2023 5:12 PM
12	The Re-Opening Ceremony on April 8, 2023 Also many eventful days of playing pickleball.	12/14/2023 4:16 PM
13	meeting about gym being removed	12/14/2023 3:44 PM
14	halloween trunk or treat	12/14/2023 2:46 PM
15	Park Grand Opening	12/14/2023 1:19 PM
16	Pockleball	12/14/2023 11:10 AM
17	Halloween	12/14/2023 9:00 AM
18	There hasn't been any that I know of	12/14/2023 8:49 AM
19	Private Family Party	12/13/2023 5:10 PM
20	Trunk or treat	12/13/2023 12:30 PM
21	Halloween function	12/13/2023 10:21 AM

22	Halloween event	12/13/2023 6:33 AM
23	Opening of annex	12/13/2023 6:05 AM
24	See answer to previous question	12/12/2023 7:14 PM

Q10 Approximately when was this?

Answered: 17 Skipped: 9

ANSWER CHOICES	RESPONSES	
Date / Time	100.00%	17

#	DATE / TIME	DATE
1	10/28/2023	12/19/2023 8:17 AM
2	09/01/2013	12/18/2023 4:25 PM
3	10/27/2023	12/18/2023 10:25 AM
4	11/02/2023	12/16/2023 7:33 AM
5	09/01/2023	12/15/2023 7:08 PM
6	12/01/2023	12/15/2023 1:09 PM
7	10/27/2023	12/14/2023 5:12 PM
8	04/08/2023	12/14/2023 4:16 PM
9	10/31/2020	12/14/2023 2:46 PM
10	09/15/2023	12/14/2023 1:19 PM
11	12/08/2023	12/14/2023 11:10 AM
12	10/26/2023	12/14/2023 9:00 AM
13	09/10/2023	12/13/2023 5:10 PM
14	12/13/2019	12/13/2023 12:30 PM
15	10/15/2023	12/13/2023 10:21 AM
16	04/08/2023	12/13/2023 6:05 AM
17	11/30/2023	12/12/2023 7:14 PM

Q11 Other than Pāpa‘aloa Park, what County Park(s) do you visit/use most often and for what purpose(s)? Please list park(s) and corresponding uses.(e.g. Pahoa Park - running)

Answered: 26 Skipped: 0

#	RESPONSES	DATE
1	Richardson's Beach, Puako -- snorkeling; Akaka Falls -- hiking	12/19/2023 8:17 AM
2	Laupahoehoe point	12/18/2023 4:25 PM
3	Laupāhoehoe Point Beach Park. Swimming, walking, relaxing, parties, memorials.	12/18/2023 11:30 AM
4	Laupahoehoe point park - swimming	12/18/2023 11:13 AM
5	Lili`uokalani Gardens - walking	12/18/2023 10:28 AM
6	None	12/18/2023 10:25 AM
7	Laupahoehoe Point- group activities, swimming, kickball, volleyball Richardsons -swimming Isaac Hale	12/16/2023 7:33 AM
8	Laupahoehoe Point for swimming, walking, pilates class on the grass or in the gym, line dancing.	12/15/2023 7:08 PM
9	None	12/15/2023 1:09 PM
10	Laupahoehoe and Liliuokalani	12/14/2023 6:05 PM
11	Wainaku gym, Honokaa gym for basketball free play	12/14/2023 5:12 PM
12	Panaewa Gym: To play pickleball when I am visiting Hilo on a day I do errands in Hilo town.	12/14/2023 4:16 PM
13	beach parks for swimming	12/14/2023 3:44 PM
14	n/a	12/14/2023 2:46 PM
15	Richardson's , swimming	12/14/2023 1:23 PM
16	Tennis Stadium - Hilo - Senior Yoga Class Pool - Hilo - Lap Swimming	12/14/2023 1:19 PM
17	None	12/14/2023 11:10 AM
18	None	12/14/2023 9:00 AM
19	Honokaa gym and softball field for my daughter for special olympics	12/14/2023 8:49 AM
20	Laupahoehoe Point Beach Park	12/13/2023 5:10 PM
21	Laupahoehoe park line dance, Na Waiwai, line dance class, Xmas party, Pau Hana	12/13/2023 12:30 PM

22	Laupahoehoe point gym every Monday and Wednesday from 330-5pm for basketball practice.	12/13/2023 10:21 AM
23	Honokaa- playground Waimea- playground	12/13/2023 7:13 AM
24	Hakalau Veteran Park to play on the court and field there Laupahoehoe Point park for parties, playing in the ocean, basketball laupahoehoe pool -diving board, swim	12/13/2023 6:33 AM
25	Bayfront trail-walking	12/13/2023 6:05 AM
26	Kamana Senior Center	12/12/2023 7:14 PM

Q12 How far from Pāpa‘aloa are you willing to travel to access public recreational facilities and for what use(s)? Please provide travel time and/or distance with corresponding use(s) (e.g. 60 min - football field)

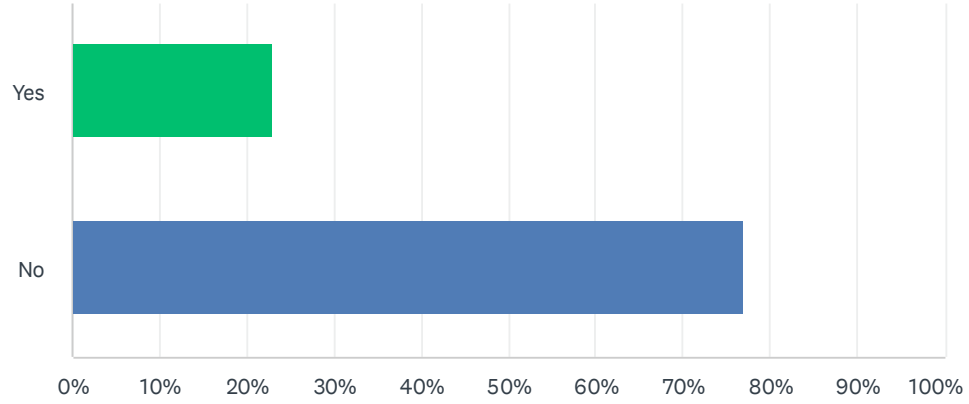
Answered: 26 Skipped: 0

#	RESPONSES	DATE
1	Snorkeling -- 90 min Hiking -- 30 min Basketball -- 10 min	12/19/2023 8:17 AM
2	Depends on activity	12/18/2023 4:25 PM
3	I prefer to stay in my neighborhood.	12/18/2023 11:30 AM
4	None	12/18/2023 11:13 AM
5	It really depends on sport, who is participating, etc.	12/18/2023 10:28 AM
6	30 minutes, swimming or hiking	12/18/2023 10:25 AM
7	15min	12/16/2023 7:33 AM
8	Kawamoto Swimming Pool, Hilo, 26 miles.	12/15/2023 7:08 PM
9	10 miles 10minutes	12/15/2023 1:09 PM
10	Willing isn’t quite the word here.. forced to travel into Hilo for hula	12/14/2023 6:05 PM
11	20 miles, for basketball	12/14/2023 5:12 PM
12	I prefer to have all my future recreational needs and interests to be available to me at Papaaloa Park so I dont have to waste time and gas money driving. We need a new gym ASAP!	12/14/2023 4:16 PM
13	Up to 1 1/2 hr for swimming or a hiking trail But obviously not very often	12/14/2023 3:44 PM
14	n/a	12/14/2023 2:46 PM
15	25 minutes, beach	12/14/2023 1:23 PM
16	I'd like to have activities right here in Papa'aloa, but we are forced to travel 30-45 minutes because there is little or nothing here now. Thanks for opening the Laupahoehoe pool. Please fix the indoor showers.	12/14/2023 1:19 PM
17	10 miles	12/14/2023 11:10 AM
18	Unwilling to travel farther than Papa'aloa	12/14/2023 9:00 AM
19	30 minutes to practice softball	12/14/2023 8:49 AM

20	10-15 minutes for basketball	12/13/2023 5:10 PM
21	4 miles	12/13/2023 12:30 PM
22	45-60mins travel time, and to utilize other gyms to play basketball in.	12/13/2023 10:21 AM
23	15min	12/13/2023 7:13 AM
24	20 miles (30 min) for sport events for the kids	12/13/2023 6:33 AM
25	30 minutes-walking trails	12/13/2023 6:05 AM
26	I want a local park with lots of activities for adults and seniors.	12/12/2023 7:14 PM

Q13 Do you (or your minor children) intend to participate in a baseball/softball related use at Pāpa‘aloa Park in the near future?

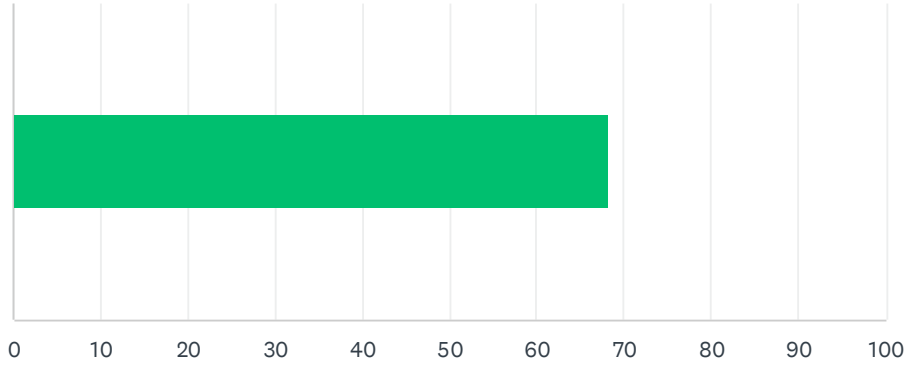
Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	23.08%	6
No	76.92%	20
TOTAL		26

Q14 For your baseball/softball use: how important is it to host official games at Pāpa‘aloa Park on a regulation field?

Answered: 6 Skipped: 20

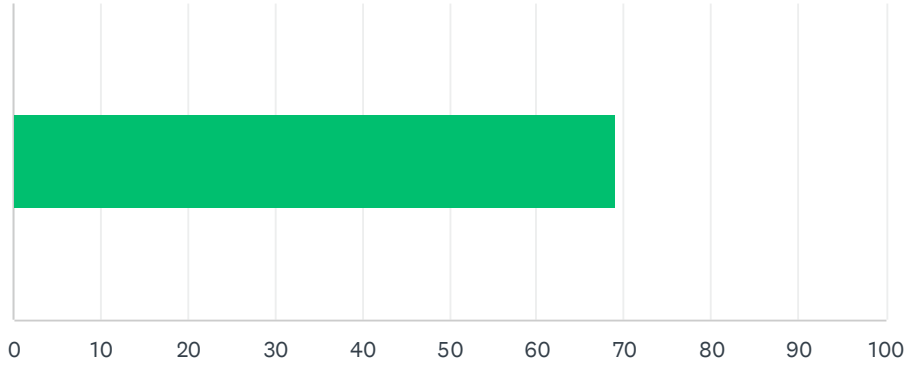


ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	68	409	6
Total Respondents: 6			

#		DATE
1	100	12/16/2023 7:34 AM
2	63	12/14/2023 2:46 PM
3	75	12/14/2023 8:52 AM
4	70	12/13/2023 5:11 PM
5	86	12/13/2023 7:14 AM
6	15	12/13/2023 6:37 AM

Q15 For your baseball/softball use: how willing are you to use the park for targeted skills training (such as infield practice and base running) only?

Answered: 6 Skipped: 20

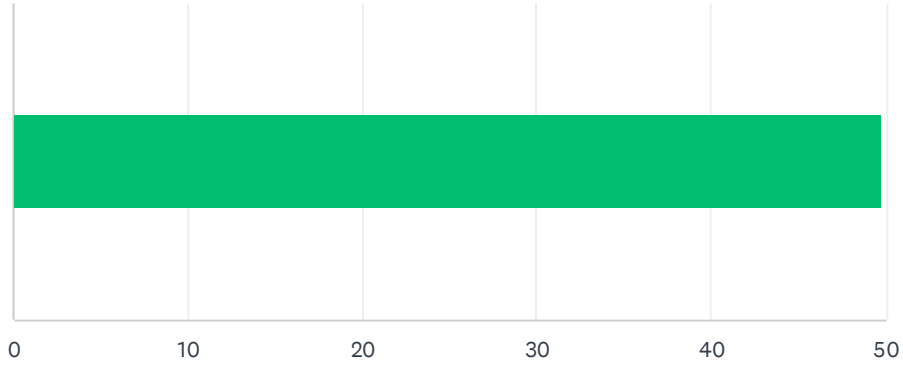


ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	69	414	6
Total Respondents: 6			

#		DATE
1	100	12/16/2023 7:34 AM
2	68	12/14/2023 2:46 PM
3	80	12/14/2023 8:52 AM
4	95	12/13/2023 5:11 PM
5	6	12/13/2023 7:14 AM
6	65	12/13/2023 6:37 AM

Q16 For your baseball/softball use: Would you be willing to practice on an open grassed area that is smaller than a regulation field?

Answered: 6 Skipped: 20

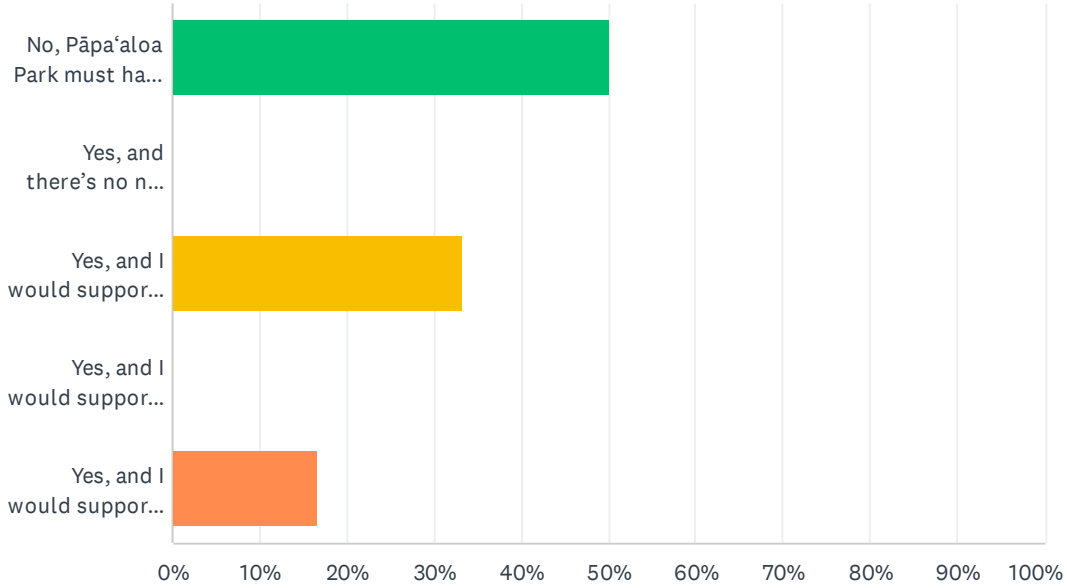


ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	50	299	6
Total Respondents: 6			

#		DATE
1	10	12/16/2023 7:34 AM
2	60	12/14/2023 2:46 PM
3	1	12/14/2023 8:52 AM
4	95	12/13/2023 5:11 PM
5	53	12/13/2023 7:14 AM
6	80	12/13/2023 6:37 AM

Q17 Would you support eliminating the existing regulation baseball/softball field use at Pāpa‘aloa Park?

Answered: 6 Skipped: 20

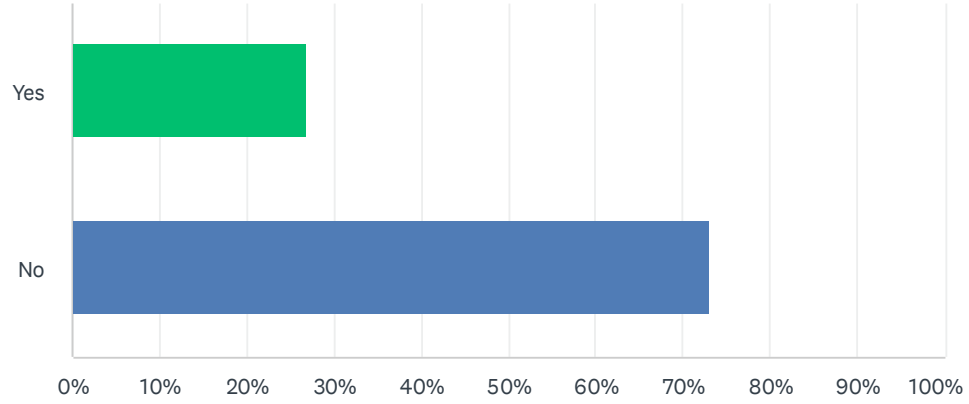


ANSWER CHOICES	RESPONSES	
No, Pāpa‘aloa Park must have a regulation baseball/softball field.	50.00%	3
Yes, and there’s no need to rebuild it anywhere.	0.00%	0
Yes, and I would support relocating it to Laupāhoehoe Pt. Park.	33.33%	2
Yes, and I would support relocating it to ‘Ō‘ōkala Park.	0.00%	0
Yes, and I would support relocating it to:	16.67%	1
TOTAL		6

#	YES, AND I WOULD SUPPORT RELOCATING IT TO:	DATE
1	Dont relocate it, just make it smaller out field, like the second one that was used on the field already; isn't the score board is already in the wrong place? We make due with what we have been given, which is always less than what other places get. Moving anything to Laupahoehoe Pt is not a wise idea due to the road issues.	12/13/2023 6:37 AM

Q18 Do you (or your minor children) intend to participate in a youth soccer/football related use at Pāpa‘aloa Park in the near future?

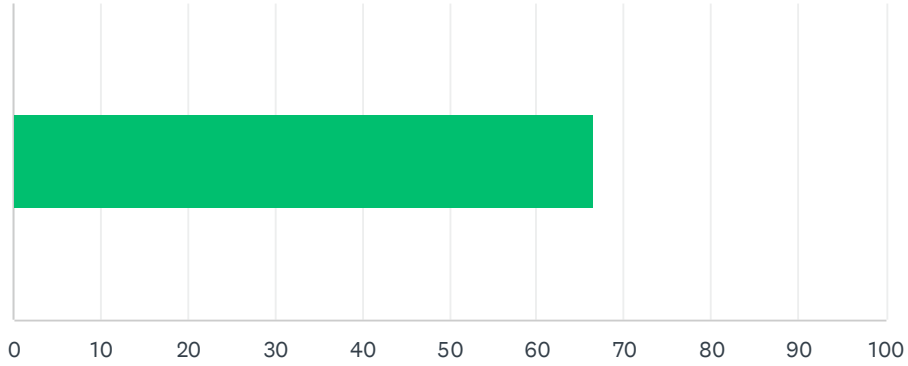
Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	26.92%	7
No	73.08%	19
TOTAL		26

Q19 For your soccer/football use: how important is it to host official games at Pāpa‘aloa Park on a regulation field?

Answered: 7 Skipped: 19

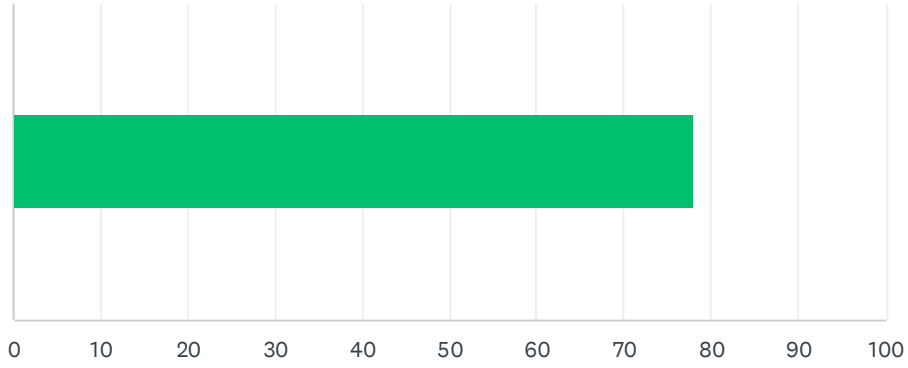


ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	67	466	7
Total Respondents: 7			

#		DATE
1	44	12/18/2023 11:14 AM
2	100	12/16/2023 7:35 AM
3	25	12/14/2023 5:13 PM
4	66	12/14/2023 2:47 PM
5	95	12/13/2023 5:12 PM
6	50	12/13/2023 10:22 AM
7	86	12/13/2023 7:14 AM

Q20 For your soccer/football use: how willing are you to use the park for targeted skills training only?

Answered: 7 Skipped: 19

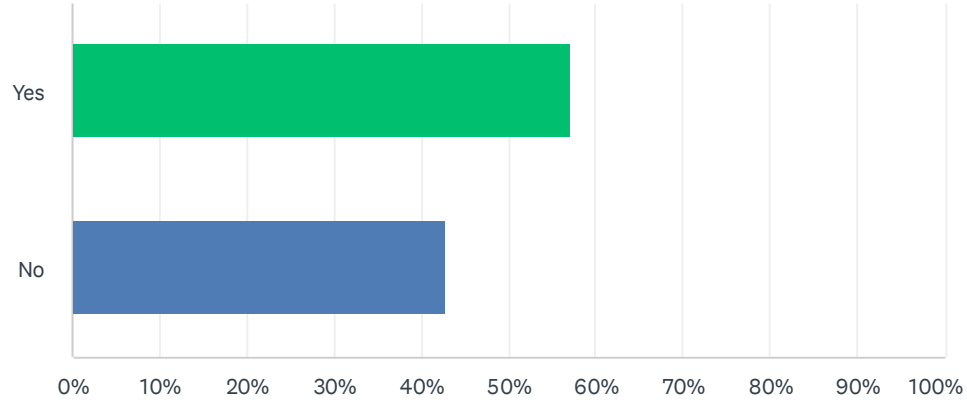


ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	78	546	7
Total Respondents: 7			

#		DATE
1	92	12/18/2023 11:14 AM
2	100	12/16/2023 7:35 AM
3	100	12/14/2023 5:13 PM
4	59	12/14/2023 2:47 PM
5	95	12/13/2023 5:12 PM
6	50	12/13/2023 10:22 AM
7	50	12/13/2023 7:14 AM

Q21 For your soccer/football use: Would you be willing to practice on an open grassed area that is smaller than a regulation field?

Answered: 7 Skipped: 19



ANSWER CHOICES	RESPONSES	
Yes	57.14%	4
No	42.86%	3
TOTAL		7

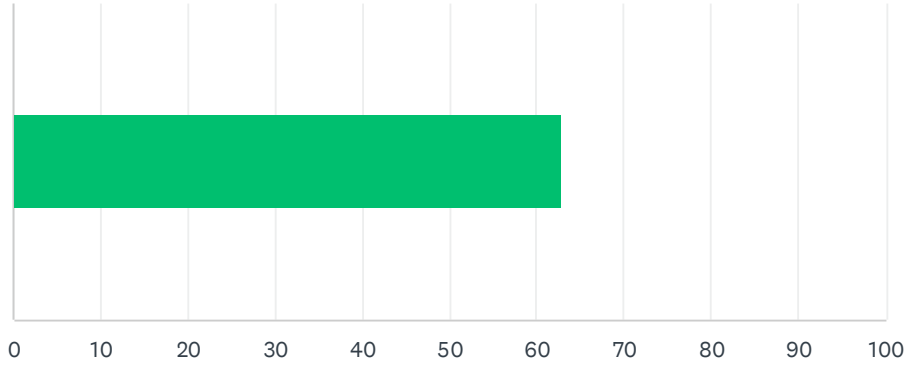
Q22 Do you (or your minor children) intend to participate in a pickleball related use at Pāpa‘aloa Park in the near future?

Answered: 26 Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	46.15%	12
No	53.85%	14
TOTAL		26

Q23 If indoor pickleball courts are accommodated in the covered play court facility, how important is preserving the 4 existing outdoor courts at the park?

Answered: 12 Skipped: 14



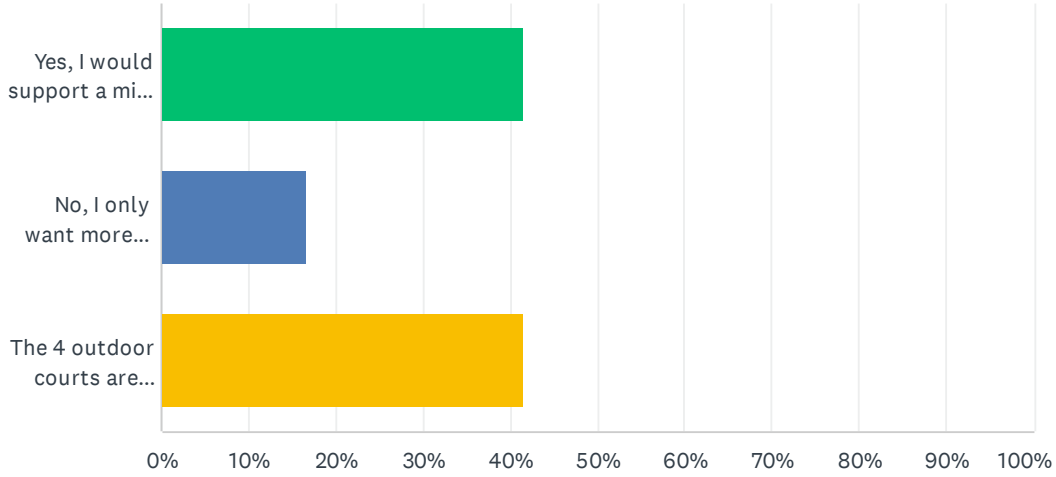
ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	63	754	12
Total Respondents: 12			

#		DATE
1	84	12/19/2023 8:18 AM
2	100	12/18/2023 4:26 PM
3	80	12/18/2023 11:31 AM
4	50	12/18/2023 11:15 AM
5	0	12/16/2023 7:35 AM
6	2	12/15/2023 7:09 PM
7	100	12/14/2023 4:18 PM
8	100	12/14/2023 1:24 PM
9	100	12/14/2023 11:11 AM

10	100	12/14/2023 9:04 AM
11	8	12/13/2023 7:15 AM
12	30	12/13/2023 6:06 AM

Q24 Would the creation of more outdoor pickleball courts satisfy the community’s needs in lieu of only relying on the development of new indoor courts?

Answered: 12 Skipped: 14



ANSWER CHOICES	RESPONSES	
Yes, I would support a mix of new outdoor and indoor courts.	41.67%	5
No, I only want more indoor courts.	16.67%	2
The 4 outdoor courts are sufficient; anything additional is welcome.	41.67%	5
TOTAL		12

Q25 Besides basketball, volleyball, and pickleball, what other sports uses should the facility be designed to accommodate?List all.

Answered: 24 Skipped: 2

#	RESPONSES	DATE
1	Fencing	12/19/2023 8:19 AM
2	Skate park	12/18/2023 4:27 PM
3	None	12/18/2023 11:32 AM
4	None	12/18/2023 11:16 AM
5	Community gatherings, market place	12/18/2023 10:31 AM
6	None	12/18/2023 10:27 AM
7	Karate, ballet,	12/16/2023 7:38 AM
8	martial arts	12/15/2023 7:12 PM
9	Yoga	12/15/2023 1:10 PM
10	Bocce?	12/14/2023 6:07 PM
11	P&R Holiday Activities like before maybe an area for boxing/jiujitsu	12/14/2023 5:20 PM
12	Yoga, line dancing, hula, exercise classes, weights, exercise equipment, table tennis	12/14/2023 4:23 PM
13	excercise classes, in the past boxing was popular for youth	12/14/2023 3:54 PM
14	none	12/14/2023 1:25 PM
15	Yoga	12/14/2023 1:21 PM
16	Ping pong	12/14/2023 11:11 AM
17	None	12/14/2023 9:07 AM
18	softball, baseball	12/14/2023 8:54 AM
19	Volleyball, Archery, tennis, baseball, football, badminton, horse shoes, martial arts, arts and crafts, foods and nutrition, family gatherings or parties.	12/13/2023 5:15 PM
20	Table tennis	12/13/2023 12:33 PM

21	After school programs, summer programs, possibly weights lifting, possibly boxing, dodgeball	12/13/2023 10:25 AM
22	Are we assuming the tennis court remains, we should keep tennis as a sport the whole facility should accomodate	12/13/2023 6:38 AM
23	Dance and martial arts	12/13/2023 6:09 AM
24	Hula, yoga, strength training, meditation, tai chi,, dancing, aerobics, volleyball, balance training, Pilates	12/12/2023 7:20 PM

Q26 Besides sports uses, what other recreational uses should the facility be designed to host? List all.

Answered: 24 Skipped: 2

#	RESPONSES	DATE
1	Concerts, exercise classes, yoga	12/19/2023 8:19 AM
2	Skate park and walking path	12/18/2023 4:27 PM
3	N/a	12/18/2023 11:32 AM
4	None	12/18/2023 11:16 AM
5	Same as above	12/18/2023 10:31 AM
6	Walking & running, hiking, skate park.	12/18/2023 10:27 AM
7	Dramas, concerts, crafts, community readings, movies	12/16/2023 7:38 AM
8	dance, gymnastics, wrestling, yoga/pilates	12/15/2023 7:12 PM
9	Yoga aerobics	12/15/2023 1:10 PM
10	Classes like lei Hulu, hula, lauhala weaving etc	12/14/2023 6:07 PM
11	Partys, Family Gatherings etc	12/14/2023 5:20 PM
12	Concerts, Memorials, Celebrations, Dances, A Farmer's Market	12/14/2023 4:23 PM
13	meetings! family celebrations, holiday needs like a safe place to have halloween, senior group potlucks and classes., community classes of all kind, community family groups as needed (reunions, birthday parties, 1 year old parties,	12/14/2023 3:54 PM
14	concerts, gatherings	12/14/2023 1:25 PM
15	Community Gatherings of any kind	12/14/2023 1:21 PM
16	Social gathering place	12/14/2023 11:11 AM
17	Halloween	12/14/2023 9:07 AM
18	Fundraising tournaments	12/14/2023 8:54 AM
19	Community events and family gatherings.	12/13/2023 5:15 PM
20	Yoga, Pilates, hula, Tai chi, Zumba gold	12/13/2023 12:33 PM

21	any holiday celebration/ event. Community gathering, community voting, any other reason to congregate and meet up as a community.	12/13/2023 10:25 AM
22	meetings, classes - but we have the annex for that.	12/13/2023 6:38 AM
23	Community events like Halloween	12/13/2023 6:09 AM
24	See answers to previous question	12/12/2023 7:20 PM

Q27 Relative to your previous response, what special features are needed in this facility to host those uses?Please describe.

Answered: 24 Skipped: 2

#	RESPONSES	DATE
1	An indoor gym would be most desirable, but I recognize the cost differences.	12/19/2023 8:19 AM
2	No response	12/18/2023 4:27 PM
3	N/a	12/18/2023 11:32 AM
4	None	12/18/2023 11:16 AM
5	Concession area. Seating capacity. Restrooms	12/18/2023 10:31 AM
6	Skate park, trails	12/18/2023 10:27 AM
7	Open covered space with speakers, portable stage	12/16/2023 7:38 AM
8	mostly equipment	12/15/2023 7:12 PM
9	Music	12/15/2023 1:10 PM
10	Covered facility with class rooms, possible kitchen facities	12/14/2023 6:07 PM
11	A stage we have the annex already	12/14/2023 5:20 PM
12	Large Concession Area, A well designed storage area for tables, chairs, and a portable stage, bathrooms, space for a large projection screen, wiring for a built-in sound system.	12/14/2023 4:23 PM
13	the obvious large space completely protected from wind snd rain; Seating and tables available	12/14/2023 3:54 PM
14	kitchen area, portable stage	12/14/2023 1:25 PM
15	A roof to protect people from sun and rain. A dry floor.	12/14/2023 1:21 PM
16	None	12/14/2023 11:11 AM
17	Restrooms	12/14/2023 9:07 AM
18	Scoreboards	12/14/2023 8:54 AM
19	Large open air pavilion type area, kitchen area but no stove or cooking appliances needed. Outdoor cooking area a must. Men’s and women’s restrooms. Adequate Parking.	12/13/2023 5:15 PM
20	Speaker for music, chairs for breaks, a few tables	12/13/2023 12:33 PM

21	Chairs, tables, a GYM.	12/13/2023 10:25 AM
22	No other features, the annex has been sufficient for years	12/13/2023 6:38 AM
23	Storage for bleachers, concession area, and performance area	12/13/2023 6:09 AM
24	Equipment, mats	12/12/2023 7:20 PM

Q28 Do you have any other thoughts on the Pāpa‘aloa Park Master Plan and/or the Covered Play Court facility you’d like to share?

Answered: 21 Skipped: 5

#	RESPONSES	DATE
1	I think rehabilitating the lower site for development is the best use of this land.	12/19/2023 8:23 AM
2	I appreciate all of the thoughtful planning and collaboration.	12/18/2023 11:32 AM
3	Keep it simple and get it done	12/18/2023 11:16 AM
4	It should be a multi-use facility.	12/18/2023 10:31 AM
5	No	12/16/2023 7:38 AM
6	don't waste too much space on extra (48?) parking spaces.	12/15/2023 7:13 PM
7	Not	12/15/2023 1:11 PM
8	Can we look realistically at age demographics here.. most are not playing sports	12/14/2023 6:08 PM
9	Yes	12/14/2023 5:20 PM
10	Baseball should not be a factor at all in deciding the best location for the future gym and how it can be expanded in the future.	12/14/2023 4:28 PM
11	Think about connecting Hongwanji as meeting ctr to upper field	12/14/2023 4:03 PM
12	Single upper play court is aligned in a direction where the rain will blow in very frequently. Should be aligned in the direction of the old gym.	12/14/2023 1:37 PM
13	Let's get this show on the road.	12/14/2023 1:21 PM
14	Build on upper site only	12/14/2023 11:12 AM
15	Why is it so expensive? I think there should be transparency in the breakdown of costs	12/14/2023 9:08 AM
16	Do not take away existing field space to build a facility or parking. muse the adjoining space at the old plantation garage. Never take away; always add. .	12/13/2023 5:17 PM
17	Would love to have it available for community events such as potlucks, talks etc	12/13/2023 12:34 PM
18	That this community really needs GYM. Even if it means to move the field over a little bit to make space, or build on previous grounds whatever it takes really to make this happen.	12/13/2023 10:27 AM
19	The 'covered' playcourt needs to have covered sides due to the wind and rain in the area. The facilities given as examples	12/13/2023 6:45 AM

	(waimea, panaewa) are cold and damp.	
20	Given our limited budget the focus needs to be on locating it in the cheapest way possible and designing the structure that will accommodate multiple uses and phased additions	12/13/2023 6:11 AM
21	Make it more about creating community. Pavilions for picnics. Walking trail. Lots of classes.	12/12/2023 7:31 PM

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APPENDIX C

Natural Resources Assessment

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AECOS No. 1795

A natural resources assessment for Pāpaʻaloa Park, Island of Hawaiʻi

AECOS Inc.
45-939 Kamehameha Highway
Suite 104
Kāneʻohe, Hawaiʻi 96744

January 29, 2024

A natural resources assessment for Pāpaʻaloa Park, Island of Hawaiʻi

January 29, 2024 *AECOS* No. 1795

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Introduction

The County of Hawaiʻi is developing a master plan and Phase I development for Pāpaʻaloa Park, located off Skill Camp Road (Old Mamalahoa Hwy.) in Pāpaʻaloa, District of North Hilo, Island of Hawaiʻi (Figure 1). The county has contracted KYA to develop the master plan and coordinate with various state and county agencies. KYA hired *AECOS* Inc. to undertake a natural resources assessment for the subject property as a contribution to the Environmental Assessment (EA). This report details findings of that survey and assessment[1].

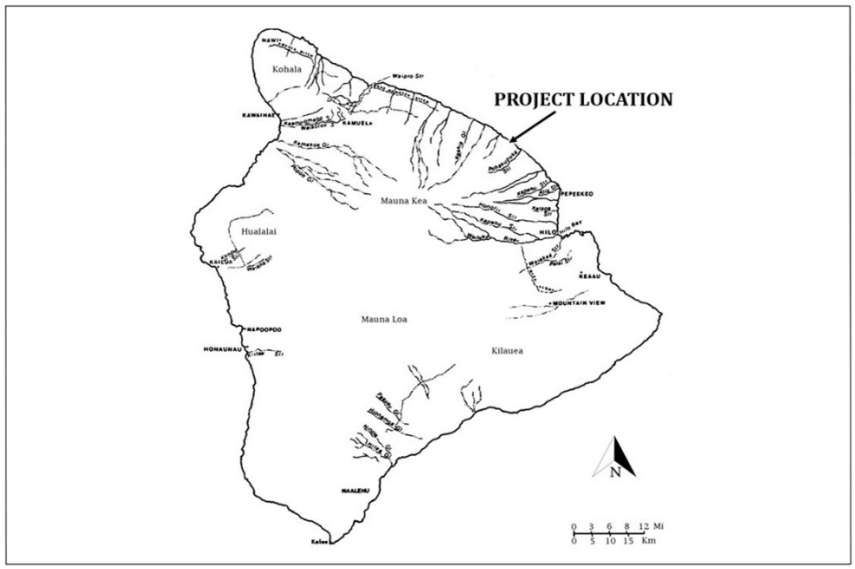

Figure 1. Project location on the Island of Hawai'i.

[1] This report was prepared for KYA and is intended to become part of the public record by incorporation into an EA for the subject project.

Site Description

Pāpa'aloa Park consist of two distinct areas: a well-maintained park facility with a playing field, community annex building, and tennis/pickleball courts covering a little more than one-third of the site (TMK: [3] 3-5-003:088); and areas undeveloped or once supporting light industrial use in the distant past and now overgrown with vegetation (TMK: [3] 3-5-003:055). The undeveloped parts of the property include a grass-covered swale and a forested border along the seaward side of the property where the developed park drops abruptly to a forested shelf that broadens westward into the area of old industrial buildings.

Figure 2. Map of the Project area (outlined in red) in Pāpa'aloa, Hawai'i Island.

Methods

Botanical Survey

AECOS botanists, Eric Guinther and Gioconda Lopez, surveyed the Project site on October 17, 2023. Plant species were identified as they were encountered during wandering transects that covered the survey area. Species names follow *Manual of the Flowering Plants of Hawai'i* (Wagner, Herbst, & Sohmer, 1990;

Wagner & Herbst, 1999) for native and naturalized flowering plants, *Hawai'i's Ferns and Fern Allies* (Palmer, 2003), and *Taxonomic and Nomenclatural Updates to the Fern and Lycophyte Flora of the Hawaiian Islands* (Ranker et al, 2019) for ferns, and *A Tropical Garden Flora* (Staples & Herbst, 2005) for ornamental plants. More recent name changes for naturalized plant species follow Imada (2019).

Terrestrial Vertebrates Survey

Avian Survey

An avian survey was conducted by Reginald David on the morning of October 20, 2023. Three avian point count stations were established approximately evenly spaced over the survey area. A single eight-minute count was conducted at each of the count stations. Birds were identified by visual observations aided by Leica 10 X 42 binoculars, and by listening for vocalizations. Weather conditions were ideal with unlimited visibility, no precipitation, and winds between 1 and 10 kilometers per hour. The avian phylogenetic order and nomenclature used in this report follows the AOU *Check-List of North and Middle American Birds* (Chesser et al., 2023).

Mammalian Survey

The *AECOS* biologists made a list of mammals encountered during the survey. Indicators of mammalian presence such as tracks, scat, and other sign were noted. Mammalian phylogenetic order and nomenclature follow *Mammal Species of the World* (Wilson and Reeder, 2005) and, for Hawaiian hoary bat, Pinzari et al. (2020).

Results

Vegetation

The vegetation on the site is quite variable. The developed park is landscaped and dominated by a lawn used as a playing field. Trees surround this area in an arc that extends from Skill Camp Road behind the tennis/pickle ball courts to the far northeast end of the playing field, planted along the top of a steep slope. Below the slope on the west is an area of abandoned industrial-type buildings reached through a gate on the north edge of the property. The former industrial site is overgrown although paved roads connecting the buildings are open. A swale within this area is overgrown with mostly large grasses. The northwest

corner of the property encompasses an area in landscaping (mostly in lawn), presumably for or by the adjacent property.

Flora

A listing of plants recorded during the October 2023 survey is presented as Table 1 and shows 105 species observed as occurring in the survey area. Six (6%) are indigenous native species: two "ferns", *pala'a* (*Sphenomeris chinensis*) and *moa* (a fern ally, *Psilotum nudum*); and four flowering plants: sedge (*Cyperus polystachyos),* a grass, *manienie* (*Chrysopogon aciculatus*), *hala* (*Pandanus tectorius*), and *milo* tree (*Thespesia populnea*). Early Polynesian introductions listed number three (3%): *niu* (*Cocos nucifera*), *kī* (*Cordyline fruticosa*), and *mai'a* (*Musa acuminata*). Thirteen (12%) are regarded as ornamentals, these mostly as plantings within the park or along the hillslope at the far south end of the park lawn. The remainder (83 or 79%) are introduced and naturalized plants (non-natives growing wild).

Table 1. Plant species observed at Pāpa'aloa Park, October 2023.

Species	Common name	Status	Abundance	Notes
FERNS AND FERN ALLIES				
ASPLENIACEAE				
Asplenium sp.	---	**?**	R	<1>
BLECHNACEAE				
Blechnum appendiculatum Willd.	---	Nat	R	
LINDSAEACEAE				
Odontosoria chinensis (L.) J. Sm.	*pala'a*	**Ind**	R	
NEPHROLEPIDACEAE				
Nephrolepis brownii (Desv.) Hovenkamp & Miyam.	---	Nat	U	
POLYPODIACEAE				
Phlebodium aureum (L.) J. Sm.	rabbit's-foot fern	Nat	R	
PSILOTACEAE				
Psilotum nudum (L.) P. Beauv.	*moa*	**Ind**	R	
PTERIDACEAE				
Pityrogramma calomelanos (L.) Link.	silver fern	Nat	R	
Adiantum hispidulum Sw.	rough maidenhair	Nat	R	

Table 1 (continued).

Species	Common name	Status	Abundance	Notes
	FLOWERING PLANTS MAGNOLIIDS			
LAURACEAE				
Persea americana Mill.	avocado	Nat	R	
	FLOWERING PLANTS MONOCOTS			
ARACEAE				
Epipremnum pinnatum (L.) Engler	pothos	Nat	C	
Monstera delicosa Liebm.	monstera	Orn	R	
*Philodendron pinnatifidum (*Jacq.) Schott	---	Nat?	R	
Syngonium sp.	nephthytis	Nat	C	
ARECACEAE				
Archontophoenix alexandrae (F. Muell.) H. Wendl.	Alexandra palm	Orn	R	
Cocos nucifera L.	*niu*, coconut	**Pol**	O	
Pritchardia sp.	*loulu*	Orn	R	<1>
ASPARAGACEAE				
Cordyline fruticosa (L.) A. Chev.	*kī*	**Pol**	O	
Dracaena marginata Lam.	money tree	Orn	R	
Dracaena fragrans (L.) Ker Gawl.	fragrant dracaena	Orn	R	
CANNACEAE				
Canna indica L.	Indian-shot	Nat	R	
COMMELINACEAE				
Commelina diffusa N. L. Burm.	day flower	Nat	R	
Tradescantia zebrina Bosse	wandering-jew	Orn	R	
CYPERACEAE				
Cyperus polystachyos Rottb.	---	**Ind**	U	
Cyperus rotundus L.	nut grass, *kili'o'opu*	Nat	U	
Kylinga mindorensis Steud.	kyllinga; *kili'o'opu*	Nat	R	
Kylinga brevifolia Rottb.	kyllinga; *kili'o'opu*	Nat	U	
HELICONIACEAE				
Heliconia cf. *latispatha* Benth.	---	Orn	R	<1>
HYPOXIDACEAE				
Molineria capitulata (Lour.) Herb.	molineria	Orn	U	
MUSACAEAE				
Musa acuminata Colla	hybrid banana	**Pol**	U	
PANDANACEAE				
Pandanus tectorius S. Parkinson ex Z	*hala*	**Ind**	R	

Table 1 (continued).

Species	Common name	Status	Abundance	Notes
POACEAE				
Axonopus fissifolius (Raddi) Kuhlm.	nrw-lvd carpetgrass	Nat	O	
Cenchrus purpureus (Schumach.) Marrone	elephant grass	Nat	O	
Chrysopogon aciculatus (Retz.) Trin.	*manienie*	**Ind?**	R	
Cynodon dactylon (L.) Pers.	Bermuda grass	Nat	C	
Eragrostis brownei (Kunth) Nees ex Steud.	sheep grass	Nat	U	
Eleusine indica (L.) Gaertn.	wiregrass	Nat	U	
Eragrostis amabilis (L.) Wight & Arnott	Japanese lovegrass	Nat	U	
Eragrostis pectinacea (Michx.) Nees	Carolina lovegrass	Nat	U	
Megathyrsus maximus (Jacq.) B.K. Simon & W.L. Jacobs	Guinea grass	Nat	C	
Oplismenus hirtellus (L.) P. Beauv.	basket grrass	Nat	U	
Paspalum conjugatum Bergius	Hilo grass	Nat	C	
Paspalum notatum Flüggé	Bahia grass	Nat	AA	
Sacciolepis indica (L.) Chase	Glenwood grass	Nat	O	
Sporobolus diandrus (Retz.) P. Beauv.	Indian dropseed	Nat	U	
Sporobolus sp.	rat tail grass	Nat	O	
FLOWERING PLANTS				
EUDICOTS				
ACANTHACEAE				
Justicia betonica L.	white shrimp plant	Nat	U	
AMARANTHACEAE				
Amaranthus spinosus L.	spiny amaranth	Nat	R	
ANACARDIACEAE				
Mangifera indica L.	mango	Nat	O	
ARALIACEAE				
Polyscias guilfoylei (W. Bull) L.H. Bailey	panax	Orn	R	
Heptapleurum actinophyllum (Endl.) Lowrey & G.M. Plunkett	octopus tree	Nat	O	
ASTERACEAE				
Ageratum conyzoides L.	*maile hohono*	Nat	R	
Conyza bonariensis (L.) Cronq.	hairy horseweed	Nat	R	
Emilia sonchifolia (L.) Raf. var. *sonchifolia*	Flora's paintbrush	Nat	R	

Table 1 (continued).

Species	Common name	Status	Abundance	Notes
ASTERACEAE (cont.)				
Sonchus oleraceus L.	sow thistle	Nat	R	
Synedrella nodiflora (L.) Gaertn.	nodeweed	Nat	O	
Spagneticola trilobata (L.) Pruski	wedelia	Nat	O	
Tridax procumbans L.	coat buttons	Nat	R	
BALSAMINACEAE				
Impatiens walleriana J. D. Hook.	busy-lizzy	Orn	R	
BIGNONIACEAE				
Spathodea campanulata P. Beauv.	African tulip tree	Nat	O	
CANNABACEAE				
Trema orientalis (L.) Blume	gunpowder tree	Nat	R	
CARICACEAE				
Carica papaya L.	papaya	Nat	R	
CASSUARINACEAE				
Cassuarina equisetifolia L.	common ironwood	Nat	R	
COMBRETACEAE				
Terminalia catappa L.	tropical almond	Nat	R	
CONVOLVULACEAE				
Distimake aegyptius (L.) Simões & Staples	hairy merremia	Nat	U	
Ipomoea obscura (L.) Ker-Gawl.	---	Nat	R	
Ipomoea trilobata L.	little bell	Nat	U	
CUCURBITACEAE				
Momordica charantia L.	balsam pear	Nat	U	
EUPHORBIACEAE				
Ricinus communis L.	castor bean	Nat	O	
Euphorbia hirta L.	garden spurge	Nat	U	
Euphorbia heterophylla L.	*kaliko*	Nat	U	
Euphorbia hypericifolia L.	graceful spurge	Nat	R	
Euphorbia hyssopifolia L.	spurge	Nat	U	
Macaranga tanarius (L.) Mull. Arg.	---	Nat	O	
Phyllanthus debilis Klein ex Willd.	niuri	Nat	U	
FABACEAE				
Alysicarpus vaginalis (L.) DC.	Alyce clover	Nat	U	
Canavalia cathartica Thouars	*maunaloa*	Nat	O	
Chamaecrista nictitans (L.) Moench	partridge pea	Nat	U	
Crotalaria incana L.	fuzzy rattlepod	Nat	R	
Crotalaria micans Link	---	Nat	U	
Crotalaria pallida Aiton	smooth rattlepod	Nat	R	
Desmanthus virgatus (L.) Willd.	virgate mimosa	Nat	U	
Desmodium tortuosum (Sw.) DC.	Florida beggarweed	Nat	O	
Desmodium triflorum (L.) DC.	---	Nat	U	

Table 1 (continued).

Species	Common name	Status	Abundance	Notes
FABACEAE (cont.)				
Indigofera suffruticosa Mill.	indigo	Nat	R	
Leucaena leucocephala (Lam.) deWit	*koa haole*	Nat	O	
Mimosa pudica L. var. *unijuga* (Duchass. & Walp.) Griseb.	sensitive plant	Nat	O	
Neonotonia wightii (Wight & Arnott) Lackey	glycine vine	Nat	U	<1>
Senna occidentallis (L.) Link	coffee senna	Nat	R	
LAMIACEAE				
Mesophaerum pectinatum (L.) Kuntze	comb hyptis	Nat	O	
MALVACEAE				
Hibiscus rosa-sinensis L.	Chinese hibiscus	Orn	R	
Malvastrum coromandelianum (L.) Garck	false mallow	Nat	U	
Malvaviscus arboreus Cav. cult.	miniature Turk's cap	Orn	R	
Melochia umbellata (Houtt.) Stapf	---	Nat	O	
Thespesia populnea (L.) Sol. ex Correa	*milo*	**Ind?**	R	
Sida spinosa L.	prickly sida	Nat	R	
Sida rhombifolia L.	Cuba jute	Nat	O	
Psidium guajava L.	common guava	Nat	R	
MELASTOMACEAE				
Clidemia hirta (L.) D. Don	Koster's curse	Nat	R	
MORACEAE				
Ficus microcarpa L. fil.	Chinese banyan	Nat	O	
MYRTACEAE				
Psidium guajava L.	common guava	Nat	R	
Syzygium cuminii (L.) Skeels	Java plum	Nat	O	
POLYGALACEAE				
Polygala paniculata L.	bubblegum plant	Nat	R	
RUBIACEAE				
Pentas lanceolata (Forssk.) Deflers	pentas	Orn	R	
Spermacoce assurgens Ruiz & Pav.	buttonweed	Nat	U	
VERBENACEAE				
Pilea microphylla (L.) Liebm.	artillery plant	Nat	U	

Legend to Table 1

STATUS - distributional status for the Hawaiian Islands:

Ind = indigenous; native to Hawaii, but not unique to the Hawaiian Islands.

Nat - naturalized, exotic, plant introduced to the Hawaiian Islands since the arrival of Cook Expedition in 1778, and well-established outside of cultivation.

Table 1 (continued).

Orn - A cultivated plant; a species not known to be naturalized (spreading on its own) in Hawai'i.
Pol - An early Polynesian introduction; introduced before 1778.

ABUNDANCE = occurrence ratings for plant species:

R – Rare	seen in only one or perhaps two locations.
U - Uncommon	seen at most in several locations
O - Occasional	seen with some regularity
C - Common	observed numerous times during the survey
A - Abundant	found in large numbers; may be locally dominant.

NOTES: <1> - Plant lacks flowers or fruits; identification possibly uncertain.

Avian Fauna

A total of 91 individual birds of 14 species, representing 11 separate families, were recorded during the station counts (Table 2). One species detected—Pacific Golden-Plover (*Pluvialis fulva*)—is an indigenous migratory shorebird species. The remaining 13 species recorded are common, introduced species. The avian diversity and densities observed during the survey are consistent with the habitats present on the site and the usage of the site. Three species—Zebra Dove (*Geopilia striata*), Common Myna (*Acridotheris tristis*), and House Sparrow (*Passer domesticus*)—accounted for 51% of the total number of birds recorded. Zebra Dove was the most common species recorded, accounting for 21% of the total of birds counted.

Table 2. Avian species detected Pa'apaloa Park, October 2023

Common Name	**ORDER** FAMILY *Species*	**Status**	**RA**
	PHASIANIDAE - Pheasants & Partridges		
	Phasianinae - Pheasants & Allies		
Red Junglefowl	*Gallus gallus*	A	1.33
	COLUMBIFORMES		
	COLUMBIDAE - Pigeons & Doves		
Spotted Dove	*Streptopelia chinensis*	A	2.00
Zebra Dove	*Geopelia striata*	A	6.33
	CHARADRIIDAE - Lapwings & Plovers		
Pacific Golden-Plover	*Pluvialis fulva*	IM	0.33

Table 2 (continued).

Common Name	ORDER FAMILY *Species*	Status	RA
	PELECANIFORMES ARDEIDAE - Herons, Bitterns & Allies		
Cattle Egret	*Bubulcus ibis*	A	1.00
	PASSERIFORMES ZOSTEROPIDAE – White-eyes		
Warbling White-eye	*Zosterops japonicus*	A	2.33
	STURNIDAE – Starlings		
Common Myna	*Acridotheres tristis*	A	5.67
	ESTRILDIDAE – Estrildid Finches		
Scaly- breasted Munia	*Lonchura atricapilla*	A	3.00
Common Waxbill	*Estrilda astrild*	A	1.33
	PASSERIDAE - Old World Sparrows		
House Sparrow	*Passer domesticus*	A	3.33
	FRINGILLIDAE - Fringilline and Carduline Finches & Allies Carduelinae - Carduline Finches and Hawaiian Honeycreepers		
Yellow-fronted Canary	*Ceithagra mozambica*	A	0.67
	CARDINALIDAE - Cardinals & Allies		
Northern Cardinal	*Cardinalis cardinalis*	A	1.33
	THRAUPIDAE - Tanagers Thraupinae - Core Tanagers		
Yellow-billed Cardinal	*Paroaria capitata*	A	0.67
Saffron Finch	*Sicalis flaveola*	A	1.67

Key to Table 2.

Status:
A = Alien introduced species
IM = Indigenous migratory species, native to Hawaii but also found elsewhere

RA: Relative abundance, number of birds recorded by the number of count stations (3).

Mammals

We observed and heard numerous dogs (*Canis lupus familiaris*) from houses outside of the study area. Two cats (*Felis c*atus) were seen within the survey area, as were several small Indian mongoose (*Herpestes javanicus*). It is probable that one or more of the four Muridae found on the Island—roof rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), Polynesian rat (*Rattus exulans hawaiiensis*), and European house mouse (*Mus musculus domesticus*) use resources within the general Project area on a seasonal basis. These introduced rodents are deleterious to native ecosystems and native faunal species.

Discussion and Recommendations

Recommendations are partly based on U.S. Fish and Wildlife Service, Animal Avoidance and Minimization Measures (USFWS-PIFWO, 2023). Implementation of the recommendations (provided below as bulleted items) will minimize impacts to listed species to the maximum extent practicable.

Floral Resources

Although scattered and sparse occurrences of native flora are present within the Project area, these plants are all common species, and most members of their respective populations are likely more numerous outside of the survey area. No plants proposed or listed as threatened or endangered species as set forth in the Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1543; USFWS, nd-a; HDLNR, 1998) were seen in the project area. For plants, state listing follows the federal listing.

Avian Resources

No avian species that is currently listed under federal or State of Hawaii endangered species statutes was observed (HDLNR, 1998, 2015; USFWS, nd-a).

Seabirds

It is possible that Hawaiian Petrel (*Puffinus sandwichesis*), Band-rumped Storm-Petrel (*Hydrobates castro*), and Newell's Shearwater (*Puffinus newelli*) over-fly the Project area between April and the middle of December each year in small numbers. The primary cause of mortality in Hawaiian Petrels and Newell's Shearwaters in Hawai'i is thought to be predation by alien mammalian species at the nesting colonies (USFWS, 1983; Simons and Hodges, 1998; Ainley et al., 2001). Collision with man-made structures is considered the second most significant cause of mortality of these listed seabird species in Hawai'i. Nocturnally flying seabirds, especially fledglings on their way to sea in the summer and fall, can become disoriented by exterior lighting. Disoriented seabirds may collide with man-made structures and, if not killed outright, become easy targets of opportunity for feral mammals (Hadley, 1961; Telfer, 1979; Sincock, 1981; Reed et al., 1985; Telfer et al., 1987; Cooper and Day, 1998; Podolsky et al., 1998; Ainley et al., 2001; Hue et al., 2001; Day et al., 2003). No suitable nesting habitat exists within or close to the Project area for any of these three seabird species.

The principal potential impact that the Project poses to protected seabirds is an increased threat that birds will be downed after becoming disoriented by lights associated with any construction activities if undertaken during the nesting season. As well, following build-out, security lighting operated during the seabird nesting season can pose a hazard.

- Lighting deployed during construction or planned for the park must be shielded and pointed directly downward (Reed et al., 1985; Telfer et al., 1987)]. All associated outdoor lighting must be fully "dark sky compliant" (HDLNR-DOFAW, 2016).

Hawaiian Hawk

On the two separate survey dates *AECOS* biologists were at the Park, the Hawaiian Hawk (*Buteo solitarius*) was not observed. It is possible that this species may use resources in the less developed areas of the site on a seasonal or temporal basis. This species is not listed under the federal ESA, but is still listed under state statute (USFWS, nd-a; HDLNR, 1998).

- If removal of large stature trees on the Project site is contemplated, it is recommended that a qualified biologist conduct a Hawaiian Hawk nesting survey to ensure that the action will not result in a deleterious impact to this raptor species.

Mammalian Resources

No mammalian species currently proposed for listing or listed under either federal or state endangered species statutes (HDLNR 1998, 2015; USFWS, nd-a) were recorded on the Project site. All mammalian species observed during this survey are alien to the Hawaiian Islands. No rodents were recorded but one or more of the four alien Muridae found on Hawai'i Island—European house mouse (*Mus musculus*), roof rat (*Rattus* rattus), brown rat (*Rattus norvegicus*), and black rat (*Rattus exulans hawaiiensis*)—likely utilize various resources within the general Project area. These human commensal species are drawn to areas of human habitation and activity. All introduced mammalian species are deleterious to the native biota.

Hawaiian hoary bat

It is probable that Hawaiian hoary bats overfly the Project area (Bonaccorso et al., 2015). The removal of trees can temporarily displace individual bats using those trees for roosting. However, this bat uses multiple roosts within the home territories, so the potential disturbance resulting from the removal of

vegetation is likely to be minimal. An exception is during the pupping season, when females carrying their pups may be less able to vacate a roost site if the tree is felled. Further, adult female bats sometimes leave their pups in the roost tree while they forage. Very small pups may be unable to flee a tree that is being felled.

- Potential adverse impacts from such disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 m (15 ft) between June 1 and September 15, the period in which bats may have pups.

Other Resources of Potential Concern

Jurisdictional Waters

Kaiwilahilahi Stream lies close to the north end of the property, but is outside of the Project area. This stream is very likely jurisdictional (a "waters of the US" under federal jurisdiction), but will not be directly impacted by the project.

Critical Habitat

Federally delineated Critical Habitat is not present in the Project area (USFWS, nd-c). No equivalent designation exists under state law.

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APPENDIX D

Archaeological Inventory Survey

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Archaeological Inventory Survey for the Pāpa‘aloa Park Master Plan and Phase I Development Project

TMKs :(3) 3-5-003:035, 088, and (3) 3-5-088:099 (por.)

Kaiwilahilahi Ahupua‘a
North Hilo District
Island of Hawai‘i

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ASM Project Number 44610.00

An Archaeological Inventory Survey for the Pāpa‘aloa Park Master Plan and Phase I Development Project

TMKs :(3) 3-5-003:035, 088, and (3) 3-5-088:099 (por.)

Kaiwilahilahi Ahupua‘a
North Hilo District
Island of Hawai‘i

ASM affiliates

EXECUTIVE SUMMARY

At the request of KYA Inc., on behalf of the County of Hawai‘i (CoH), Department of Parks and Recreation (P&R), ASM Affiliates (ASM) has prepared this Archaeological Inventory Survey (AIS) report in support of a Hawai‘i Revised Statutes (HRS), Chapter 343 Environmental Assessment (EA) being prepared for the proposed Pāpa‘aloa Park Master Plan and Phase I Development project. The proposed project is being planned on roughly 12-acres comprised of the County-owned Tax Map Key (TMK) parcels: (3) 3-5-003:035 (6.8310 acres) and parcel 088 (4.9630 acres; wherein the existing Pāpa‘aloa Park is located) and that portion of the Old Māmalahoa Highway (TMK: [3] 3-5-008:099) fronting the Pāpa‘aloa Park. The entire 12-acre project area is within Kaiwilahilahi Ahupua‘a, North Hilo District, Island of Hawai‘i. The current study was undertaken in compliance with HAR §13-275 and 276 and was conducted in accordance with the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports as contained in Hawai‘i Administrative Rules §13–276. A separate Architectural Reconnaissance Level Survey (RLS) is also being prepared for the architectural properties present within the project area.

Fieldwork for the current study was conducted on December 12, 2023, by, Olivia Crabtree, B.A., Amy L. Ketner, B.A. and David Morris-King, M.Sc., under the direct supervision of Matthew R. Clark, M.A. (Principal Investigator). As a result of the fieldwork for the current study, one previously documented site (Site 50-10-16-30187) and five previously undocumented sites (Sites 50-10-16-T-1, 50-10-16-T-2, and 50-10-16-T-3, 50-10-16-T-4, and 50-10-16-T-5) were recorded. The sites include a portion of the Old Māmalahoa Highway (Site 30187), a concrete restroom foundation (Site T-1), a terrace wall (Site T-2), two former plantation buildings (Site T-3), a flume foundation (Site T-4), and the Pāpa‘aloa Park complex (Site T-5).

Four of the sites (Sites 30187, T-1, T-2, and T-4) are considered significant under Criterion d for the information they yielded during the current study. Additionally, Site 30187 was assessed as significant under Criterion a for its association with important late nineteenth and early twentieth century events in establishing a regional transportation network and Site T-4 was assessed as significant under Criterion a for being associated with, and contributing information to, the overall history of the sugarcane plantation era in Hawai‘i and specifically to the Laupāhoehoe and Davies Hamakua Plantation, Inc. sugar companies. Sites 30787, T-1, T-2, and T-4 were adequately documented during the current study and are recommended for no further historic preservation work. Two of the sites (Sites T-3 and T-5) are significant architectural properties that need further documentation and evaluation by a qualified architectural historian.

The proposed project will affect historic properties within the project area therefore the recommended determination of effect for the project is “Effect with proposed mitigation commitments.” The proposed mitigation commitments include the documentation and evaluation of Sites T-3 and T-5 by a qualified architectural historian and the preparation of an Architectural RLS. It is anticipated that following preparation of the RLS no further historic preservation work will be necessary at Sites T-3 and T-5 and that demolition of the Site T-3 buildings can proceed.

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1. INTRODUCTION

At the request of KYA Inc., on behalf of the County of Hawai‘i (CoH), Department of Parks and Recreation (P&R), ASM Affiliates (ASM) has prepared this Archaeological Inventory Survey (AIS) report in support of a Hawai‘i Revised Statutes (HRS), Chapter 343 Environmental Assessment (EA) being prepared for the proposed Pāpa‘aloa Park Master Plan and Phase I Development project (referred to hereafter as the ‘proposed project’). The proposed project is being planned on roughly 12-acres comprised of the County-owned Tax Map Key (TMK) parcels: (3) 3-5-003:035 (6.8310 acres) and parcel 088 (4.9630 acres; wherein the existing Pāpa‘aloa Park is located) and that portion of the Old Māmalahoa Highway (TMK: [3] 3-5-008:099) fronting the Pāpa‘aloa Park. The entire 12-acre project area is within Kaiwilahilahi Ahupua‘a, North Hilo District, Island of Hawai‘i (Figures 1, 2, and 3). The purpose of the AIS was to identify and document any historic properties that may be present, and to assess those properties for their historical significance according to the criteria enumerated in Hawai‘i Administrative Rules (HAR) §13-275-6(b). A separate Architectural Reconnaissance Level Survey (RLS) is also being prepared for the architectural properties present within the project area.

This AIS was undertaken in compliance with HAR §13-275 and 276 and was conducted in accordance with the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports as contained in Hawai‘i Administrative Rules §13–276. Compliance with the above standards is sufficient for meeting the initial historic preservation review process requirements of both the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) and the CoH. This report contains background information describing the location and environment of the project area; a description of the proposed project, culture-historical context for the project area; a summary of previous archaeological work conducted in the vicinity of the subject parcel; an explanation of the current survey methods; detailed descriptions of all of the encountered archaeological sites and features; interpretation and evaluation of those resources; and a recommended determination of effect for the proposed project based on the results of the current study.

PROJECT AREA DESCRIPTION

The project area consists of roughly 12-acres comprised of TMK parcels (3) 3-5-003:035, 088, and that portion of TMK (3) 3-5-088:099 (Old Māmalahoa Highway) fronting the park located in Kaiwilahilahi Ahupua‘a, North Hilo District, Island of Hawai‘i. (see Figures 1, 2, and 3). The project area is bound along its *mauka* (south) end by the Old Māmalahoa Highway, *makai* (north) by a coastal cliff edge situated within the Conservation District, to the east by five residential lots—all of which are part of the historic Kekoa (plantation) Camp—and to the west by TMK: (3) 5-003:055, a 0.31-acre lots owned by Kamehameha Schools and the site of the former Pāpa‘aloa Hongwanji Mission and TMK: (3) 3-5-008:028 a 1.74-acre privately owned parcel. The project area is *makai* of Hawai‘i Belt Road on the coastal table lands situated generally between Kaiwilahilahi Stream/Gulch to the west and to the east by Ha‘akoa Stream/Gulch Ahoa.

Located on the eastern slope of the volcanically dormant Mauna Kea Volcano, the project area is situated on the plateau adjacent to the coastal cliff edge and extends *mauka* to the Old Māmalahoa Highway at an elevation of elevation 95 meters (311 feet) above mean sea level (amsl). The climate in this portion of North Hilo is tropical with daily temperatures generally ranging between 70 degrees Fahrenheit (21 degrees Celsius) and 73 degrees Fahrenheit (23 degrees Celsius) with an average rainfall of 75 to 138 inches (1,905 to 3,505 millimeters) (Giambelluca et al. 2013).

Geologically, the project area is situated on a *pāhoehoe* lava flow (labeled “Qhm” in Figure 4) that originated from Mauna Kea (identified as Hāmākua Volcanics) between 64,000 and 300,000 years before present (B.P.). The soils that have developed on this lava substrate are classified as Ookala medial silty clay loam (labeled “952” in Figure 5), which are shallow, well-drained soils formed in basic volcanic ash overlying *pāhoeho*e lava on the windward slopes of Mauna Kea volcano at elevations ranging from sea level to 335 meters (0 to 1,100 feet) amsl (Soil Survey Staff 2022).

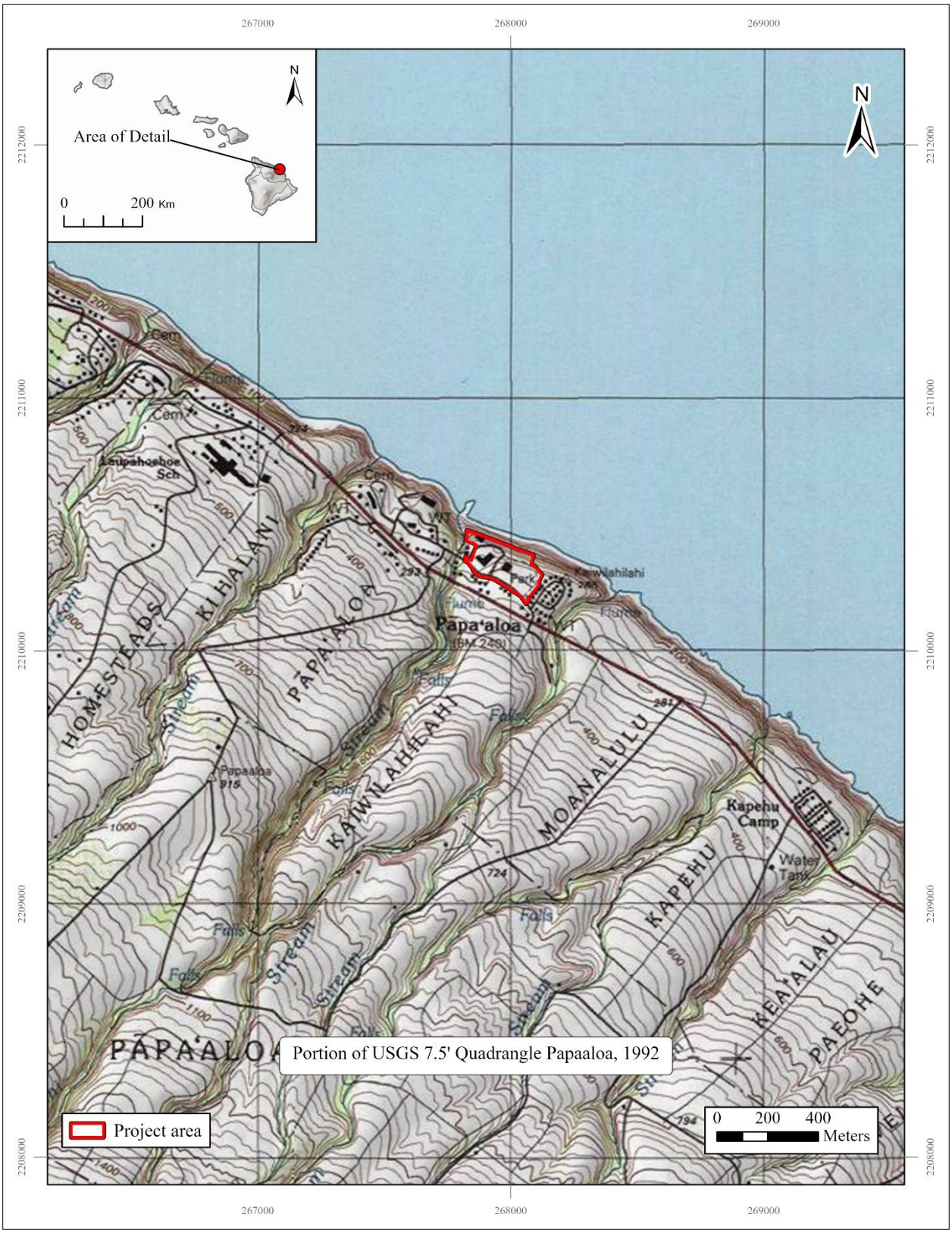


Figure 1. Project area location.

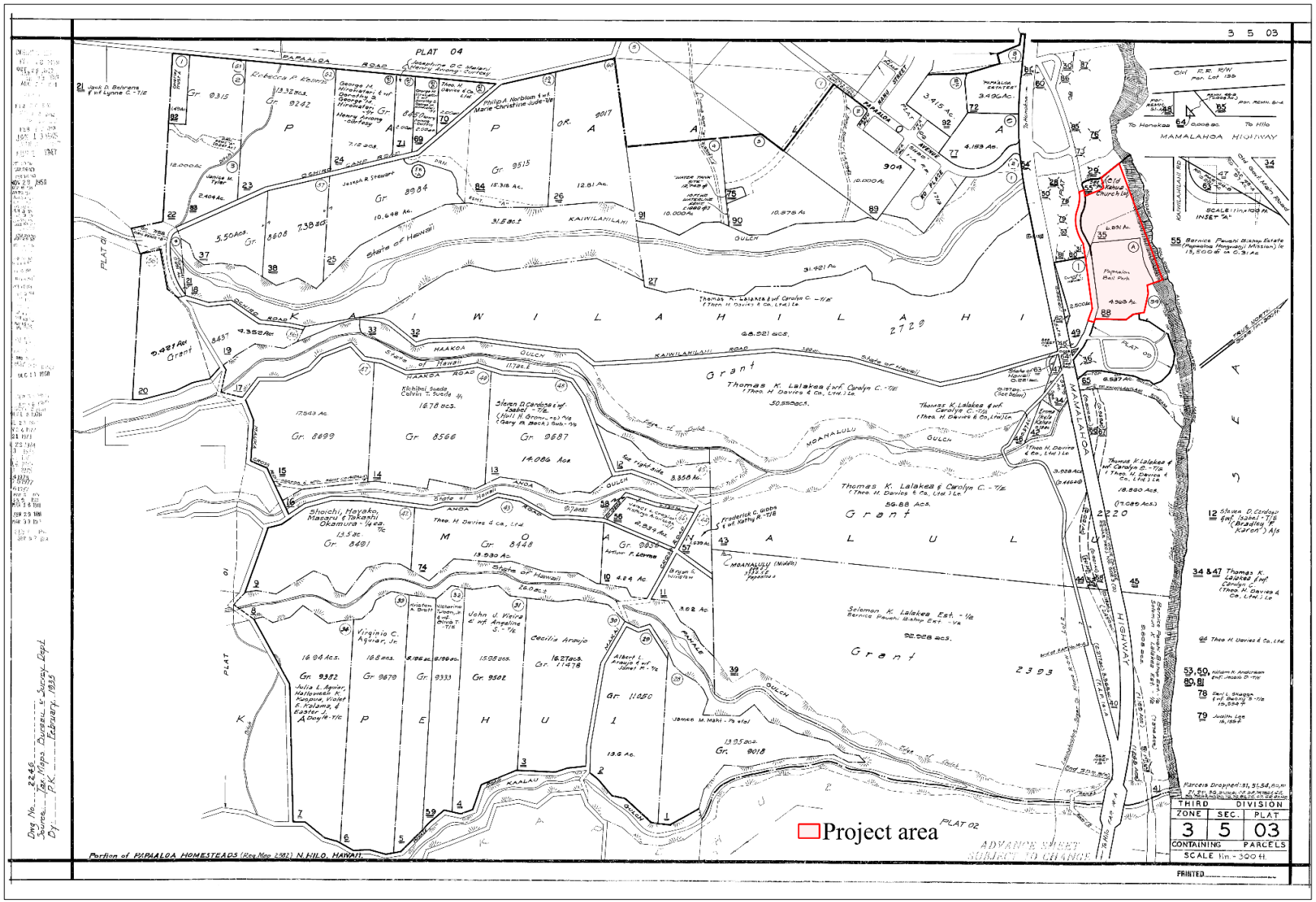


Figure 2. Tax Map Key: (3) 3-5-003:035, 088, and (3) 3-5-088:099 (por.) showing the location of the project area.

Figure 3. Google Earth™ satellite image showing project area.

Figure 4. Geology underlying the project area.

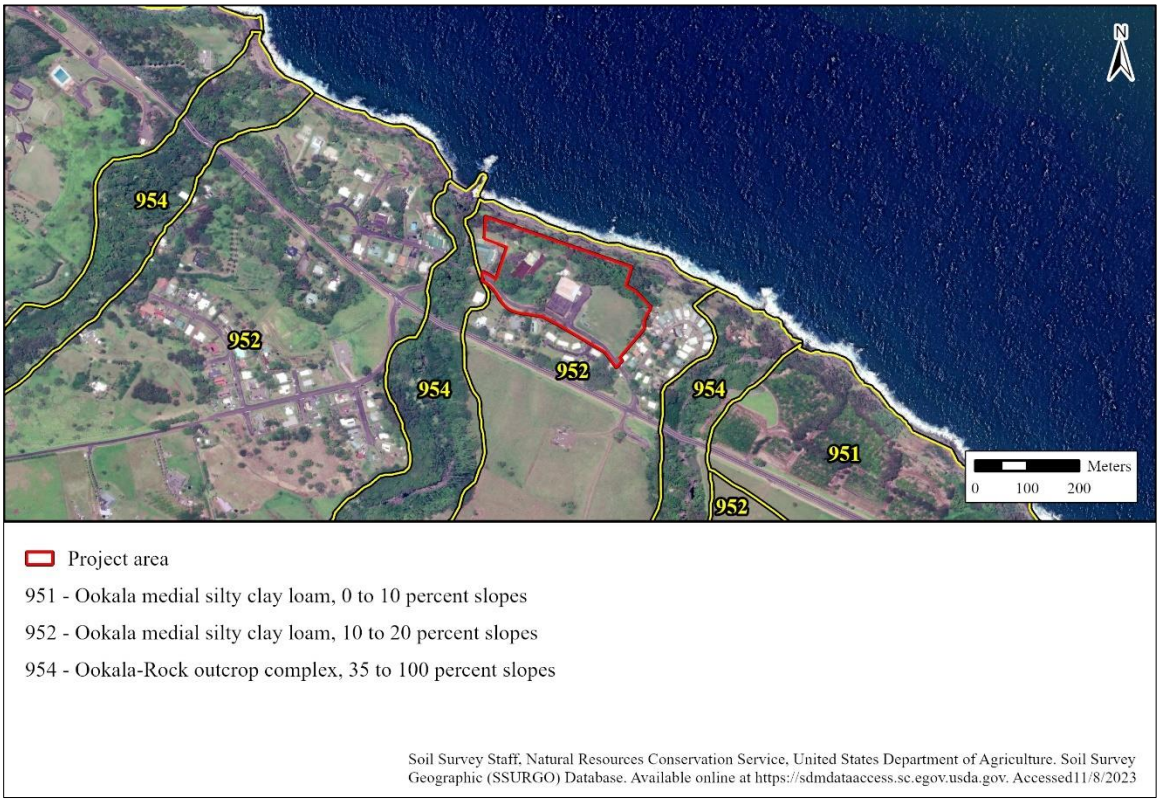


Figure 5. Soils underlying the project area.

Built Environment and Vegetation

The entire project area has been subject to mechanical clearing in the past and subsequent construction episodes. The Pāpaʻaloa Park occupies the eastern half of the project area (Figure 6) and consists of a large, grassy sports field with bleachers, dug outs, and score board, parking lot, tennis/pickleball courts, a water spigot station (known as Waipuna), and an annex building with restrooms, offices, and meeting spaces (Figures 7, 8, and 9). The western half of the project area (Figure 10) consists of a mix of old (discussed in Findings) and modern abandoned buildings (Figures 11 and 12) along with mowed pathways/unimproved roads (Figure 13) that provide access to the septic system for maintenance purposes.

While the vegetation in the eastern portion of the project area is limited to the coastal cliff area, the vegetation in the western portion of the project area is reflective of the built environment and includes large swaths of Guinea grass (*Megathyrsus maximus)* (Figure 14) mixed with various weedy species. The overstory includes mango (*Mangifera indica*), avocado (*Persea americana*), gunpowder (*Trema orientalis*), African tulip (*Spathodea campanulate*), and various species of palms (*Arecaceae*).

The coastal portion of the project area slopes steeply towards the ocean (north) then opens into a relatively wide leveled area (Figures 15 and 16). The leveled area then slopes steeply again towards the ocean until it opens into a second relatively, more narrow leveled area until it is cut off by the cliff edge. This coastal portion of the project area is dominated by an overstory of coconut trees (*Cocos nucifera*), and java plum (*Eugenia cumini*). Modern debris such as metal bleachers and tires were observed in this coastal section of the project area (Figures 17).

Figure 6. Oblique aerial view to the southeast of the eastern portion of the project area and the Pāpaʻaloa Community Center/Park.

Figure 7. Grassy sports fields and asphalt paved parking lot, view to the southeast.

Figure 8. Asphalt paved parking lot located between grassy sports field and annex building and tennis/pickleball courts, view to the southeast.

Figure 9. Annex building fronted by grassy lawn (the former site of the original Pāpa‘aloa Gym), view to the west.

Figure 10. Oblique aerial view to the southeast of the western portion of the project area showing dilapidated buildings.

Figure 11. Modern building in the southwest corner of the project area, view to the south.

Figure 12. Modern workshop located in the center of the project area, adjacent to the western side of the annex building, view to the southwest.

Figure 13. Mowed septic tank access road, view to the west.

Figure 14. Large areas of thick Guinea grass within project area.

Figure 15. Vegetation in the steep area adjacent to the cliff edge, view to the west.

Figure 16. View of second leveled area located directly adjacent to the cliff, view to the northwest.

Figure 17. Old metal bleachers along cliff edge of project area, view to the northwest.

PROPOSED PROJECT DESCRIPTION

The Pāpa‘aloa Park Master Plan would involve: a new covered play court facility (and its future expansion); a new community center building; a skate park; a playground; picnic pavilions; a perimeter walking path; and other park-related facilities to be determined; associated on-site and off-site infrastructure and utility improvements/modifications; replacement, improvement, and/or modification of existing park amenities and recreational features impacted by any new/required work; and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. The Phase I Development will be limited to TMK (3) 3-5-003: 088 (4.963 acres). If funding is available, demolition of one or more plantation-era structures will occur in TMK (3) 3-5-003: 035 during the Phase I Development. The current conceptual master plan is shown below in Figure 18 and Figure 19 shows the Phase I Development conceptual plan.

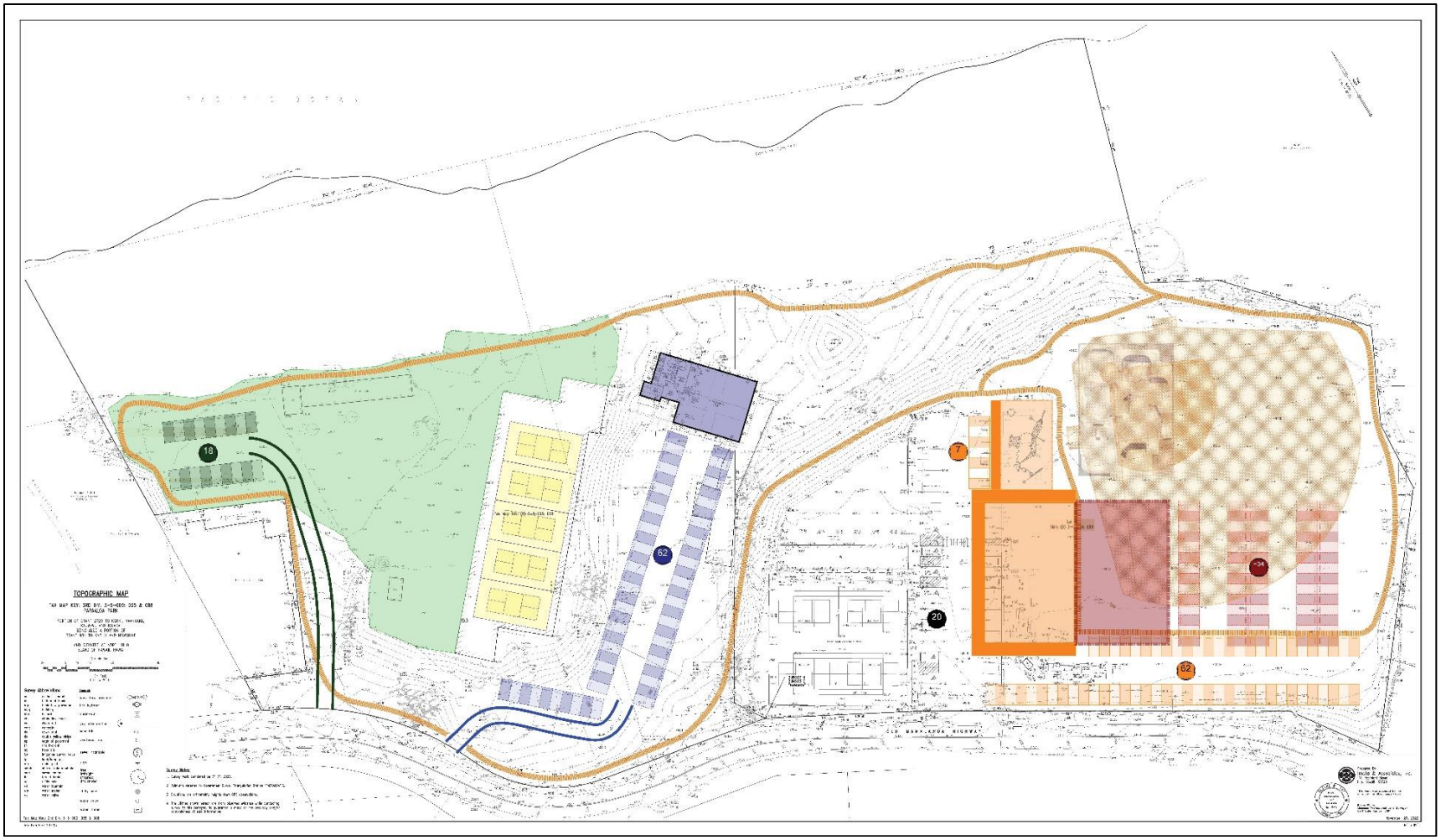


Figure 18. Conceptual master plan showing Phase I developments (in orange) and future build out phases.

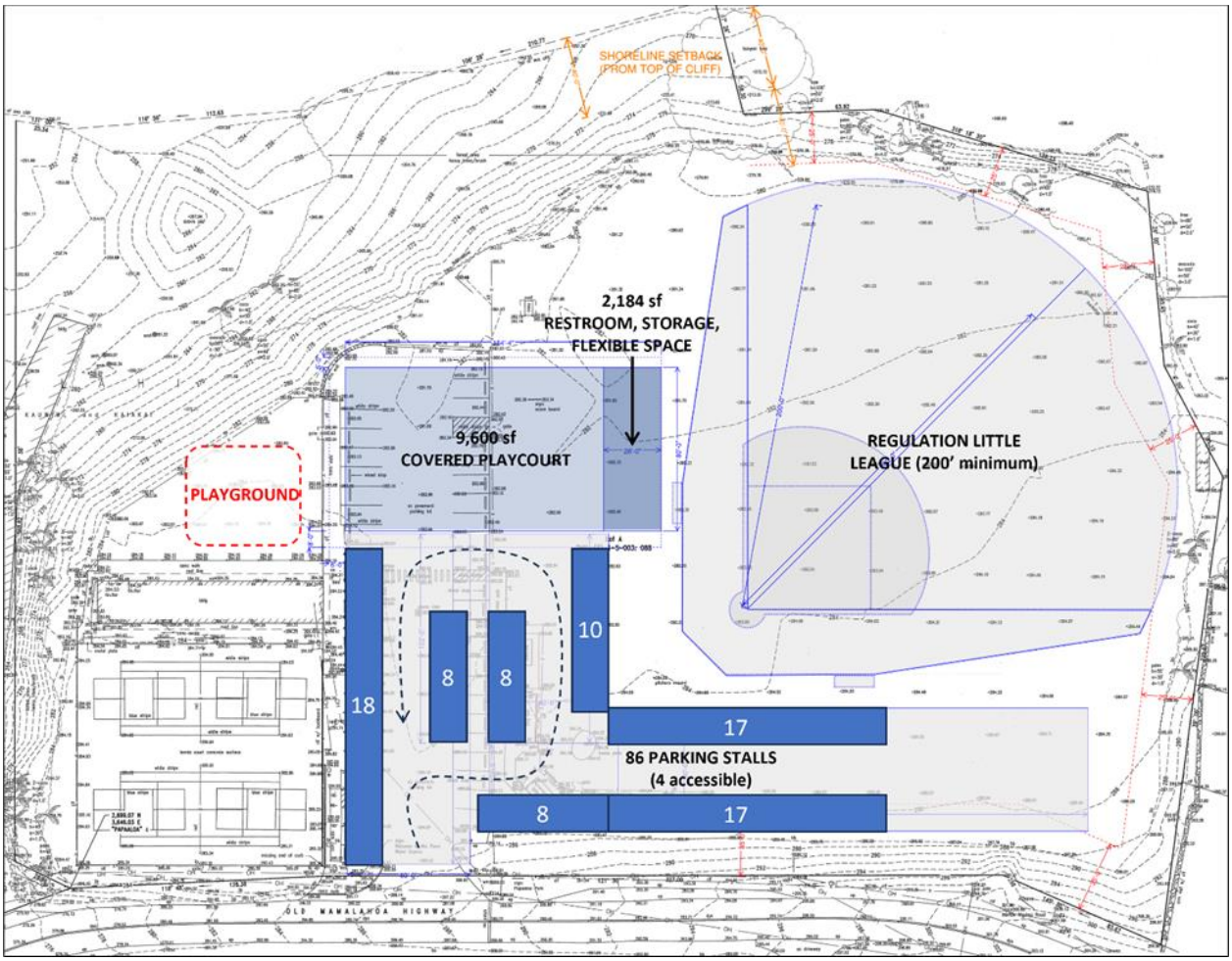


Figure 19. Phase I development conceptual plan.

2. BACKGROUND

To generate a set of expectations regarding the nature of archaeological resources that might be encountered within the current study area, and to establish an environment within which to assess the significance of any such resources, a general culture-historical context for Kaiwilahilahi Ahupuaʻa and the project area is presented. This is followed by a discussion of relevant prior archaeological studies conducted in the vicinity of the study area. For a more in-depth cultural background the reader is directed to the Cultural Impact Assessment being prepared for the same project (ASM Affiliates 2024 in prep).

The culture-historical context and summary of previously conducted archaeological and cultural research presented below are based on research conducted by ASM Affiliates at various physical and digital repositories. Primary English language resources were found at multiple state agencies, including the State Historic Preservation Division, Hawaiʻi State Archives, and the Department of Accounting and General Services Land Survey Division. Digital collections provided through the Office of Hawaiian Affairs Papakilo and Kīpuka databases, Waihona ʻĀina, the Ulukau Hawaiian Electronic Library, and Newspapers.com provided further historical context and information. Lastly, secondary resources stored at ASM Affiliates' Hilo office offer general information regarding the history of land use, politics, and culture change in Hawaiʻi, enhancing the broad sampling of primary source materials cited throughout this cultural impact assessment.

CULTURE-HISTORICAL CONTEXT

While the question of when Hawai‘i was first settled by Polynesians remains contested, scholars working in the fields of archaeology, folklore, Hawaiian studies, and linguistics have offered several theories. With advances in palynology and radiocarbon dating techniques, Kirch (2011), Athens et al. (2014), and Wilmshurst et al. (2011) have argued that Polynesians arrived in the Hawaiian Islands sometime between A.D. 1000 and A.D. 1200. This initial migration on intricately crafted *wa‘a kaulua* (double-hulled canoes) to Hawai‘I from Kahiki, the ancestral homelands of Hawaiian deities and peoples from southern Pacific islands, occurred at least from initial settlement to the 13th century. According to Fornander (1969), Hawaiians brought from their homeland certain Polynesian customs and beliefs: the major gods Kāne, Kū, Lono, and Kanaloa (who have cognates in other Pacific cultures); the *kapu* system of political and religious governance; and the concepts of *pu‘uhonua* (places of refuge), *‘aumakua* (ancestral deity), and *mana* (divine power). Archaeologist Kenneth Emory who worked in the early to mid-20th century reported that the sources of early Hawaiian populations originated from the southern Marquesas Islands (Emory in Tatar 1982). However, Emory’s theory is not universally accepted, as Hawaiian scholars in the past and present have argued for a pluralistic outlook on ancestral Hawaiian origins from Kahiki (Case 2015; Fornander 1916-1917; Kamakau 1866; Kikiloi 2010; Nakaa 1893; Poepoe 1906).

While stories of episodic migrations were widely published in the Hawaiian language by knowledgeable and skilled *kū‘auhau* (individuals trained in the discipline of remembering genealogies and associated ancestral stories), the cultural belief that living organisms were *hānau ‘ia* (born) out of a time of eternal darkness (*pō*) and chaos (*kahuli*) were brought and adapted by ancestral Hawaiian populations to reflect their deep connection to their environment. As an example, the *Kumulipo*, Hawai‘i’s most famed *ko‘ihonua* (a cosmogonic genealogical chant), establishes a birth-rank genealogical order for all living beings (Beckwith 1951; Liliuokalani 1978). One such genealogical relationship that remains widely accepted in Hawai‘i is the belief that *kalo* (taro) plants (in addition to all other plants, land animals, and sea creatures), are elder siblings to humans (Beckwith 1951). This concept of hierarchical creation enforces the belief that all life forms are intimately connected, evidencing the cultural transformations that occurred in the islands through intensive interaction with their local environment to form a uniquely Hawaiian culture.

In Hawai‘i’s ancient past, inhabitants were primarily engaged in subsistence-level agriculture and fishing (Handy et al. 1991). Following the initial settlement period, communities clustered in the *ko‘olau* (windward) shores of the Hawaiian Islands where freshwater was abundant. Sheltered bays allowed for nearshore fisheries (enriched by numerous estuaries) and deep-sea fisheries to be easily accessed (McEldowney 1979). Widespread environmental modification of the land also occurred as early Hawaiian *kanaka mahi‘ai* (farmers) developed new subsistence strategies, adapting their familiar patterns and traditional tools to work efficiently in their new home (Kirch 1985; Pogue 1978). Areas with the richest natural resources became heavily populated over time, resulting in the population’s expansion to the *kona* (leeward) side of the islands and to more remote areas (Cordy 2000).

Overview of Traditional Hawaiian Land Management Strategies

Adding to an already complex society was the development of traditional land stewardship systems, including the *ahupua‘a.* The *ahupua‘a* was the principal land division that functioned for both taxation purposes and furnished its residents with nearly all subsistence and household necessities. *Ahupua‘a* are land divisions that typically include multiple ecozones from *mauka* (upland mountainous regions) to *makai* (shore and near-shore regions), assuring a diverse subsistence resource base (Hommon 1986). Although the *ahupua‘a* land division typically incorporated all of the eco-zones, their size and shape varied greatly (Cannelora 1974). Noted Hawaiian historian and scholar Samuel Kamakau summarized the ecozones that could be found in a given *ahupua‘a*:

> Here are some names for [the zones of] the mountains—the *mauna* or *kuahiwi*. A mountain is called a *kuahiwi*, but *mauna* is the overall term for the whole mountain, and there are many names applied to one, according to its delineations (*‘ano*). The part directly in back and in front of the summit proper is called the *kuamauna*, mountaintop; below the *kuamauna* is the *kuahea*, and makai of the *kuahea* is the *kuahiwi* proper. This is where small trees begin to grow; it is the *wao nahele*. Makai of this region the trees are tall, and this is the *wao lipo*. Makai of the *wao lipo* is the *wao ‘eiwa*, and makai of that the *wao ma‘ukele*. Makai of the *wao ma‘ukele* is the *wao akua*, and makai of there is the *wao kanaka*, the area that people cultivate. Makai of the *wao kanaka* is the *‘ama‘u*, fern belt, and makai of the *‘ama‘u* the *‘apa‘a*, grasslands.
>
> A solitary group of trees is a *moku la‘au* (a “stand” of trees) or an *ulu la‘au*, grove. Thickets that extend to the *kuahiwi* are *ulunahele*, wild growth. An area where *koa* trees suitable for canoes (*koa*

> *wa'a*) grow is a *wao koa* and mauka of there is a *wao la'au*, timber land. These are dry forest growths from the *'apa'a* up to the *kuahiwi*. The places that are "spongy" (*naele*) are found in the *wao ma'ukele*, the wet forest.
>
> Makai of the *'apa'a* are the *pahe'e* [*pili* grass] and *'ilima* growths and makai of them the *kula*, open country, and the *'apoho* hollows near to the habitations of men. Then comes the *kahakai*, coast, the *kahaone*, sandy beach, and the *kalawa*, the curve of the seashore—right down to the *'ae kai*, the water's edge.
>
> That is the way *ka po'e kahiko* [the ancient people] named the land from mountain peak to sea. (Kamakau 1976:8-9)

The *maka'āinana* (commoners, literally the "people that attend the land") who lived on the land had rights to gather resources for subsistence and tribute within their *ahupua'a* (Jokiel et al. 2011). As part of these rights, residents were required to supply resources and labor to *ali'i* (chiefs) of local, regional, and island chiefdoms. The *ahupua'a* became the equivalent of a local community with its own social, economic, and political significance and served as the taxable land division during the annual *Makahiki* procession (Kelly 1956). During the time of *Makahiki*, the paramount *ali'i* sent select members of his/her retinue to collect *ho'okupu* (tribute and offerings) in the form of goods from each *ahupua'a*. The *maka'āinana* brought their share of *ho'okupu* to an *ahu* (altar) that was marked with the image of a *pua'a* (pig), serving as a physical visual marker of *ahupua'a* boundaries. In most instances, these boundaries followed mountain ridges, hills, rivers, or ravines (Alexander 1890). However, Chinen (1958:1) reports that "oftentimes only a line of growth of a certain type of tree or grass marked a boundary; and sometimes only a stone determined the corner of a division." These ephemeral markers, as well as their more permanent counterparts, were oftentimes named as evidenced in the thousands of boundary markers names that are listed in Soehren (2005).

Ahupua'a were ruled by *ali'I 'ai ahupua'a* or chiefs who controlled the *ahupua'a* resources. Generally speaking, *ali'i 'ai ahupua'a* had complete autonomy over the *ahupua'a* they oversaw (Malo 1951). *Ahupua'a* residents were not bound to the land nor were they considered property of the *ali'i*. If the living conditions under a particular *ahupua'a* chief were deemed unsuitable, the residents could move freely in pursuit of more favorable conditions (Lam 1985). This structure safeguarded the well-being of the people and the overall productivity of the land, lest the chief loses the principal support and loyalty of his or her supporters. In turn, *ahupua'a* lands were managed by an appointed *konohiki*, oftentimes a chief of lower rank, who oversaw and coordinated stewardship of an area's natural resources (Lam 1985). In some places, the *po'o lawai'a* (head fisherman) held the same responsibilities as the *konohiki* (Jokiel et al. 2011). When necessary, the *konohiki* took the liberty of implementing *kapu* (restrictions and prohibitions) to protect the *mana* of an area's resources from environmental and spiritual depletion.

Many *ahupua'a* were divided into smaller land units termed *'ili* and *'ili kūpono* (often shortened to *'ili kū*). *'Ili* were created for the convenience of the *ahupua'a* chief and served as the basic land unit which *hoa'āina* (caretakers of particular lands) often retained for multiple generations (Jokiel et al. 2011; MacKenzie 2015). As *'ili* were typically passed down in families, so too were the *kuleana* (responsibilities, privileges) that were associated with it. The right to use and cultivate *'ili* was maintained within the *'ohana*, regardless of the succession of *ali'i 'ai ahupua'a* (Handy et al. 1991). Malo (1951) recorded several types of *'ili*, including the *'ili pa'a* (a single intact parcel) and *'ili lele* (a discontinuous parcel dispersed across an area). Whether dispersed or wholly intact, *'ili* required a cross-section of available resources, and for the *hoa'āina*, this generally included access to agriculturally fertile lands and coastal fisheries. *'Ili kūpono* differed from other *'ili* lands because they did not fall under the jurisdiction of the *ahupua'a* chief. Rather, they were specific areas containing resources that were highly valued by the ruling paramount chiefs, such as fishponds (Handy et al. 1991).

Ali'i 'ai ahupua'a, in turn, answered to an *ali'I 'ai moku* (chief who claimed the abundance of the entire *moku or* district) (Malo 1951). Hawai'i Island is comprised of six *moku* (districts) that include Kona, Ka'ū, Puna, Hilo, Hāmākua, and Kohala. Although a *moku* comprises multiple *ahupua'a*, *moku* were considered geographical subdivisions with no explicit reference to rights in the land (Cannelora 1974). While the *ahupua'a* was the most common and fundamental land division unit within the traditional Hawaiian land management structure, variances occurred, such as the existence of the *kalana*. By definition, a *kalana* is a division of land that is smaller than a *moku. Kalana* was sometimes used interchangeably with the term *'okana* (Lucas 1995; Pukui and Elbert 1986), but Kamakau (Kamakau 1976) equates a *kalana* to a *moku* and states that *'okana* is merely a subdistrict. Despite these contending and sometimes conflicting definitions, what is clear is that *kalana* consisted of several *ahupua'a* and *'ili 'āina*.

This form of district subdividing was integral to Hawaiian life and the product of advanced natural resource management systems. As populations resided in an area over centuries, direct teaching and extensive observations of an area's natural cycles and resources were retained, well-understood, and passed down orally over the generations. This knowledge informed management decisions that aimed to sustainably adapt subsistence practices to meet the needs of growing populations. The *ahupua'a* system and the highly complex land management system that developed in the islands are but one example of the unique Hawaiian culture that developed in these islands.

Kaiwilahilahi Ahupua'a

The current project area lies along the coastal cliffs of Kaiwilahilahi Ahupua'a (Figure 20), whose name has been translated by Pukui et al. (1974:71) as "the frail bone." This *ahupua'a* is bound to the east and west respectively by the *ahupua'a* of Moanalulu and Pāpa'aloa, the boundaries of which are demarcated by streams/gulches namely Ha'akoa and Kaiwilahilahi. This relatively narrow *ahupua'a*, with a coastal width of about 576 meters (~1,890 feet), is one of many *ahupua'a* that make up the traditional *moku* (district) of Hilo, one of six traditional districts on Hawai'i Island. A succinct general description of the Hilo District is provided by E. S. Craighill Handy, Elizabeth Green Handy, and Mary Kawena Pukui in their book *Native Planters in Old Hawaii: Their Life, Lore, and Environment*:

> Hilo as a major division of Hawai'I included the southeastern part of the windward coast most of which was in Hamakua, to the north of Hilo Bay. This, the northern portion, had many scattered settlements above streams running between high, forested kula lands, now planted with sugar cane. From Hilo Bay southeastward to Puna the shore and inland are rather barren and there were few settlements. The population of Hilo was anciently as now concentrated mostly around and out from Hilo Bay, which is still the island's principal port. The Hilo Bay region is one of lush tropical verdure and beauty, owing to the prevalence of nightly showers and moist warmth which prevail under the northeasterly trade winds into which it faces. Owing to the latter it is also subject to violent oceanic storms and has many times in its history suffered semidevastation from tidal waves unleashed by earthquake action in the Aleutian area of the Pacific. (Handy et al. 1991:538)

Traditionally, the *moku* of Hilo was divided into three *'okana* (sub-districts). Beginning in the north is Hilo Palikū, an area that extends north of the Wailuku River to Ka'ula Gulch and is characterized by its upright and densely vegetated cliffs and valleys and broad *kula* (plains) lands (Edith Kanaka'ole Foundation 2012). The Hawaiian proverb, *Hilo iki, pali 'ele'ele* (little Hilo of the dark cliffs) describes this sub-district noted for its greenery, rain, and mists (Pukui 1983:107). The second *'okana* is Hilo One, or "sandy Hilo," famed for its black sand beach that extends along Hilo Bay between the Wailoa and Wailuku Rivers. The final *'okana* is Hilo Hanakahi, which extends south of Wailoa River to include Keaukaha (Edith Kanaka'ole Foundation 2012). The source of these *'okana* is found in the legendary account titled *Ka'ao Ho'oniua Pu'uwai no Ka-Miki* (The Heart Stirring Story of Ka-Miki) written by John Wise and J.W.H.I. Kihe and published in Hilo's Hawaiian language newspaper *Ka Hōkū O Hawai'I* between January 8, 1914, through December 6, 1917.

Kaiwilahilahi Ahupua'a is located in the *'okana* of Hilo Palikū, a name that aptly describes the precipitous bluffs carved by the numerous stream-cut gulches that are characteristic of this region. The *pali* (cliffs) span along the northeastern coastline of Hawai'i Island running north from the mouth of the Wailuku River and broken only by a string of relatively narrow gulches extending downslope of Mauna Kea. The broad and gently sloping plateaus, referred to as *kula* lands, between the gulches are fertile with deep soils. Both the gulches and *kula* lands served as an ideal environment for thriving populations prior to Western contact. King David Kalākaua also provided a concise description of this region's rough geography and commented on the density of the population there in his book *The Legends and Myths of Hawaii*:

> The northeastern coast of the island of Hawaii presents an almost continuous succession of valleys, with intervening uplands rising gently for a few miles, and then more abruptly toward the snows of Mauna Kea and the clouds. The rains are abundant on that side of the island, and the fertile plateau, boldly fronting the sea with a line of cliffs from fifty to a hundred feet in height, is scored at intervals of one or two miles with deep almost impassable gulches, whose waters reach the ocean either through rocky channels worn to the level of the waves, or In cascades leaping from the cliffs and streaking the coast from Hilo to Waipio with lines that seem to be molten silver from the great crucible of Kilauea.
>
> In the time of Liloa, and later, this plateau was thickly populated, and requiring no irrigation, was cultivated from the sea upward to the line of frost. A few kalo patches are still seen, and bananas

> grow, as of old, in secluded spots and along the banks of the ravines; but the broad acres are green with cane, and the whistle of the sugar-mill is heard above the roar of the surf that beats against the rock-bound front of Hamakua. (Kalākaua 1888:284)

The coastal valley areas of Hilo Palikū thrived with traditional Hawaiian habitation and cultivation sites. Within the larger gulches and *kula* regions were lush, fertile lands well suited for agriculture. The traditional staple crop, *kalo* (taro), was cultivated in irrigated terraces along stream edges while *ʻuala* (sweet potato), *maiʻa* (banana) and *kō* (sugarcane) were grown in the *kula* lands of the lower forest zone (Handy et al. 1991). The region had an abundance of *kukui* (candlenut), *ʻulu* (breadfruit), and *niu* (coconut) groves and was also rich in marine and river resources. Although Precontact Period settlements were prominent in these areas, with the increase in population and agricultural production during the late 19th and 20th centuries, settlements spread into the upland *kula* regions. North Hilo would later be sought after by westerners who wished to farm a myriad of agricultural products on the rich fertile *kula* lands.

Hawaiʻi's Precontact Period ended in 1778 with the arrival of British explorer, Captain James Cook and the ships *H.M.S. Resolution* and *H.M.S. Discovery* (Beaglehole 1967). Not long after western contact, missionaries arrived and began circuiting the island in search of locations in which to establish future church centers. The missionaries provide some of the earliest descriptions of traditional Hawaiian communities, population numbers, cultural customs, and ways of life.

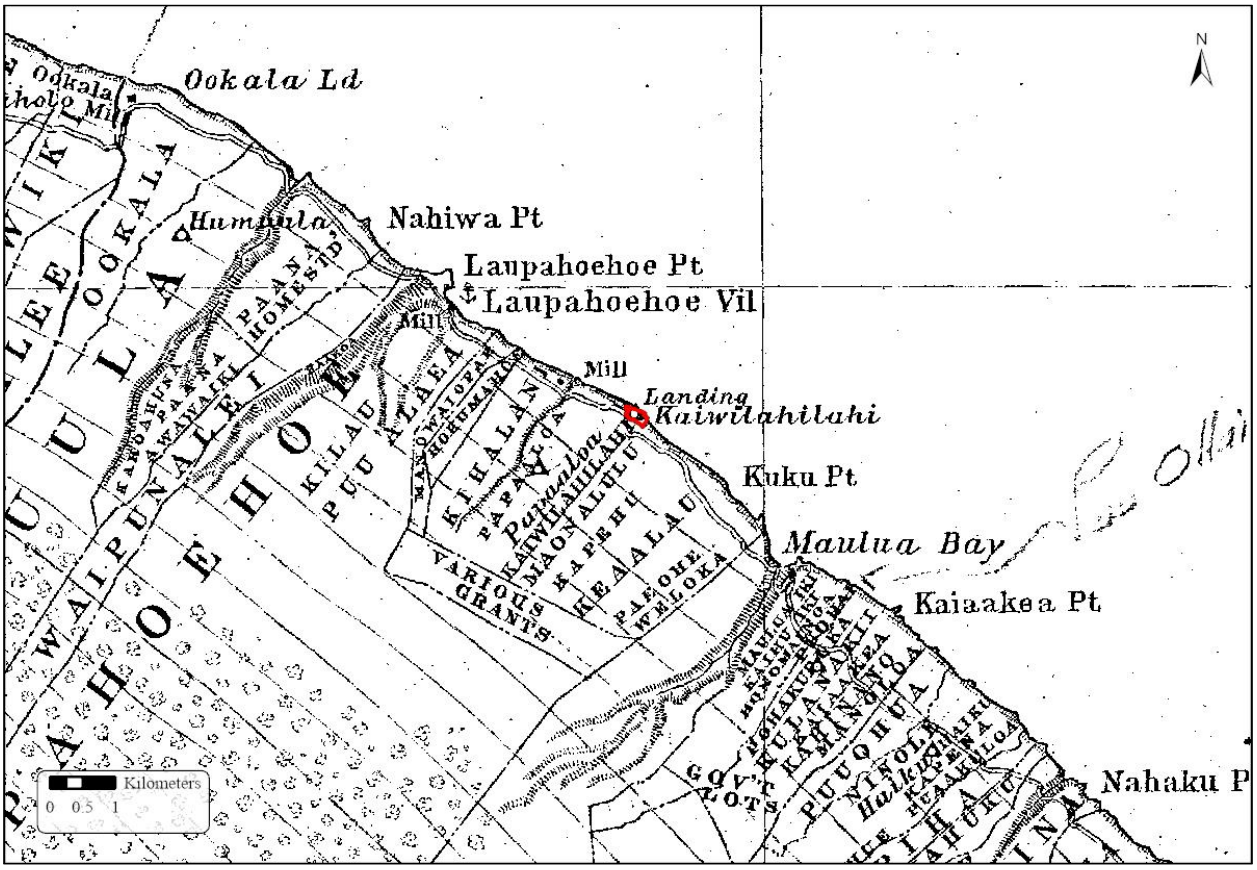


Figure 20. Portion of Hawaiʻi Registered Map No. 2060 by J. M. Donn (1901) showing project area in Kaiwilahilahi Ahupuaʻa.

Early Historical Accounts 1820-1848: A Land in Transition

In 1819, seventeen Protestant missionaries set sail from Boston to Hawai‘i. They arrived in Kailua-Kona on March 30, 1820 to a society with a religious void to fill (Hawaiian Mission Children‘s Society 1901). Many of the *ali‘I*, who were already exposed to western material culture, welcomed the opportunity to become educated in a western style and adopted their dress and religion. Soon they were rewarding their teachers with land and positions in the Hawaiian government (Kelly and Barrère 1980).

In 1823, the Reverend William Ellis, one of the first Christian missionaries to arrive in Hawai‘I, passed along the Hilo coast during his tour of Hawai‘I Island. Having been warned against walking due to the ruggedness of the terrain, he sailed from Hilo to Laupāhoehoe in a canoe. Ellis (2004:344) described the Hilo coastline as follows:

> The country, by which we sailed, was fertile, beautiful, and apparently populous. The numerous plantations on the eminences and sides of the deep ravines or valleys, by which it was intersected, by streams meandering through them into the sea, presented altogether a most agreeable prospect. (1917:343)
>
> The habitations of the natives generally appear in clusters at the opening of the valleys, or scattered over the face of the high land. The soil is fertile, and herbage abundant. (1917:353)
>
> . . . the inhabitants, excepting Waiakea, did not appear better supplied with the necessaries of life than thise of Kona, or the more barren parts of Hawaii. They had better houses, plenty of vegetables, some dogs, and a few hogs, but hardly any fish . . . (1917:354)

Planting techniques within the *kula* lands of the Hāmākua region are further described by Handy and Handy (1972). Although the current project area is located to the south of Hāmakua, the *kula* lands of the Hāmakua and Hilo Palikū are very similar, Handy and Handy’s description of dryland cultivation within the region provides some insight to how the land was used prior to the rise of the sugarcane industry during the latter half of the 19th century. Handy and Handy (1972:537) stated:

> Mulched taro was planted on the open kula lands up to the border of the old forest zone and is said to have flourished under a mulch of grass, *ti* leaves, and other rubbish heaped around it in the red soil. Small patches so growing today seem to flourish. We are told that taro was planted in kukui forests which used to cover the slopes of much of the land…Another method consisting of digging sizable holes in the ground, filling them with *kukui* leaves, and allowing these to decay completely, after which taros that had been started from cuttings planted in plain soil were introduced and grew to great size.

The Reverend Titus Coan (Coan 1882:31-32), who settled at the Hilo Mission Station in 1835, wrote that:

> For many years after our arrival there were no roads, no bridges, and no horses in Hilo, and all my tours were made on foot…The path was a simple trail, winding in a serpentine line, going down and up precipices, some of which could only be descended by grasping the shrubs and grasses, and with no little weariness and difficulty and some danger.

Due to its rugged coastline and many deep gulches, transportation difficulties were severe in Hilo and Hāmākua. This served to delay large-scale commercial exploitation of the *kula* lands. In the second half of the nineteenth century these problems were overcome, and sugar cane plantations replaced subsistence agriculture and grazing as the dominant land use. Initial commercial exploitation of these lands was limited to small scale agriculture in areas with coastal access for shipping and receiving goods. By the middle of the nineteenth century the ever-growing population of Westerners in Hawai‘I forced socioeconomic and demographic changes that promoted the establishment of a Euro-American style of land ownership. In 1848, the *Māhele ‘Āina* became the vehicle for determining ownership of Hawaiian lands. This change in land tenure was promoted primarily by the missionaries and Western businessmen in the island kingdom, who were hesitant to enter business deals on leasehold lands (Chinen 1958).

The Legacy of the *Māhele ‘Āina* of 1848

The *Māhele* (division) defined the land interests of Kamehameha III (the *Mō‘ī* or King), the high-ranking chiefs (*ali‘i*), and the *konohiki*. During the *Māhele*, all lands in the Kingdom of Hawai‘I were placed in one of three categories: (1) Crown Lands for the occupant of the throne; (2) Government Lands; and (3) *Konohiki* Lands (ibid.). As such, these lands were claimed mainly as entire *ahupua‘a* or *‘ili kūpono* (a subdivision of an *ahupua‘a* that operated nearly independently of the *ahupua‘a* in which it was located) and recorded in the *Buke Māhele*. The chiefs and *konohiki* were required to present their claims to the Board of Commissioners to Quiet Land Titles (commonly

referred to as the Land Commission) to receive a Land Commission Award (LCAw.) for lands provided to them by Kamehameha III (ibid.). They were also required to provide commutations to the government in order to receive Royal Patents on their land claim awards (ibid.). The lands claimed during the *Māhele* were identified by name only, with the understanding that the ancient boundaries would prevail until the land could be surveyed. Awarding lands by name is one way the Land Commission expedited their work until formal government surveys could be completed (Chinen 1961).

According to the *Buke Māhele* (1848:71, 190), on February 2, 1848, the *konohiki* Pakeokeo claimed but subsequently returned Kaiwilahilahi Ahupuaʻa to Kamehameha III. This *ahupuaʻa* was subsequently given by Kamehameha III to the Hawaiian Government thereby incorporating Kaiwilahilahi into the inventory of Government Lands.

Kuleana Awards

On August 6, 1850, the *Kuleana* Act (also known as the Enabling Act) was passed, clarifying the process by which native tenants could claim fee simple title to any portion of lands that they physically occupied, actively cultivated, or had improved (Garavoy 2005). The *Kuleana* Act also clarified access to *kuleana* parcels, which were typically landlocked, and addressed gathering rights within an *ahupuaʻa*. Lands awarded through the *Kuleana* Act were and still are, referred to as *kuleana* awards or *kuleana* lands. The Land Commission oversaw the program and administered the *kuleana* as Land Commission Awards (LCAws.) (Chinen 1958). No *kuleana* claims were made for lands in Kaiwilahilahi Ahupuaʻa.

Government Land Grants

In conjunction with the *Māhele*, the King also authorized the issuance of Royal Patent Grants to applicants for tracts of land, larger than those generally available through the Land Commission. The process for applications was clarified by the "Enabling Act," which was ratified on August 6, 1850. The Act resolved that portions of the Government Lands established during the *Māhele* of 1848 should be set aside and sold as grants ranging in size from one to fifty acres at a cost of fifty cents per acre. The stated goal of this program was to enable native tenants, many of whom were not awarded *kuleana* parcels during the *Māhele*, to purchase lands of their own. Despite the stated goal of the land grant program, this provided the mechanism that allowed many foreigners to acquire large tracts of the Government Lands. Unlike in the *kuleana* claims, where claimants stated their use of the land, the grant records are silent regarding the grantees' intended use. The Royal Patent deeds and survey notes do contain some limited information about geographical features, vegetation, and survey markers, but they generally do not say anything about improvements to the land or land use.

The entire project area is located within the *makai* portion of a single grant parcel, Grant no. 2729, which was sold at public auction for the sum of $160 to Keoki, Kaanaana, Kauwiwi, and Kaiaikai on September 3, 1860 (Office of Hawaiian Affairs 2018). A copy of the Royal Patent for Grant no. 2729 is shown below in Figures 21 and 22.

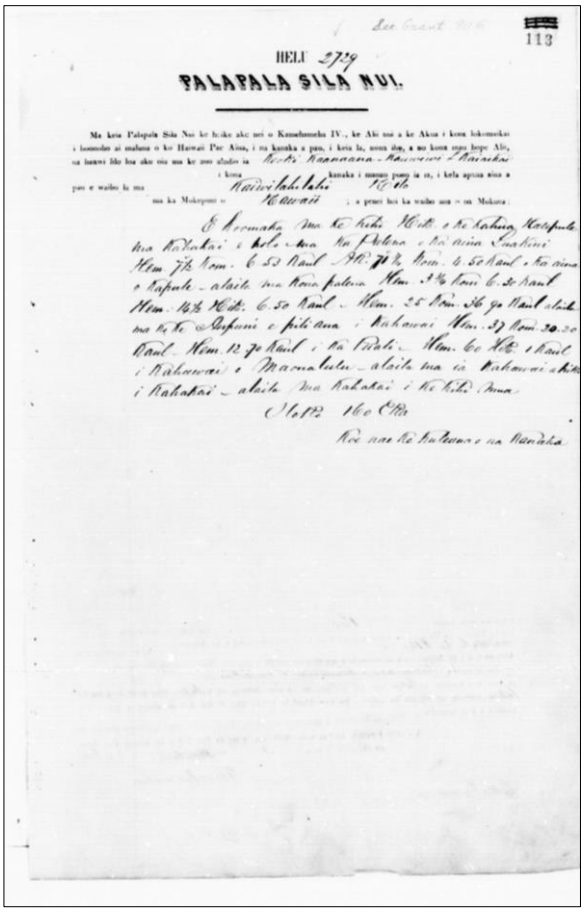
The survey undertaken for Grant no. 2729, which is described on Page 1 of the Royal Patent Grant (see Figure 21) revealed insight into at least the existence of one built feature as well as the names of a resident, along with prominent geographical features. A transcription and translation of the survey notes is provided below:

E hoomaka ma ke kihi Hik. O ke kahua halepule ma kahakai e holo ma ka palena o ka aina Luakini Hem. 7 ½ Kom. 6.53 kaul. Ak. 70 ¾ Kom. 4.50 kaul. O ka aina o Kapule-alaila ma kona palena Hem 3 ¾ Kom. 6.30 kaul. Hem. 14 ½ Hik. 6.50 kaul. Hem. 25 Kom. 36.90 kaul. Alaila ma ko ke Aupuni e pili ana i kahawai Hem. 37 Kom. 20.20 kaul. Hem 12.70 kaul. i ka Puali Hem. 60 Hik, 1 kaul. i kahawai o Moanalulu-alaila ma ia kahawai a hiki i kahakai-alaila ma kahakai i ke kihi mua.

Commencing at the eastern corner of the church site at the shore and running on the boundaries of the church land south 7 ½˚ west 6.53 chains, north 70 ¾˚ west 4.50 chains along Kapule's land, then at their boundaries south 3 ¾˚ west 6.30 chains, south 14 ½˚ east 6.50 chains, south 25˚ west 36.90 chains. Then at the Government land adjacent to the stream, south 37˚ west 20.20 chains, south 12.70 chains to the isthmus, south 60˚ east 1 chain to the stream of Moanalulu-then at said stream to the ocean—then at the ocean to the initial corner.

Iloko 160 eka
Koe nae ke kuleana o na kanaka

Within 160 acres
Reservations of the house lots and taro patches or gardens of natives lying within the boundaries of the tract granted



HELU 2729

PALAPALA SILA NUI.

Figure 21. Page 1 of 2 of Royal Patent for Grant no. 2729 (Office of Hawaiian Affairs 2018).

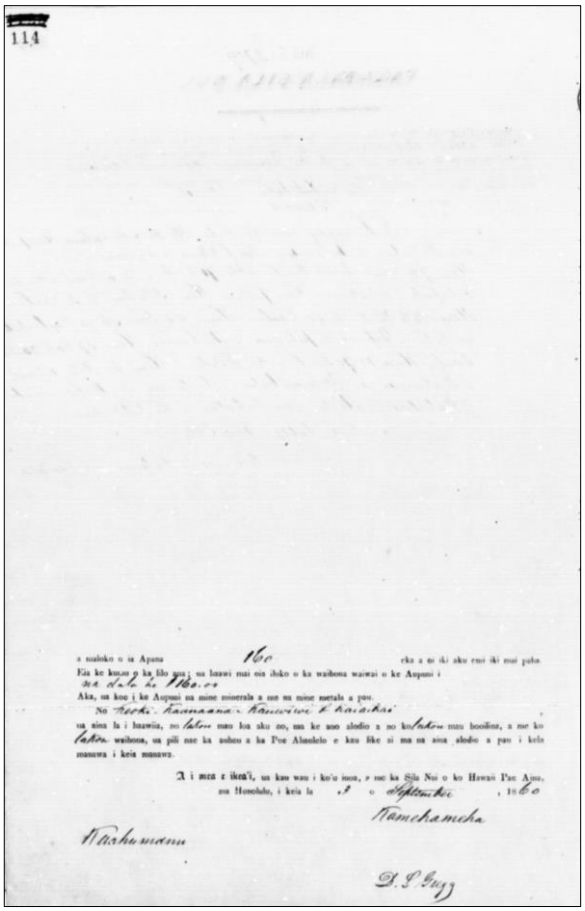


Figure 22. Page 2 of 2 of Royal Patent for Grant no. 2729 (Office of Hawaiian Affairs 2018).

As revealed in the surveyor's notes for Grant no. 2729, a church site (*kahua halepule* and *ʻāina luakini*) is described as being adjacent to the eastern boundary of the grant parcel along with the name Kapule, who was likely an area resident. Concerning natural features, the surveyor notes refer to an isthmus making the *mauka* boundary of the grant parcel and identified the eastern boundary of the grant as being the stream of Moanalulu. The location of the project area with respect to Grant no. 2729 along with the above-described church lot is depicted in Hawaiʻi Registered Map No. 1093 from 1884 drafted by W. A. Wall (Figure 23). The 1884 map shows the "church lot", which was part of a 2.9-acre parcel granted to the Board of Education (BOE) in 1882 as Grant no. 1 parcel 5, spanning Kaiwilahilahi Gulch with portions of extending on both the *kula* lands of Kaiwilahilahi and Pāpaʻaloa Ahupuaʻa (Office of Hawaiian Affairs 2018). The 1884 map shows that the Pāpaʻaloa portion of the BOE grant was a school lot whereas the Kaiwilahilahi portion was a church lot. The 1884 map also identified a "landing" at the coast near the mouth of Kaiwilahilahi Gulch as well as a meandering alignment of the Alanui Aupuni (also known as the Government Road and present-day Ola Māmalahoa Road) extending along the *mauka* (southern) boundary of the project area.

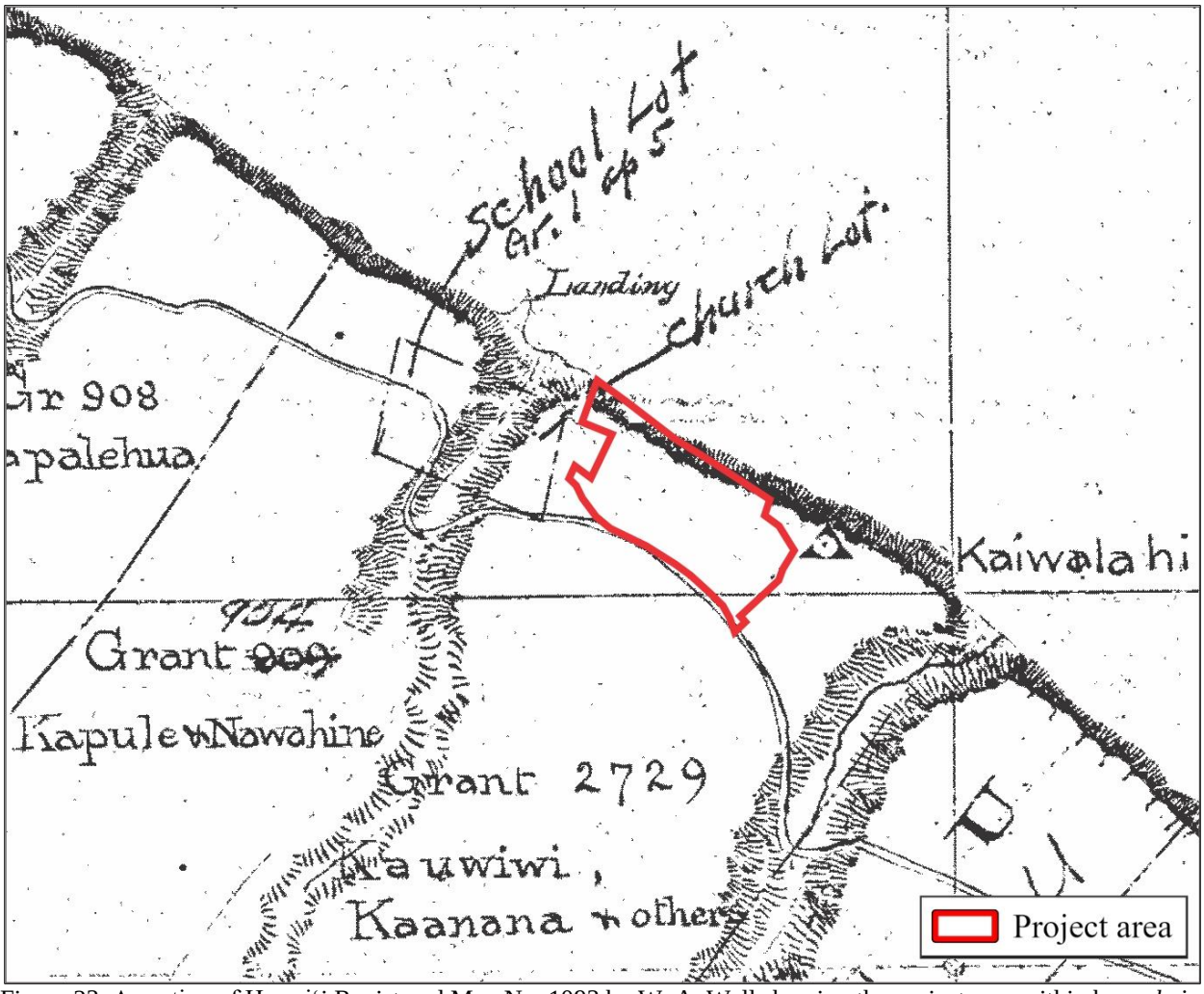


Figure 23. A portion of Hawai‘i Registered Map No. 1093 by W. A. Wall showing the project area within he *makai* portion of Grant No. 2729.

Boundary Commission Hearings for Kaiwilahilahi Ahupua‘a

In 1862, the Commission of Boundaries (Boundary Commission) was established in the Kingdom of Hawai‘i to legally set the boundaries of all the *ahupua‘a* that bad been awarded as part of the *Māhele*. Subsequently, in 1874, the Boundary Commission was authorized to certify the boundaries for lands brought before them. The primary informants for the boundary descriptions were old native residents who learned of the boundaries from their ancestors. The boundary information was collected primarily between 1873 and 1885 and was usually given in Hawaiian and simultaneously transcribed into English. Although hearings for most *ahupua‘a* boundaries were brought before the Boundary Commission and later surveyed by Government employed surveyors, in some instances, the boundaries were established through a combination of other methods. In some cases, *ahupua‘a* boundaries were established by conducting surveys on adjacent *ahupua‘a*. Or in cases where the entire *ahupua‘a* was divided and awarded as Land Claim Awards and or Government-issued Land Grants (both which required formal surveys), the Boundary Commission relied on those surveys to establish the boundaries for that *ahupua‘a*. Although these small-scale surveys aided in establishing boundaries, they lack the detailed knowledge of the land that is found it the Commission hearings. Unfortunately, no hearing was held for the Kaiwilahilahi Ahupua‘a or any of the adjacent *ahupua‘a*. With no boundary commission testimonies for Kaiwilahilahi or the *ahupua‘a* in its immediate vicinity, little is known of the area during this period. The work of the Boundary Commission was part of the final step in shifting the traditional land tenure system to one of fee-simple private ownership which effectively paved the way for the growth of large-scale commercial agriculture across the islands.

Laupāhoehoe Sugar Company and Road and Rail Development

Following the *Māhele* and the signing of the 1875 Treaty of Reciprocity, a free-trade agreement was signed between the United States and the Kingdom of Hawai‘i to guarantee a duty-free market for Hawaiian sugar in exchange for special economic privileges for the United States. This in turn made commercial sugarcane cultivation and sugar production the central economic focus for the Hilo area. By 1874, Hilo already ranked as the second largest population center in the islands and within a few years the fertile uplands, plentiful water supply, and port combined to make Hilo a major center for sugarcane production and export. The plantation lands commonly extended some two to three miles inland from the coast (Best 1978:123) between the shoreline bluffs to about 2,000 feet above sea level at their western (*mauka*) limits. Ocean frontage could range from two to six miles. Railroads operating on steam and animal power were built on some plantations by 1887, however some plantations utilized flumes or cable railways to transport cane from the fields to the coastal mills.

The history of sugar operations in Kaiwilahilahi and the neighboring lands are intimately connected to the inception and growth of the Laupāhoehoe Sugar Company whose history can be traced to at least 1876 when William Lidgate (also spelled Lydgate in some historical records), a young salesman for sugar milling equipment obtained fee-simple and lease-hold interest in lands in the Laupāhoehoe vicinity (Hilo Tribune-Herald 1956; Maly and Maly 2006). By 1879, the plantation erected its first three-roller mill at Laupāhoehoe thus marking the beginning of its sugar production (Hilo Tribune Herald 1950). By 1880, the Laupāhoehoe Sugar Company was formally organized as a joint venture between Theophilus H. Davise and William Lidgate, (Saito and Campbell 1988). As shown The company’s sugar plantation fields, which were entirely rainfed, covered about 10 miles along the North Hilo coast (from Ka‘awali‘i Gulch to Kahinano Ahupua‘a) and extended *mauka* up to about 1,850 feet elevation as shown in *The Laupahoehoe Sugar Co. Cane Area Map* from 1915 (Figures 24 and 25). The early years of the Laupāhoehoe Sugar Company were, however, fraught with difficulties one of which included a severe storm in 1882 that caused parts of the bluff to crash into the mill and destroyed four boilers (Hilo Tribune Herald 1950). Lidgate led the repair of the mill building and replacement of the boilers and the following year, the Laupāhoehoe Sugar Company expanded its operations by merging with Kaiwilahilahi Sugar Company. In 1882, the schooner *Ka Moi* departed Honolulu for Hawai‘i Island with the first load of machinery for a new sawmill, which was to be erected at Kaiwilahilahi by Lydgate and Company (The Daily Pacific Commerical Advertiser 1882). A few months after the delivery of the materials and machinery, high surf in the area swept all of “Mr. Lidgate’s new works at Kaiwilahilahi” into the sea (Evening Bulletin 1882).

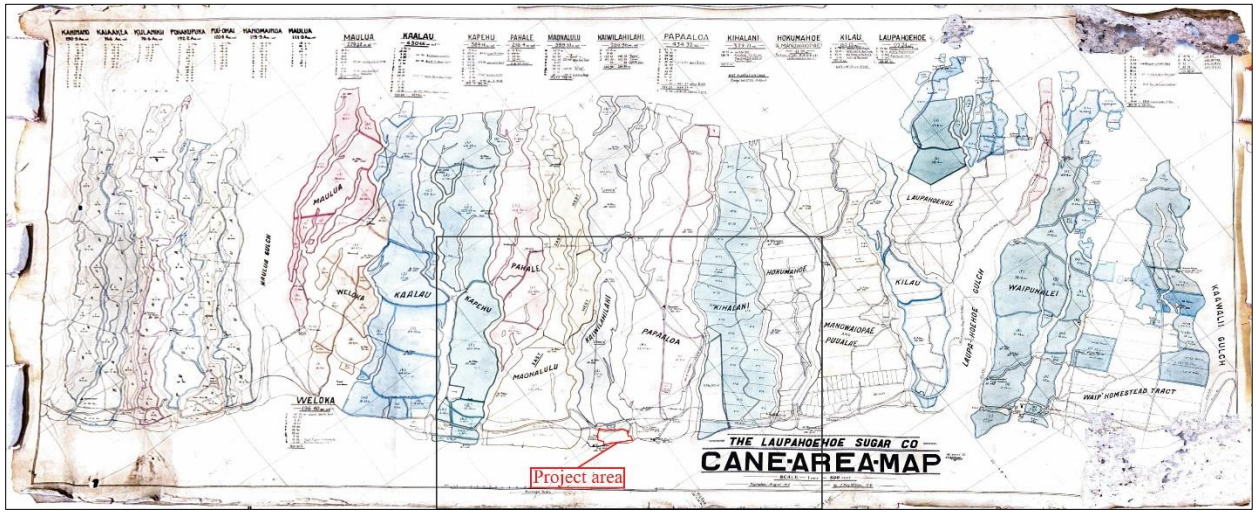


Figure 24. *The Laupahoehoe Sugar Co Cane Area Map* from 1915 (Courtesy of the Hawai‘i Sugar Planters Archives-Blueprints and Maps Doc #74 Roll Box # LSC R-2/1).

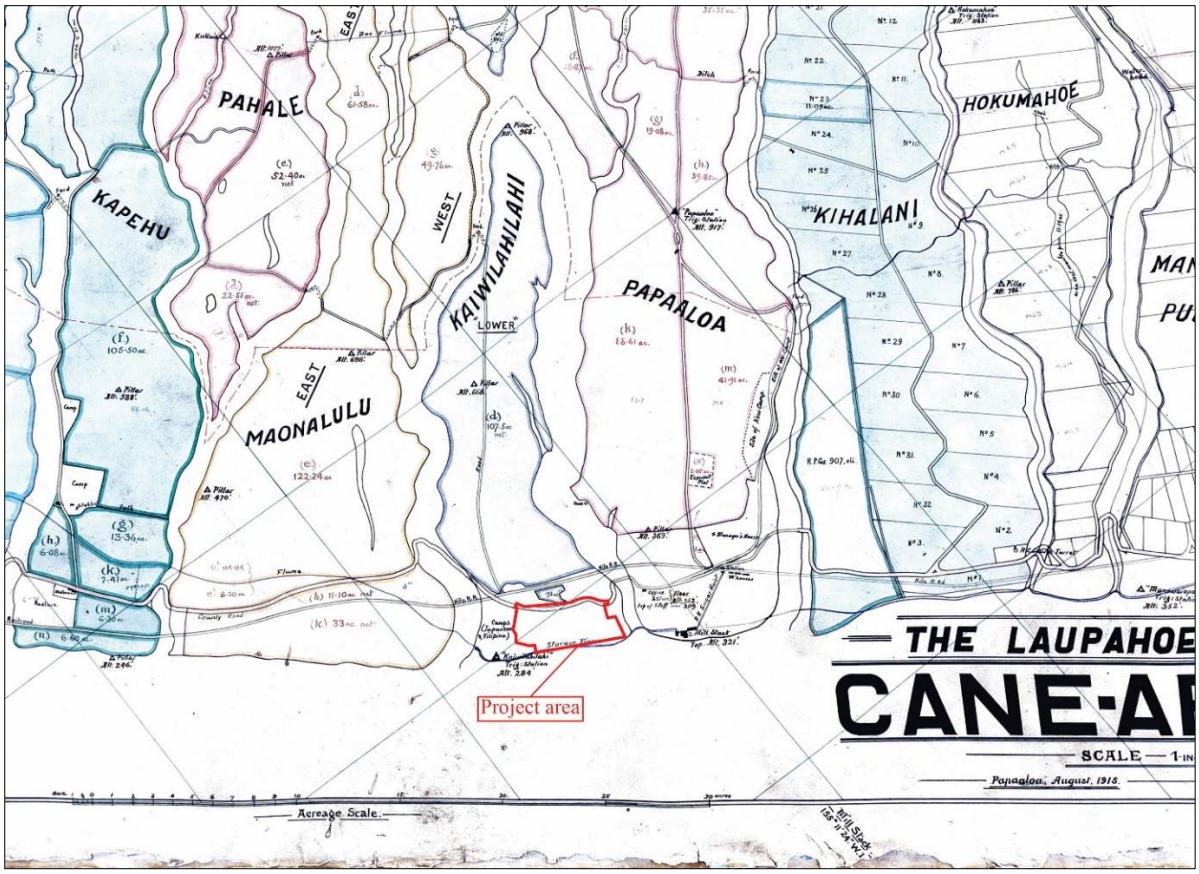


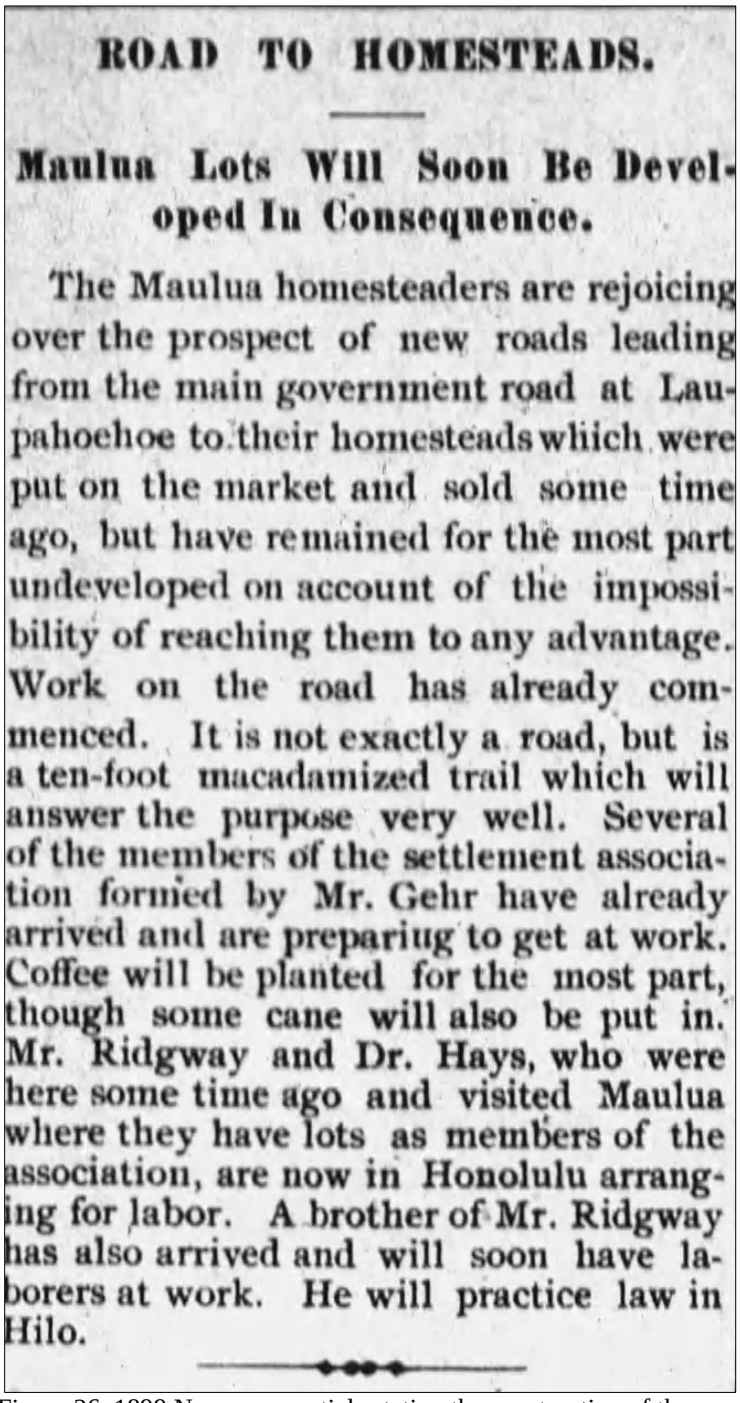
Figure 25. Close up of the 1915 *Laupahoehoe Sugar Co Cane Area Map* (Courtesy of the Hawai'i Sugar Planters Archives-Blueprints and Maps Doc #74 Roll Box # LSC R-2/1).

The history of the Kaiwilahilahi Sugar Company is notably absent from historical records, and it is speculated that this mill likely began as a small independent operation until it was absorbed by the Laupāhoehoe Sugar Company in 1883. By that time, much of the *kula* lands extending from Honomū to Kihalani in Laupāhoehoe had been converted into sprawling sugarcane fields.

By 1884, a landing was established near the mouth of Kaiwilahilahi Stream as shown in the 1884 map (see Figure 23), thus indicating a shift in operations out of Laupāhoehoe and into the Kaiwilahilahi-Pāpa'aloa area. With the incorporation of the two sugar companies, Laupāhoehoe Sugar operated two mills, the original mill site at Laupāhoehoe and one at Kaiwilahilahi (Saito and Campbell 1988). By 1885, the Laupāhoehoe Sugar Company began overhauling their mill equipment to increase processing efficiency and capacity and the mill at Kaiwilahilahi was converted into a maceration-style mill outfitted with equipment that better gauge the quality of daily cane production. After the retrofitting, the mill at Kaiwilahilahi served as the main cane processing facility for the Laupāhoehoe Sugar Company but by the end of the decade, the company moved toward centralizing their operations (Planters' Labor and Supply Company 1885). Although the exact date of construction is unclear, it is estimated that sometime between 1885 and 1890, Lidgate commissioned the construction of a third mill for the Laupāhoehoe Sugar Company at the coast of Pāpa'aloa, just west of the project area. Upon the completion of the Pāpa'aloa Mill in 1890, the original two mill sites were closed, and all cane processing shifted to the mill in Pāpa'aloa.

Laupāhoehoe Sugar featured a distinctive transportation system for delivering cane to the factory. Using a steam hoist, cane-loaded cars were lifted 1100 feet by cable at Maulua Gulch. Once at the summit, the cane was discharged into flumes, making a journey of about a mile to reach the mill at Pāpa'aloa (Saito and Campbell 1988). The flume used in the company's operation is labeled in the 1915 Cane Area Map (see Figures 24 and 25) as "Storage Flume" and is shown following the cliff contour *makai* (north) of the "Japanese & Filipino Camp" before entering the project area then crossing over Kaiwilahilahi Gulch and to the mill at the coast of Pāpa'aloa. As the Laupāhoehoe Sugar Company expanded into the Pāpa'aloa-Kaiwilahilahi area, throughout the later part of the 1890s and into the early 20th century, the coastal *kula* lands near the mill site grew as a social hub to support the plantation laborers and their families.

Concomitant with the rise of the Laupāhoehoe Sugar Company was the development of a road along the coastal cliffs, linking the communities of North Hilo and Hāmākua. This first road, known as the Government Road and later the Māmālahoa Highway, was designed for travel on horses and in carts, and was likely developed by land holders, primarily sugar growers, looking to connect their plantation lands and camp communities. The route of the road descended into the valleys and gulches along its length and likely followed an older foot path. A newspaper article (Figure 26) from 1899 (Hilo Daily Tribune 1899) states that work had begun on a section of road spanning from Laupāhoehoe (northeast of the project area) to Maulua (southeast of the project area), but that it was hardly a road, but more of a macadamized trail.



ROAD TO HOMESTEADS.

Maulua Lots Will Soon Be Developed In Consequence.

The Maulua homesteaders are rejoicing over the prospect of new roads leading from the main government road at Laupahoehoe to their homesteads which were put on the market and sold some time ago, but have remained for the most part undeveloped on account of the impossibility of reaching them to any advantage. Work on the road has already commenced. It is not exactly a road, but is a ten-foot macadamized trail which will answer the purpose very well. Several of the members of the settlement association formed by Mr. Gehr have already arrived and are preparing to get at work. Coffee will be planted for the most part, though some cane will also be put in. Mr. Ridgway and Dr. Hays, who were here some time ago and visited Maulua where they have lots as members of the association, are now in Honolulu arranging for labor. A brother of Mr. Ridgway has also arrived and will soon have laborers at work. He will practice law in Hilo.

Figure 26. 1899 Newspaper article stating the construction of the Government Road from Laupāhoehoe to Maulua.

As the Laupāhoehoe Sugar Company expanded into the Pāpa‘aloa-Kaiwilahilahi area, throughout the later part of the 1890s and into the early 20th century, and a rudimentary road was installed, the coastal *kula* lands in the immediate vicinity of the mill site grew as a social hub to support the plantation laborers and their families.

The population growth in the area was also spurred by the development of the railroad system which proved to be one of the most important elements of governmental and private sector planning (Dorrance and Morgan 2000). While the railroad proved advantageous to the sugar plantations scattered along the Hilo and Hāmākua coast, providing a more unified and efficient means of transporting cane from the fields to the mill, its introduction led to the gradual dissolution of earlier plantation-centered communities. The impact was notably significant in areas not positioned along the main railroad line, such as coastal Laupāhoehoe. In contrast, places situated along the railroad line, like Pāpa‘aloa, experienced substantial population and economic growth during the early part of the 20th century.

On the Island of Hawai‘i, the first major railroad line to be constructed was in the North Kohala District, which operated as the Hawaiian Railroad Company (HRC). The North Kohala line, however, was envisioned as only the first step toward a much larger system connecting the cane fields of Kohala, Hāmākua, and Hilo with Hilo Harbor, the only protected deep-water port on the island. Beginning in 1899, railroad lines began transporting sugar to the harbor for marine transport, thus making Hilo an important shipping and railroad hub. Between 1909 and 1911, the HRC built 12.7 miles of rail extending from Hilo to Hakalau Mill, crossing many deep gulches and valleys. This was followed by the construction of an additional 21 miles of rail that connected Hakalau with Pa‘auilo to the north, which covered a total distance from Hilo of roughly 34 miles and was known as the “Hamakua Division” (Dorrance and Morgan 2000:146). Lorrin A. Thurston defined the objective of the Hāmākua Division as:

> The principal object of the extension is to give adequate transportation facilities between Hilo and the fertile and well-settled territory extending for 50 miles north of the town of Hilo, and averaging three to four miles in width. This district produces nearly one-fourth of the entire output of sugar of the Territory and is, including the town, the home of over 30,000 people. The only means of access to this section has heretofore been by wagon road, almost impassable in rainy weather, and by derrick and cable landings over bluffs rising from 50 to 300 feet sheer from blue ocean. There are no harbors. (Dorrance and Morgan 2000:147)

The railroad can be seen traversing *mauka* (south) of the current project area on a map from 1912 (Figure 27). The 1912 map shows the Pāpa‘aloa Mill located along the bluff to the west of the project area and shows various structures on the *kula* lands of both Pāpa‘aloa and Kaiwilahilahi. In the project area, three structures are shown with two clusters of neatly laid out structures, likely plantation camps, to the south and east sides of the project area (see Figure 27). A U.S.G.S. map from 1915 (Figure 28) also shows the alignment of the railroad as well as the route of the flume system traversing the cliff edge.

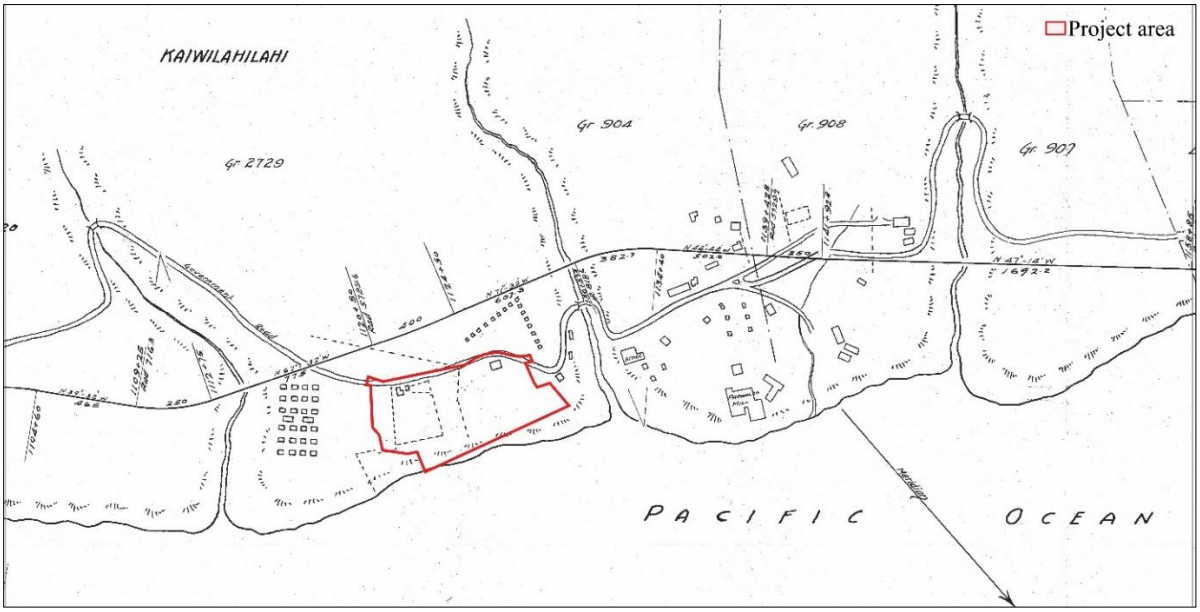


Figure 27. Portion of Section 1 Hilo Railroad Location map from 1912 showing railroad alignment in relation to the project area.

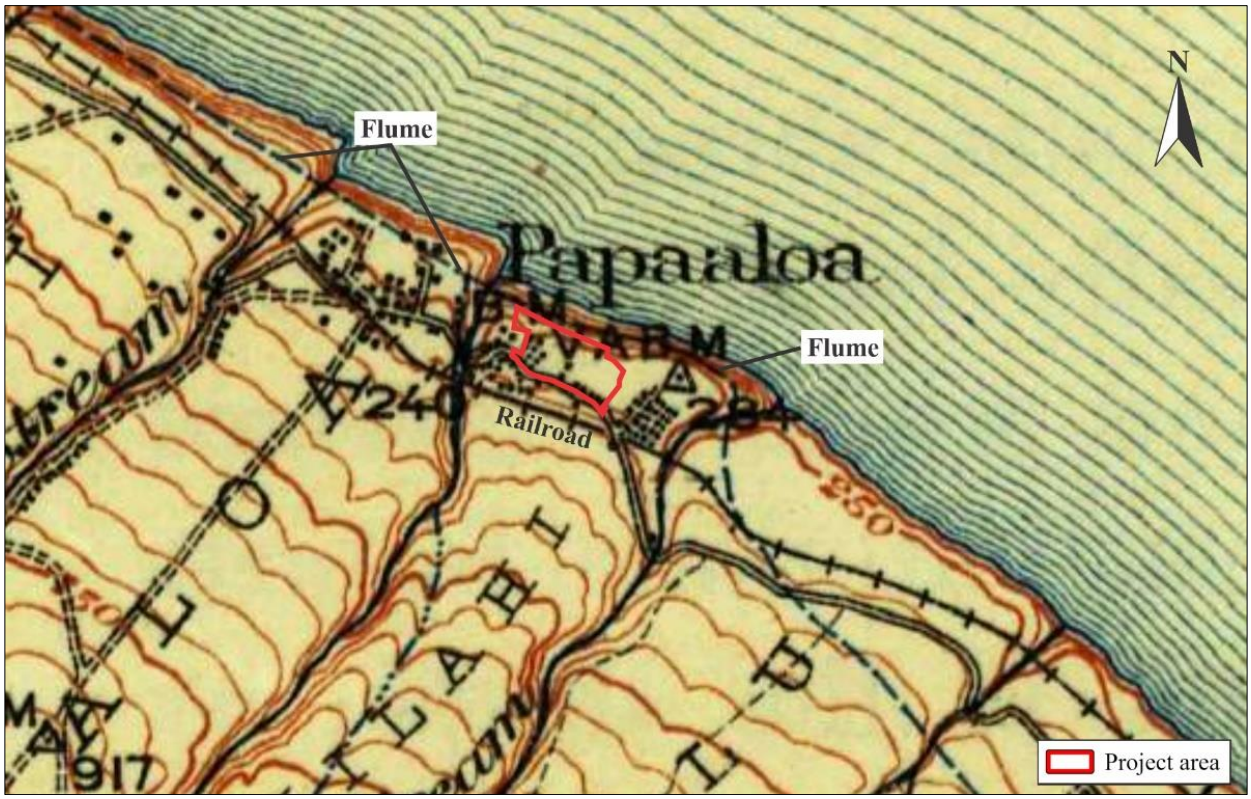


Figure 28. Portion of a 1915 U.S.G.S. Honomū Quadrangle showing the current project area and flume system.

Homesteading Program and the Continued Expansion of Agriculture and Community Life

As part of the continued growth of sugar in this region, after the Hawaiian Kingdom Government was overthrown in 1893, the newly formed Republic of Hawaii (established in 1894) passed the Land Act of 1895, which incorporated Government Lands (including those acquired through purchase, escheat, exchange or eminent domain) and Crown lands into the public domain. The Land Act, which was intended to promote widescale agriculture, not only expanded the definition of Government lands but it placed tighter restrictions on homesteaders, required that new leases be let through public auction, reduced the max term limits, and carried with it no automatic renewal privileges. Furthermore, under the 1895 Act, applicants could acquire government lands in one of three ways: the right of purchase lease, homestead lease, and cash freehold (Horowitz et al. 1969). In the early 1900s, when many of the Laupāhoehoe Sugar Company's lease lands came up for renewal, wide swaths of land were turned over for homesteading purposes and people of various ethnic backgrounds applied for homestead lots. In the context of Pāpa'aloa, many of the people that applied for these homestead leases were existing residents. Although elsewhere in the island, prospective homesteaders were presented with options to obtains a homestead lot, in the case of Laupāhoehoe and Pāpa'aloa, homestead applicants were required to consent to a right of purchase lease, during which they would clear the land for sugar cultivation, and would then sell their cane to the Laupāhoehoe Sugar Company (Maly and Maly 2006).

The first homestead lots to be created in region were the Laupāhoehoe Homesteads, which included roughly forty lots that spread eastward from Laupāhoehoe gulch across nine different *ahupua'a*, including Pāpa'aloa and Kaiwilahilahi. These lots, most of which were located between the 1,600- and 2,100-foot elevation, had never been cultivated in cane and needed to be cleared of existing forest. By 1916, an additional seventy-seven homestead lots, totaling 1,158-acres were added as part of the Pāpa'aloa Homesteads. These homesteads lots extended *makai* (north) of the Laupāhoehoe Homestead lots to the *mauka* boundaries of the Government land grants that had been awarded ca. 1860s. By 1916, "several thousand acres of cane land" were under sugar cultivation by homesteaders in contract with Laupāhoehoe Sugar Company (Hawaii Herald 1916:1). As a result, by 1920 approximately half of the sugar company's cane land was cultivated by homesteaders, while the other remained under the direct cultivation of the sugar company (Saito and Campbell 1988).

The growth of Laupāhoehoe sugar coupled with the establishment of the railroad and the homesteading program during the early 20th century ultimately gave rise to a robust plantation community, complete with plantation-sponsored amenities, such as parks, stores, and hospitals(Figure 29). Two maps from 1916, Plat Map 706 (Figure 30) and Hawai‘i Registered Map 2585 (Figure 31) provides insight into the infrastructure and layout of the community during this period including the location of the Pāpa‘aloa Mill, store, post office, plantation camps, and structures along the edges of the Government Road.

Figure 29. Aerial photo of the Pāpa‘aloa Mill and surrounding plantation community ca. 1920s.

Beginning in 1937, the Laupāhoehoe Sugar Company focused on improving the lives of the plantations workers by undertaking numerous infrastructural improvements which included a new hospital in Laupāhoehoe and running water for each plantation camp. Additionally, “villages were modernized, clubhouses, parks, the gymnasium and community halls were remodeled or built” which gave rise to organized recreation and community events (Saito and Campbell 1988:3).

Structured recreational activities constituted a pivotal element of plantation life, and historical local newspapers, dating back to at least 1919, abound with commentary detailing competitions and tournaments between various plantation communities in East Hawai‘i. In the Pāpa‘aloa village area, competitive sports, like tennis, baseball, and volleyball, were a common extracurricular for many plantation employees and their families (Hilo Tribune Herald 1923, 1933). In another example, an article published in the April 23rd edition of the *The Pacific Commercial Advertiser* (1919:6) tells of a large tennis tournament held at Pāpa‘aloa in which teams from seven camps in East Hawai‘i including Wainaku, Pāpa‘ikou, ‘Ōla‘a, Pepe‘ekeo, Hakalau, Pāpa‘aloa, and Honoka‘a were set to compete against each other. While the exact date of construction is unknown, by July 30th, 1938, the Laupāhoehoe Sugar Company had completed the construction of the Pāpa‘aloa Gymnasium as an article published *The Honolulu Star-Bulletin* (1938:5) tells of an Independence Day celebration for some 2,000 attendees from the neighboring plantations that included a parade, *pā‘ū* riders, floats, and a “boxing show to open the new Papaaloa gym.” After the gymnasium was constructed, the community and plantation continued to hosted many social and sporting events such as dances, plays, a parades (Hilo Tribune Herald 1940); and even a carnival in 1946 (Hilo Tribune Herald 1946). The following year, the Pāpa‘aloa Athletic Association sponsored a carnival with E. K. Fernandez from Honolulu (Hilo Tribune-Herald 1947).

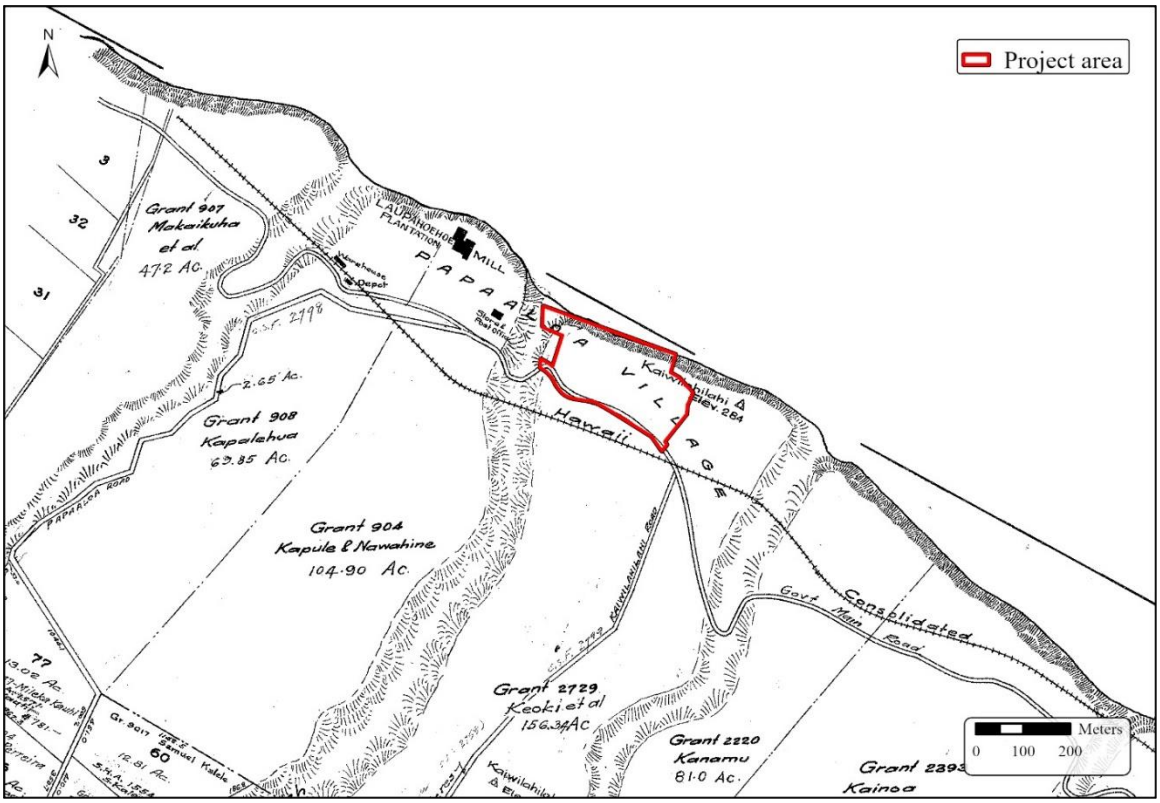


Figure 30. Plat Map 706 from 1916 showing project area, note the mill site, store and post office, and the Pāpa‘aloa Homestead lots along the *mauka* boundaries of the coastal grants.

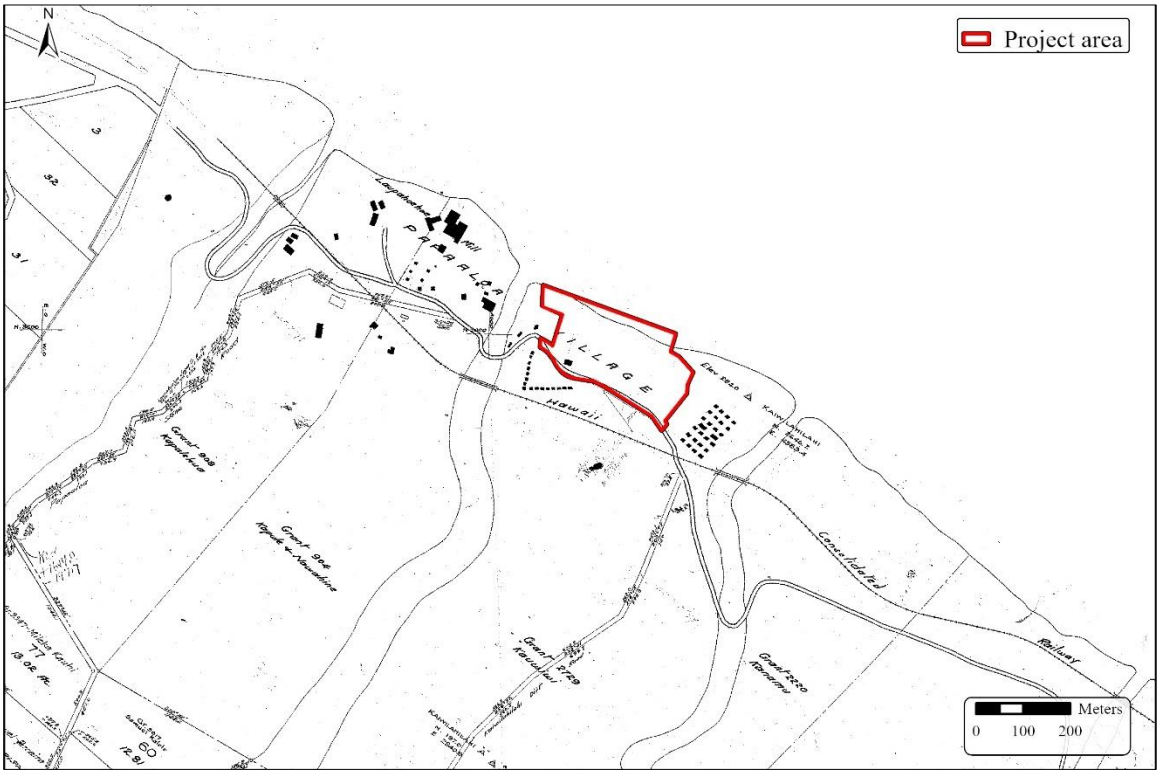


Figure 31. Portion of Hawai‘i Registered Map No. 2582 from 1916 showing the project area and plantation camps in the neighboring vicinity.

The 1946 *Tsunami* and Gradual Demise of the Laupāhoehoe Sugar Company

On April 1st, 1946, a *tsunami* triggered by an earthquake in the Aleutian Islands slammed into the north facing shores of Hawai‘i Island, dealing a fatal blow to the already struggling HCR. Tracks around the Hilo waterfront were entirely washed out and the Hilo Station was wrecked (Muffler and Museum 2015). An entire span of the Wailuku Bridge was torn out and washed upstream and "twelve miles north of Hilo, the railroad bridge at the mouth of the Kolekole Stream lost its center span" from a massive inundation of water that reached heights of 37 feet in Kolekole and the neighboring Hakalau Gulch (Klein et al. 1985; MKE and Fung 2013:E8). Although the mill at Pāpa‘aloa escaped the intense waves, the low-lying and well-settled area of coastal Laupāhoehoe sustained significant damage. The early morning *tsunami* claimed the lives of twenty-four people, most of whom were arriving to school or residing on the campus, including sixteen children, four teachers, and four residents. Survivors recalled the terrifying roar of the ocean and the series of waves the enveloped the Laupāhoehoe peninsula (Muffler and Museum 2015).

With the Hāmākua Division officially defunct, Hawaii Consolidated Railway offered its right-of-way, bridges, and tunnels to the territorial division of highways and Hawai‘i County supervisors (MKE Associates LLC and Fung Associates, Inc. 2013:E8). In an act of short-sightedness, both agencies refused. Un-phased, Hawaii Consolidated liquidated its assets on December 26th, 1946. The entire railroad was sold to Gilmore Steel & Supply Co. of San Francisco for a mere $81,000. Most of the bridges were dismantled and the rails were pulled up along the length of the Hāmākua Division. Together with the remaining rolling stock, they were shipped to California as scrap metal. Amid the disassembly, the Division of Highways belatedly decided that Route 19 needed to be relocated and improved. It purchased the remaining bridges, plus some that were awaiting shipment in Hilo, for $302,723.53. Steel from the dismantled railroad bridges was used to widen the standing bridges for their new roles as highways (MKE Associates LLC and Fung Associates, Inc. 2013:E8). In Hilo, the damaged docks and track were repaired, and rail service was continued to Olaa Sugar under lease from Gilmore Steel & Supply Co. Product was transported by train from Olaa Sugar until December of 1948, at which time the line was permanently closed. All remaining assets were sold to The Independent Ironworks of Oakland, California for scrap.

In the wake of the April 1st, 1946, *tsunami*, the Laupāhoehoe Sugar Company resumed operations, albeit to a community grappling with the profound aftermath of the disaster. The railroad bridges from Hilo to Pa‘auilo that were destroyed by the *tsunami*, were rebuilt and reopened for vehicular travel along the Hawai‘i Belt Road (Māmalahoa Highway) in 1950, which replaced the original Government Road, and remains in use to this day (MKE Associates LLC and Fung Associates, Inc. 2013:E8). An aerial image from 1954 U.S.G.S. (Figure 32) depicts the park portion of the project area configured much as it is today including the open ball field, tennis courts, parking lot, and gymnasium. In the western section of the project area, the 1954 aerial photo shows at least two warehouse-style structures one of which is located along the cliff edge near Kaiwilahilahi Gulch as well as a row of buildings located along the *makai* edge of the old Government Road. Regarding other built features in the immediate vicinity of the project area, the 1954 aerial photo depicts the newly created Hawai‘i Belt Road (the former route of the Hawai‘i Consolidated Railroad [Site 24212]) and the original Government Road along the southern boundary of the project area, and a new configuration to the plantation camp (Kekoa Camp), east of the project area. Earlier maps from 1915 and 1916 (see Figures 28 and 31) shows the camp configured in a series of linear rows, whereas the 1954 U.S.G.S. aerial (see Figure 32) reveals a reconfiguration of the camp into a circular loop. A cursory review of County Tax records for the homes in Kekoa Camp date many of the homes to the 1940s. This information may indicate that the original camp was demolished likely in the 1930s and replaced with newer, more modern homes when the plantation undertook their improvements in 1937.

Figure 32. A 1954 U.S.G.S. aerial image with the approximate location of the current project area.

Additional details about the structures in the project area are revealed in a Sanborn Fire Insurance Map (Sanborn Map Company 1914-1959) (Figure 33). Originally created in 1915 this map was subsequently updated in 1946 and 1959, providing a comprehensive depiction and labeling of all structures covered under the plantation's liability insurance. In the eastern, park portion of the project area, the Sanborn map shows the "gym" building that included a stage along with an adjacent "dressing room" (present-day Annex building), and "tennis courts". In the western part of the project area, two structures are marked for use by the Laupāhoehoe Sugar Company. The larger of the two structures which is described as constructed of corrugated iron on steel frames, steel trusses, and concrete floors, was divided into several work areas such as truck repair, machine shop, tractor prep, stock room welding shop, and an office and oil storage area.

Regarding the smaller structure, which was built of the same materials but situated along the cliff edge, the map depicts this building as being divided into smaller work areas that included steam cleaning, paint shop, tire repair and storage, office, and an area for gas and oil. Along the *makai* edge portion of the Government Road, several buildings are shown, from west to east, they include a barber with the name "Kuma", a dwelling with the name "Tabata", a store with the name "Sugekawa" (Sugikawa Store), another store with an attached dwelling with the name "J. Okamura", and two smaller structures, one labeled A and another dwelling. As can be seen from this map, much of the amenities (tailor, cobbler, movies, library, beauty shop, etc.) were organized along the Government Road in the vicinity of the project area.

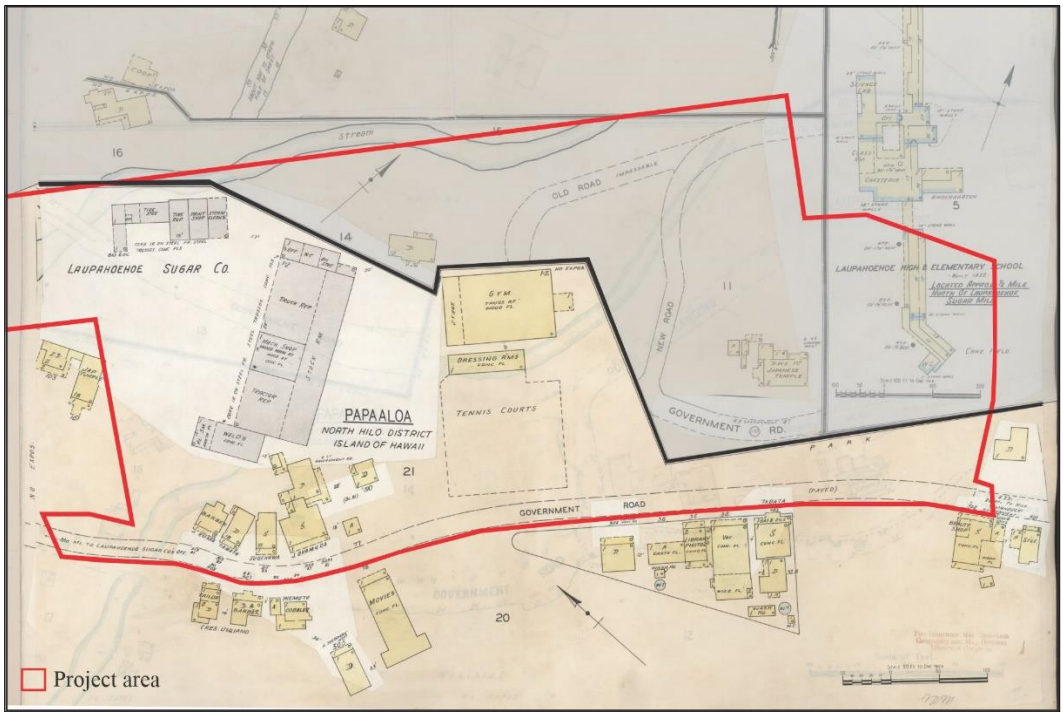


Figure 33. Sanborn Fire Insurance map (Sanborn Map Company 1914-1959) ca. 1950s showing details of structures within the project area.

On January 3rd, 1957, with Theo H. Davies & Co. acting as its agent, the Laupāhoehoe Sugar Company merged with the Kaiwiki Sugar Co., Ltd. thus ending its seven-decade run of independent operation. Despite this merger, Pāpa‘aloa remained as the “hometown of the Laupahoehoe [Sugar Company] employees” (Hilo Tribune-Herald 1956:1). A U.S.G.S. aerial photo take in 1965 (Figure 34) and another U.S.G.S. map from 1966 (Figure 35) shows very little change to the project area when compared to the earlier maps and aerials. The 1966 map however, does depict the alignment of a flume (blue line) running in a northwest direction from Moanalulu Ahupua‘a, then on the *makai* side of Kekoa Camp, and along the *makai* boundary of the project area. This flume can also be seen in the earlier aerial photo from ca. 1920s (see Figure 29). In 1967, the Laupāhoehoe Sugar Company consolidated their two sugar mills, closing the mill at Pāpa‘aloa and sending all harvested sugarcane to be processed at the mill in ‘Ō‘ōkala (Hawaii Tribune-Herald 1967).

In the subsequent decades, the continuous rise in operational costs left smaller plantations unable to sustain their factories and meet administrative expenses, prompting a series of mergers. This challenge was exacerbated by the introduction of new State and Federal pollution abatement laws, prohibiting sugar companies from disposing of bagasse, trash, and other waste into the ocean. This piece of legislation meant that sugar companies would be forced to abate the pollution that sugar operations generated, especially with regard to coastal discharges of sugar processing byproducts.

By the 1970s, the Laupāhoehoe Sugar Company shifted from hand harvesting to mechanized methods which led to a reduction in the number of employees. By the end of 1972, the company had an estimated 376 employees which was nearly half as many from fifteen years prior (Bowen and Bowen 1977). Despite these pressures, the Laupāhoehoe Sugar Company endured as a prominent plantation, maintaining its operations under its original name even after a second merger with Hamakua Mill Co. in 1974 (Hawaii Tribune-Herald 1974).

In 1978, Theo H. Davies & Co. led the final merger with the Honoka‘a Sugar Company and the company was renamed Davies Hamakua Plantation, Inc. thus marking the end of the Laupāhoehoe Sugar Company (Hawaii Tribune-Herald 1978). Although the Laupāhoehoe Sugar Company was no longer operating under its original name, sugar continued as a gradually diminishing economic mainstay for this part of North Hilo.

Throughout the remainder of the 20th century, with the sugar industry in decline, many of the former businesses in Pāpa‘aloa and Kaiwilahilahi that operated as part of the Laupāhoehoe Sugar Company slowly closed their doors (Bowen and Bowen 1976). Photos published in the December 12th, 1976, edition of the *Hawai‘i Tribune-Herald* shows a dwindling Pāpa‘aloa Village (Figure 36).

Figure 34. A 1965 U.S.G.S aerial photo showing the project area.

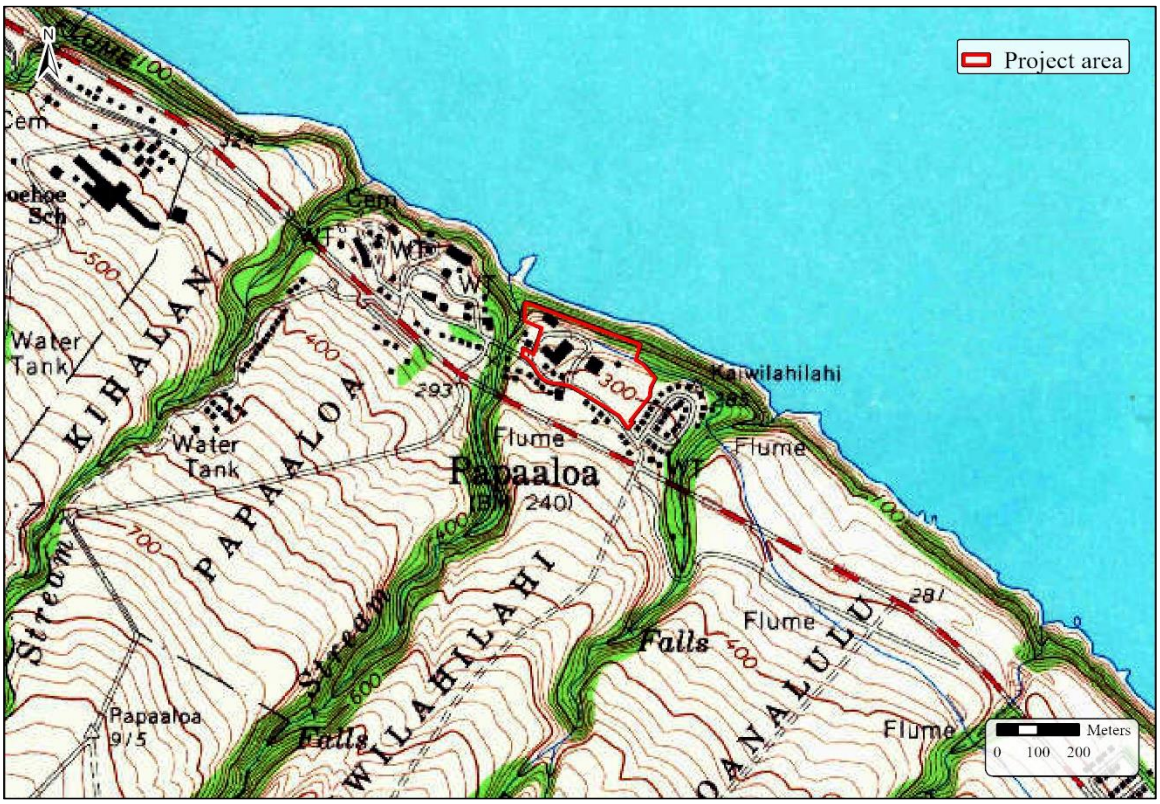


Figure 35. 1966 U.S.G.S map showing project area.

Figure 36. Photos of Pāpaʻaloa Village in 1976 (Bowen and Bowen 1976).

Pāpa‘aloa Park, Center of Community Life

Despite the region’s decline in sugar production, Pāpa‘aloa Park remained a vital social hub for area residents. Continuing the tradition from previous generations, the park thrived with a variety of sporting and social events catering to all age groups. Newspaper articles from the early 1970s onwards frequently features public announcements promoting various County-sponsored programs at Pāpa‘aloa Park. Although the exact date of transfer is unknown, based on a review of historical newspapers and County Field Book Records, it is believed that by 1973, the ownership of Pāpa‘aloa Park shifted from Theo H. Davies (Hāmākua Sugar Company, Inc.) to the County of Hawai‘i.

From the 1970s to March 2021, recreational and community events persisted in the easter, park portion of the project area. Photo provided by the County of Hawai‘i Elderly Nutrition Program shows area residents participating in various social activities and events held in the Annex and Gymnasium (Figures 37, 38, 39, and 40). However, during this period different types of land use activities were occurring the western portion of the project area. A review of County Field Book Records for Parcel 035 suggests that by the 1970s, the original Laupāhoehoe Sugar Company buildings may have been repurposed as a garage/storage yard; it is unclear from these records who was occupying these buildings. A 1977 U.S.G.S aerial photo (Figure 41) show the extant structures in the western part of the project area including the two Laupāhoehoe Sugar Company buildings as well as the dwellings and stores located along the *makai* edge of the Government Road. By the early 1990s, the Laupāhoehoe Sugar Company buildings in the western portion of the project area appear to be largely abandoned and the dwellings and stores located along the Government Road are no longer visible as shown in the 1992 U.S.G.S. aerial photo (Figure 42).

Figure 37. *Kupuna* participating in social activities held in the Annex Building ca. 1990s (Photo courtesy of the County of Hawai‘i Elderly Nutrition Program).

Figure 38. *Kupuna* participating in social activities held in the Pāpa‘aloa Gym ca. 1990s (Photo courtesy of the County of Hawai‘i Elderly Nutrition Program).

Figure 39. *Kupuna* preparing food in the kitchen of the Annex Building ca. 1990s (Photo courtesy of the County of Hawai‘i Elderly Nutrition Program).

Figure 40. Pool and foosball game in the Annex Building (Photo courtesy of the County of Hawai‘i Elderly Nutrition Program).

Figure 41. 1977 U.S.G.S. aerial photo showing project area.

Figure 42. 1992 U.S.G.S. aerial photo showing project area.

By the 2000s, use of the western portion of the project area resumed as shown in a NOAA aerial photo from 2000 (Figure 43). A review of Google Earth aerial images dating between 2001 until about 2021 (Figures 44 through 49) shows sections of Parcel 035 being periodically cleared and used as a storage yard. In the 2013 Google Earth aerial image (see Figure 47), two new structures appear on Parcel 035 in the area downslope of the gymnasium.

Although little had changed in the way of layout and land use in the park portion of the project area, in March 2020, the Pāpa‘aloa Gym was closed due to the Covid-19 pandemic. Concurrently, the County revealed plans for a comprehensive renovation project, aiming not only to refurbish the gym but also to enhance the tennis courts, annex, and baseball field to align with the standards of the Americans with Disabilities Act (ADA). However, by the fall of 2021, an unfortunate discovery was made. The gym was found to have suffered extensive termite damage, rendering it unsalvageable. A community meeting convened at Pāpa‘aloa Park on November 10th of the same year, and the County announced its intention to demolish the gym. This announcement was met with strong objections from the public, who expressed concerns and disappointment regarding the gym’s decade-long lack of maintenance and the absence of an immediate plan for replacement. Simultaneously, some members of the community viewed the planned demolition as an opportunity to envision a new park for Pāpa‘aloa (Walling 2021). In 2022, the County initiated planning for the development of a new park for the Pāpa‘aloa community.

Figure 43. Aerial photo taken in 2000 showing the project area and neighboring vicinity.

Figure 44. 2004 Google Earth aerial image showing project area.

Figure 45. 2010 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

Figure 46. 2011 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

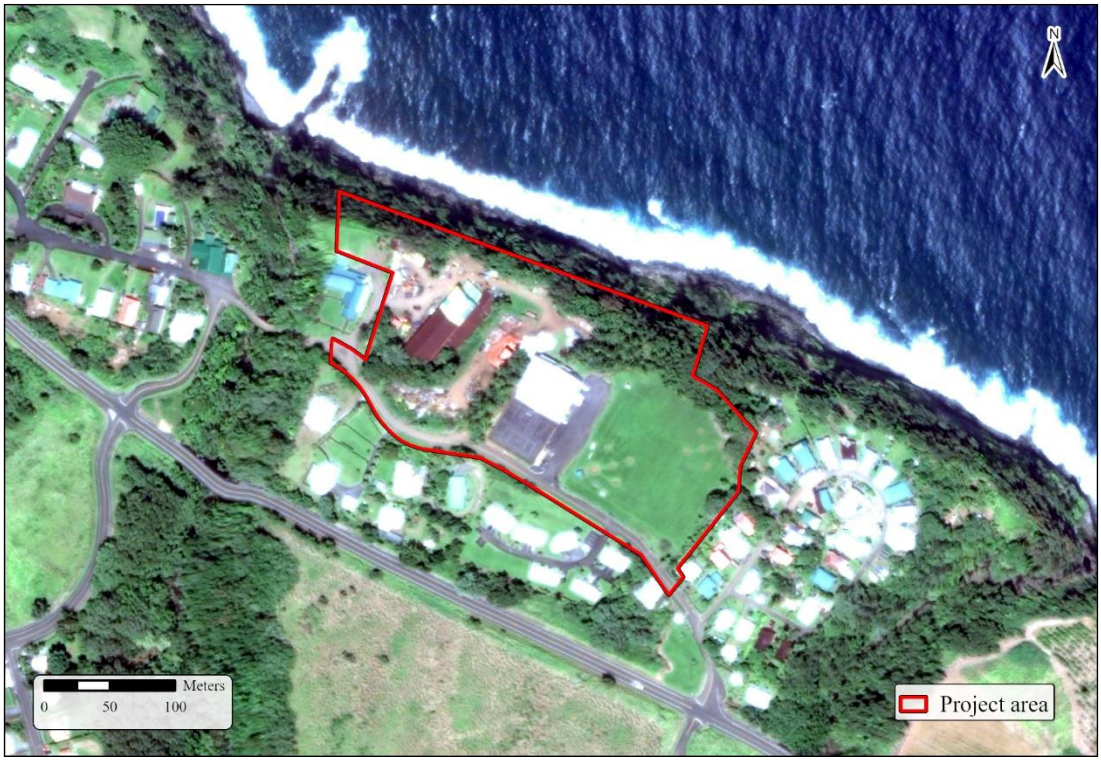


Figure 47. 2013 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

Figure 48. 2014 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

Figure 49. 2021 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

PREVIOUS ARCHAEOLOGICAL STUDIES

Among the earliest archaeological work to be done in East Hawai‘i was that of the early twentieth century *heiau* researchers Thrum and Stokes (Stokes 1991; Thrum 1907). Neither investigator was able to identify *heiau* within the current project area or the immediately surrounding *ahupua‘a*. In the early 1930s, A.E. Hudson, working under the aegis of the Bishop Museum, also conducted archaeological investigations in East Hawai‘i (Hudson 1932). While surveying between Waipi‘o and Hilo, Hudson remarked that few archaeological sites were to be found due to the "extensive development of sugar plantations" (Hudson 1932:182). He did not identify any sites near the current project area. In 1973, State Inventory of Historic Places (SIHP) Site number 50-10-16-7398 was assigned to the Pāpa‘aloa District, an approximately 40-acre "plantation community consisting of houses, commercial area, recreation facilities and religious structures" that includes the current project area (Figure 50).

This portion of North Hilo has remained largely unchanged since the end of sugarcane cultivation in the 1990's. Limited development has resulted in a dearth of archaeological studies (Table 1). The closest study to have taken place in the vicinity of the current project area was a literature review and field inspection conducted by Cultural Surveys Hawai‘i, Inc., (Wilkinson and Hammatt 2013) for drainage improvements to the Hawai‘i Belt Road within Pāpa‘aloa Ahupua‘a (see Figure 50). As a result of their field inspection, Wilkinson and Hammatt (2013) identified the historic sugar plantation-era Pāpa‘aloa Ditch, late-l950s concrete rubble masonry drainage infrastructure, and the Kaiwilahilahi Bridge. Following their study archaeological monitoring was requested by the SHPD and a monitoring plan was prepared by CSH (Wheeler et al. 2014). In 2020, an archaeological inventory survey (Donham 2020) in Kihalani Ahupua‘a (see Figure 50) identified Site 50-10-16-31187, which consisted of two Historic sugar plantation related erosion berms constructed by the Laupāhoehoe Sugar Company in the early 1900s.

A review of reports and correspondence on the Hawai‘i Cultural Resource Information System (HICRIS) online database indicates that SHPD has previously written "no effect" letters for at least two parcels located in the Pāpa‘aloa Homesteads (*mauka* of the project area) within Kaiwilahilahi Ahupua‘a. These "no effect" letters include a November 9, 1992 letter for TMK: (3) 3-5-003:038 (*Log No. 6726 Doc No. 9211KS06*), and an undated letter for TMK: (3) 3-5-001:043 (*Log No. 10085 Doc No. 9311ms07*). The reason generally given for SHPD's belief that the proposed development of these parcels would have "no effect" on significant historic sites, was that they were both utilized extensively for the cultivation of sugarcane which had altered the land. SHPD undertook no archaeological survey of the parcels listed above.

Table 1. Previous archaeological studies conducted in the vicinity of the current study area.

Year	*Author(s)*	*Type of Study*	*Ahupua‘a*
2020	Donham	AIS	Kihalani
2013	Wilkinson and Hammatt	Lit. Review and Field Insp.	Pāpa‘aloa

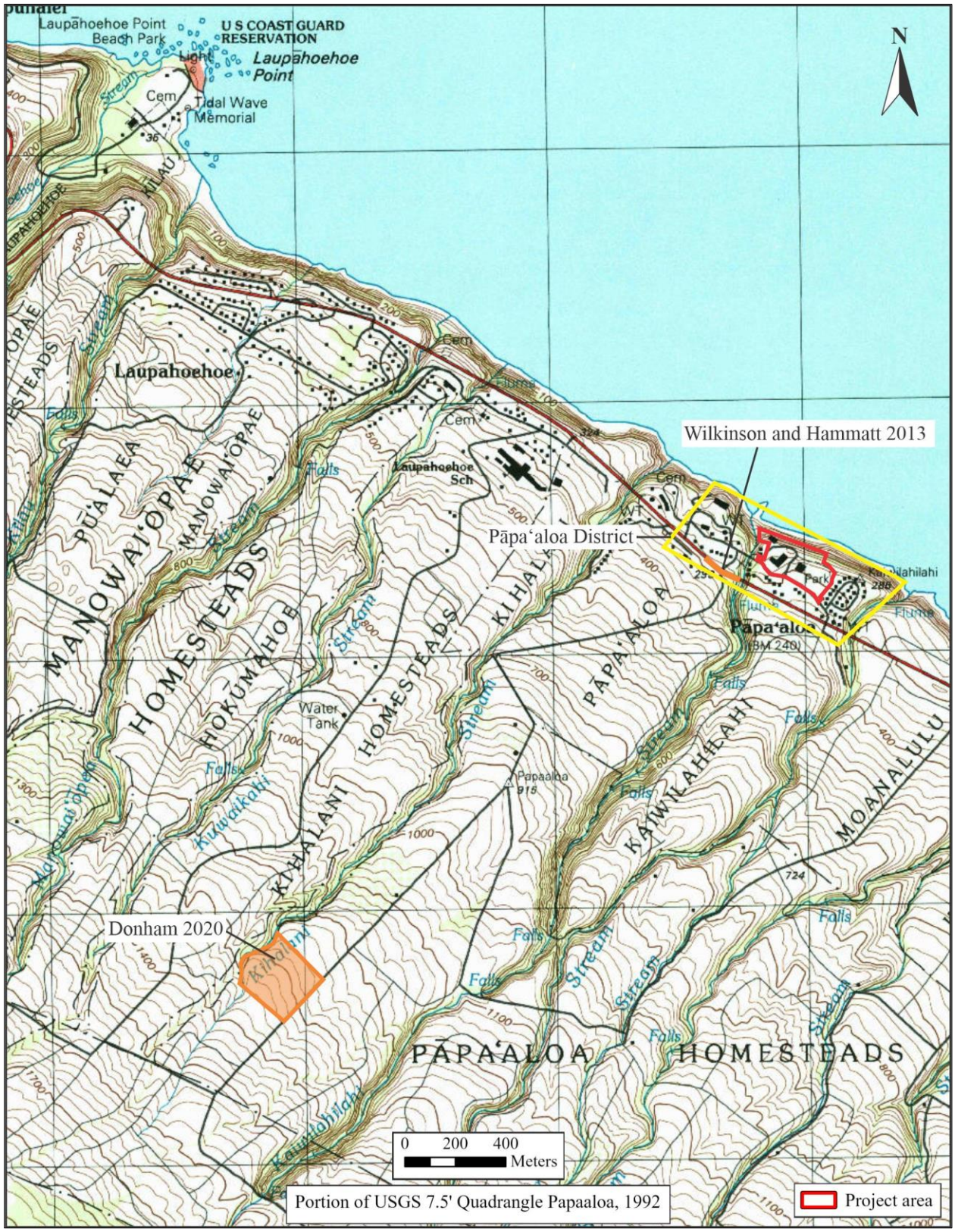


Figure 50. U.S.G.S. map showing the location of previous archaeological studies in the vicinity of the current project area.

3. STUDY AREA EXPECTATIONS

Based on the culture-historical context and the findings of previous archaeological studies presented above, a set of archaeological expectations for the current project area is now presented. Early observations from missionaries and travelers to Hawai‘i noted that Hawaiians living in North Hilo were settled along a narrow fringe close to the shore and within gulches where streams provided irrigation for farming. Scattered settlements were also noted on the *kula* tablelands above the gulches. These lands may have been opportunistically cultivated and/or accessed for the collection of forest resources prior to the widespread clearing associated with the commercial cultivation of sugarcane during the Historic Period (Cordy 1994). The Laupāhoehoe Sugar Company and later the Hāmākua Sugar Company cultivated sugarcane in the vicinity of the current project area. Along the coastal cliff edge, the plantation erected a system of flumes to transport sugarcane from the fields to the mill at Pāpa‘aloa. Remnants of the flume system may be found along the northern boundary of the project area. Additionally, residences are known to have been present along the old Māmalahoa Highway within the project area. These buildings were demolished, but remnants such as refuse, or foundations may still be present. The Historic use of the project area from at least the late nineteenth century has surely obliterated any Precontact features that may have once been present and the likelihood of encountering any such features is extremely low.

4. FIELDWORK

Field work for the current study was conducted on December 12, 2023, by, Olivia Crabtree, B.A., Amy L. Ketner, B.A. and David Morris-King, M.Sc., under the direct supervision of Matthew R. Clark, M.A. (Principal Investigator).

FIELD METHODS

During the archaeological field survey, the entire (100%) ground surface of study area was visually inspected by field technicians walking transects oriented north-south, spaced at no more than 10 meters apart. When archaeological features were encountered, their positions were plotted on a map of the current study area using EOS Arrow 100 Global Navigation Satellite System (GNSS) receivers connected to handheld tablet computers running ESRI’s Collector Application (Collector App). (set to the NAD 83 Zone 5 North), along with areas of previous disturbance, conspicuous landforms, and vegetation patterns. Identified features located within the current study area were then cleared of vegetation, photographed (both with and without a meter stick for scale), depicted on a scaled drafted plan map, and described using standardized feature record forms. No cultural material was collected and no subsurface testing was conducted.

FINDINGS

As a result of the fieldwork for the current study, one previously documented site (Site 50-10-16-30187) and five previously undocumented sites (Sites 50-10-16-T-1, 50-10-16-T-2, and 50-10-16-T-3, 50-10-16-T-4, and 50-10-16-T-5) were recorded (Table 2). The sites include a portion of the Old Māmalahoa Highway (Site 30187), a concrete restroom foundation (Site T-1), a terrace wall (Site T-2), two former sugar plantation buildings (Site T-3), a flume foundation (Site T-4), and the Pāpaʻaloa Park complex (Site T-5). The six sites identified during the current study are discussed below and are shown relative to the project area boundaries on Figure 51.

2. Archaeological sites recorded during the current study.

*Site Number**	*Type*	*No. of features*	*Function*	*Age*
30187	Old Māmalahoa Highway	1	Transportation	Historic
T-1	Concrete foundation	1	Building foundation	Historic
T-2	Terrace wall	1	Agriculture	Historic
T-3	Sugar plantation buildings	2	Garage and repair	Historic
T-4	Flume foundation	1	Sugarcane transportation	Historic
T-5	Pāpaʻaloa Park	-	Recreation	Historic

*SIHP Site numbers are preceded by the State, Island, and USGS prefix 50-10-16-

Site 50-10-16-30187

Site 30187 is the SIHP designation for the Old Māmalahoa Highway (Belluomini and Hammatt 2017; Clark et al. 2014; LaChance et al. 2017; Yucha and Hammatt 2017). A roughly 967 foot (294 meter) long section of Site 30187 traverses' northwest/southeast along the southern boundary of the current project area (see Figures 51, 52, and 53). This road was the primary route through Pāpaʻaloa from the early 1900s until it was superseded by the Hawaii Belt Road (Highway 19) in 1953.

There are no character defining constructed elements present along the section of the Old Māmalahoa Highway within the current project area. This site has been previously determined significant under Criterion a for its association with a establishing regional transportation network in the islands and under Criterion d for the information it yielded during prior studies (Belluomini and Hammatt 2017; Clark et al. 2014; LaChance et al. 2017; Yucha and Hammatt 2017).

Site 50-10-16-T-1

Site T-1 is a concrete foundation located in the southwest corner of the project area, just south of Site T-3 Feature A, the large garage (see Figure 51). The foundation is rectangular in shape and measures 3.5 meters east/west by 2 meters north/south (Figure 54). It has been constructed on northeast sloping soil and is situated under numerous trees (Figure 55). The height of the foundation is greater (76 centimeters) on the downslope than it is on the upslope (25 centimeters). The foundation consists of two levels; the lower level includes an entrance on the northern side and is currently filled with soil, the upper level includes a slope sided concrete trough with a hole on western outer edge where plumbing would be attached. Adjacent to the upper level is a concrete hollow box with a hole in the bottom and a hole on the eastern vertical side directly above the hole on the trough. These holes were likely plumbing input and output. A piece of milled lumber was observed lying across the feature and a large swath of black plastic flooring material was lying on the eastern portion of the feature (Figure 56). Most of the eastern portion of the feature is obscured by soil and vegetation debris (large fallen tree limbs). A 1.5-meter length of concrete edge extends south of the foundation and may indicate a larger building footprint than what is currently visible. Numerous broken glass bottles, pieces of ceramic, tires, and rusted metal were observed on the ground surface in the vicinity of the feature as well as an enamel sink basin and a length of metal water pipe with a spicket attached. The location of the foundation aligns with a building footprint that is shown on the 1950s Sanborn Fire Insurance Map at the back of the "Okamura" residence and store (Figure 57). This site likely functioned as a restroom associated with the "Okamura" residence and store. Although the foundation is in poor condition it retains integrity and is assessed as significant under Criterion d for information it has provided relative to past land use in the Pāpaʻaloa Historic District.

Figure 51. Site location map.

Figure 52. Old Māmalahoa Highway from the western boundary of the project area looking southeast.

Figure 53. Old Māmalahoa Highway from the eastern boundary of the project area looking northwest.

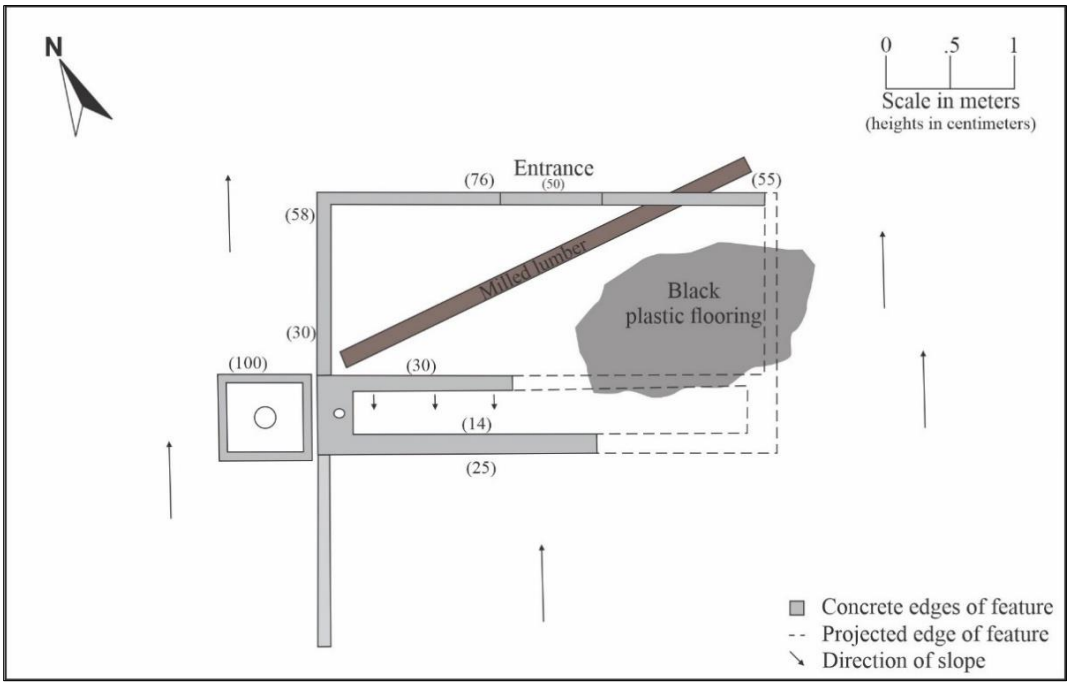


Figure 54. Plan view of Site 50-10-16-T-1.

Figure 55. Site 50-10-16-T-1, view to the southwest.

Figure 56. Site 50-10-16-T-1, with large garage on right side of photo, view to the northeast.

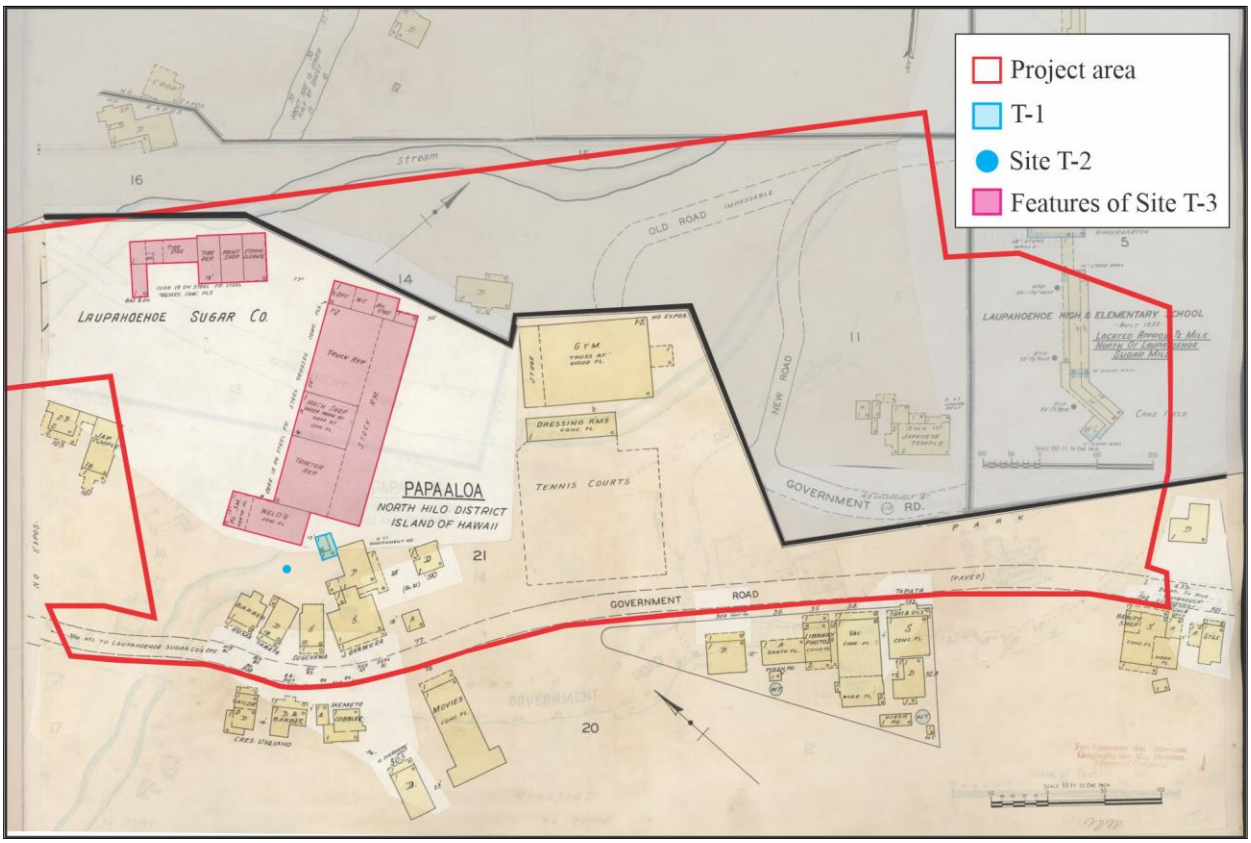


Figure 57. 1955 Sanborn Fire Insurance Map showing the current project area.

Site 50-10-16-T-2

Site T-2 is an "L" shaped terrace wall located in the southwest corner of the project area, roughly 7.5 meters west of Site T-1 (see Figure 51). The wall is constructed of small and medium basalt cobbles stacked (2 to 3 courses) along the bottom edge of an east/northeast steeply sloping soil mound (Figure 58). The down slope portion of the wall trends north/south and measures 1 meter long and 25 centimeters tall. The upslope portion of the wall trends northeast/southwest and measures 3 meters long and up to 45 centimeters tall. Upslope of the wall, approximately 3 meters away is a very large mango/banyan tree. Site T-2 is in poor condition due to numerous palm trees growing around and on the wall, as well as banyan and mango tree roots (Figure 59). The age of the wall is indeterminate; however, it was likely constructed as a retaining wall to provide soil stabilization when the mango tree was initially planted. Although the wall is in poor condition it retains integrity and is assessed as significant under Criterion d for information it has provided relative to past land use in the Pāpa'aloa Historic District.

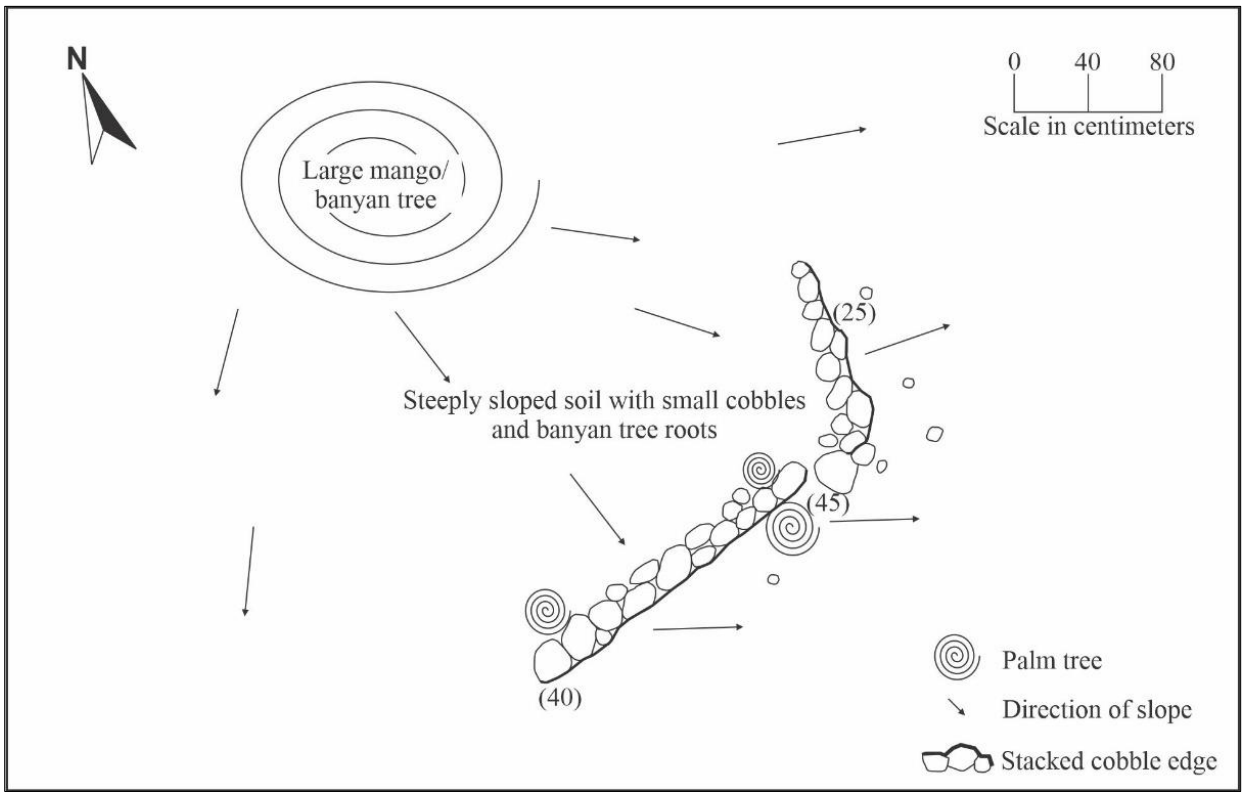


Figure 58. Plan view of Site 50-10-16-T-2.

Figure 59. Site 50-10-16-T-2, view to the northwest.

Site 50-10-16-T-3

Site T-3 consists of two buildings (Features A and B) in the west central portion of the project area (see Figure 51). These buildings are associated with the former Laupāhoehoe Sugar Company and subsequent Davies Hamakua Plantation, Inc. that operated from the late nineteenth century until the end of the sugar era in 1994. Historical records and maps along with current photographic documentation were used to record the features during the current study. Site T-3 is an architectural resource and will be further documented and evaluated for significance by a qualified architectural historian in an Architectural Reconnaissance Level Survey (RLS).

Feature A

Feature A is a large garage (Figures 60 through 62) located in the southern portion of Site T-3 (see Figure 51). It measures roughly 71 meters by 26 meters. This building is shown on the 1959 Sanborn Fire Insurance Map (Sanborn Map Company 1914-1959) (see Figure 57) and described as constructed of corrugated iron on steel frames, steel trusses, with concrete floors. It was divided into several work areas labeled truck repair, machine shop, tractor repair stock room, welding shop, office, and oil storage.

Feature B

Feature B consists of the collapsed remnants of a repair and storage building (Figure 63) located along the cliff edge, approximately 27 meters northwest of Feature A (see Figure 51). This building is depicted on the Sanborn Fire Insurance Map (see Figure 57) as constructed of corrugated iron on steel frames, steel trusses, and concrete floors and was divided into smaller work areas that included a steam cleaning, paint shop, tire repair and storage, office, and an area for gas and oil.

Figure 60. Feature A, large garage, view to the east.

Figure 61. Feature A, large garage, view to the southwest.

Figure 62. Feature A, interior of large garage, view to the south.

Figure 63. Feature B, collapsed building, view to the northwest.

Site 50-10-16-T-4

Site T-4 is the location of a former plantation flume that follows the coastal cliff edge along the northern boundary of the project area for approximately 290 meters (954 feet) (see Figure 51). The Laupāhoehoe Sugar Company used a system of water-fed flumes to transport harvested sugarcane from the fields to the mill at Pāpaʻaloa. The route of these flumes can be seen in Historic maps (see Figures 28 and 35) and in a ca. 1920s aerial photograph (see Figure 29). During fieldwork for the current study, the landing on which the flume would have been erected was observed running parallel to the edge of the cliff. It's unclear when the flume components were dismantled. The landing area was cut into the edge of the cliff creating a flat area (Figure 64) measuring roughly 2 to 3 meters wide. Site T-4 lacks the structural elements of the flume and due to its proximity to the cliff edge and the effects of erosion, the site is in poor condition, but retains sufficient integrity in all categories to be assessed under Criteria a and d for being associated with, and contributing information to, the overall history of the sugarcane plantation era in Hawaiʻi and specifically to the Laupāhoehoe Sugar Company.

Figure 64. Site T-4, flume landing, view to the northwest.

Site 50-10-16-T-5

Site T-5 consists of the Pāpaʻaloa Park, located in the eastern portion of the project area (see Figure 51). The park has its origins in 1919 and was known over the following decades as a gathering place for the residents of Pāpaʻaloa Village and the neighboring plantation villages as a place to gather for celebrations and to compete in sporting events. The park has undergone changes over the years, the most recent of which was the demolition of the gym in 2022. Currently the park consists of large, grassy sports field with bleachers, dug outs, and score board, parking lot, tennis/pickleball courts, a water spigot station (known as Waipuna), and an annex building with restrooms, offices, and meeting spaces (see Figures 6 through 9). Site T-5 is an architectural resource and will be further documented and evaluated for significance by a qualified architectural historian in an Architectural Reconnaissance Level Survey (RLS).

SUMMARY AND DISCUSSION

As a result of the current study, six historic properties were recorded, all dating to the early and late Historic Period. No Precontact traditional Hawaiian sites were identified. The project area is located within the Pāpa‘aloa Historic District. This district is intimately tied with the history of sugarcane cultivation and plantation way of life. The project area and surrounding lands were used first by the Laupāhoehoe Sugar Company starting in the late 1880s and later by the Davies Hamakua Plantation, Inc. following a merger with the Laupāhoehoe Sugar Company in the late 1970s. Vestiges of these sugar plantations within the project area include a large repair garage, plantation offices, and the route and foundation of a former water flume. In addition to plantation infrastructure, this Historic District also retained businesses and residences, some of which were located within the project area, along the old Māmalahoa Highway. Although the former businesses and residences within the project area were demolished (unknown date) a concrete restroom foundation and an agricultural wall are still present. This thriving plantation community also included recreational space for its residents. The Pāpa‘aloa Park has been a focal point in the community since at least the early 1900s, providing a place to celebrate, compete in sports, and attend community functions.

5. SIGNIFICANCE EVALUATIONS AND TREATMENT RECOMMENDATIONS

The recorded archaeological sites are assessed for their significance based on criteria established and promoted by the DLNR-SHPD and contained in the Hawai‘i Administrative Rules 13§13-275-6. For a resource to be considered significant it must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

- a Be associated with events that have made an important contribution to the broad patterns of our history;
- b Be associated with the lives of persons important in our past;
- c Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;
- d Have yielded, or is likely to yield, information important for research on prehistory or history;
- e Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity.

The significance and recommended treatment for the six recorded sites is presented in Table 3 and discussed below.

Table 3. Site significance and treatment recommendation.

Site #	*Site Type*	*Temporal Affiliation*	*Significance*	*Recommended Treatment*
30187	Old Māmalahoa Highway	Historic	a, d	No further work within project area
T-1	Concrete foundation	Historic	d	No further work
T-2	Terrace wall	Historic	d	No further work
T-3	Sugar plantation buildings	Historic	-	Additional architectural documentation
T-4	Flume foundation	Historic	a, d	No further work
T-5	Pāpa‘aloa Park	Historic	-	Additional architectural documentation

SITE 30187

Site 30187 is the SIHP designation for the Old Māmalahoa Highway. This site has previously been determined significant under Criterion a for its association with important late nineteenth and early twentieth century events in establishing a regional transportation network that has its roots in antiquity and under Criterion d for information it has yielded during prior inventory studies (Belluomini and Hammatt 2017; Clark et al. 2014; LaChance et al. 2017; Yucha and Hammatt 2017). Within the current project area, there are no character-defining elements of the road that convey its significance under Criterion a. The project area lacks distinctive associated structures (e.g., barrier walls, revetments, retaining walls, embankments) or other distinctive design components. As the road alignment remains unaltered since the early 1900s, it retains integrity of location and of association with the events qualifying it for significance under Criterion a. Under Criterion d the road is considered significant for the information it has yielded. The portion of Site 30187 located within the current project area is recommended for no further work.

SITE T-1

Site T-1 is a concrete foundation located in the southwest corner of the project area between the large former plantation garage (Feature A of Site T-3) and where the former residential and commercial buildings along the old Māmalahoa Highway were located. The foundation likely functioned as a restroom associated with the Okamura residence and store. Although the foundation is in poor condition it retains integrity and is considered significant under Criterion d for information it has provided relative to past land use in the Pāpaʻaloa Historic District. The research conducted during this study has adequately documented this site and has been sufficient to exhaust the information potential of the site. Therefore, no further preservation work is the recommended treatment for Site T-1.

SITE T-2

Site T-2 is an "L" shaped terrace wall. The age of the wall is indeterminate; however, it was likely constructed as a retaining wall to provide soil stabilization when a large mango tree adjacent to the wall was initially planted. Although the wall is in poor condition it retains integrity and is considered significant under Criterion d for information it has provided relative to past land use in the Pāpaʻaloa Historic District. The research conducted during this study has adequately documented this site and has been sufficient to exhaust the information potential of the site. Therefore, no further preservation work is the recommended treatment for Site T-2.

SITE T-3

Site T-3 consists of a large garage (Feature A) and smaller, collapsed repair shop (Feature B) in the west central portion of the project area. These buildings are associated with the former Laupāhoehoe Sugar Company and subsequent Davies Hamakua Plantation, Inc. that operated from the late nineteenth century until the end of the sugar era in 1994. Site T-3 is an architectural resource and will be further documented and evaluated for significance by a qualified architectural historian in an Architectural RLS.

SITE T-4

Site T-4 is the location of a former plantation flume that follows the coastal cliff edge along the northern boundary of the project area The Laupāhoehoe Sugar Company used a system of water-fed flumes to transport harvested sugarcane from the fields to the mill at Pāpaʻaloa. Site T-4 lacks the structural elements of the flume and due to its proximity to the cliff edge and the effects of erosion, the site is in poor condition, but retains sufficient integrity in all categories to be assess under Criteria a and d for being associated with, and contributing information to, the overall history of the sugarcane plantation era in Hawaiʻi and specifically to the Laupāhoehoe Sugar Company. The research conducted during this study has adequately documented this site and has been sufficient to exhaust the information potential of the site. Therefore, no further preservation work is the recommended treatment for Site T-4.

SITE T-5

Site T-5 consists of the Pāpaʻaloa Park, located in the eastern portion of the project area. The park has its origins in 1919 and was known over the following decades as a gathering place for the residents of Pāpaʻaloa Village and the neighboring plantation villages as a place to gather for celebrations and to compete in sporting events. Site T-5 is an architectural resource and will be further documented and evaluated for significance by a qualified architectural historian in an Architectural RLS.

6. DETERMINATION OF EFFECT

Six historic properties were identified during the current AIS. Four of the sites (Sites 30187, T-1, T-2, and T-4) are considered significant under Criterion d for the information they yielded during the current study. Additionally, Site 30187 was assessed as significant under Criterion a for its association with important late nineteenth and early twentieth century events in establishing a regional transportation network and Site T-4 was assessed as significant under Criterion a for being associated with, and contributing information to, the overall history of the sugarcane plantation era in Hawai‘i and specifically to the Laupāhoehoe and Davies Hamakua Plantation, Inc. sugar companies. Sites 30787, T-1, T-2, and T-4 were adequately documented during the current study and are recommended for no further historic preservation work. Two of the sites (Sites T-3 and T-5) are significant architectural properties that need further documentation and evaluation by a qualified architectural historian.

The proposed project will affect historic properties within the project area therefore the recommended determination of effect for the project is “Effect with proposed mitigation commitments.” The proposed mitigation commitments include the documentation and evaluation of Sites T-3 and T-5 by a qualified architectural historian and the preparation of an Architectural RLS. It is anticipated that following preparation of the RLS no further historic preservation work will be necessary at Sites T-3 and T-5 and that demolition of the Site T-3 buildings can proceed.

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APPENDIX A ARCHITECTURAL RECONNAISSANCE LEVEL SURVEY (IN PREP)

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APPENDIX E

Cultural Impact Assessment

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Cultural Impact Assessment for the Pāpa‘aloa Master Plan and Phase I Development

TMK: (3) 3-5-003:035, 088, and (3) 3-5-008:099 (por.)

Kaiwilahilahi Ahupua‘a
North Hilo District
Island of Hawai‘i

FINAL VERSION

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Cultural Impact Assessment for the Pāpa‘aloa Master Plan and Phase I Development

TMK: (3) 3-5-003:035, 088, and (3) 3-5-008:099 (por.)

Kaiwilahilahi Ahupua‘a
North Hilo District
Island of Hawai‘i

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CHAPTERS

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1. INTRODUCTION

At the request of KYA, Inc. on behalf of the County of Hawai‘i (CoH), Department of Parks and Recreation (P&R), ASM Affiliates (ASM) has prepared this Cultural Impact Assessment (CIA) in support of a Hawai‘i Revised Statutes (HRS), Chapter 343 Environmental Assessment (EA) being prepared for the proposed Pāpa‘aloa Park Master Plan and Phase I Development project (referred to hereafter as the ‘proposed project’). The proposed project is being planned on roughly 12 acres comprised of the County-owned Tax Map Key (TMK) parcels: (3) 3-5-003:035 (6.8310 acres) and parcel 088 (4.9630 acres; wherein the existing Pāpa‘aloa Park is located) and that portion of the Old Māmalahoa Highway (TMK: [3] 3-5-008:099) fronting the Pāpa‘aloa Park. The entire 12-acre project area is within Kaiwilahilahi Ahupua‘a, North Hilo District, Island of Hawai‘i (Figures 1, 2, and 3).

This CIA, which is intended to inform an EA conducted in compliance with HRS Chapter 343, is being prepared pursuant to Act 50 and in accordance with the Office of Environmental Quality Control (OEQC) *Guidelines for Assessing Cultural Impacts*, adopted by the Environmental Council, State of Hawai‘i, on November 19, 1997 (OEQC 1997). Act 50, which was proposed and passed as Hawai‘i State House of Representatives Bill No. 2895 and signed into law by the Governor on April 26, 2000, specifically acknowledges the State’s responsibility to protect native Hawaiian cultural practices. Act 50 further states that environmental studies “. . . should identify and address effects on Hawaii’s culture, and traditional and customary rights” and that “native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the ‘aloha spirit’ in Hawai‘i. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on governmental agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.”

The current report is divided into four main chapters. Chapter 1, the introduction, includes an overview of the proposed project as well as a physical description of the project area. To provide a cultural context of the project area, Chapter 2 includes cultural-historical background information specific to the project area and the broader geographical region of Kaiwilahilahi Ahupua‘a, and at times the greater North Hilo District. This chapter also includes a summary of prior archaeological and cultural studies that have been conducted within or near the project area. The methods and results of the consultation process are then presented in Chapter 3. Lastly, Chapter 4 includes a discussion of potential cultural impacts as well as actions and strategies that may help to mitigate any identified impacts.

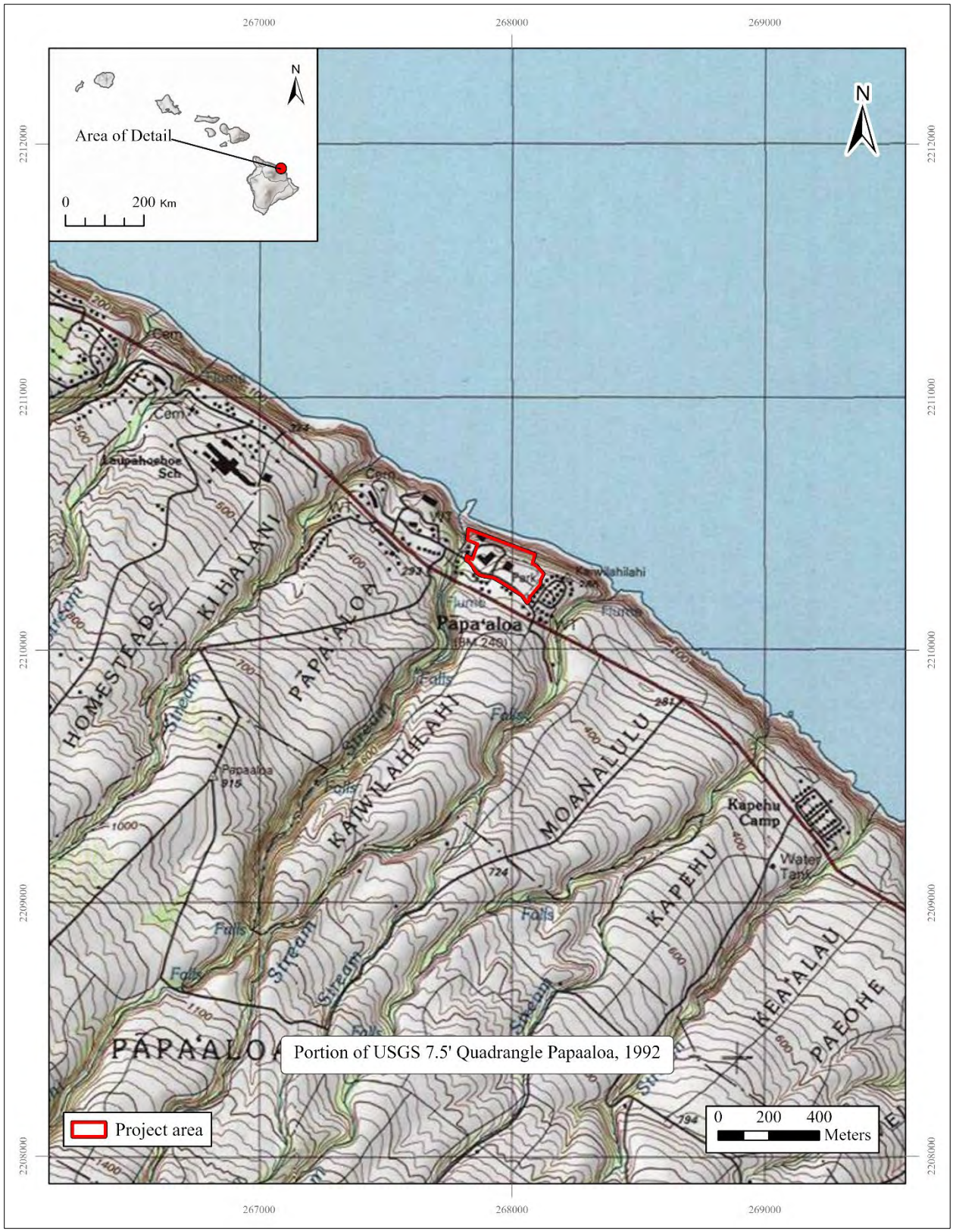


Figure 1. Project area location.

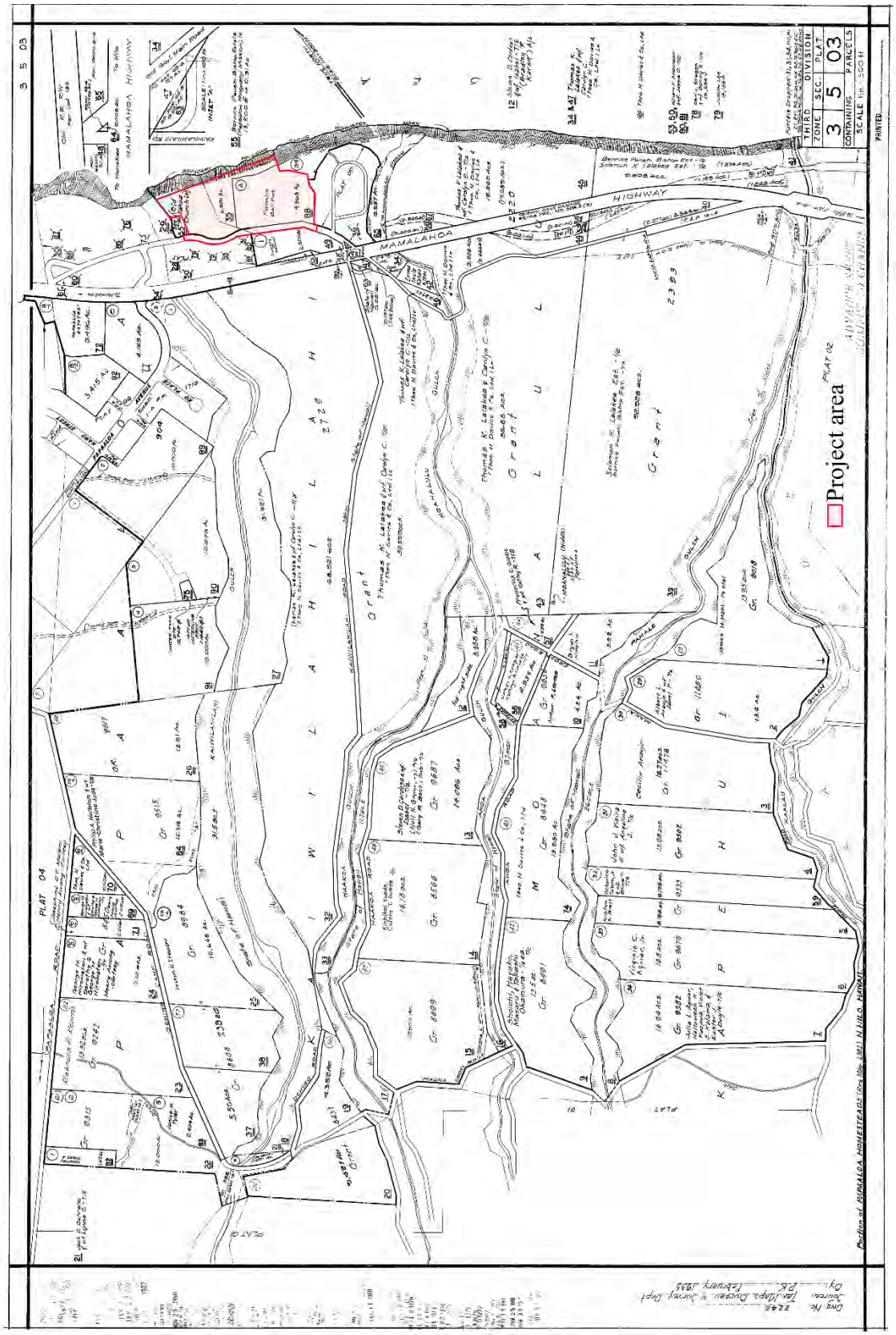


Figure 2. Tax Map (3) 5-003 showing project area within Parcels 35 and 88 and a portion of TMK (3) 3-5-003:099.

Figure 3. Google Earth™ satellite image showing project area location.

PROJECT AREA DESCRIPTION

The project area consists of roughly 12 acres comprised of TMK parcels (3) 3-5-003:035, 088, and that portion of TMK (3) 3-5-088:099 (Old Māmalahoa Highway) fronting the park located in Kaiwilahilahi Ahupuaʻa, North Hilo District, Island of Hawaiʻi. (see Figures 1, 2, and 3). The project area is bound along its *mauka* (south) end by the Old Māmalahoa Highway, *makai* (north) by a coastal cliff edge situated within the Conservation District, to the east by five residential lots—all of which are part of Kekoa (plantation) Camp—and to the west by TMK: (3) 5-003:055, a 0.31-acre lot owned by Kamehameha Schools and the site of the former Pāpaʻaloa Honwanji Mission and TMK: (3) 3-5-008:028 a 1.74-acre privately owned parcel. The project area is *makai* of Hawaiʻi Belt Road on the coastal *kula* lands situated generally between Kaiwilahilahi Stream/Gulch to the west and the east by Haʻakoa Stream/Gulch. The project area is also part of the rough 40-acre Pāpaʻaloa Historic District. Figure 4 below shows the project area within its landscape context including the surrounding community, stream/gulches, and roads.

Figure 4. Oblique aerial photo showing the landscape context of the project area (view to the southwest).

Located on the eastern slope of the volcanically dormant Mauna Kea, the project area is situated on the plateau adjacent to the coastal cliff edge and extends *mauka* to the Old Māmalahoa Highway at an elevation of elevation 95 meters (311 feet) above mean sea level (amsl). The climate in this portion of North Hilo is tropical with daily temperatures generally ranging between 70 degrees Fahrenheit (21 degrees Celsius) and 73 degrees Fahrenheit (23 degrees Celsius) with an annual average rainfall of 75 to 138 inches (1,905 to 3,505 millimeters) (Giambelluca et al. 2013). Geologically, the project area is situated on a *pāhoehoe* lava flow (labeled "Qhm" in Figure 5) that originated from Mauna Kea (identified as Hāmākua Volcanics) between 64,000 and 300,000 years before present. The soils that have developed on this lava substrate are classified as Ookala medial silty clay loam (labeled "952" in Figure 6), which are shallow, well-drained soils formed in basic volcanic ash overlying *pāhoeho*e lava on the windward slopes of Mauna Kea volcano at elevations ranging from sea level to 335 meters (0 to 1,100 feet) amsl (Soil Survey Staff 2022).

Figure 5. Geology underlying the project area.

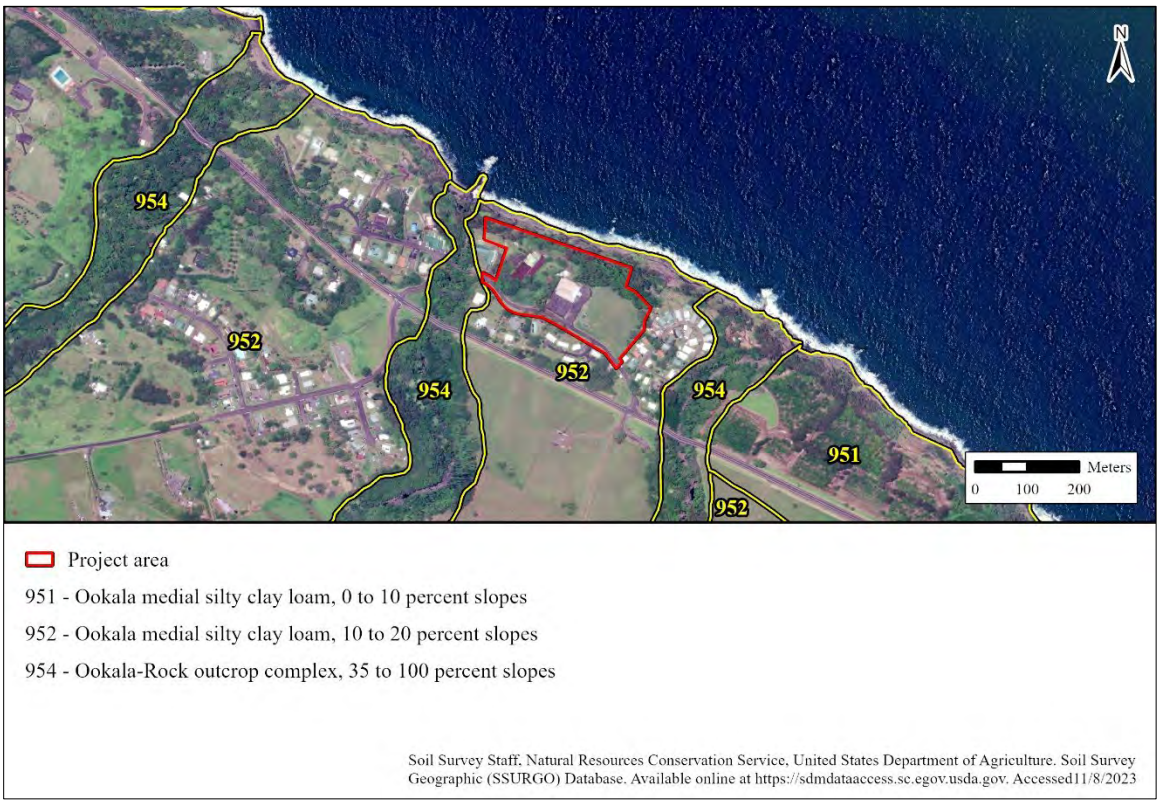


Figure 6. Soils underlying the project area.

Built Environment and Vegetation

The entire project area has been subject to mechanical clearing in the past and subsequent construction episodes. The Pāpa‘aloa Park occupies the eastern half of the project area (Figure 7) and consists of a large, grassy sports field with bleachers, dug outs, and scoreboard, a parking lot, tennis/pickleball courts, a water spigot station (known as Waipuna), and the Annex building with restrooms, offices, and meeting spaces (Figures 8, 9, 10, and 11). The western half of the project area (Figure 12) consists of abandoned buildings some of which are directly associated with the operations of the historic Laupāhoehoe, along with mowed pathways/unimproved roads (Figure 13) that provide access to the septic system for maintenance purposes.

While the vegetation in the eastern portion of the project area is limited to the coastal cliff area, the vegetation in the western portion of the project area is reflective of the built environment and includes a ground cover comprised predominately of large swaths of Guinea grass (*Megathyrsus maximus*) mixed with various weedy species (Figures 14 and 15). The overstory includes mango (*Mangifera indica*), avocado (*Persea americana*), gunpowder (*Trema orientalis*), African tulip (*Spathodea campanulate*), and various species of palms (*Arecaceae*).

The coastal portion of the project area slopes steeply towards the ocean (north) which opens into a relatively wide leveled area (Figures 16 and 17). The leveled area then slopes steeply again towards the ocean until it opens into a second relatively, more narrow leveled area (that was historically used as the alignment for the Laupāhoehoe Sugar Company flume; Figure 18) until it is cut off by the cliff edge. This coastal portion of the project area is dominated by an overstory of coconut trees (*Cocos nucifera*), and java plums (*Eugenia cumini*). Modern debris, such as metal bleachers and tires, was observed in this coastal section of the project area (Figure 19).

Figure 7. Oblique aerial photo showing the eastern portion of the project area and the Pāpa‘aloa Park (view to the southeast).

Figure 8. View of the grassy sports field to the east of asphalt paved parking lot, view to the north.

Figure 9. Asphalt paved parking lot located between the grassy sports field and annex building and tennis/pickleball courts, view to the north.

Figure 10. View of water spigot station (Waipuna) adjacent to the tennis/pickleball courts, view to the north.

Figure 11. Annex building fronted by a grassy lawn (the former site of the original Pāpa‘aloa Gym), view to the west.

Figure 12. Oblique aerial photo showing the western portion of the project area with extant abandoned buildings, view to the southeast.

Figure 13. Example of mowed pathways in the western portion of the project area, view to the west.

Figure 14. Example of large areas of cane grass within the western portion of the project area.

Figure 15. Example of ground cover in the western portion of the project area adjacent to the abandoned buildings, view to the south-southeast.

Figure 16. Coastal portion of the project area showing slopes and vegetation band, view to the northeast.

Figure 17. View of vegetation and slope along coastal section of project area, view to the west.

Figure 18. View of second leveled area (historically used as the alignment for the Laupāhoehoe Sugar Company flume) adjacent to the cliff, view to the east.

Figure 19. Old metal bleachers along the cliff edge portion of the project area, view to the northwest.

PROPOSED PROJECT DESCRIPTION

The Pāpa‘aloa Park Master Plan would involve: a new covered play court facility (and its future expansion); a new community center building; a skate park; a playground; picnic pavilions; a perimeter walking path; and other park-related facilities to be determined; associated on-site and off-site infrastructure and utility improvements/modifications; replacement, improvement, and/or modification of existing park amenities and recreational features impacted by any new/required work; and related improvements necessary to connect all new and existing features of the park physically and with administrative functions in mind. The Phase I Development will be limited to TMK (3) 3-5-003: 088 (4.963 acres). If funding is available, demolition of one or more plantation-era structures will occur in TMK (3) 3-5-003: 035 during the Phase I Development. The current conceptual master plan is shown below in Figure 20 and Figure 21 shows the Phase I Development conceptual plan.

Figure 20. Conceptual master plan showing phase I developments (in orange) and future build out phases.

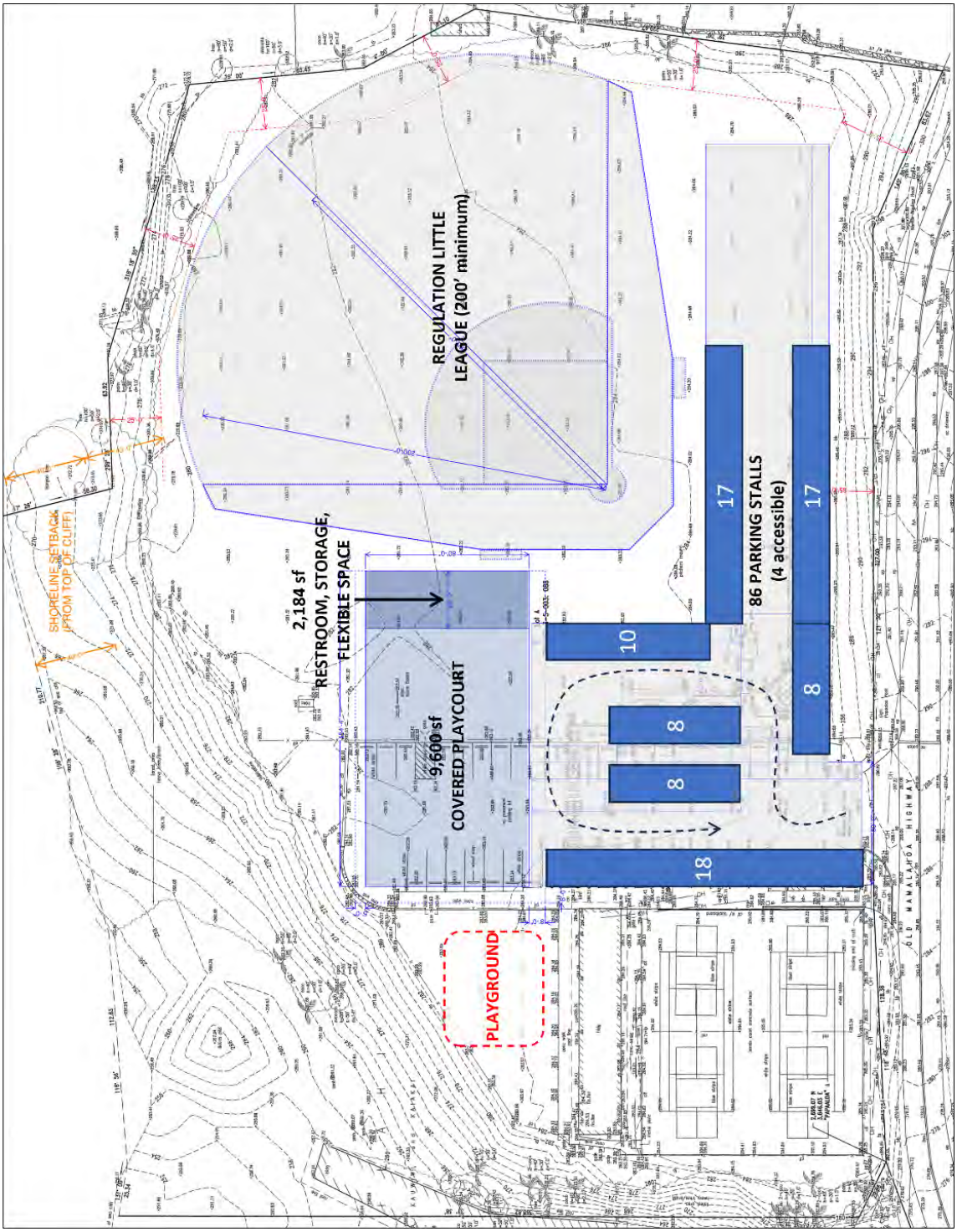


Figure 21. Phase I Development conceptual plan.

2. BACKGROUND

As specified in the OEQC *Guidelines for Assessing Cultural Impacts* (1997:1), "…the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment." For this CIA, the *ahupua'a* of Kaiwilahilahi is considered the 'study area,' while the location of the proposed development activities is referred to as the 'project area.'

To generate a set of expectations regarding the nature of cultural resources and customary practices that might be encountered within the current project area and to establish a context within which to assess the significance of such resources, the background section begins with a general culture-historical context. This is followed by culture-historical background information concerning the history of Kaiwilahilahi. Limited background information for North Hilo, the broader regional designation in which Kaiwilahilahi is situated, also falls within the parameters of the OEQC guidelines and ensures that a broader set of cultural practices and histories are considered. Following this background section is a discussion of relevant prior archaeological and cultural studies that have been conducted within and near the project area.

RESEARCH METHODS

The culture-historical context and summary of previously conducted archaeological and cultural research presented below are based on research conducted by ASM Affiliates at various physical and digital repositories. Primary English language and Hawaiian language resources were found at various curation facilities and state agencies, including the Hawaiian Sugar Planters Association Plantation Archives at the University of Hawai'i at Mānoa, the State Historic Preservation Division, Hawai'i State Archives, the Department of Accounting and General Services Land Survey Division, the County of Hawai'i Planning Department. Digital collections provided by the Office of Hawaiian Affairs Papakilo and Kīpuka databases, Waihona 'Āina, the Ulukau Hawaiian Electronic Library, and Newspapers.com were also reviewed as part of this study. Lastly, secondary resources curated at ASM Affiliates' Hilo office offer general information regarding the history of land use, politics, and culture change in Hawai'i, enhancing the broad sampling of source materials cited throughout this CIA.

CULTURE-HISTORICAL CONTEXT

While the question of when Hawai'i was first settled by Polynesians remains contested, scholars working in the fields of archaeology, folklore, Hawaiian studies, and linguistics have offered several theories. With advances in palynology and radiocarbon dating techniques, Kirch (2011), Athens et al. (2014), and Wilmshurst et al. (2011) have argued that Polynesians arrived in the Hawaiian Islands sometime between A.D. 1000 and A.D. 1200. This initial migration on intricately crafted *wa'a kaulua* (double-hulled canoes) to Hawai'i from Kahiki, the ancestral homelands of Hawaiian deities and peoples from southern Pacific islands, occurred at least from initial settlement to the 13th century. According to Fornander (1969), Hawaiians brought from their homeland certain Polynesian customs and beliefs: the major gods Kāne, Kū, Lono, and Kanaloa (who have cognates in other Pacific cultures); the *kapu* system of political and religious governance; and the concepts of *pu'uhonua* (places of refuge), *'aumakua* (ancestral deity), and *mana* (divine power). Archaeologist Kenneth Emory who worked in the early to mid-20th century reported that the sources of early Hawaiian populations originated from the southern Marquesas Islands (Emory in Tatar 1982). However, Emory's theory is not universally accepted, as Hawaiian scholars in the past and present have argued for a pluralistic outlook on ancestral Hawaiian origins from Kahiki (Case 2015; Fornander 1916-1917; Kamakau 1866; Kikiloi 2010; Nakaa 1893; Poepoe 1906).

While stories of episodic migrations were widely published in the Hawaiian language by knowledgeable and skilled *kū'auhau* (individuals trained in the discipline of remembering genealogies and associated ancestral stories), the cultural belief that living organisms were *hānau 'ia* (born) out of a time of eternal darkness (*pō*) and chaos (*kahuli*) were brought and adapted by ancestral Hawaiian populations to reflect their deep connection to their environment. As an example, the *Kumulipo*, Hawai'i's most famed *ko'ihonua* (a cosmogonic genealogical chant), establishes a birth-rank genealogical order for all living beings (Beckwith 1951; Liliuokalani 1978). One such genealogical relationship that remains widely accepted in Hawai'i is the belief that *kalo* (taro) plants (in addition to all other plants, land animals, and sea creatures), are elder siblings to humans (Beckwith 1951). This concept of hierarchical creation enforces the belief that all life forms are intimately connected, evidencing the cultural transformations that occurred in the islands through intensive interaction with their local environment to form a uniquely Hawaiian culture.

In Hawai‘i’s ancient past, inhabitants were primarily engaged in subsistence-level agriculture and fishing (Handy et al. 1991). Following the initial settlement period, communities clustered in the *ko‘olau* (windward) shores of the Hawaiian Islands where freshwater was abundant. Sheltered bays allowed for nearshore fisheries (enriched by numerous estuaries) and deep-sea fisheries to be easily accessed (McEldowney 1979). Widespread environmental modification of the land also occurred as early Hawaiian *kanaka mahi‘ai* (farmers) developed new subsistence strategies, adapting their familiar patterns and traditional tools to work efficiently in their new home (Kirch 1985; Pogue 1978). Areas with the richest natural resources became heavily populated over time, resulting in the population’s expansion to the *kona* (leeward) side of the islands and to more remote areas (Cordy 2000).

Overview of Traditional Hawaiian Land Management Strategies

Adding to an already complex society was the development of traditional land stewardship systems, including the *ahupua‘a.* The *ahupua‘a* was the principal land division that functioned for both taxation purposes and furnished its residents with nearly all subsistence and household necessities. *Ahupua‘a* are land divisions that typically include multiple ecozones from *mauka* (upland mountainous regions) to *makai* (shore and near-shore regions), assuring a diverse subsistence resource base (Hommon 1986). Although the *ahupua‘a* land division typically incorporated all of the eco-zones, their size and shape varied greatly (Cannelora 1974). Noted Hawaiian historian and scholar Samuel Kamakau summarized the ecozones that could be found in a given *ahupua‘a*:

> Here are some names for [the zones of] the mountains—the *mauna* or *kuahiwi*. A mountain is called a *kuahiwi*, but *mauna* is the overall term for the whole mountain, and there are many names applied to one, according to its delineations (*‘ano*). The part directly in back and in front of the summit proper is called the *kuamauna*, mountaintop; below the *kuamauna* is the *kuahea*, and makai of the *kuahea* is the *kuahiwi* proper. This is where small trees begin to grow; it is the *wao nahele*. Makai of this region the trees are tall, and this is the *wao lipo*. Makai of the *wao lipo* is the *wao ‘eiwa*, and makai of that the *wao ma‘ukele*. Makai of the *wao ma‘ukele* is the *wao akua*, and makai of there is the *wao kanaka*, the area that people cultivate. Makai of the *wao kanaka* is the *‘ama‘u*, fern belt, and makai of the *‘ama‘u* the *‘apa‘a*, grasslands.
>
> A solitary group of trees is a *moku la‘au* (a “stand” of trees) or an *ulu la‘au*, grove. Thickets that extend to the *kuahiwi* are *ulunahele*, wild growth. An area where *koa* trees suitable for canoes (*koa wa‘a*) grow is a *wao koa* and mauka of there is a *wao la‘au*, timber land. These are dry forest growths from the *‘apa‘a* up to the *kuahiwi*. The places that are “spongy” (*naele*) are found in the *wao ma‘ukele*, the wet forest.
>
> Makai of the *‘apa‘a* are the *pahe‘e* [*pili* grass] and *‘ilima* growths and makai of them the *kula*, open country, and the *‘apoho* hollows near to the habitations of men. Then comes the *kahakai*, coast, the *kahaone*, sandy beach, and the *kalawa*, the curve of the seashore—right down to the *‘ae kai*, the water’s edge.
>
> That is the way *ka po‘e kahiko* [the ancient people] named the land from mountain peak to sea. (Kamakau 1976:8-9)

The *maka‘āinana* (commoners, literally the “people that attend the land”) who lived on the land had rights to gather resources for subsistence and tribute within their *ahupua‘a* (Jokiel et al. 2011). As part of these rights, residents were required to supply resources and labor to *ali‘i* (chiefs) of local, regional, and island chiefdoms. The *ahupua‘a* became the equivalent of a local community with its own social, economic, and political significance and served as the taxable land division during the annual *Makahiki* procession (Kelly 1956). During the time of *Makahiki*, the paramount *ali‘i* sent select members of his/her retinue to collect *ho‘okupu* (tribute and offerings) in the form of goods from each *ahupua‘a*. The *maka‘āinana* brought their share of *ho‘okupu* to an *ahu* (altar) that was marked with the image of a *pua‘a* (pig), serving as a physical visual marker of *ahupua‘a* boundaries. In most instances, these boundaries followed mountain ridges, hills, rivers, or ravines (Alexander 1890). However, Chinen (1958:1) reports that “oftentimes only a line of growth of a certain type of tree or grass marked a boundary; and sometimes only a stone determined the corner of a division.” These ephemeral markers, as well as their more permanent counterparts, were oftentimes named as evidenced in the thousands of boundary markers names that are listed in Soehren (2005).

Ahupua‘a were ruled by *ali‘i ‘ai ahupua‘a* or chiefs who controlled the *ahupua‘a* resources. Generally speaking, *ali‘i ‘ai ahupua‘a* had complete autonomy over the *ahupua‘a* they oversaw (Malo 1951). *Ahupua‘a* residents were not bound to the land nor were they considered property of the *ali‘i*. If the living conditions under a particular *ahupua‘a* chief were deemed unsuitable, the residents could move freely in pursuit of more favorable conditions (Lam 1985). This structure safeguarded the well-being of the people and the overall productivity of the land, lest the chief loses the

principal support and loyalty of his or her supporters. In turn, *ahupua'a* lands were managed by an appointed *konohiki*, oftentimes a chief of lower rank, who oversaw and coordinated stewardship of an area's natural resources (Lam 1985). In some places, the *po'o lawai'a* (head fisherman) held the same responsibilities as the *konohiki* (Jokiel et al. 2011). When necessary, the *konohiki* took the liberty of implementing *kapu* (restrictions and prohibitions) to protect the *mana* of an area's resources from environmental and spiritual depletion.

Many *ahupua'a* were divided into smaller land units termed *'ili* and *'ili kūpono* (often shortened to *'ili kū*). *'Ili* were created for the convenience of the *ahupua'a* chief and served as the basic land unit which *hoa'āina* (caretakers of particular lands) often retained for multiple generations (Jokiel et al. 2011; MacKenzie 2015). As *'ili* were typically passed down in families, so too were the *kuleana* (responsibilities, privileges) that were associated with it. The right to use and cultivate *'ili* was maintained within the *'ohana*, regardless of the succession of *ali'i 'ai ahupua'a* (Handy et al. 1991). Malo (1951) recorded several types of *'ili*, including the *'ili pa'a* (a single intact parcel) and *'ili lele* (a discontinuous parcel dispersed across an area). Whether dispersed or wholly intact, *'ili* required a cross-section of available resources, and for the *hoa'āina*, this generally included access to agriculturally fertile lands and coastal fisheries. *'Ili kūpono* differed from other *'ili* lands because they did not fall under the jurisdiction of the *ahupua'a* chief. Rather, they were specific areas containing resources that were highly valued by the ruling paramount chiefs, such as fishponds (Handy et al. 1991).

Ali'i 'ai ahupua'a, in turn, answered to an *ali'i 'ai moku* (chief who claimed the abundance of the entire *moku or* district) (Malo 1951). Hawai'i Island is comprised of six *moku* (districts) that include Kona, Ka'ū, Puna, Hilo, Hāmākua, and Kohala. Although a *moku* comprises multiple *ahupua'a*, *moku* were considered geographical subdivisions with no explicit reference to rights in the land (Cannelora 1974). While the *ahupua'a* was the most common and fundamental land division unit within the traditional Hawaiian land management structure, variances occurred, such as the existence of the *kalana*. By definition, a *kalana* is a division of land that is smaller than a *moku. Kalana* was sometimes used interchangeably with the term *'okana* (Lucas 1995; Pukui and Elbert 1986), but Kamakau (Kamakau 1976) equates a *kalana* to a *moku* and states that *'okana* is merely a subdistrict. Despite these contending and sometimes conflicting definitions, what is clear is that *kalana* consisted of several *ahupua'a* and *'ili 'āina*.

This form of district subdividing was integral to Hawaiian life and the product of advanced natural resource management systems. As populations resided in an area over centuries, direct teaching and extensive observations of an area's natural cycles and resources were retained, well-understood, and passed down orally over the generations. This knowledge informed management decisions that aimed to sustainably adapt subsistence practices to meet the needs of growing populations. The *ahupua'a* system and the highly complex land management system that developed in the islands are but one example of the unique Hawaiian culture that developed in these islands.

Intensification and Development of Hawaiian Land Stewardship Practices

Hawaiian philosophies of life in relation to the environment helped to maintain both natural, spiritual, and social order. In describing the intimate relationship that exists between Hawaiians and *'āina* (land), Kepā Maly writes:

> In the Hawaiian context, these values—the "sense of place"—have developed over hundreds of generations of evolving "cultural attachment" to the natural, physical, and spiritual environments. In any culturally sensitive discussion on land use in Hawai'i, one must understand that Hawaiian culture evolved in close partnership with its' natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture and and nature begins.
>
> In a traditional Hawaiian context, nature and culture are one in the same, there is no division between the two. The wealth and limitations of the land and ocean resources gave birth to, and shaped the Hawaiian world view. The *'āina* (land), *wai* (water), *kai* (ocean), and *lewa* (sky) were the foundation of life and the source of the spiritual relationship between people and their environs. (Maly 2001)

The *'ōlelo no'eau* (proverbial saying) "*hānau ka 'āina, hānau ke ali'i, hānau ke kanaka*" (born was the land, born were the chiefs, born were the commoners), conveys the belief that all things of the land, including *kanaka* (humans), are connected through kinship links that extend beyond the immediate family (Pukui 1983:57). *'Āina* or land, was perhaps most revered, as noted in the *'ōlelo no'eau* "*he ali'i ka 'āina; he kauwā ke kanaka,*" which Pukui (Pukui 1983:62) translated as "[t]he land is a chief; man is its servant." The lifeways of early Hawaiians, which were dependent entirely from the finite natural resources of these islands, necessitated the development of sustainable resource management practices. Over time, what developed was an ecologically responsive management system that integrated the care of watersheds, natural freshwater systems, and nearshore fisheries (Jokiel et al. 2011).

Disciplined and astute observation of the natural world became one of the most fundamental stewardship tools used by the ancient Hawaiians. The vast knowledge acquired through direct observation enabled them to detect and

record the subtlest of changes, distinctions, and correlations in the natural world. Examples of their keen observations are evident in the development of Hawaiian nomenclature to describe various rains, clouds, winds, stones, environments, flora, and fauna. Many of these names are geographically unique or island-specific, and have been recorded in *oli* (chants), *mele* (songs), *pule* (prayers), *inoa ʻāina* (place names), and *ʻōlelo noʻeau* (proverbial sayings). Other Hawaiian arts and practices such as *hula* (traditional dance), *lapaʻau* (traditional healing), *lawaiʻa* (fishing), *mahiʻai* (farming) further aided in the practice of knowing the rhythms and cycles of the natural world.

Comprehensive systems of observing and stewarding the land were coupled by the strict adherence to practices that maintained and enhanced the *kapu* and *mana* of all things in the Hawaiian world. In Hawaiian belief, all things natural, places, and even people, especially those of high rank, possessed *mana* or "divine power" (Pukui and Elbert 1986:235; Pukui et al. 1972). *Mana* was believed to be derived from the plethora of Hawaiian gods (*kini akua*) who were embodied in elemental forces, land, natural resources, and certain material objects and persons (Crabbe et al. 2017). Buck (1993) expanded on this concept noting that *mana* was associated with "the well-being of a community, in human knowledge and skills (canoe building, harvesting) and in nature (crop fertility, weather etc.)" (c.f. Else 2004:244).

To ensure the *mana* of certain resources, places, and people, *kapu* of various kinds were implemented and strictly enforced to limit over-exploitation and defilement. Elbert and Pukui (1986:132) defined *kapu* as "taboo, prohibitions; special privilege or exemption." Kepelino noted that *kapu* associated with *akua* (deities) applied to all social classes, while *kapu* associated with *aliʻi* were applied to the people (in Beckwith 1971). As *kapu* dictated social relationships, they also provided "environmental rules and controls that were essential for a subsistence economy" (Else 2004:246). The companion to *kapu* was *noa*, translated as "freed of taboo, released from restrictions, profane, freedom" (Pukui and Elbert 1986:268). Some *kapu*, particularly those associated with maintaining social hierarchy and gender differentiation were unremitting, while those *kapu* placed on natural resources were applied and enforced according to seasonal changes. The application of *kapu* to natural resources ensured that such resources remained available for future use. When the *aliʻi* or the lesser chiefs (including *konohiki* and *poʻo lawaiʻa*) determined that a particular resource was to be made available to the people, a decree was proclaimed indicating that *kapu* had been lifted, thereby making it *noa*. Although transitioning a resource from a state of *kapu* to *noa* allowed for its use, people were expected to practice sustainable harvesting methods and pay tribute to the paramount chief and the *akua* associated with that resource. *Kapu* were strictly enforced and violators faced serious consequences including death (Jokiel et al. 2011). Violators who escaped execution sought refuge at a *puʻuhonua*, a designated place of refuge or an individual who could pardon the accused (Kamakau 1992). After completing the proper rituals, the violator was absolved of his or her crime and allowed to reintegrate back into society.

In summary, the layering and interweaving of beliefs, land stewardship practices, and the socio-political system forms the basis of the relationship shared between the Hawaiian people and the land. It is through the analysis of these dynamic elements that we develop an understanding of the complexity of place.

CULTURE HISTORY OF KAIWILAHILAHI AHUPUAʻA

The project area is in the coastal portion of Kaiwilahilahi (Figure 22), a traditional *ahupuaʻa* whose name has been translated by Pukui et al. (1974:71) as "the frail bone." This *ahupuaʻa* is bound to the east and west respectively by the *ahupuaʻa* of Moanalulu and Pāpaʻaloa the boundaries of which are demarcated by streams/gulches namely Haʻakoa and Kaiwilahilahi. This relatively narrow *ahupuaʻa*, with a coastal width of about 576 meters (~1,890 feet), is one of many such *ahupuaʻa* that make up the traditional *moku* (district) of Hilo, which is one of six traditional districts on Hawaiʻi Island. As part of the Session Laws of 1900, for taxation, educational, and judicial purposes, the Territorial Government divided the Hilo District into two; North Hilo, extending north from Hakalau Stream to Kaʻula Gulch and South Hilo encompassing the remaining portion of Hilo south of Hakalau Stream (King 1935)

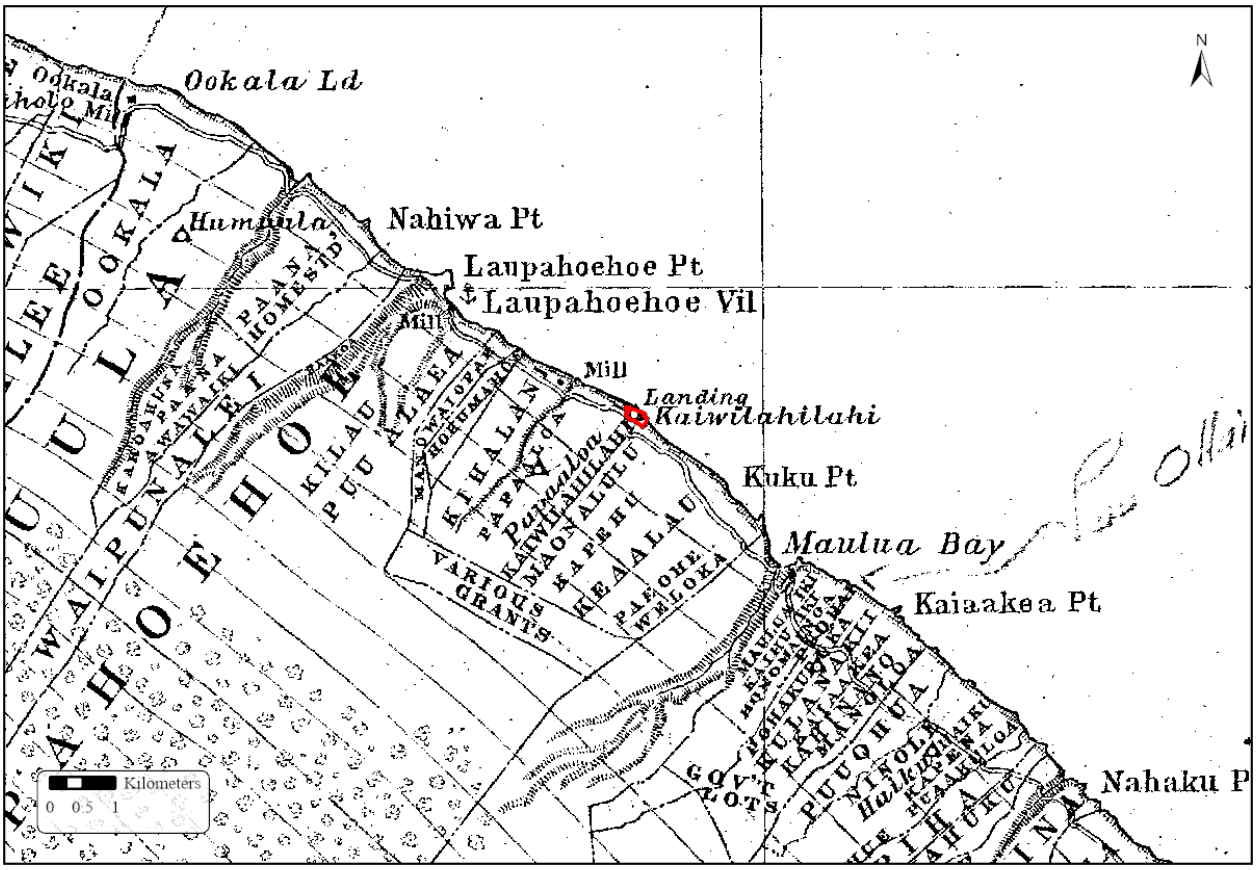


Figure 22. Portion of Hawai‘i Registered Map No. 2060 by J. M. Donn (1901) showing project area in Kaiwilahilahi Ahupua‘a.

A succinct description of the Hilo District is provided by E. S. Craighill Handy, Elizabeth Green Handy, and Mary Kawena Pukui in their book *Native Planters in Old Hawaii: Their Life, Lore, and Environment*:

> Hilo as a major division of Hawai‘i included the southeastern part of the windward coast most of which was in Hamakua, to the north of Hilo Bay. This, the northern portion, had many scattered settlements above streams running between high, forested kula lands, now planted with sugar cane. From Hilo Bay southeastward to Puna the shore and inland are rather barren and there were few settlements. The population of Hilo was anciently as now concentrated mostly around and out from Hilo Bay, which is still the island's principal port. The Hilo Bay region is one of lush tropical verdure and beauty, owing to the prevalence of nightly showers and moist warmth which prevail under the northeasterly trade winds into which it faces. Owing to the latter it is also subject to violent oceanic storms and has many times in its history suffered semidevastation from tidal waves unleashed by earthquake action in the Aleutian area of the Pacific. (Handy et al. 1991:538)

Traditionally, the *moku* of Hilo was divided into three *‘okana* (sub-districts). Beginning in the north is Hilo Palikū, an area that extends north of the Wailuku River to Ka‘ula Gulch and is characterized by its upright and densely vegetated cliffs and valleys and broad *kula* (plains) lands (Edith Kanaka‘ole Foundation 2012). The Hawaiian proverb, *Hilo iki, pali ‘ele‘ele* (little Hilo of the dark cliffs) describes this sub-district noted for its greenery, rain, and mists (Pukui 1983:107). The second *‘okana* is Hilo One, or "sandy Hilo," famed for its black sand beach that extends along Hilo Bay between the Wailoa and Wailuku Rivers. The final *‘okana* is Hilo Hanakahi, which extends south of Wailoa River to include Keaukaha (Edith Kanaka‘ole Foundation 2012). The source of these *‘okana* is found in the legendary account titled *Ka‘ao Ho‘oniua Pu‘uwai no Ka-Miki* (The Heart Stirring Story of Ka-Miki) written by John Wise and J.W.H.I. Kihe and published in Hilo's Hawaiian language newspaper *Ka Hōkū O Hawai‘i* between January 8, 1914, through December 6, 1917.

Kaiwilahilahi Ahupua‘a is located in the *‘okana* of Hilo Palikū, a name that aptly describes the precipitous bluffs carved by the numerous stream-cut gulches that are characteristic of this region (Figure 23). The *pali* (cliffs) span along the northeastern coastline of Hawai‘i Island running north from the mouth of the Wailuku River and broken

only by a string of relatively narrow gulches extending downslope of Mauna Kea. The broad and gently sloping plateaus, referred to as *kula* lands, between the gulches are fertile with deep soils. Both the gulches and *kula* lands served as an ideal environment for thriving populations prior to Western contact. King David Kalākaua also provided a concise description of this region's rough geography and commented on the density of the population there in his book *The Legends and Myths of Hawaii*:

> The northeastern coast of the island of Hawaii presents an almost continuous succession of valleys, with intervening uplands rising gently for a few miles, and then more abruptly toward the snows of Mauna Kea and the clouds. The rains are abundant on that side of the island, and the fertile plateau, boldly fronting the sea with a line of cliffs from fifty to a hundred feet in height, is scored at intervals of one or two miles with deep almost impassable gulches, whose waters reach the ocean either through rocky channels worn to the level of the waves, or in cascades leaping from the cliffs and streaking the coast from Hilo to Waipio with lines that seem to be molten silver from the great crucible of Kilauea.
>
> In the time of Liloa, and later, this plateau was thickly populated, and requiring no irrigation, was cultivated from the sea upward to the line of frost. A few kalo patches are still seen, and bananas grow, as of old, in secluded spots and along the banks of the ravines; but the broad acres are green with cane, and the whistle of the sugar-mill is heard above the roar of the surf that beats against the rock-bound front of Hamakua. (Kalākaua 1888:284)

The abundance of streams, valleys, and gulches in this region, although stunningly beautiful, made foot travel quite difficult and treacherous. The legendary account of *Ka-Miki*, published in the Hawaiian language newspaper *Ka Hōkū O Hawai'i* on March 30, 1916, poetically describes the difficulties faced by early travelers. Kepā Maly, a Hawaiian historian translated the account as such:

> *O Hilo Palikū kāhi i 'ōlelo 'ia ai; Pau ke aho i ka hele o Hilo, he lau ka pu'u, he mano ka ihona, he kini nā kahawai, a e 'au no ho'i i ka wai o Hilo a pau ke aho, a'ohe e pau ka wai!*
>
> Of Hilo Palikū it is said, one becomes short of breath traveling through Hilo, for there are many (400) hills, many (4,000) areas to descend, and many (40,000) streams, indeed while swimming through the waters of Hilo one becomes out of breath, but one is never out of water at Hilo! (Maly and Maly 2006:13)

Figure 23. Precipitous landscape characteristic of Hilo Palikū, view to the southeast.

A similar sentiment was also reported in "*Ka Huakaihele ike i na Makaainana o Hilo*" (A Sightseeing Tour to Visit the Common Folk of Hilo), written by G.K. Mahoe (1876) of his travels throughout Hilo that was serialized in the Hawaiian language newspaper *Ka Lāhui Hawai'i*. Mahoe described Hilo Palikū thusly:

> *...ua pale ae au i ka loa o ke alahele, ua manao ole ae hoi i na pali hauliuli o Hilo paliku, na piina, na ihona, na alu, na kahawai, na kualono, a me na pupu, ua hele hookahi ia no e a'u, me ka manao ole i ka luhi a me ka inea o ka hele ana, oiai, ma ka hoomaopopo ana i ka loa mai Hilo one a hiki i Laupahoehoe, me he mea la, ua aneane no i ke kanakolu mile. A mai kuhihewa hoi ka poe heluhelu, he papu a he laumania hoi ke ano o ka waiho ana o ka aina, aole, aka, he puu kinikini, he alu, he kapekepeke ke alanui.*
>
> ...I am protected from the long path ahead, I did not think twice of the dark cliffs of Hilo Palikū, the inclines, the descents, the ravines, the streams, the mountaintops, and the cleared fields, I moved alone, without thinking much of the strain and discomfort of traveling, although, when I recalled the length between Hilo One and Laupāhoehoe, those thirty miles came and went. The reader should not be mistaken, the lands that are passed along the way are not clear and smooth, rather, there are many hills, gulches, and twisting roads. (Mahoe 1876:1)

The low-lying coastal valley areas of Hilo Palikū thrived with traditional Hawaiian habitation and cultivation sites. Within the larger gulches and *kula* regions were lush, fertile lands well suited for agriculture. The traditional staple crop, *kalo* (taro), was cultivated in irrigated terraces along stream edges while *'uala* (sweet potato)*, mai'a* (banana) and *kō* (sugarcane) were grown in the *kula* lands of the lower forest zone (Handy et al. 1991). The region had an abundance of *kukui* (candlenut), *'ulu* (breadfruit), and *niu* (coconut) groves and was also rich in marine and river resources. Although Precontact Period settlements were prominent in these areas, with the increase in population and agricultural production during the late 19th and 20th centuries, settlements spread into the upland *kula* regions. Handy and Handy (1972), in drawing from a description given by early missionary William Ellis, provide yet another description of the fertile landscapes of South Hilo:

> The light and fertile soil is formed by decomposing lava, with a considerable portion of vegetable mould. The whole is covered with luxuriant vegetation, and the greater part of it formed into plantations, where plantains, bananas, sugar-cane, taro, potatoes and melons, come to the greatest perfection. Groves of cocoa-nut and bread-fruit trees are seen in every direction, loaded with fruit, or clothed with luxuriant foliage. (Ellis in Handy and Handy 1972:539)

Place, Rain, and Wind Names of Greater Hilo Palikū

The *inoa* (names) of *wahi* (places), *ua* (rains), and *makani* (winds) within a particular *ahupua'a* or broader region evidence the long-term relationship of various communities to their immediate environment. Geographer Katrina-Ann R. Kapā'anaokalāokeola Nākoa Oliveira offers a concise description of the natural environment as it was understood by Hawaiians of the past:

> Ancestral Kānaka recognized the connection between the heavens, lands, and oceans and how all three were interconnected and interdependent upon one another. In spite of the interwoven nature of the sky, land, and sea, however, Kānaka of ancestral times did not have a term that directly translates to what we have come to know today as "environment." Rather, the *Hawaiian Dictionary* offers two phrases that approximate the notion of environment: (1) "'ano o ka nohona" and (2) "nā mea e ho'opuni ana." 'Ano o ka nohona refers to the nature of one's relationship to one's surroundings or places. Nā mea e ho'opuni ana relates to everything that surrounds or encircles a person. (Oliveira 2014:64)

Reacquainting ourselves with these *inoa 'āina* (place names)*, inoa ua* (rain names)*, and inoa makani* (wind names) allows us to appreciate the environment as it was once observed by ancestral Hawaiian populations. In Kaiwilahilahi, a few *inoa 'āina* are listed by Soehren (2005), unless specified otherwise, as markers for the boundaries of these *ahupua'a*. The *inoa 'āina* for Kaiwilahilahi are listed in Table 1 below. Note that the translations provided below should be treated as cursory interpretations rather than authoritative facts since further research is needed to develop more definitive translations of these place names:

Table 1. *Inoa ʻĀina* associated with Kaiwilahilahi

Inoa ʻĀina	*Lexicology*	*Feature*	*Interpretive Translation*	*Notes*
Kaiwilahilahi	Ka-iwi-lahilahi	Ahupuaʻa and stream name	the frail bone	An *ahupuaʻa* and stream name in the North Hilo district.
Haakoa	Haʻa-koa	Stream	Low *koa* tree or warrior-like	Stream. Boundary between Moanalulu and Kaiwilahilahi.
Kulipalapala	Kuli-palapala	Boundary point	-	Boundary between Maulua nui and Kapehu that runs *mauka* along Kapehu and Kaiwilahilahi.
Keanini	Ke-ānini	Rock	A native tree or shrub in the tea family, *Eurya sandwicensis*	Tow rock on the bank of the Kaiwilahilahi stream. They are described as the beautiful Keanini and her lover; "the girl did not leave before the cock crowed and both were changed to stones" (Pukui et al. 1974:71)

While there are few *inoa ʻāina* documented for Kaiwilahilahi, these *inoa ʻāina* document named waterways and that served as boundaries separating, along with prominent *pōhaku* (stones) that is said to be the embodiment of a girl named Keanini. In terms of *inoa ua*, Hilo Palikū and the larger *moku* of Hilo is renowned in oral expressions such as *mele* (song), *oli* (chants), and *ʻōlelo noʻeau* (proverbs and poetical expressions) for its abundance of rain and fresh water. Numerous *ʻōlelo noʻeau* found in Pukui (1983) describe the characteristics of Hilo's various rains (Table 2).

Table 2. *ʻŌlelo Noʻeau* associated with the famed rains of Hilo

ʻŌlelo Noʻeau	*Literal/Figurative Translation*
ʻEleʻele Hilo, panopano i ka ua.	Dark is Hilo, clouded with the rain (Pukui 1983:40)
Halulu me he kapuaʻi kanaka la ka ua o Hilo.	The rain of Hilo makes a rumbling sound like the treading of feet. (Pukui 1983:53)
Hana Hilo i ka poʻi a ka ua.	Hilo works on the lid of the rain. Refers to the constant showers typical of Hilo district on Hawaiʻi. (Pukui 1983:54)
Hilo ʻāina ua lokuloku.	Hilo of the pouring rain. (Pukui 1983:107)
Hilo i ka ua kinakinai, ka ua mao ʻole.	Hilo of the constant rain, where it never clears up. (Pukui 1983:107)
ʻAu umauma o Hilo i ka wai.	Hilo has breasted the water. To weather the storm. The district of Hilo had many gulches and streams and was difficult to cross. (Pukui 1983 28)
Pau ke aho i ke kahawai lau o Hilo.	One's strength is exhausted in crossing the many streams of Hilo. Said of or by one who is weary with effort. First uttered by Hiʻiaka in a chant when she found herself weary after a battle with the lizard god Panaʻewa. (Pukui 1983:287)

Akana and Gonzalez (2015) in *Hānau Ka Ua*, a collection of Hawaiian rain names, describe the cultural significance of rain:

> Our kūpuna [ancestors] had an intimate relationship with the elements. They were keen observers of their environment, with all of its life-giving and life-taking forces. They had a nuanced understanding of the rains of their home. They knew that one place could have several different rains, and that each rain was distinguishable from another. They knew when a particular rain would fall, its color, duration, intensity, the path it would take, the sound it made on the trees, the scent it carried, and the effect it had on people. (Akana and Gonzalez 2015:xv)

Listed in Table 3 are a few of the rain names associated with Hilo Palikū and the northern portion of Hilo that can be found in Akana and Gonzalez (2015):

Table 3. Rain Names associated with Hilo Palikū (Akana and Gonzalez 2015)

Rain Name	*Literal/Figurative Translation*
ʻAwaʻawa	Translates as "bitter." Refers to a cold and dark rain or mist.
Heʻenehu	Translates as "sliding anchovy." Refers to a misty rain in the early morning off the coastline at a time when *nehu* fish are in abundance.
Hoʻolua	Translates as "to do twice." Refers to heavy rains that fall during strong northerly winds (which are also known as hoʻolua).
Kinai	Translates as "to quench or extinguish." Refers to a constant rain that continues for long hours.
Kualua	Translates as "repeating twice." Refers to rain over the sea that is accompanied by wind.
Lanipili	Translates as "clinging sky." Refers to cloudbursts or heavy rain that lasts for days.
Lanipōlua	Translates as "very dark sky." Refers to misty rain that falls when forests are obscured by low-lying clouds.
Lokuloku	Translates as "pouring rain." A generic term referring to heavy showers accompanied by wind. (Lila 1872:3)
Nāulu	Translated as "vexed." Refers to sudden heavy showers.
Ulumano	Translated as "growing exponentially." A rain that travels inland from the sea that is an indicator of the abundance of *ʻōhua* (juvenile fish).

Whereas *Hānau Ka Ua* provides us with a comprehensive listing of *inoa ua* across the Hawaiian Islands, there is no comparable publication for *inoa makani* to date. Listed in Table 4 are wind names that can be found in an array of Hawaiian and English language primary sources:

Table 4. Wind names associated with Hilo Palikū

Wind Name	*Notes*
ʻAʻalahonua	Translates as "fragrant earth." A wind that carries the fragrance of soil and foliage after the rain. (Alvarado 2005)
Kēpia	Translates as "dandruff." A wind associated with Hilo Palikū. (Nawaa 1904)
Kolonahe	Translates as "crawling slowly." A generic term for a gentle breeze (Lila 1872).
Uluaunui	Translates as "to grow increasingly." a strong northerly wind that makes landing by boat difficult.
Uluau	Translates as "to grow increasingly." Associated with Hilo Palikū in the *moʻolelo* of Kuapakaʻa. (Kuapuu 1861:24)
Hoʻolua	Translates as "to do twice." Refers to strong northerly winds that may include rain. (Malo 1903:35)
Hau	Translates as "ice." A wind that blows downward from the mountains (Malo 1903:35)
Māluakiʻiwai	Translate as "water-collecting seabreeze." A sea breeze accompanied by showers. (Alvarado 2005:5).
Ulumano	Translates as "blowing hard." A strong wind blowing "which rises from the shores" (Maly and Maly 2006:14)
Malanai	Translates as "shallow; undisturbed, serene" or "Loosely drawn, as a cord." A gentle north-east wind; "a pleasant wind for sailing and no rolling of the canoe or vessel" (Andrews and Parker 1922:416). Associated with Hilo Palikū in the *moʻolelo* of Ka-Miki (Maly and Maly 2006:14)

Traditional *Moʻolelo* of Kaiwilahilahi and the Greater Hilo Palikū

Moʻolelo (accounts, stories, legends) are rich resources for understanding the cultural landscape, land use, and practices of an area. It is yet another indigenous source of information that informs our understanding of how peoples of the past expressed their relationships to their lands and environment. An exhaustive search through secondary sources and Hawaiian language primary source materials revealed a few *moʻolelo* that specifically name Kaiwilahilahi. Additionally, an array of *moʻolelo* speaks of events that take place in Hilo Palikū the *ʻokana* within which

Kaiwilahilahi is located. The following summary of *moʻolelo* begins with those that make explicit reference to the lands of Kaiwilahilahi, followed by a selection of *moʻolelo* that speaks more broadly of the Hilo Palikū region.

Ka Moʻolelo o Lāʻieikawai

The lands of Kaiwilahilahi are referenced in the romance of Lāʻieikawai, as recorded by Kalākaua (1888). Although the origins of this story are set in the Koʻolau District of Oʻahu, mention is also made of Kaiwilahilahi along with other localities in the islands. The story begins with Kahauokapaka and his wife Malaekahana to whom were born four girls. Set on having a son, Kahauokapaka vowed that any daughters born from their union would be put to death, at least until a son was born. In accordance with the vows and without mercy, Kahauokapaka killed their first four daughters. Sometime later, Malaekahana became pregnant again, this time with twins, and fearing her husband's cruel vows, she sought to keep their birth a secret. When the pangs of labor began, Malaekahana sent her husband to fetch her some small fish from the shore. In his absence, she delivered twin girls named Lāʻieikawai and Lāʻielohelohe both of whom were accompanied by a rainbow.

To prevent the death of the twins, Malaekahana consigned the care of the former to their grandmother, Waka and the latter to the priest, Kapukaihaoa. To secure the whereabouts of the twins, Waka took Lāʻieikawai to the cavern of Waiapuka and Kapukaihaoa took Lāʻielohelohe to the sacred birthplace, Kūkaniloko. Because of their exceptional beauty and sacredness, the caregivers were cautious and periodically moved the girls from place to place. In a dream, Waka was directed by Kapukaihaoa to take Lāʻieikawai to Paliuli, a mythical land in Keaʻau, Puna. Their journey to Hawaiʻi Island was, however, met with many challenges as knowledge of the girl's beauty had begun to spread throughout the islands. Waka diligently directed her efforts toward safeguarding her granddaughter from the numerous suitors vying for her attention.

Of those captivated by the beauty of Lāʻieikawai was Hulumaniani, a great prophet of Kauaʻi. Following the rainbow attached to Lāʻieikawai, Hulumaniani made his way through the islands in search of the girl, stopping at different localities to conduct ceremonies. From Kauwiki, Hāna, Hulumaniani caught a glimpse of a faint rainbow on the east side of Hawaiʻi Island and after holding a ceremony, his patron god informed him "that the person whose shadows he had seen were living in the forest of Puna, in a house thatched with yellow feathers of the oo [*ʻōʻō*, Moho nobilis]." After learning this, Hulumaniani set sail for Hawaiʻi Island, specifically to Mahukona, where he prayed at the *heiau* named Pahauana. Following his time at Mahukona, he sailed to Waipiʻo to offer sacrifices to "the famous *heiau* of *Paakalana,* " then he continued on to Kaiwilahilahi, "where he remained for some years, unable to obtain any further information of the persons of whom he was in search" (Kalākaua 1888:459). The prophet Hulumaniani eventually grew tired in his search for Lāʻieikawai and elected to leave Kaiwilahilahi and return to his home on Kauaʻi. The story continues with efforts from other suitors attempting to woo Lāʻieikawai throughout Hawaiʻi. Whereas the *moʻolelo* summarized above makes explicit reference to the lands of Kaiwilahilahi, the following accounts are a selection of *moʻolelo* that speaks to different coastal areas of the broader Hilo Palikū region including the neighboring coastal lands of Laupāhoehoe and Maulua.

The Story of Kuahailo and Hinaaukekele

He Moolelo Kaao no Kuahailo a me Hinaaukekele, Kana Kaikamahine Hanauna (An account for Kuahailo and Hiaaukekele, his female relative) is a story that tells of the establishment of the highest-ranking genealogical lines of Hawaiʻi. Published as a weekly serial in the Hilo-based Hawaiian language newspaper *Ka Hoku o Hawaiʻi* from July 18, 1918, to March 13, 1919, the *moʻolelo* follows Kuahailo and Hinaaukekele along their journey from their ancestral home of Kuaihelani to the various islands of Hawaiʻi. The following translated summary was prepared by ASM staff, Halena Kapuni-Reynolds.

The segment of the *moʻolelo* in Hilo Palikū takes place midway through the narrative and were published in installments published on January 30, February 6, 13, and 27, 1919 (Ka Hoku O Hawaii 1919). At this point in the *moʻolelo,* Hinaaukekele and her husband, Kahikikuaokalani, resided in the valley of Waipiʻo. Their journey to Hilo Palikū began with a dialogue between Hinaaukekele and Kahikikuaokalani, where she expressed her desire to visit her grandmother, Hailikulamanu, and other relatives who lived in the *ʻokana* of Hilo Hanakahi. Kahikikuaokalani agreed with Hinaaukekele to visit their relatives. They made their way to Hilo Hanakahi atop a traveling *ʻōhiʻa* tree filled with *lehua* blossoms. According to the *moʻolelo,* the tree grew out of Hinaaukekele's *ʻiewe* (placenta, afterbirth) that her mother, Hinauluohia, planted near their home in Paliuli.

As the couple traveled to Hilo Hanakahi, Kahikikuaokalani heard the yelling and cheering of many people coming from the valley of Laupāhoehoe. He asked Hinaaukekele to instruct her traveling *ʻōhiʻa* tree to stop where all the commotion was coming from. In his curiosity, Kahikikuaokalani searched out the source of the cheering. He discovered that the noise was of bystanders who were cheering on two exceptionally skilled surfers, one from Hilo

One and one from Hilo Palikū, who were competing against each other. The waves at Laupāhoehoe were well known across Hawai‘i Island and were the same waves that were favored by the famed *ali‘i,* ‘Umi, generations later.

When Hinaaukekele and Kahikikuaokalani arrived, the people of Laupāhoehoe shifted their attention away from the surfers and rushed towards the beautiful travelers atop the moving *‘ōhi‘a* tree. What made these travelers even more extraordinary was the fact that they were accompanied by numerous forest-dwelling birds and four low-lying rainbows. When Hinaaukekele inquired about the commotion, some spectators responded that they were celebrating the fact that their surfer, a Hilo Palikū man by the name of Kekuaiwa, beat Kenao, the surfer from Hilo One, and won forty *kapa* cloths and a long canoe in the process. When Hinaaukekele asked how Kekuaiwa won, the people responded that it was because he was more skilled at surfing in the rough waters of Laupāhoehoe as opposed to the calmer waters of Hilo One. Furthermore, Hinaaukekele inquired about the ruling chief of the area, in which the people of Laupāhoehoe responded that there was no ruling chief who lived in the valley but that they were subjects of Kanakea, a chiefess who resided in Hilo. Kanakea knew of Hinaaukekele, as she was the one who was sent to retrieve Kahikikuaokalani from O‘ahu.

Hinaaukekele then proceeded to tell the people of Laupāhoehoe to have the two surfers compete once more. The spectators enthusiastically followed these instructions and told the local *konohiki* (head man of an *ahupua‘a*) what they heard from these distinguished travelers. In turn, the *konohiki* told the surfers to take to the waves again, and the surfers agreed without complaint.

When Kekuaiwa and Kenao reached the wave break, both were intent on outdoing their competitor to become the champion of the waves. Kekuaiwa did not think twice about Kenao, for he surfed in the waters of Laupāhoehoe since he was a child. As a wave neared, Kenao paddled to a spot where the waves were easier to ride. Kekuaiwa knew what Kenao was doing and prepared himself for the competition ahead. Onshore, most spectators believed that Kekuaiwa would win once more since he won the first time.

Enthused by the energy of the crowd and surfers, Kahikikuaokalani proposed to Hinaaukekele that they pick who they believed would win the surf competition. When Kahikikuaokalani told Hinaaukekele that she could pick first, she laughed, teasing him by saying that he only wanted her to choose Kekuaiwa, the obvious choice since he won the first competition, because he could rebuke her for choosing the former winner. Kahikikuaokalani laughed at Hinaaukekele’s remarks and told his beloved that he was letting her choose first as a gesture of honor and respect and that either of the surfers could win.

When the couple looked down at the surfers who were poised to catch the next wave, Hinaaukekele used her thoughts to secretly call her magical grandmother to let the surfer from Hilo One win the competition. When an excellent surfing wave neared, the two surfers caught it. They both rode splendidly. As they neared the shore, it was clear that the surfer from Hilo Palikū, Kekuaiwa, would win the competition. But as they neared the shore, Kekuaiwa saw a human hand emerge from the sea and snatched his board down into the depths. Kenao was thus the winner of the second round.

The spectators ashore were shocked to the point of speechlessness due to the outcome of the surfing competition. They could not explain how Kekuaiwa lost to Kenao. So too was Kahikikuaokalani puzzled by this turn of events, as he had no way of knowing that it was Hailikulamanu, Hinaaukekele’s grandmother, who intervened. When the surfers came back to land, Hinaaukekele instructed someone to tell the surfers to come to her and Kahikikuaokalani. Kenao happily obliged to this request, but Kekuaiwa was furious about his loss and did not want to see these visitors out of embarrassment.

Kahikikuaokalani was still pondering the outcome of the competition. He realized in time that Hinaaukekele must have had something to do with Kenao’s win, so he asked Hinaaukekele if he could leave and find Kekuaiwa, which she allowed him to do so. When he found Kekuaiwa, Kahikikuaokalani explained that it was because of Hinaaukekele’s magical abilities that resulted in his loss during the surfing competition. Kekuaiwa then described how a human hand grabbed his board and pulled him down. In response, Kahikikuaokalani explained to Kekuaiwa that he had nothing to be ashamed of because it was his decision to bet against Hinaaukekele that resulted in his (Kekuaiwa’s) loss. Kahikikuaokalani continued by describing how Hinaaukekele used her thoughts to call out to her grandmother to assist Kenao in winning the competition.

When Kahikikuaokalani returned to Hinaaukekele, she laughed because she knew that her secret was exposed. She turned to Kenao and asked him if he wanted to accompany them to Hilo One, in which he humbly declined due to their superior rank. From there Hinaaukekele and Kahikikuaokalani continued on their journey through Hilo Palikū until they reached Hilo One.

Ke Kaʻao Hoʻoniua Puʻuwai no Ka-Miki—The Heart Stirring Story of Ka-Miki

The region of Hilo Palikū is mentioned in the heart stirring story of Ka-Miki, an account published in the Hawaiian language newspaper *Ka Hōkū o Hawaiʻi* by John Wise and J.W.H.I. Kihe between 1914-1917. Although the *moʻolelo* "used a mixture of local traditions, tales, and family histories in association with place names to tie together fragments of site specific history that had been handed down over the generations," it "...is not an ancient account" (Maly and Maly 2001:23). The following succint synopsis of the *moʻolelo* is provided in Maly and Maly (2001:23):

> This *moʻolelo* is set in the 1300s (by association with the chief Pili-a-Kaʻaiaea), and is an account of two supernatural brothers, Ka-Miki (The quick, or adept, one) and Maka-ʻiole (Rat [squinting] eyes). The narratives describe the birth of the brothers, their upbringing, and their journey around the island of Hawaiʻi along the ancient *ala loa* and *ala hele* (trails and paths) that encircled the island. During their journey, the brothers competed alongside the trails they traveled, and in famed *kahua* (contest fields) and royal courts, against *ʻōlohe* (experts skilled in fighting or in other competitions, such as running, fishing, debating, or solving riddles, that were practiced by the ancient Hawaiians). They also challenged priests whose dishonorable conduct offended the gods of ancient Hawaiʻi. Ka-Miki and Maka-ʻiole were empowered by their ancestress Ka-uluhe-nui-hihikolo-i-uka (The great entangled growth of uluhe fern which spreads across the uplands), who was one of the myriad of body forms of the goddess Haumea, the earth-mother, creative force of nature who was also called Papa or Hina. Among her many nature-form attributes were manifestations that caused her to be called upon as a goddess of priests and competitors.

Maly and Maly (2006) translated a portion of Ka-Miki centered on the lands of Hilo Palikū, near Mauluanui and Welokā situated east of Kaiwilahilahi. While Kaiwilahilahi is not mentioned in the *moʻolelo* presented below, many of the surrounding lands are mentioned. Below is Maly's summary and translation of the *moʻolelo*:

> The region known as Hilo Palikū stretches from the northern bank of Wailuku River to the gulch of Kaʻula . . .
>
> After traveling through the southern lands of Hilo Palikū, Ka-Miki and Maka-ʻiole and their companions Keahialaka and Hilo Hanakāhi, headed to the compound of the chief, Maulua-a-pio, for whom the *ahupuaʻa* of Maulua was named. Maulaua-a-pio was one of the foremost *ʻōlohe* masters of the Hilo District, and it was Maulua from whom the chief Hilo Hanakāhi had learned his fighting skills.
>
> Hilo Hanakāhi had traveled ahead of Ka-Miki and his companions, to speak with his instructor, Maula. He told him of Ka-Miki's nature, and asked that Maulua accept Ka-Miki as an *aikāne* (companion). Maulua agreed to meet Ka-Miki, but also desired to test the knowledge of Ka-Miki for himself, thus the group was invited to join Maulua at his *halau laʻaleʻa* (competition long-house).
>
> Ka-Miki and his companions arrived at Maulua and joined the chief of that name for a meal and *ʻawa* ceremony. As Maulaua prepared to make the *ʻawa*, Ka-Miki asked if he could strain the drink. Maulua responded; "You are visitors, and it is only right that I should serve you." Ka-Miki responded with the saying:
>
> > *He kiʻi kanaka noho wale o kāhi aliʻi, o ka mea miki no ma ka hana, ku no imu ao ke aliʻi!*
> >
> > (Only an image sits doing nothg at the dwelling place of a chief, and the one skilled at a task stands before the chief!)
>
> Maulua agreed to Ka-Miki's request, and following the *ʻawa* ceremony, Maulua determined that he wanted to challenge Ka-Miki to a contest. The intent of Maulua was known to Ka-Miki and he spoke a riddle to him, in which he named a wind of the region, and of omens seen in the weather:
>
> > *He lā makani ka hoʻi kēia o Koholālele, ke lele nei ka hun o ke kai iluna o nā pali, pali kahakō a ke koaʻe e lele ai I ka hoʻōuylu a ka Ulumano ka makani hoʻoūlu-a o nā makalae. E ʻino, ʻino paha auaneʻi o Hilo, ʻino ke laal, ua ku nā pali laumania a ka lawaiʻa nihi ai kuʻukuʻu i ke kaula a ke ʻaki ala i ka niho!—*

> This is indeed a windy day at Koholālele, the sea mist flies above the cliffs, steep cliffs from which the tropic birds fly rising on the Ulumano, the wind which rises from the shores. It is perhaps a storm, a storm in Hilo, a storm along the paths on the sheer cliffs on which the fishermen tie their ropes and let down the nipping teeth [waves].

Maulua responded, "Where is the storm, all is calm, there are no waves upon the shore, the cool *Malanai* breeze blows along the cliffs of the *hula'ana* (cliff trail which one swims to past).

Ka-Miki told Maulua, "It is the voice of the birds of my ancestresses which tell me that soon the storm shall arrive."

Responding to Ka-Miki Maulua said, "This is peculiar and you are mistaken, for indeed the gentle *Malanai* wind is blowing. What bird is it which speaks so?" Ka-Miki answered:

> *O ka leo o ka manu a ku'u kupuna wahine ke kani nei… O ka 'a'o ka manu heahea pili o ke ao, a 'oia ka'u i lohe aku la I ka holo-kē, a ua na'a loa au, I ka wā elohe 'ia ai kona leo e holoholo ana i ka wā mālie, e mākaukau, e liuliu…eia ku ka 'no e hō'ea mai ana a'ole I lō'ihi loa.*
>
> It is the bird of my ancestress which calls out. The *'a'o* (*Puffinis newelli*) bird which announces the arriving daylight, this is what I have herd in their scattered voices, and I know that when I hear their voices that the calm is about to depart, it is time to make ready and prepare, for it in a short time the storm will arrive.

…"Kalele-a-Welokā is the *'ōlohe* who is filled with knowledge and strength, he is the *kaulana 'āina* (champion who maintains peace in the land) of the chief Palikū-a-Kīko'oko'o. his has a full muscular body, like the mysterious *koa* trees which surround Hilo, there is no other like him."

Ka-Miki then told Maulua, "He is indeed a great warrior, but the *Kona* wind is coming to scatter the branches of this *koa* tree." Maulua told Ka-Miki, "Where is this *Kona* wind which will knock over the tall dark *koa* of Hilo? This wind may knock over the *koa* of 'Umikoa, but not the great *'ōlohe*, the *a'u* (sword fish) which leaps upon the waves, the *'ahi kananā* (fierce tuna fish) of the deep sea, the *manō niuhi* (great man eating shark) of the dark ocean depths!"

Maulua continued debating with Ka-Miki , and Hilo Hanakāhi called to his teacher, "I have fully explained the nature of this one who is here before you. If you continue in this manner, you will become like the little pebble knocked over in *kōnane*, and set aside in a little bundle." Maulua did not answer, but instead leapt to try and surprise attack Ka-Miki. Though he tried all manner of *lua* (techniques), Maulua was worn out and bound by Ka-Miki, unable to move.

Ka-Miki told Maulua, "You have been bound in the net, twined from the hair of *Ka-uluhe-nui-hihi-kolo-i-uka*." With a smile, Ka-Miki then thanked Maulua for the test, telling him, "You are one of the best competitors I have met, there is but one problem, you are quickly worn out, you have no strength (a play on the name of the land Maulua, where one become wearied from traveling the steep valley cliffs). Therefore, let this test between Ka-Miki and Maulua be ended, unless you be killed like one who travels the precipitous cliff trail of Nu'alolo, falling like the fire brands of Kāmaile, or the flying fire darts, the fluttering tribute to Makua-iki. Because you are a teacher of Hilo Hanakāhi, my traveling companion, I will release you."

Maulua agreed to the condition of Ka-Miki and then described the nature of Welokā:

Welokā stood nearly twelve feet tall, and he was a master in many *'ōlohe* techniques including, *hauna lā'au*, *kāwala lā'au*, *ka hāpai a kiola*, *ka hopu a ha'iha'i*, *a he māmā*

ma ka lele pali me ke kūkini, *a he akamai ma ka nou pīhaku*…(fighting with war clubs and spears, lifting and throwing one's opponent from the arena, seizing and bone breaking, also an expert cliff leaper and runner, and extremely clever at sling stone fighting.

Maulua took Ka-Miki and his companions to the compound of the chief Palikū-a-kēkoʻokoʻo (Palikū), and arrangements were made for Ka-Miki to compete with Kalele-a-Welokā. Palikū sent his runner *Kapehu-a-lālā* (**Kapehu**) to the uplands of ʻAwapuhi, where Kāwalalāʻau-a-huʻeku (the master war club instructor) dwelt and taught his students. Kāwalalāʻāu agreed that he an Welokā, his foremost student, and the champion of Palikū-a-Kīkoʻokoʻo would join the chief and his other competitors. While waiting for the arrival of Kāwalalāʻau *mā*, Ka-Miki met with, and entered into a debate with Pīnaʻau-iki-a Kawelo, the foster son and riddler champion of Palikū-a-Kīkoʻokoʻo.

Welokā and Kāwalalāʻāu then arrived at the *halau* of Palikū, and the *kahua* was made ready for the contest between the campion Welokā and Ka-Miki. All the *ʻōlohe* from ʻAwapuhi to Kaʻula, and the chiefs who upheld the laws of Palikū-a-Kīkpʻokoʻo assembled for the contest between Welokā and Ka-Miki. Those assembled included ***Pāpaʻaloa***, ***Kihalani***, ***Manowaiʻōpae***, and *Puʻu ʻAlaea*. The chief ***Laupāhoehoe*** was ill and did not attend. The twin chiefess *Waipunalei-a-Haho* (daughters of Palikū-a-Kīkoʻokoʻo), their guardian *Hōkī-lī-a-lei* (now called Hōkūlī), the seer *Nākāpaʻa*, and his brother *Kaʻawaliʻi-a-lohelohe*, (called Kaʻāwaliʻi, who was the messenger- runner of the chief Lupea – *Kahauoluapea*), and his siter *Kaohaohalani* (called Kaohaoha), *ʻŌʻōkala-ku-nahihi-nā-hulu-i-kama* (now called ʻŌʻōkala), and *Ka-ʻula-kʻi-a-lua* (now called Kaʻula), were also among those assembled at the *kahua*. These were the famous people of Palikū's time, and lands are named for all of them.

When Welokā and Kāwalalāʻau arrived at the contest stie, Palikū-a-Kīkoʻokoʻo asked Ka-Miki what method of contests he might compete in? Ka-Miki responded that any techniques was fine, and agreed upon competing in the spear and club fighting techniques of -- *ʻōkʻa lāʻau*, *kāwala lāʻau*, and *hauna lāʻau*. Ka-Miki then called in a *mele* (chant) to Maka-ʻiole to go and fetch the club *ʻŌlapa-ka-huila-o-kalani*, the cherished one of *Kaulu-i-ke-kihi-o-Kamalama* at Kalamaʻula:

E ala e kīkoʻokoʻo ka mauna	Arise and span the mountain
E ala e kīkoʻokoʻo ka moana	Arise and span the sea
E ala e kīkoʻokoʻo ka makani	Arise and span the wind
E ala e kīkoʻokoʻo ka ua	Arise and span the rains
E ala e kīkoʻokoʻo ka uila	Arise and span the lighting
E ala e kīkoʻokoʻo ka pō	Arise and span the darkness
E ala e kīkoʻokoʻoke ao	Arise and span the light
E ala e ka ʻIole nui manomano	Arise the many formed *ʻIole* (Maka-ʻiole)
E ala e Ka-huelo-ku-Kamalama	Arise o Kahuelo-ku
Iā kīkoʼokoʼo a lele puʻō	Span and leap over
Iā kīkoʼokoʼo a lele puahiohio	Sapnd and fly like a whirlwind
Iā kīkoʼokoʼo a lele pua-nei	Span and fly forth
Iā kīkoʼokoʼo a lele ka-wa	Span and leap a great distance
Iā kīkoʼokoʼo a lele mamao loa	It si so, fly, fly like the bird *Halulu*
ʻOia, a lele la, a lele ka mnu o Halulu	O Kahuelo fetch the club of ours
E Kahuelo-ku-e, kiʻina ka lāʻau a kāua	

Upon hearing Ka-Miki's chant, Maka-ʻiole flew like a *pua pana* (an arrow), and was lost from sight. Arriving before his ancestress, she greeted him and inquired of Ka-Miki, and chanted out in his praise upon hearing of his contest. Maka-ʻiole then returned to Ka-Miki and presented the war club *ʻŌlapa-kahuila-o-ka-lani* to him.

Ka-Miki then called to Palikū, "Who is the contestant of this day?" Palikū responded, "Kalele-a-Welokā, and Kāwalalāʻau is the official-overseer."

Kāwalalāʻau then moved to the *kahua* and called to Ka-Miki, "The method of fighting will be with clubs and spears, and death shall be the sign of victory. Beware o youth lest you be cut in two by the club of my student, Kalele-a-Welokā."

Welokā then leapt upon the *kahua* to attack Ka-Miki, and Kāwalalāʻau then called out to Welokā that he should strike in the method of *Ka piko o Wākea*. Once again Ka-Miki dodged the attack, and Kāwalalāʻau then understood that Ka-Miki was a true expert.

Welokā continued to fight, but was worn out without once striking Ka-Miki. Now there was no competitor who hadn't previously fallen to Welokā, and Welokā was outraged, that each of his attacks had been thwarted. As Kāwalalāʻau continued calling techniques out to Welokā, Ka-Miki understood that Kāwalalāʻau was the real master with whom he would compete. Ka-Miki called to Welokā, telling him that he would soon be caught by Ka-Miki the reflection or image of the war club of *Ka-uluhe-nui*. Welokā struck at Ka-Miki with his war club *Kuʻikaʻa*, and the club sank into the ground where it was firmly held. While Welokā attempted to free his club, Ka-Miki struck at *Kuʻikaʻa* and it shattered, Using the *hauna lāʻau* (war club) fighting technique of *Nīʻau-a-piʻo*, Ka-Miki then prepared to strike Welokā. Kāwalalāʻau understood the nature of this technique and leapt to protect his student, but Welokā was hit on the leg. Thus Welokā, the champion of Palikū-a-Kīkoʻokoʻo was unable to fight again.

Welokā was carried into a nearby *halau*, and Kāwalalāʻau was so outraged by his students' defeat, that he turned to fight Ka-Miki. Kāwalalāʻai was a master instructor of *kākā lāʻau* (spear fighting), *lua* (rough hand-to-hand combat), *haʻihaʻi* (bone breaking), and all manner of fighting. Kāwalalāʻau was amazed and surprised that Kalele-a-Welokā had fallen before Ka-Miki, thus he greatly desired to fight with this warrior who had defeated his foremost student, and bound Maulua-a-pio.

Kāwalalāʻau leapt to strike at Ka-Miki, but Ka-Miki dove down and caught Kāwalalāʻau and threw him from the *kahua*. All of those assembled were astonished to see the master instructor of Hilo Palikū so defeated. Kāwalalāʻau quickly rose, furious that he had been treated like a little bundle which was cast aside. This was the first time that he had been so humiliated, and no *ʻōlohe* had ever beaten him. Kāwalalāʻau leapt to try and seize Ka-Miki, but he misjudged and was struck to the ground and held securely. When Ka-Miki released Kāwalalāʻau, they competed in *lua*, but Kāwalalāʻau could gain no advantage, thus Kāwalalāʻau understood that Ka-Miki was a master of all forms of fighting.

Ka-Miki praised Kāwalalāʻau saying he was indeed knowledgeable, one of the foremost *ʻōlohe* he had encountered. Ka-Miki then asked Kāwalalāʻau if they could compete as friends, Kāwalalāʻau agreed, and said "let us return to our first from of competition, *ʻōkaʻa lāʻau* and *hauna lāʻau*, then we might learn the extent of our teachers skills." Those gathered at the contest site saw that Kāwalalāʻau and Ka-Miki were both exceptionally skilled. Now Kāwalalāʻau' s true intent was to kill Ka-Miki, so he took his war club *Kaulīlua* and assumed the posture of *Ka piko o Wākea* for attack, and *Lele-a-kuhō* for protecting against attacks.

Seeing Kāwalalāʻau's true intent, Ka-Miki called out, "Beware lest you be enclosed in *Kuʻukuʻu-iki-a-kuhō*, the little toe of my teacher *Ka-uluhe-nui-hih-kolo-i-uka*, my teacher who is hidden there at the thigh channel of *Haumea-nui-a-ke-aīwaiwa*."

Upon hearing the names of the club, fighting technique and goddess *Haumea*, Kāwalalāʻau realized that this youth was led by his gods. He also remembered that this teacher had told him never to compete with one who called upon *Haumea-nui-a-ke-aīwaiwa*.

Ka-Miki then chanted out, describing the nature of Kāwalalāʻau, and called upon the forces of nature and Haumea to assist him:

O kīkoʻokoʻo ka mauna o ʻakāhi ka pili	Span the mountain, there is one that is close by [a competitor]
O kīkoʻokoʻo ka moana o ʻakāhi ka pō	Span the ocean, there is one darkened [ignorant]

O kīkoʻokoʻo ka ua o lapakū o ʻalua ka pili	Span the rains, striking at the two which are bound together
Pau mai ka lālā kamahele a ke ēulu	Finished are the far reaching branches [warriors], topped off
Pau mai ka ēulu a ka lālā kāpaʻi	The branches have been cut and shattered
Pau mai ka lālā kāpaʻi a i ka honua	The branches have shattered upon the earth
Honua ku a lewa ka lani iā Haumea	The earth which rises to the heavens, to Haumea
Iā Haumea niho ʻoi waka waka kuku	To Haumea with the sharp jagged teeth
ʻAi humuhumu aʻohe me koe	Who consumes all, leaving nothing behind
Koe no he aīwaiwa he hialōloa	Indeed if you were to remain, you would be a true master, an expert,
E Kāwalalāʻau-a-huʻeku-ka-lani-e	Hail Kāwalalāʻau…

Ka-Miki then leapt to Kāwalalāʻau and threw him from the *kahua* to where he landed in front of Palikū-a-Kīkoʻokoʻo *mā*. This the saying of Kāwalalāʻau came into use—

> *Hina la e Kāwalalāʻau, ke ko lālā ʻole pāʼelekū I ka lani ka holoua o Hilo!*
>
> Fallen is Kāwalalāʻau, the great dark branchless koa trees of Hilo, Hilo placed in the rain trough of the heavens.

Kāwalalāʻau broke his thigh bone and was unable to fight again. Ka-Miki then called out, "All have fallen to Ka-Miki, the image of the war club of *Ka-uluhe*, is there no one to compete with; who will be the *ʻōlohe* to compete with Ka-Miki?" the chief Palikū-a-Kīkoʻokoʻo answered, "No *ʻōlohe* remain." Ka-Miki then asked him, "And what are the tasks of these people who fill the house of the chief?" Palikū-a-Kīkoʻokoʻo responded, "All of them have one teacher, Kāwalalāʻau."

Ka-Miki then said, "Since no *ʻōlohe* remain in Hilo, my task is finished, all have been bound by Ka-Miki, in the net of my ancestresses. Do you agree to serve me the food and resources of the land?"

After conferring with his foster son Pīnaʻau, Palikū responded, "Not all manner of *ʻōlohe* are defeated, for there are many areas of knowledge." As the discussion continued, it was agreed that Ka-Miki would compete in *ʻōlelo hoʻopāpā* (debating in riddling) contests with Pīnaʻau. Failure to answer on the part of either Pīnaʻau or Ka-Miki meant death to the loser, who would be "*Kālua ʻia i ka imu*" (baked in the imu). The riddling contests described *kalo* (taro growth), the *ala loa* (trail systems), *lawaiʻa* (fishing practices), and the shark god of Ka-Miki, *Nihoʻeleki*.

…Ka-Miki then challenged Pīnaʻau with a riddle which described the nature and extent of his journey around Hawaiʻi. Pīnaʻau much of the riddle and determined that only the districts of Hāmākua and Kohala remined to be visited on his journey.

Ka-Miki praised Pīnaʻau's great skills, saying he had never met anyone as capable as him. Ka-Miki then released Palikū-a-Kīkoʻokoʻo and Pīnaʻau from the death *kapu* which had been set upon the riddling contest. Ka-Miki and Pīnaʻau continued competing as friends, and when the contest was over, Ka-Miki commended both Pīnaʻau and Kaʻāwaliʻi to cherished positions under their chiefs. Pīnaʻau served as *konohiki* (overseer) for the lands of Palikū-a-Kīkoʻokoʻi, and the lands of Kaʻawaliʻi, Nākāpaʻa, Kahauolaupea, Kaohaoha, ʻŌʻōkala, and Kaʻula were all named for the *kaulana ʻāina* (foremost land administrators) of Palikū-a-Kīkoʻokoʻo. Ka-Miki released those *ʻōlohe* who had been bound, and several days of feasts, *ʻawa* ceremonies and festivities were passed, before Ka-Miki *mā* departed for Hāmākua…(Maly and Maly 2006:13-19)

This *moʻolelo* gives insight into the naming of the lands along the coast in the Hilo Palikū region and the importance of the leaders of that time to not only possess physical strength but wit as well.

Pau Kuhihewa Iā Hilo Palikū-Completely Mistakened by Hilo Palikū

One of the famed sayings for the Hilo Palikū region is "pau kuhihewa iā Hilo Palikū," which translates as "Hilo Palikū is completely mistaken." In historical sources, authors used this saying as an expression of disdain for someone who lies and does not keep promises. In August of 1900, an author under the penname "Hawaii Oiaio" published an article that explained the origins and usage of "pau kuhihewa iā Hilo Palikū." In the article titled "Pau Ole Kuhihewa Ia Hilo Palikū," Hawaii Oiaio addresses it to members of the Aloha ʻĀina political party, including Joseph Nāwahī, William White, John Richardson, Thomas Clark, Reverend John Kalana Hihio, J. Nazareka, David Kalauokalani, James Kaulia, Robert Wilcox, and William Auld, which he chastises for their pro-Kingdom politics. Although the excerpt that is included below focuses on the story of the Hilo Palikū saying, the overall message of the article encourages readers to pursue leadership positions within the newly formed government of the Territory of Hawaiʻi. A transcription of the original article along with a translation provided by ASM staff, Halena Kapuni-Reynolds is provided below:

> *O ka huaolelo a hopunaolelo maluna ae e kau ae la, "Pau kuhihewa ia Hilo Paliku," he huaolelo kaulana loa keia mai ka wa kahiko loa mai o ko kakou aina, mawaena o na ho loh [sic] elua, e lilo i mau halekipa, a i mau aikane "Punakeonaona, ina no Maui, Oahu, Kauai ke kanaka i hoaikane me ko Hilo, a ina paha ma Maui kahi i launa ai, alaila, ua mopopo [sic] no i ke kanaka o Hilo ka makemake o ka hoaloha o Maui he waa alaila, pane aku la ke kanaka o Hilo, he wahi waa no koʻu makemake no ia, e lawe koke mai hoi ha oe, ae, ua pono.*
>
> *Oi kali aku ke kanaka o Maui a, a hala ae ana he anahulu, a hala aku ana ua anahulu, pau ka palena o ka pono, o kau nae kai puhi aku la ia iala, a hoka iho la ke kanaka o Maui. Pane iho la ke kanaka o Maui, he lohe akahi no a ike maka, nolaila, ua ailolo na kanaka o Maui, Oahu, Molokai, Lanai, Kuai i ko Hilo Poe i ka hoopunipuni, pili nae keia i ka poe kalaiwaa.* (Oiaio 1900:6)
>
> The saying and sentence located above, "Hilo Palikū is mistaken completely," it is a legendary saying from the ancient times of our land, that arose between two friends, who became best friends, and later became companions. "Punakeonaona, indeed if the person from Maui, Oahu, and Kauai befriended Hilo's [person], and if on Maui is where they enjoy each other's company, and then, the person in Hilo would know that their Maui friend is in need of a canoe, and then, the Hilo people responds, I definitely have a canoe that was painted black, I will leave and then return, and then, the person from Maui responded, that is what I who desired it, please bring it quickly, indeed, it is needed.
> Whilst the person from Maui waited, a month passed, and another month passed, he reached his limit and became furious and disappointed. The person from Maui told the person from Hilo, I heard you but I have yet to see it with my own eye, therefore, the people of Maui, Oahu, and Lanai were scorned. Hilo's people, in particular the canoe carvers, trade in lies.

Although the saying does not see people from Hilo Palikū as favorable or honest, it speaks of the region's long history of interisland exchange and communication.

Early Historical Accounts 1820s-1840s

Some of the earliest written descriptions of the Hilo Palikū region comes from the writings of the first Protestant missionaries to visit the island. Early Historic Period visitors to the region noted the beauty, fertility, and ruggedness of this part of the island. At times, these visitors described the agricultural practices they observed as well as the routes of travel. In 1823, the Reverend William Ellis one of the first Christian missionaries to arrive in Hawaiʻi, passed along the Hilo coast during his tour of Hawaiʻi Island. Having been warned against walking due to the ruggedness of the terrain, he sailed from Hilo to Laupāhoehoe in a canoe. Ellis (2004:344) described the Hilo coastline as follows:

> The country, by which we sailed, was fertile, beautiful, and apparently populous. The numerous plantations on the eminences and sides of the deep ravines or valleys, by which it was intersected, by streams meandering through them into the sea, presented altogether a most agreeable prospect.

After departing Hilo Bay, Ellis and his party did not land again until Laupāhoehoe, where he and his traveling companions continued on foot, passing along the coastal cliffs of the Hilo and Hāmākua districts. It was on this leg of his journey that Ellis described the cultivated *kula* lands of the region that extended between the various valleys and gulches:

> The houses stood mostly singly, and were scattered over the face of the country. A rich field of potatoes or taro, five or six acres in extent, or large plantations of sugar-cane and bananas, occasionally bordered our path. But though the soil was excellent, it was only partially cultivated. (Ellis 2004:249-250).

Planting techniques within the *kula* lands of the Hāmākua region are further described by Handy and Handy (1972). Although the current project area is located to the south of Hāmakua, the *kula* lands of the Hāmakua and Hilo Palikū are very similar, Handy and Handy's description of dryland cultivation within the region provides some insight to how the land was used prior to the rise of the sugarcane industry during the latter half of the 19th century. Handy and Handy (1972:537) stated:

> Mulched taro was planted on the open kula lands up to the border of the old forest zone and is said to have flourished under a mulch of grass, *ti* leaves, and other rubbish heaped around it in the red soil. Small patches so growing today seem to flourish. We are told that taro was planted in kukui forests which used to cover the slopes of much of the land…Another method consisting of digging sizable holes in the ground, filling them with *kukui* leaves, and allowing these to decay completely, after which taros that had been started from cuttings planted in plain soil were introduced and grew to great size.

Overland travel across the central and northern Hilo District remained difficult throughout the first part of the 19th century due to its rugged coastline and many deep gulches. Initial commercial exploitation of these lands was limited to small scale agriculture in areas with coastal access for shipping and receiving goods. The Reverend Titus Coan (Coan 1882:31-32), who settled at the Hilo Mission Station in 1835, wrote that:

> For many years after our arrival there were no roads, no bridges, and no horses in Hilo, and all my tours were made on foot…The path was a simple trail, winding in a serpentine line, going down and up precipices, some of which could only be descended by grasping the shrubs and grasses, and with no little weariness and difficulty and some danger.

By the mid-1800s, the first roads had been established along the coast of Hilo, perhaps following the route of the older path described by Coan (Kalima and Rosendahl 1991). These first roads, designed for travel on horses and in carts, were likely developed by land holders, primarily sugar growers, looking to connect their plantation lands. Chester S. Lyman, travelling from Kawaihae to Hilo with the Reverend Titus Coan on June 19th, 1846, stayed in the vicinity one of the early sugar plantations located to the south of the project area. In his journal he described travel along a cart road and discussed the holdings of Mr. Castle. the progenitor of the first sugar plantation in the area. Lyman (1925:81) wrote:

> After resting we started on at 41/2 & soon arrived at Mr Castle's, 3/4 of a mile beyond. When half way there we fell in with two carts each drawn by 4 yokes of oxen, one set of them just broken in; the two teams were connected by a long rope & went on by *fits & starts*, now stopping & now going on the run. The carts were large & heavy with thick solid wheels made of planks pinned together. They were well filled with a crowd of noisy girls & boys & by invitation of the Driver, an American, I took a ride in one of these Hawaiian Coaches as far as Mr Castle's house, glad thus to relieve a little my feet which were becoming sore from walking in water and climbing precipices.
>
> Stopped a few minutes at Mr C[astle]'s; were entertained with a refreshing bowl of milk, & then going on a mile & a half or 2 miles put up for the night at a native house, nearby. The place is called *Puumoi*. Mr. Castle is an American, has been in the country many yrs, has an extensive plantation & a native wife & family. Near his house we passed large fields of sugar cane on his lands, but cultivated by Chinamen who have pretty much monopolized the sugar business in this region. Mr C[astle] has also considerable herds of cattle.

The Legacy of the *Māhele 'Āina* of 1848

By the mid-nineteenth century, the ever-growing population of Westerners in the Hawaiian Islands forced socioeconomic and demographic changes that promoted the establishment of a Euro-American style of land ownership. By 1840 the first Hawaiian constitution had been drafted and the Hawaiian Kingdom shifted from an absolute monarchy into a constitutional government. Convinced that the feudal system of land tenure previously practiced was not compatible with a constitutional government, the King (Kamehameha III) and his high-ranking chiefs decided to separate and define the ownership of all lands in the Kingdom (King n.d.). This change was further promoted by missionaries and Western businessmen in the islands who were generally hesitant to enter business deals on leasehold lands that could be taken from them at any time. After much consideration, it was decided that three

classes of people each had one-third vested rights to the lands of Hawai‘i: the King, the chiefs and *konohiki*, and their tenants (the *maka‘āinana* or common people). In 1845 the legislature created the “Board of Commissioners to Quiet Land Titles” (more commonly known as the Land Commission). All land claims, whether by chiefs for entire *ahupua‘a* or by tenants for their house lots and gardens, had to be filed with the Land Commission within two years of the February 14, 1846, but the deadline was extended several times for chiefs and *konohiki* (Soehren 2005).

The King and some 245 chiefs (Kuykendall 1938) spent nearly two years trying unsuccessfully to divide all the lands of Hawai‘i amongst themselves before the whole matter was referred to the Privy Council on December 18, 1847 (King n.d.). Once the King and his chiefs accepted the principles of the Privy Council, the *Māhele ‘Āina* (Land Division) was completed in just forty days (on March 7, 1848), and the names of all of the *ahupua‘a* and *‘ili kūpono* (nearly independent *‘ili* land division within an *ahupua‘a*, that paid tribute to the ruling chief and not to the chief of the *ahupua‘a*) of the Hawaiian Islands and the chiefs who claimed them, were recorded in the *Māhele* Book (Soehren 2005). As this process unfolded King Kamehameha III, who received roughly one-third of the lands of Hawai‘i, realized the importance of setting aside public lands that could be sold to raise money for the government and also purchased by his subjects to live on. Accordingly, the day after the division with the last chief was recorded in the *Buke Māhele* (*Māhele* Book), King Kamehameha III commuted about two-thirds of the lands awarded to him to the government (King n.d.). Unlike the King, the chiefs and *konohiki* were required to present their claims to the Land Commission to receive their awards (LCAw.). The chiefs who participated in the *Māhele* were also required to provide to the government commutations of a portion of their lands in order to receive a Royal Patent (also known as a *Palapala Sila Nui*) giving them title to their remaining lands. The lands surrendered to the government by the King and chiefs became known as “Government Land,” while the lands retained by Kamehameha III became known as “Crown Land,” and the lands received by the chiefs became known as “*Konohiki* Land” (Chinen 1958:vii; 1961:13). All lands awarded during the *Māhele* were identified by name only, with the understanding that the ancient boundaries would prevail until the land could be surveyed. This process expedited the work of the Land Commission.

During the *Māhele*, native tenants of the lands that were divided up among the Crown, *Konohiki*, and Government could claim, and acquire title to, *kuleana* parcels that they actively lived on or farmed. The Board of Commissioners oversaw the program and administered the *kuleana* as Land Commission Awards (LCAw.). Claims for *kuleana* had to be submitted during a two-year period that expired on February 14, 1848, to be considered. All of the land claimants were required to provide proof of land use and occupation, which took the form of volumes of native registry and testimony. The claims and awards were numbered, and the LCAw. numbers, in conjunction with the volumes of documentation, remain in use today to identify the original owners and their use of the *kuleana* lands. The work of hearing, adjudicating, and surveying the claims required more than the two-year term, and the deadline was extended several times for the Land Commission to finish its work (Maly 2002). In the meantime, as the new owners of the lands on which the *kuleana* were located began selling parcels to foreigners, questions arose concerning the rights of the native tenants and their ability to access and collect the resources necessary for sustaining life. The “Enabling” or “*Kuleana* Act,” passed by the King and Privy Council on December 21, 1849, clarified the native tenants’ rights to the land and resources, and the process by which they could apply for fee-simple interest in their *kuleana*. The work of the Land Commission was completed on March 31, 1855. A total of 13,514 *kuleana* were claimed by native tenants throughout the islands, of which 9,337 were awarded (Maly 2002). According to the *Buke Māhele* (1848:71, 190), on February 2, 1848, the *konohiki* Pakeokeo claimed but subsequently returned Kaiwilahilahi Ahupua‘a to Kamehameha III. This *ahupua‘a* was subsequently given by Kamehameha III to the Hawaiian Government thereby incorporating Kaiwilahilahi into the inventory of Government Lands.

Kuleana Awards

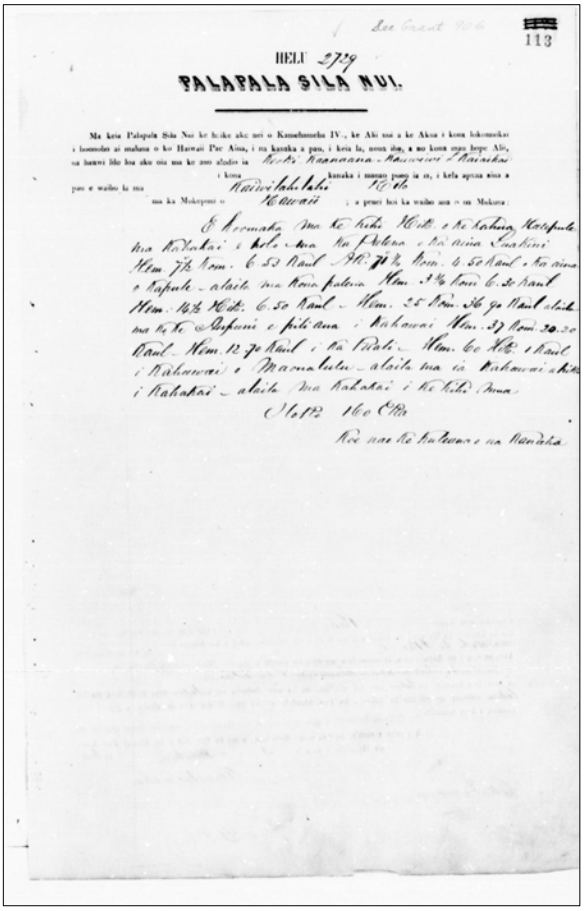
As the King and his *ali‘i* and *konohiki* made claims to large tracts of land via the *Māhele*, questions arose regarding the protection of rights for the native tenants. To resolve this matter, on August 6, 1850, the *Kuleana* Act (also known as the Enabling Act) was passed, clarifying the process by which native tenants could claim fee simple title to any portion of lands that they physically occupied, actively cultivated, or had improved (Garavoy 2005). The *Kuleana* Act also clarified access to *kuleana* parcels, which were typically landlocked, and addressed gathering rights within an *ahupua‘a*. Lands awarded through the *Kuleana* Act were and still are, referred to as *kuleana* awards or *kuleana* lands. The Land Commission oversaw the program and administered the *kuleana* as Land Commission Awards (LCAws.) (Chinen 1958). Native tenants wishing to make a claim to their lands were required to register in writing those lands with the Land Commission, who assigned a number to each claim, and that number (the Native Register) was used to track the claimant through the entire land claims process. The native tenants registering their *kuleana* were then required to have at least two individuals (typically neighbors) provide testimony to confirm their claim to the land.

Those testimonies given in Hawaiian became known as the Native Testimony, and those given in English became known as Foreign Testimony. Upon provision of the required information, the Land Commission rendered a decision, and if successful, the tenant was issued the LCAw. Finally, to relinquish any government interest in the property, the holder of a LCAw. obtained a Royal Patent Grant from the Minister of the Interior upon payment of the commutation fee. A review of historic maps and other source materials (Office of Hawaiian Affairs 2018) did not yield any information, which suggest that there were no *kuleana* awards issued within Kaiwilahilahi.

Government Land Grants

In conjunction with the *Māhele*, the King also authorized the issuance of Royal Patent Grants to applicants for tracts of Government Land, larger than those generally available through the Land Commission. The process for applications was clarified by the "Enabling Act," which was ratified on August 6, 1850. The Act resolved that portions of the Government Lands established during the *Māhele* of 1848 should be set aside and sold as grants ranging in size from one to fifty acres at a cost of fifty cents per acre. The stated goal of this program was to enable native tenants, many of whom were not awarded *kuleana* parcels during the *Māhele*, to purchase lands of their own. Despite the stated goal of the land grant program, this provided the mechanism that allowed many foreigners to acquire large tracts of the Government Lands. Unlike in the *kuleana* claims, where claimants stated their use of the land, the grant records are silent regarding the grantees' intended use. The Royal Patent deeds and survey notes do contain some limited information about geographical features, vegetation, and survey markers, but they generally do not say anything about improvements to the land or land use.

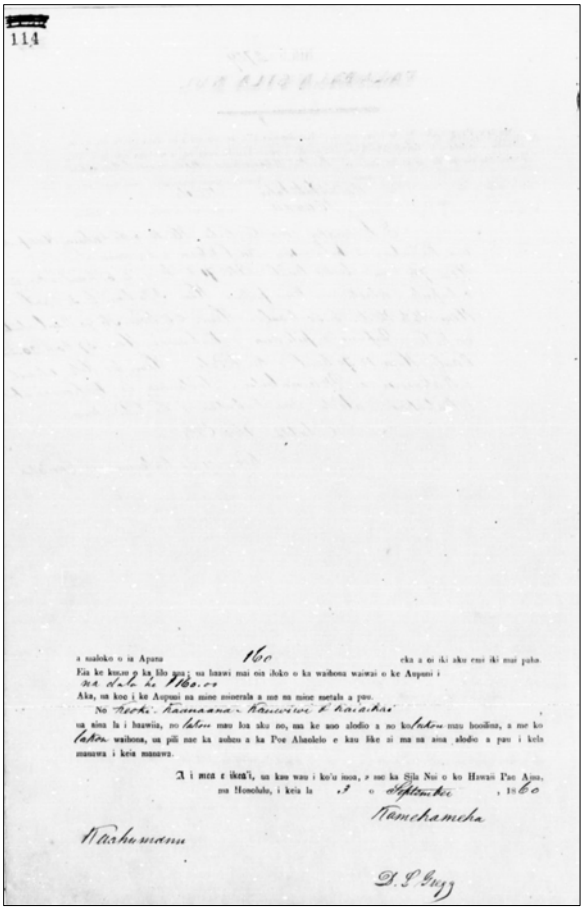
The entire project area is located within the *makai* portion of a single grant parcel, Grant no. 2729, which was sold at public auction for the sum of $160 to Keoki, Kaanaana, Kauwiwi, and Kaiaikai on September 3, 1860 (Office of Hawaiian Affairs 2018). A copy of the Royal Patent for Grant no. 2729 is shown below in Figures 24 and 25.


113

HELU 2729

PALAPALA SILA NUI.

Figure 24. Page 1 of 2 of Royal Patent for Grant no. 2729 (Office of Hawaiian Affairs 2018).


114

160

Kamehameha

Figure 25. Page 2 of 2 of Royal Patent for Grant no. 2729 (Office of Hawaiian Affairs 2018).

The survey undertaken for Grant no. 2729, which is described on Page 1 of the Royal Patent Grant (see Figure 24) revealed insight into at least the existence of one built feature as well as the names of a resident, along with prominent geographical features. A transcription and translation of the survey notes is provided below:

E hoomaka ma ke kihi Hik. o ke kahua halepule ma kahakai e holo ma ka palena o ka aina Luakini Hem. 7 ½ Kom. 6.53 kaul. Ak. 70 ¾ Kom. 4.50 kaul. o ka aina o Kapule-alaila ma kona palena Hem 3 ¾ Kom. 6.30 kaul. Hem. 14 ½ Hik. 6.50 kaul. Hem. 25 Kom. 36.90 kaul. Alaila ma ko ke Aupuni e pili ana i kahawai Hem. 37 Kom. 20.20 kaul. Hem 12.70 kaul. i ka Puali Hem. 60 Hik, 1 kaul. i kahawai o Moanalulu-alaila ma ia kahawai a hiki i kahakai-alaila ma kahakai i ke kihi mua.	Commencing at the eastern corner of the church site at the shore and running on the boundaries of the church land south 7 ½˚ west 6.53 chains, north 70 ¾˚ west 4.50 chains along Kapule's land, then at their boundaries south 3 ¾˚ west 6.30 chains, south 14 ½˚ east 6.50 chains, south 25˚ west 36.90 chains. Then at the Government land adjacent to the stream, south 37˚ west 20.20 chains, south 12.70 chains to the isthmus, south 60˚ east 1 chain to the stream of Moanalulu-then at said stream to the ocean—then at the ocean to the initial corner.
Iloko 160 eka *Koe nae ke kuleana o na kanaka*	Within 160 acres Reservations of the house lots and taro patches or gardens of natives lying within the boundaries of the tract granted

As revealed in the surveyor's notes for Grant no. 2729, a church site (*kahua halepule* and *ʻāina luakini*) is described as being adjacent to the eastern boundary of the grant parcel along with the name Kapule, who was likely an area resident. Concerning natural features, the surveyor notes refer to an isthmus making the *mauka* boundary of the grant parcel and identified the eastern boundary of the grant as being the stream of Moanalulu. The location of the project area with respect to Grant no. 2729 along with the above-described church lot is depicted in Hawaiʻi Registered Map No. 1093 from 1884 drafted by W. A. Wall (Figure 26). The 1884 map shows the "church lot", which was part of a 2.9-acre parcel granted to the Board of Education (BOE) in 1882 as Grant no. 1 parcel 5, spanning Kaiwilahilahi Gulch with portions of extending on both the *kula* lands of Kaiwilahilahi and Pāpaʻaloa Ahupuaʻa (Office of Hawaiian Affairs 2018). The 1884 map shows that the Pāpaʻaloa portion of the BOE grant was a school lot whereas the Kaiwilahilahi portion was a church lot. The 1884 map also identified a "landing" at the coast near the mouth of Kaiwilahilahi Gulch as well as the alignment of the meandering alignment of the Alanui Aupuni (also known as the Government Road and present-day Ola Māmalahoa Road) extending along the *mauka* (southern) boundary of the project area.

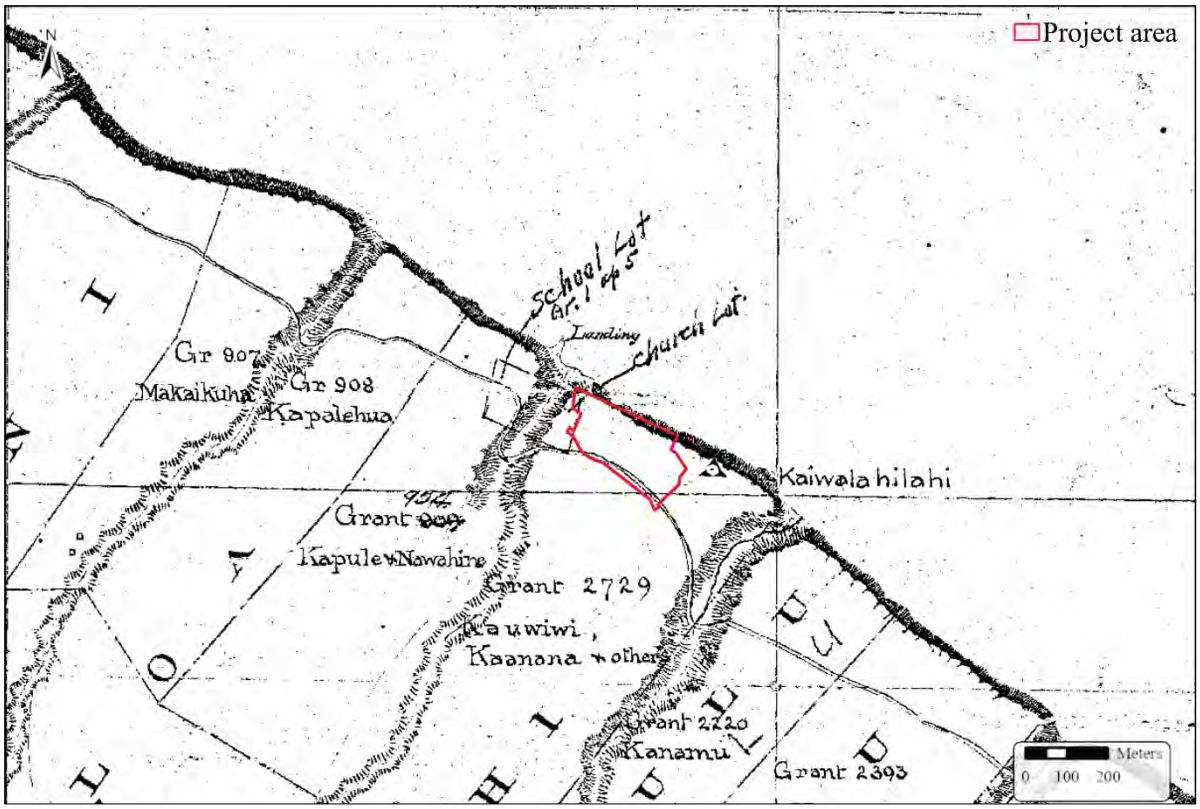


Figure 26. A portion of Hawai‘ Registered Map No. 1093 by W. A. Wall from 1884 showing the project area within he *makai* portion of Grant No. 2729.

Boundary Commission Testimony

In 1862, the Commission of Boundaries (Boundary Commission) was established in the Kingdom of Hawai‘i to legally set the boundaries of all the *ahupua‘a* that bad been awarded as part of the *Māhele*. Subsequently, in 1874, the Boundary Commission was authorized to certify the boundaries for lands brought before them. The primary informants for the boundary descriptions were old native residents who learned of the boundaries from their ancestors. The boundary information was collected primarily between 1873 and 1885 and was usually given in Hawaiian and simultaneously transcribed into English. Although hearings for most *ahupua‘a* boundaries were brought before the Boundary Commission and later surveyed by Government employed surveyors, in some instances, the boundaries were established through a combination of other methods. In some cases, *ahupua‘a* boundaries were established by conducting surveys on adjacent *ahupua‘a,* or in cases where the entire *ahupua‘a* was divided and awarded as Land Claim Awards and or Government-issued Land Grants (both which required formal surveys), the Boundary Commission relied on those surveys to establish the boundaries for that *ahupua‘a*. Although these small-scale surveys aided in establishing boundaries, they lack the detailed knowledge of the land that is found it the Commission hearings.

Unfortunately, no hearing was held for the Kaiwilahilahi Ahupua‘a or any of the adjacent *ahupua‘a*. With no boundary commission testimonies for Kaiwilahilahi or the *ahupua‘a* in its immediate vicinity, little is known of the area during this period. The work of the Boundary Commission was part of the final step in shifting the traditional land tenure system to one of fee-simple private ownership which effectively paved the way for the growth of large-scale commercial agriculture across the islands.

The spur of sugar plantations across the islands increased significantly when in 1875, King David Kalākaua signed the Treaty of Reciprocity with the United States. The signing of this treaty, which guaranteed a duty-free market for Hawaiian sugar in exchange for special economic privileges for the United States, drastically increased sugar production and forever altered the political, economic, and socio-cultural fabric of the islands (Kuykendall 1967). Although sugar production was already occurring in Hilo, within a few short years after the signing of the treaty and in an effort to cash in on the incoming sugar boom, a slew of plantations sprung up around the islands, one of which included the Laupāhoehoe Sugar Company. The arrival of large-scale commercial sugar would, throughout the remainder of the 19th and 20th centuries, radically transform the lands in the project area and neighboring vicinity.

Laupāhoehoe Sugar Company and Railroad Development

The history of sugar operations in Kaiwilahilahi and the neighboring lands are intimately connected to the inception and growth of the Laupāhoehoe Sugar Company whose history can be traced to at least 1876 when William Lidgate (also spelled Lydgate in some historical records), a young salesman for sugar milling equipment obtained fee-simple and lease-hold interest in lands in the Laupāhoehoe vicinity (Hilo Tribune-Herald 1956; Maly and Maly 2006). By 1879, the plantation erected its first three-roller mill at Laupāhoehoe thus marking the beginning of its sugar production (Hilo Tribune Herald 1950). By 1880, the Laupāhoehoe Sugar Company was formally organized as a joint venture between Theophilus H. Davise and William Lidgate, (Saito and Campbell 1988). As shown The company's sugar plantation fields, which were entirely rainfed, covered about 10 miles along the North Hilo coast (from Kaʻawaliʻi Gulch to Kahinano Ahupuaʻa) and extended *mauka* up to about 1,850 feet elevation as shown in *The Laupahoehoe Sugar Co. Cane Area Map* from 1915 (Figures 27 and 28). The early years of the Laupāhoehoe Sugar Company were, however, fraught with difficulties one of which included a severe storm in 1882 that caused parts of the bluff to crash into the mill and destroyed four boilers (Hilo Tribune Herald 1950). Lidgate led the repair of the mill building and replacement of the boilers and the following year, the Laupāhoehoe Sugar Company expanded its operations by merging with Kaiwilahilahi Sugar Company. In 1882, the schooner *Ka Moi* departed Honolulu for Hawaiʻi Island with the first load of machinery for a new sawmill, which was to be erected at Kaiwilahilahi by Lydgate and Company (The Daily Pacific Commerical Advertiser 1882). A few months after the delivery of the materials and machinery, high surf in the area swept all of "Mr. Lidgate's new works at Kaiwilahilahi" into the sea (Evening Bulletin 1882).

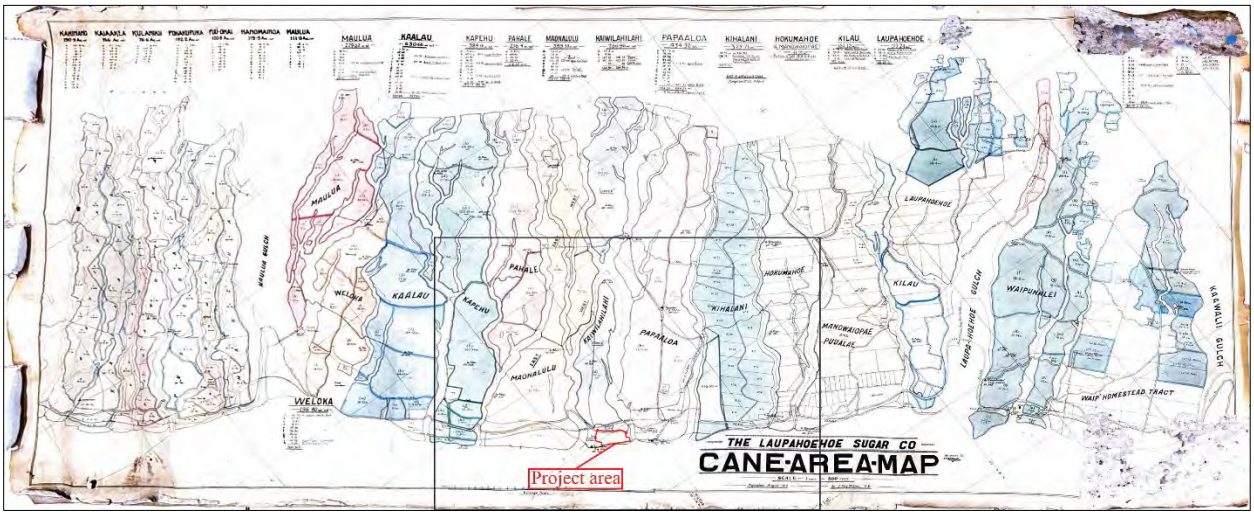


Figure 27. *The Laupahoehoe Sugar Co Cane Area Map* from 1915 (Courtesy of the Hawaiʻi Sugar Planters Archives-Blueprints and Maps Doc #74 Roll Box # LSC R-2/1).

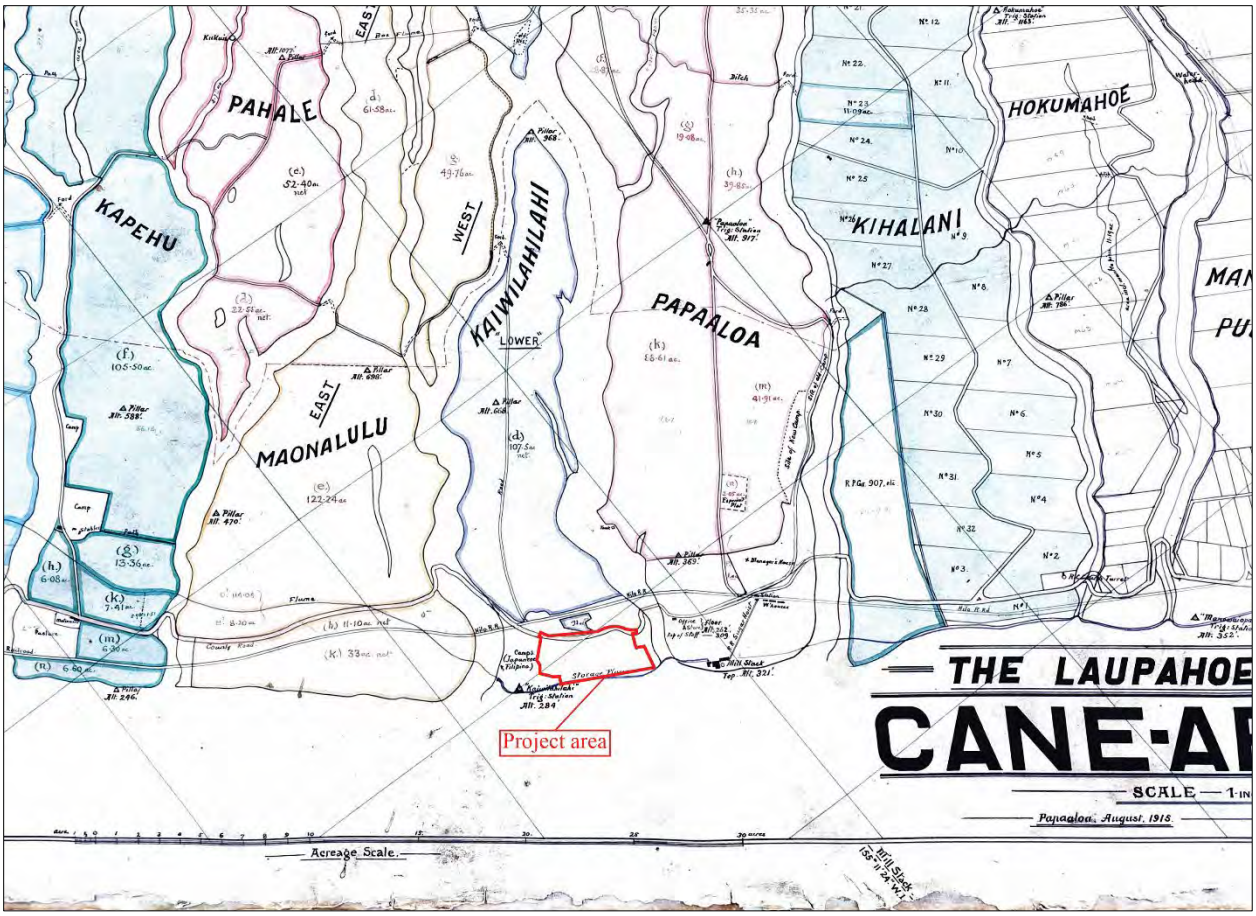


Figure 28. Close up of the 1915 *Laupahoehoe Sugar Co Cane Area Map* (Courtesy of the Hawai'i Sugar Planters Archives-Blueprints and Maps Doc #74 Roll Box # LSC R-2/1).

The history of the Kaiwilahilahi Sugar Company is notably absent from historical records, and it is speculated that this mill likely began as a small independent operation until it was absorbed by the Laupāhoehoe Sugar Company in 1883. By that time, much of the *kula* lands extending from Honomū to Kihalani in Laupāhoehoe had been converted into sprawling sugarcane fields. An article published by E. D. Wahine in the Hawaiian language newspaper *Ka Nupepa Elele Poaklu* in 1883 described such changes:

> *O na mahiko a'u i ike ole ai mamua i ka nui o ke ko, mai Honomu aku a hiki i Kihalani; i keia manawa, ua piha loa i ke ko; aole nahele ino a ka maka e ike aku ai; ua maemae loa, a ke ulu nei ke ko me ka maikai; a ke noke ia la no kekahi mau aina hou ka hoomaemae, a kanu aku ke ko. O na papahana waiwai loa no ka nui o ke ko ma [k]eia mua aku oia no o Honomu, Hakalau, Honohina,* ***Kaiwilahilahi****, a hiki loa a Ookala Plantation. He nui ka aina hou me ka paa pono i ke ko, a ke ulu nei me ka maikai loa; a he nui no hoi na aina kahiko i paa pono me ke ko…*
>
> I had not seen plantations before the increased [production] of sugarcane, from Honomu to Kihalani; at this time, [this region] is completely full of sugarcane; there is no forest to be seen; it has been completely cleaned; and the cane is growing well; and more lands are being cleared and planted in cane. The majority of the sugar [plantations] are expensive undertakings, the first of these including Honomu, Hakalau, Honohina, **Kaiwilahilahi**, and finally to Ookala Plantation. There is a lot of new land that is planted in cane and growing well; and a lot of old land planted in cane.

...mai Honomu a hiki i Laupahoehoe, he nani naʻe no ka aina ke nana aku me ka malaelae, aole hoi e like me mamua ka pouli i na ulu hala, neneleau, kuawa, a pela aku, o ke au kahiko...(Wahine 1883:3)	… from Honomu to Laupahoehoe, the landscape is beautiful and clear of weeds, unlike the days before when it was darkened by pandanus groves, *neneleau*, guava, and so forth.. (Translation by ASM staff, D. Dey and L. Brandt)

By 1884, a landing was established near the mouth of Kaiwilahilahi Stream as shown in the 1884 map (see Figure 26), thus indicating a shift in operations out of Laupāhoehoe and into the Kaiwilahilahi-Pāpaʻaloa area. With the incorporation of the two sugar companies, Laupāhoehoe Sugar operated two mills, the original mill site at Laupāhoehoe and one at Kaiwilahilahi (Saito and Campbell 1988). By 1885, the Laupāhoehoe Sugar Company began overhauling their mill equipment to increase processing efficiency and capacity, and the mill at Kaiwilahilahi was converted into a maceration-style mill outfitted with equipment that better gauge the quality of daily cane production. After the retrofitting, the mill at Kaiwilahilahi served as the main cane processing facility for the Laupāhoehoe Sugar Company but by the end of the decade, the company moved toward centralizing its operations (Planters' Labor and Supply Company 1885). Although the exact date of construction is unclear, it is estimated that sometime between 1885 and 1890, Lidgate commissioned the construction of a third mill for the Laupāhoehoe Sugar Company at the coast of Pāpaʻaloa, just west of the project area. Upon the completion of the Pāpaʻaloa Mill in 1890, the original two mill sites were closed, and all cane processing shifted to Pāpaʻaloa.

Laupāhoehoe Sugar featured a distinctive transportation system for delivering cane to the factory. Using a steam hoist, cane-loaded cars were lifted 1100 feet by cable at Maulua Gulch. Once at the summit, the cane was discharged into flumes, making a journey of about a mile to reach the mill at Pāpaʻaloa (Saito and Campbell 1988). The flume used in the company's operation is labeled in the 1915 Cane Area Map (see Figures 27 and 28) as "Storage Flume" and is shown following the cliff contour *makai* (north) of the "Japanese & Filipino Camp" before entering the project area then crossing over Kaiwilahilahi Gulch and to the mill at the coast of Pāpaʻaloa. As the Laupāhoehoe Sugar Company expanded into the Pāpaʻaloa-Kaiwilahilahi area, throughout the later part of the 1890s and into the early 20th century, the coastal *kula* lands near the mill site grew as a social hub to support the plantation laborers and their families.

The population growth in the area was also spurred by the development of the railroad system which proved to be one of the most important elements of governmental and private-sector planning (Dorrance and Morgan 2000). While the railroad proved advantageous to the sugar plantations scattered along the Hilo and Hāmākua coast, providing a more unified and efficient means of transporting cane between the fields, mill, and harbor, its introduction led to the gradual dissolution of earlier plantation-centered communities. The impact was notably significant in areas not positioned along the main railroad line, such as coastal Laupāhoehoe. In contrast, places situated along the railroad line, like Pāpaʻaloa, experienced substantial population and economic growth during the early part of the 20th century.

On the Island of Hawaiʻi, the first major railroad line to be constructed was in the North Kohala District, which operated as the Hawaiian Railroad Company (HRC). The North Kohala line, however, was envisioned as only the first step toward a much larger system connecting the cane fields of Kohala, Hāmākua, and Hilo with Hilo Harbor, the only protected deep-water port on the island. Beginning in 1899, railroad lines began transporting sugar to the Hilo harbor for marine transport, thus making Hilo an important shipping and railroad hub. Lorrin A. Thurston (1913), who according to Thrum had been closely associated with the enterprise, noted that by 1913, the railroad line between Hilo and Paʻauilo had been completed.

The commercial sugar industry provided most of the cargo transported by HRC but suffered a sharp decline between the years 1904-1907, which caused a halt of development in Hilo (Thurston 1913). In response, HRC worked with ʻŌlaʻa Sugar Company to send a representative to Washington D.C. in 1907 to secure funding for the construction of a breakwater that would allow Hilo Bay to accommodate larger ocean-going vessels. Construction on the breakwater began in 1908 and was still ongoing at the time of Thurston's writing (ca. 1913); the breakwater was finally completed in 1929. In exchange for the construction of a breakwater in Hilo Bay, the railroad company was required to build a new wharf, a one-mile rail extension from Waiākea, and a 50-mile rail extension north to Honokaʻa Mill (the Hāmākua Division). The funding of the breakwater by HRC resulted in the extension of the railroad through the northern part of Hilo to Kaiwilahilahi and through Hāmākua as shown in a map from 1912 (Figure 29). The 1912 map shows the Pāpaʻaloa Mill located along the bluff to the west of the project area and shows various structures on the *kula* lands of both Pāpaʻaloa and Kaiwilahilahi. In the project area, three structures are shown with two clusters of neatly laid out structures, likely plantation camps, to the south and east of the project area (see Figure 29).

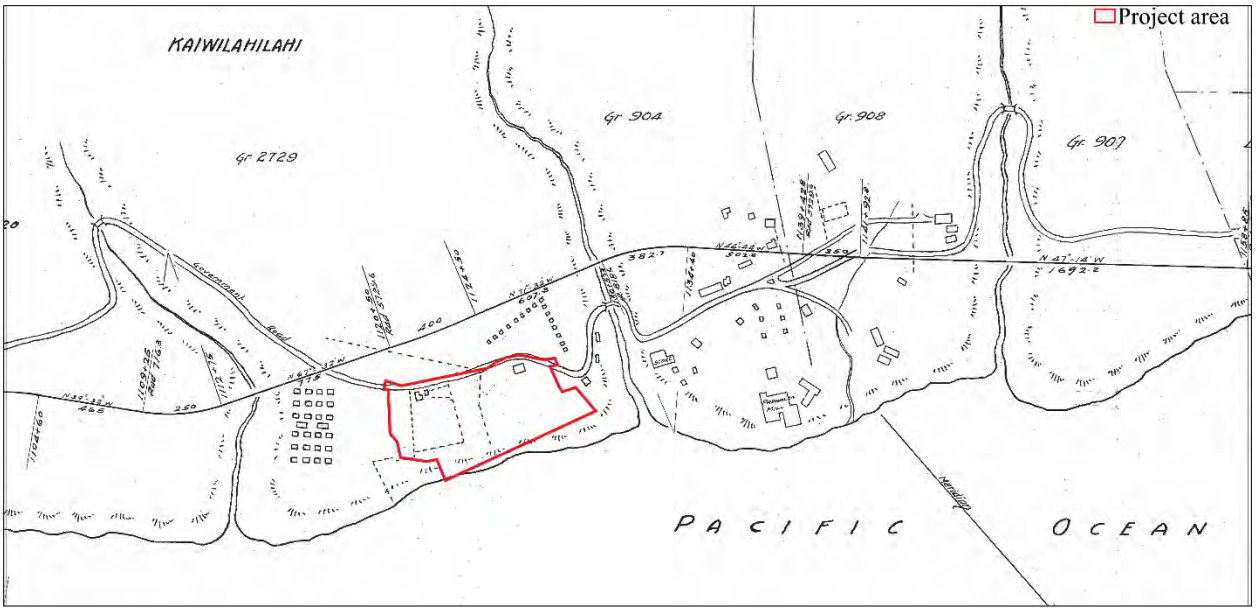


Figure 29. Portion of Section 1 Hilo Railroad Location map from 1912 showing railroad alignment and project area.

Homesteading Program and the Continued Expansion of Agriculture and Community Life

As part of the continued growth of sugar in this region, after the Hawaiian Kingdom Government was overthrown in 1893, the newly formed Republic of Hawaii (established in 1894) passed the Land Act of 1895, which incorporated Government Lands (including those acquired through purchase, escheat, exchange or eminent domain) and Crown Lands into the public domain. The Land Act, which was intended to promote widescale agriculture, not only expanded the definition of Government Lands but it placed tighter restrictions on homesteaders, required that new leases be let through public auction, reduced the max term limits, and carried with it no automatic renewal privileges. Furthermore, under the 1895 Act, applicants could acquire Government Lands in one of three ways: the right of purchase lease, homestead lease, and cash freehold (Horowitz et al. 1969). In the early 1900s, when many of the Laupāhoehoe Sugar Company's lease lands came up for renewal, wide swaths of land were turned over for homesteading purposes and people of various ethnic backgrounds applied for homestead lots. In the context of Pāpa'aloa, many of the people who applied for these homestead leases were existing residents. Although elsewhere on the island, prospective homesteaders were presented with options to obtain a homestead lot, in the case of Laupāhoehoe and Pāpa'aloa, homestead applicants were required to consent to a right of purchase lease, during which they would clear the land for sugar cultivation, and would then sell their cane to the Laupāhoehoe Sugar Company (Maly and Maly 2006).

The first homestead lots created in the region were the Laupāhoehoe Homesteads, which included roughly forty lots that spread eastward from Laupāhoehoe gulch across nine different *ahupua'a*, including Pāpa'aloa and Kaiwilahilahi. These lots, most of which were located between the 1,600- and 2,100-foot elevation, had never been cultivated in cane and needed to be cleared of existing forest. By 1916, an additional seventy-seven homestead lots, totaling 1,158 acres were added as part of the Pāpa'aloa Homesteads. These homestead lots extended *makai* (north) of the Laupāhoehoe Homestead lots to the *mauka* boundaries of the Government land grants that had been awarded ca. 1860s. By 1916, "several thousand acres of cane land" were under sugar cultivation by homesteaders in contract with Laupāhoehoe Sugar Company (Hawaii Herald 1916:1). As a result, by 1920 approximately half of the sugar company's cane land was cultivated by homesteaders, while the other remained under the direct cultivation of the sugar company (Saito and Campbell 1988).

The growth of Laupāhoehoe Sugar Company coupled with the establishment of the railroad and the homesteading program during the early 20th century ultimately gave rise to a robust plantation community complete with plantation-sponsored amenities, such as laborers camps, a park, post offices, banks, and stores (Figure 30). A 1915 U.S.G.S. map (Figure 31) and two maps from 1916, Plat Map No. 706 (Figure 32) and Hawai'i Registered Map No. 2585 (Figure 33) provide insight into the infrastructure and layout of the community during this period including the location of the Pāpa'aloa Mill, store, post office, plantation camps, and structures along the edges of the Government Road.

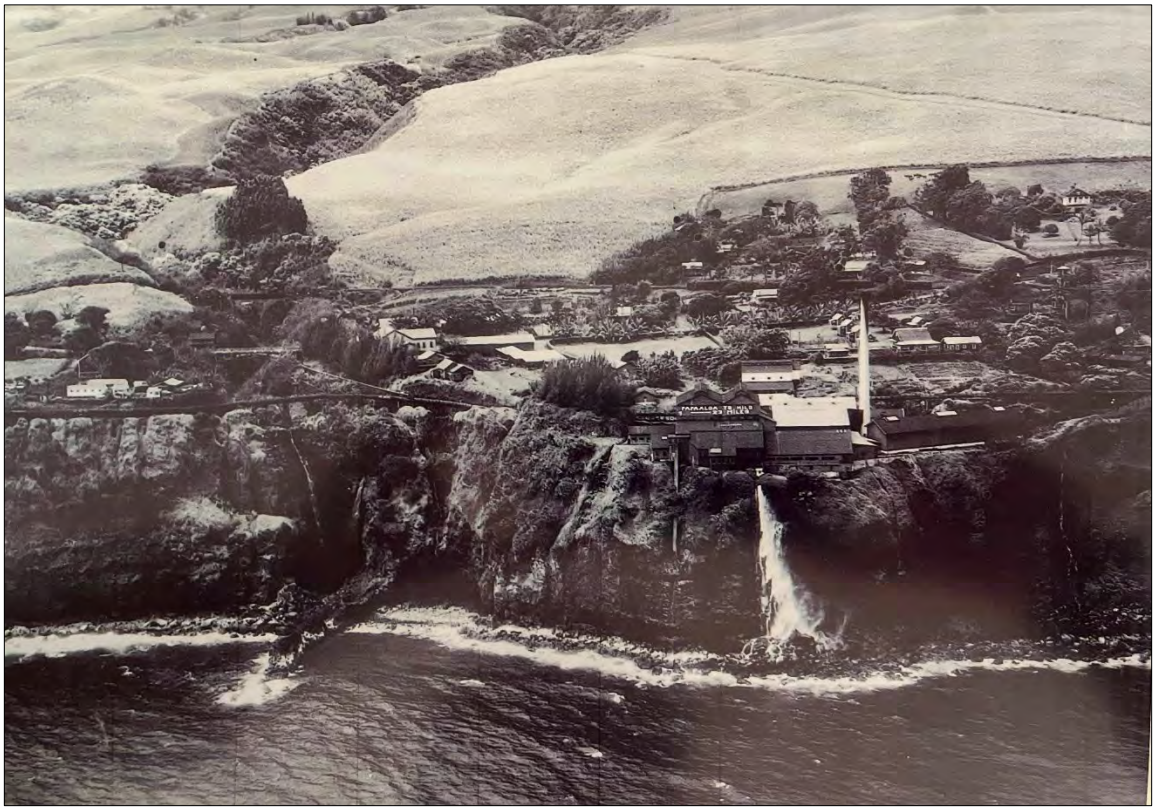


Figure 30. Aerial photo of the Pāpa‘aloa Mill and surrounding plantation community ca. 1920s.

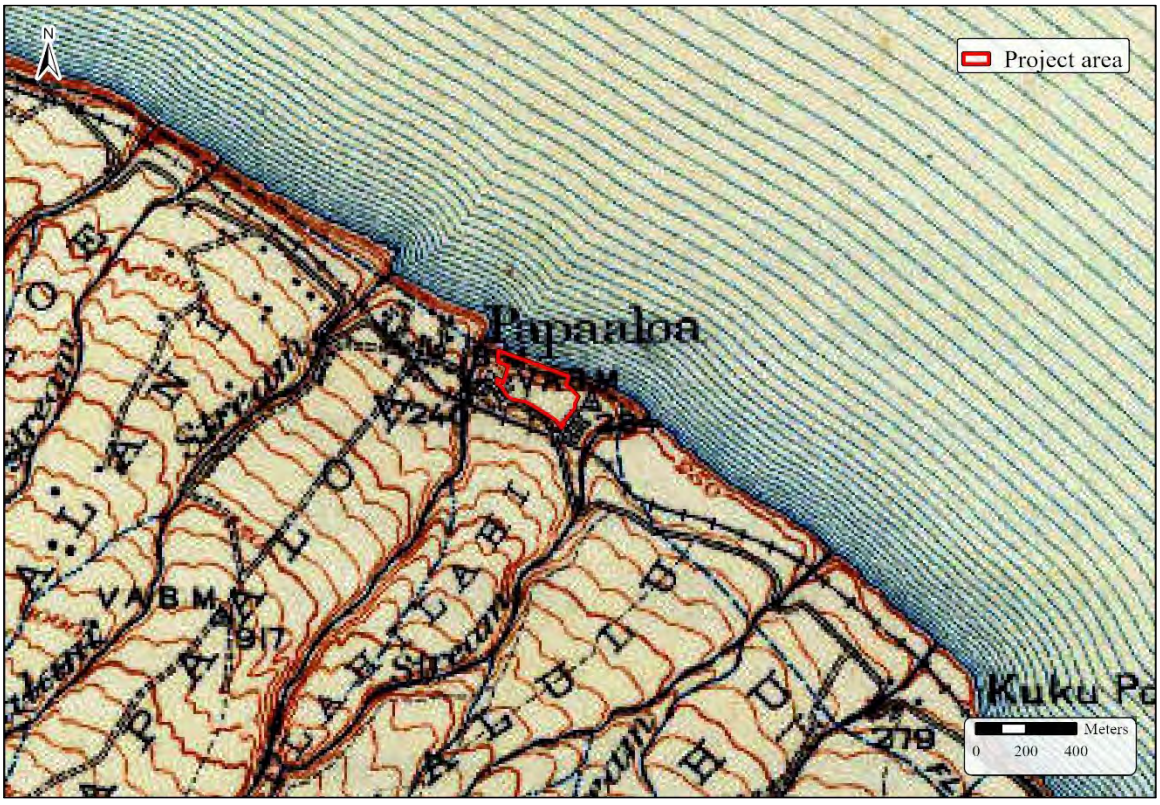


Figure 31. 1915 U.S.G.S. map showing project area.

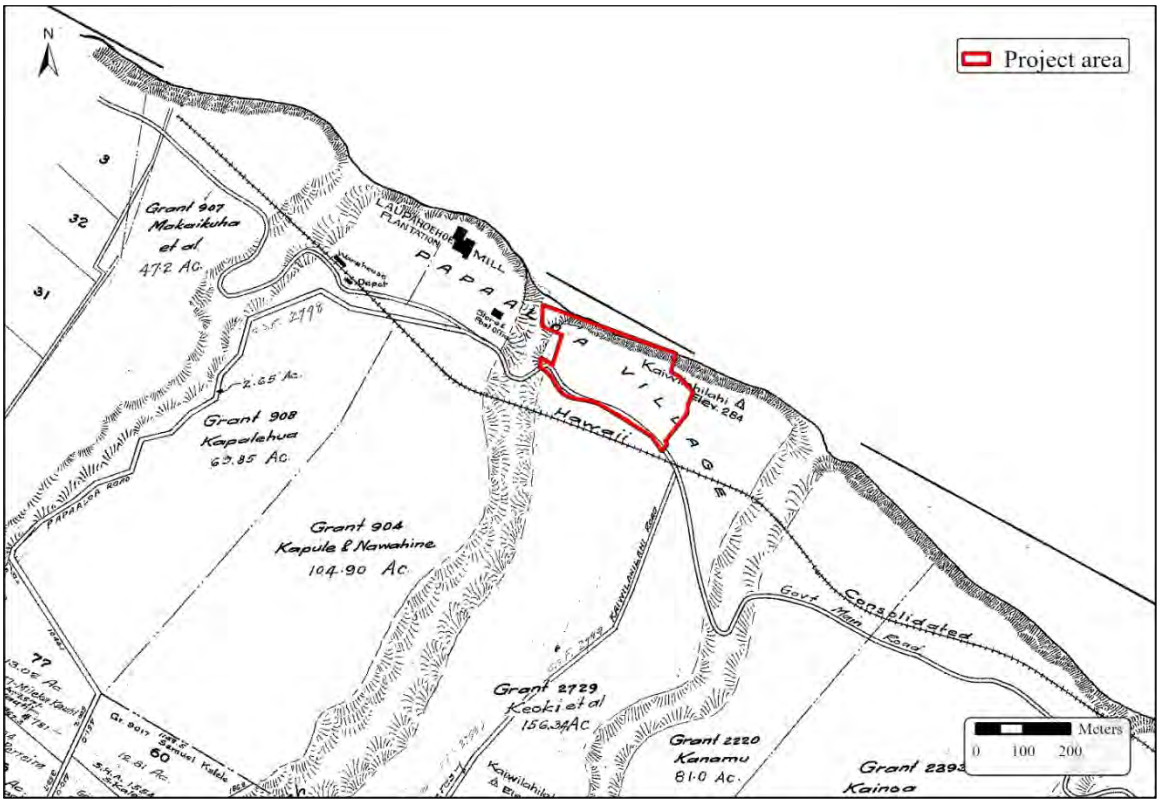


Figure 32. Plat Map 706 from 1916 showing project area, note the mill site, store and post office, and the Pāpa‘aloa Homestead lots along the *mauka* boundaries of the coastal grants.

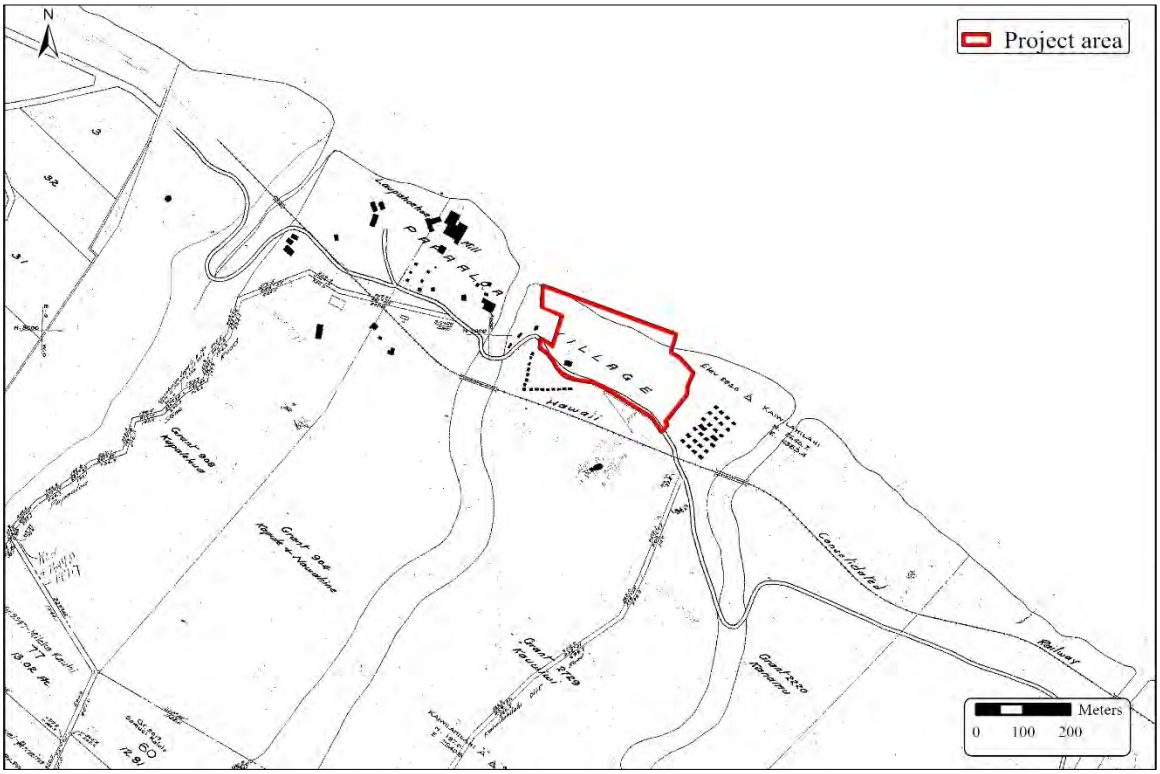


Figure 33. Portion of Hawai‘i Registered Map No. 2582 from 1916 showing the project area and plantation camps in the neighboring vicinity.

Beginning in 1937, the Laupāhoehoe Sugar Company focused on improving the lives of the plantation workers by undertaking numerous infrastructural improvements which included a new hospital in Laupāhoehoe and running water for each plantation camp. Additionally, "villages were modernized, clubhouses, parks, the gymnasium and community halls were remodeled or built" which gave rise to organized recreation and community events (Saito and Campbell 1988:3).

Structured recreational activities constituted a pivotal element of plantation life, and historical local newspapers, dating back to at least 1919, abound with commentary detailing competitions and tournaments between various plantation communities in East Hawai'i. In the Pāpa'aloa village area, competitive sports, like tennis, baseball, and volleyball, were a common extracurricular activity for many plantation employees and their families (Hilo Tribune Herald 1923, 1933). In another example, an article published in the April 23rd edition of *The Pacific Commercial Advertiser* (1919:6) tells of a large tennis tournament held at Pāpa'aloa in which teams from seven camps in East Hawai'i including Wainaku, Pāpa'ikou, 'Ōla'a, Pepe'ekeo, Hakalau, Pāpa'aloa, and Honoka'a were set to compete against each other. While the exact date of construction is unknown, by July 30th, 1938, the Laupāhoehoe Sugar Company had completed the construction of the Pāpa'aloa Gymnasium as an article published *The Honolulu Star-Bulletin* (1938:5) tells of an Independence Day celebration for some 2,000 attendees from the neighboring plantations that included a parade, *pā'ū* riders, floats, and a "boxing show to open the new Papaaloa gym." After the gymnasium was constructed, the community and plantation continued to host many social and sporting events such as dances, plays, parades (Hilo Tribune Herald 1940); and even a carnival in 1946 (Hilo Tribune Herald 1946). The following year, the Pāpa'aloa Athletic Association sponsored a carnival with E. K. Fernandez from Honolulu (Hilo Tribune-Herald 1947).

The 1946 *Tsunami* and Gradual Demise of the Laupāhoehoe Sugar Company

On April 1st, 1946, a *tsunami* triggered by an earthquake in the Aleutian Islands slammed into the north-facing shores of Hawai'i Island, dealing a fatal blow to the already struggling HCR. Tracks around the Hilo waterfront were entirely washed out and the Hilo Station was wrecked (Muffler and Museum 2015). An entire span of the Wailuku Bridge was torn out and washed upstream and "twelve miles north of Hilo, the railroad bridge at the mouth of the Kolekole Stream lost its center span" from a massive inundation of water that reached heights of 37 feet in Kolekole and the neighboring Hakalau Gulch (Klein et al. 1985; MKE and Fung 2013:E8). Although the mill at Pāpa'aloa escaped the intense waves, the low-lying and well-settled area of coastal Laupāhoehoe sustained significant damage. The early morning *tsunami* claimed the lives of twenty-four people, most of whom were arriving at school or residing on the campus, including sixteen children, four teachers, and four residents. Survivors recalled the terrifying roar of the ocean and the series of waves that enveloped the Laupāhoehoe peninsula (Muffler and Museum 2015).

With the Hāmākua Division officially defunct, Hawaii Consolidated Railway offered its right-of-way, bridges, and tunnels to the territorial division of highways and Hawai'i County supervisors (MKE Associates LLC and Fung Associates, Inc. 2013:E8). In an act of short-sightedness, both agencies refused. Un-phased, Hawaii Consolidated liquidated its assets on December 26th, 1946. The entire railroad was sold to Gilmore Steel & Supply Co. of San Francisco for a mere $81,000. Most of the bridges were dismantled and the rails were pulled up along the length of the Hāmākua Division. Together with the remaining rolling stock, they were shipped to California as scrap metal. Amid the disassembly, the Division of Highways belatedly decided that Route 19 needed to be relocated and improved. It purchased the remaining bridges, plus some that were awaiting shipment in Hilo, for $302,723.53. Steel from the dismantled railroad bridges was used to widen the standing bridges for their new roles as highways (MKE Associates LLC and Fung Associates, Inc. 2013:E8). In Hilo, the damaged docks and track were repaired, and rail service was continued to Olaa Sugar under lease from Gilmore Steel & Supply Co. Product was transported by train from Olaa Sugar until December of 1948, at which time the line was permanently closed. All remaining assets were sold to The Independent Ironworks of Oakland, California for scrap.

In the wake of the April 1st, 1946, *tsunami*, the Laupāhoehoe Sugar Company resumed operations, albeit to a community grappling with the profound aftermath of the disaster. The railroad bridges from Hilo to Pa'auilo that were destroyed by the *tsunami*, were rebuilt and reopened for vehicular travel along the Hawai'i Belt Road (Māmalahoa Highway) in 1950, which replaced the original Government Road, and remain in use to this day (MKE Associates LLC and Fung Associates, Inc. 2013:E8). An aerial image from 1954 U.S.G.S. (Figure 34) depicts the park portion of the project area configured much as it is today including the open ball field, tennis courts, parking lot, and gymnasium. In the western section of the project area, the 1954 aerial photo shows at least two warehouse-style structures one of which is located along the cliff edge near Kaiwilahilahi Gulch as well as a row of buildings located along the *makai* edge of the old Government Road. Regarding other built features near the project area, the 1954 aerial photo depicts the newly created Hawai'i Belt Road (the former route of the Hawai'i Consolidated Railroad [Site 24212]) and the

original Government Road along the southern boundary of the project area, and a new configuration to the plantation camp (Kekoa Camp), east of the project area. Earlier maps from 1915 and 1916 (see Figures 31 and 33) shows the camp configured in a series of linear rows, whereas the 1954 U.S.G.S. aerial (see Figure 34) reveals a reconfiguration of the camp into a circular loop. A cursory review of County Tax records for the homes in Kekoa Camp dates many of the homes to the 1940s. This information may indicate that the original camp was demolished likely in the 1930s and replaced with newer, more modern homes when the plantation undertook its improvements beginning in 1937.

Figure 34. A 1954 U.S.G.S. aerial image with the approximate location of the current project area.

Additional details about the structures in the project area are revealed in a Sanborn Fire Insurance Map (Figure 35). Created in 1915 this map was subsequently updated in 1946 and 1959, providing a comprehensive depiction and labeling of all structures covered under the plantation's liability insurance. In the eastern, park portion of the project area, the Sanborn map shows the "gym" building that included a stage along with an adjacent "dressing room" (present-day Annex building), and "tennis courts". In the western part of the project area, two structures are marked for use by the Laupāhoehoe Sugar Company. The larger of the two structures which is described as constructed of corrugated iron on steel frames, steel trusses, and concrete floors, was divided into several work areas. The largest of this area included a truck repair area, machine shop, tractor prep area, and stock room that ran the entire length of the building. At the *mauka* end of the building, a welding shop is shown along with a smaller attached structure built on earthen floors. At the *makai* end of the building, several smaller shops are shown including an office and oil storage area. Regarding the smaller structure, which was built of the same materials (as the larger structure) but situated along the cliff edge, the Sanborn map depicts this building as being divided into smaller work areas that included a "steam cleaning" area, paint shop, tire repair and storage, office, and an area for gas and oil. Along the *makai* edge of Government Road, several buildings are shown, from west to east; they include a barber with the name "Kuma", a dwelling with the name "Tabata", a store with the name "Sugekawa" (Sugikawa Store), another store with an attached dwelling with the name "J. Okamura", and two smaller unattributed structures, one labeled A and another labeled dwelling. As seen on this map, many of the amenities (tailor, cobbler, movies, library, beauty shop, etc.) were organized along the Government Road in the vicinity of the project area.

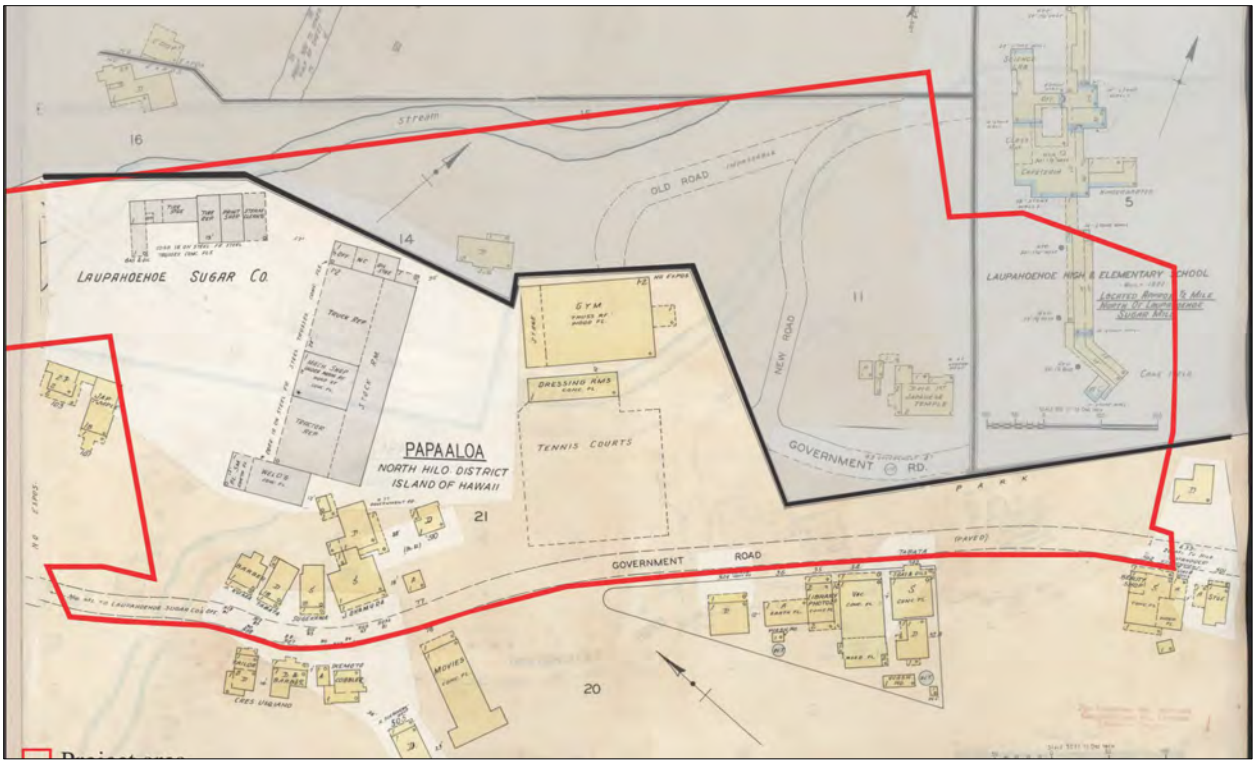


Figure 35. Sanborn Fire Insurance map ca. 1950s showing details of structures within the project area.

On January 3rd, 1957, with Theo H. Davies & Co. acting as its agent, the Laupāhoehoe Sugar Company merged with the Kaiwiki Sugar Co., Ltd. thus ending its seven-decade run of independent operation. Despite this merger, the Laupāhoehoe Sugar Company retained its name and Pāpa'aloa remained the "hometown of the Laupahoehoe [Sugar Company] employees" (Hilo Tribune-Herald 1956:1). A U.S.G.S. aerial photo taken in 1965 (Figure 36) and another U.S.G.S. map from 1966 (Figure 37) shows very little change to the project area when compared to the earlier maps and aerials. The 1966 map, however, depicts the alignment of the flume (blue line) running in a northwest direction across Moanalulu Ahupua'a, then on the *makai* side of Kekoa Camp, and along the *makai* boundary of the project area. This flume can also be seen in the early aerial photo from ca. 1920s extending along the cliff (see Figure 30). On November 2, 1967, the Laupāhoehoe Sugar Company consolidated their two mills, closing the mill at Pāpa'aloa and sending all harvested sugarcane to be processed at the mill in 'Ō'ōkala (Hawaii Tribune-Herald 1967).

In the subsequent decades, the continuous rise in operational costs left smaller plantations unable to sustain their factories and meet administrative expenses, prompting a series of mergers. This challenge was exacerbated by the introduction of new State and Federal pollution abatement laws, prohibiting sugar companies from disposing of bagasse, trash, and other waste into the ocean. This piece of legislation meant that sugar companies would be forced to abate the pollution that sugar operations generated, especially with regard to coastal discharges of sugar processing byproducts. Despite these pressures, the Laupāhoehoe Sugar Company endured as a prominent plantation, maintaining its operations under its original name even after a second merger with Hamakua Mill Co. in 1974 (Hawaii Tribune-Herald 1974). Despite its prominence, in 1978, Theo H. Davies & Co. led the final merger with the Honoka'a Sugar Company, and the company was renamed Davies Hamakua Plantation, Inc. thus marking the end of the Laupāhoehoe Sugar Company (Hawaii Tribune-Herald 1978). Although the Laupāhoehoe Sugar Company was no longer operating under its original name, sugar continued, albeit as a gradually diminishing economic mainstay for this part of North Hilo.

By the 1970s, the Laupāhoehoe Sugar Company shifted from hand harvesting to mechanized methods which led to a reduction in the number of employees. By the end of 1972, the company had an estimated 376 employees which was nearly half as many from fifteen years prior (Bowen and Bowen 1977). Throughout the remainder of the 20th century, with the sugar industry in decline, many of the former businesses in Pāpa'aloa and Kaiwilahilahi that operated as part of the Laupāhoehoe Sugar Company slowly closed their doors (Bowen and Bowen 1976). Photos published in the December 12th, 1976, edition of the *Hawai'i Tribune-Herald* show a dwindling Pāpa'aloa Village (Figure 38).

Figure 36. A 1965 U.S.G.S aerial photo showing the project area.

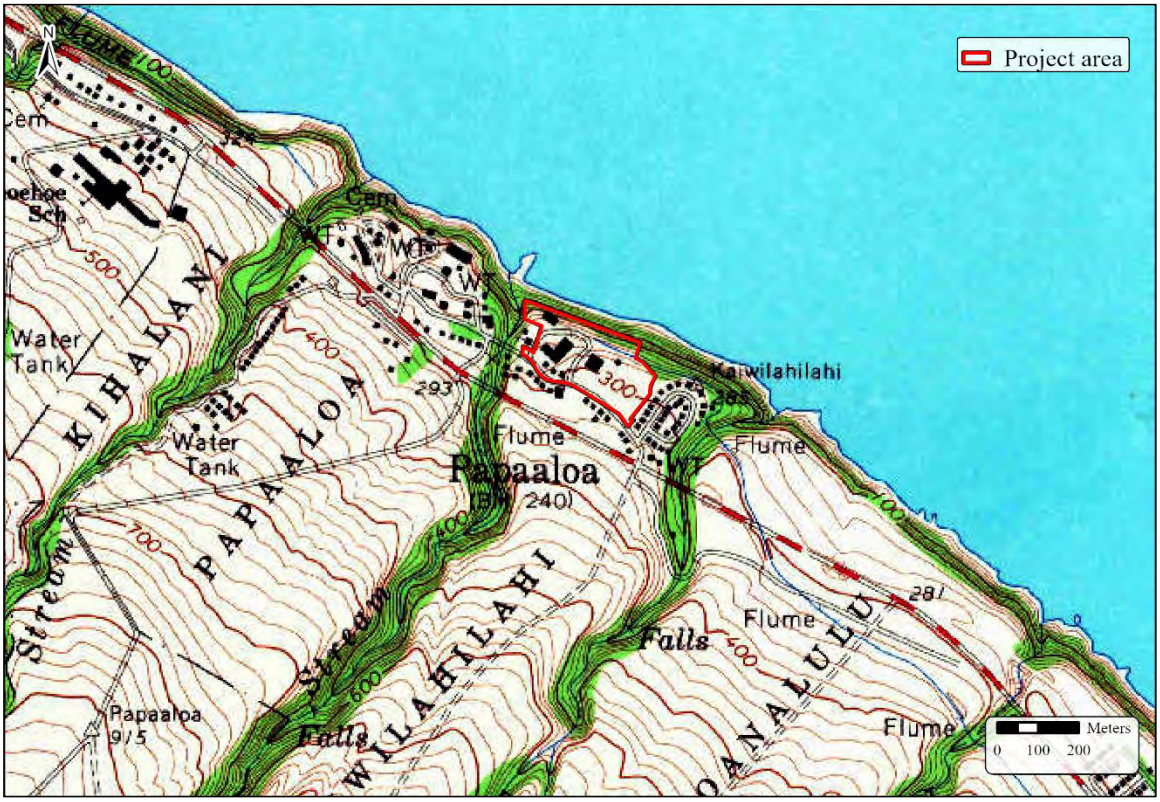


Figure 37. 1966 U.S.G.S map showing project area.

Figure 38. Photos of Pāpa‘aloa Village in 1976 (Bowen and Bowen 1976).

Pāpa‘aloa Park, Center of Community Life

Despite the region’s decline in sugar production, Pāpa‘aloa Park remained a vital social hub for area residents. Continuing the tradition from previous generations, the park thrived with a variety of sporting and social events catering to all age groups. Newspaper articles from the early 1970s onwards frequently feature public announcements promoting various County-sponsored programs at Pāpa‘aloa Park. Although the exact date of transfer is unknown, based on a review of historical newspapers and County Field Book Records, it is believed that by 1973, the ownership of Pāpa‘aloa Park shifted from Theo H. Davies (Hāmākua Sugar Company, Inc.) to the County of Hawai‘i.

From the 1970s to March 2021, recreational and community events persisted in the easter, park portion of the project area. Photo provided by the County of Hawai‘i Elderly Nutrition Program shows area residents participating in various social activities and events held in the Annex and Gymnasium (Figures 39, 40, 41, and 42). However, during this period, different types of land use activities were occurring in the western portion of the project area. A review of County Field Book Records for Parcel 035 suggests that by the 1970s, the original Laupāhoehoe Sugar Company buildings may have been repurposed as a garage/storage yard; it is unclear from these records who occupied these buildings. A 1977 U.S.G.S aerial photo (Figure 43) shows the extant structures in the western part of the project area including the two Laupāhoehoe Sugar Company buildings as well as the dwellings and stores located along the *makai* edge of Government Road. By the early 1990s, the Laupāhoehoe Sugar Company buildings in the western portion of the project area appeared to be largely abandoned and the dwellings and stores located along the Government Road were no longer visible as shown in the 1992 U.S.G.S. aerial photo (Figure 44).

Figure 39. *Kupuna* participating in social activities in the Annex Building ca. 1990s (Photo courtesy of the County of Hawai‘i Elderly Nutrition Program).

Figure 40. *Kupuna* participating in social activities in Pāpa‘aloa Gym ca. 1990s (Photo courtesy of the County of Hawai‘i Elderly Nutrition Program).

Figure 41. *Kupuna* preparing food in the kitchen of the Annex Building ca. 1990s (Photo courtesy of the County of Hawai‘i Elderly Nutrition Program).

Figure 42. Pool and foosball game in the Annex Building (Photo courtesy of the County of Hawai‘i Elderly Nutrition Program).

Figure 43. 1977 U.S.G.S. aerial photo showing project area.

Figure 44. 1992 U.S.G.S. aerial photo showing project area.

By the 2000s, use of the western portion of the project area resumed as shown in a NOAA aerial photo from 2000 (Figure 45). A review of Google Earth aerial images dating between 2001 until about 2021 (Figures 46 through 51) shows sections of Parcel 035 being periodically cleared and used as a storage yard. In the 2013 Google Earth aerial image (Figure 49), two new structures appear on Parcel 035 in the area downslope of the gymnasium.

Although little had changed in the way of layout and land use in the park portion of the project area, in March 2020, the Pāpaʻaloa Gym was closed due to the COVID-19 pandemic. Concurrently, the County revealed plans for a comprehensive renovation project, aiming not only to refurbish the gym but also to enhance the tennis courts, annex, and baseball field to align with the standards of the Americans with Disabilities Act (ADA). However, by the fall of 2021, an unfortunate discovery was made. The gym was found to have suffered extensive termite damage, rendering it unsalvageable. A community meeting convened at Pāpaʻaloa Park on November 10th of the same year, and the County announced its intention to demolish the gym (Figure 52). This announcement was met with strong objections from the public, who expressed concerns and disappointment regarding the gym's decade-long lack of maintenance and the absence of an immediate plan for replacement. Simultaneously, some members of the community viewed the planned demolition as an opportunity to envision a new park for Pāpaʻaloa (Walling 2021). In 2022, the County initiated planning for the development of a new park for the Pāpaʻaloa community.

Figure 45. Aerial photo taken in 2000 by the NOAA showing the project area and neighboring vicinity.

Figure 46. 2004 Google Earth aerial image showing project area.

Figure 47. 2010 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

Figure 48. 2011 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

Figure 49. 2013 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

Figure 50. 2014 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

Figure 51. 2021 Google Earth aerial image showing project area, note land use activities in the western portion of the project area.

Figure 52. Community meeting held on November 10, 2021 at Pāpaʻaloa Park (Burnett 2022).

SUMMARY OF PREVIOUS ARCHAEOLOGICAL AND CULTURAL STUDIES

Very few archaeological studies have been conducted within the district of the North Hilo at elevations similar to the current project area (Table 5). The first archaeological work conducted in East Hawaiʻi was that of the early-20th-century *heiau* researchers Thrum and Stokes (Stokes 1991; Thrum 1907). There were six *heiau* identified within the project area vicinity. Within the Laupāhoehoe *ahupuaʻa* was the Moiapuhi (also spelt Moeapuhi) Heiau Kamaʻo, Heiau, and the Papaulekiʻi Heiau. Just east of Laupāhoehoe they identified Lonopūhā Heiau in Kiʻilau Ahupuaʻa, and Māmala or Haʻakoa Heiau in Haʻakoa Ahupuaʻa, and an unnamed *heiau* in Waipunalei. These are the *heiau* identified in a list provided by natives to Thrum (1907) and later revisited by Stokes (1991). When Thrum visited the sites, he noted that the Kamaʻo, Papaulekiʻi, and Moiapuhi *heiau* were destroyed with no remains left. The only *heiau* that a physical description was given for was the Māmala *heiau*, "a walled heiau 160x130 ft…used for years past as a slaughtering pen" (Stones 1991:41). Neither Thrum or Stokes identified *heiau* in Kaiwilahilahi or Pāpaʻaloa Ahupuaʻa.

Table 5. Previous archaeological studies conducted in the vicinity of the current project area.

Year	*Author(s)*	*Type of Study*	*Ahupuaʻa*
1907	Thrum	Survey of *Heiau*	Hawaiʻi Island
1991	Stokes	Survey of *Heiau*	Hawaiʻi Island
1932	Hudson	Archaeological investigation	East Hawaiʻi
1973	Wright	Nomination of the Pāpaʻaloa [Historic] District	Pāpaʻaloa and Kaiwilahilahi
2006	Maly and Maly	Ethnohistorical Study	Laupāhoehoe; Kilau; Puʻu ʻĀlaea; Manowaiʻōpae; Hokumāhoe; Kihalani; Pāpaʻaloa; Kaiwilahilahi; Moanalulu; Kapehu, Keʻaʻalau; Paeʻohi; and Welokā

Table 5 continues on next page.

Table 5. continued

Year	*Author(s)*	*Type of Study*	*Ahupua'a*
2020	Donham	AIS	Kihalani
2013	Wilkinson and Hammatt	Lit. Review and Field Insp.	Pāpa'aloa
2023	Ketner and Clark (2024), in prep	AIS	Kaiwilahilahi (project area)

End of Table 5.

In the early 1930s, Alfred E. Hudson (1932), working under the aegis of the Bishop Museum, conducted archaeological investigations in East Hawai'i. While surveying between Waipi'o and Hilo, Hudson remarked that few archaeological sites were to be found due to the "extensive development of sugar plantations" (Hudson 1932:182) nor did he identify any sites near the project area.

In 1973, State Inventory of Historic Places (SIHP) Site number 50-10-16-7398 was assigned to the Pāpa'aloa District (Figure 53), an approximately 40-acre "plantation community consisting of houses, commercial area, recreation facilities and religious structures" that includes the project area (Wright 1973). The Hawaii Register of Historic Places Site Form noted that this district "consists of several camp areas, an abandoned commercial area including five structures, a gym, the Sugikawa Store, several individual houses, a Hongwanji Mission and school buildings, the Papaaloa Community Store, a branch of Bank of Hawaii and St. James Episcopal Church" (Wright 1973:3). The creation of this district was recommended because of the combination of architectural and historic interest.

In 2006, Kumu Pono Associates prepared a cultural-historical study of the Laupāhoehoe Forest Section (Maly and Maly 2006). The study was initiated by the United States Department of Agriculture-Institute of Pacific Islands Forestry as part of their plan to include approximately 4,800 acres of the Laupāhoehoe forest in the Hawai'i Experimental Tropical Forest (HETF) program. While the study was focused primarily on the *mauka* regions and the project area was never part of the forest reserve, due to the traditional land divisions extending from *mauka* to *makai* and the interconnectivity of the adjoining lands, the study area included all lands between Waipunalei, to the north, and Maulunui, to the south.

Through archival-historical research and oral history interviews, the authors concluded that the Laupāhoehoe forest lands are part of a "unique cultural landscape" (Maly and Maly 2006:3) and have long been utilized by residents of Laupāhoehoe and adjoining *ahupua'a*, for gathering natural resources, as well as religious and cultural practices. The early impacts of the transition from a subsistence lifestyle to that of capitalism are evidenced by "Blair Road" which extends from the Laupāhoehoe Homesteads (below 2,000 feet elevation) up into the forest at 5,000 feet elevation. The road was utilized for the collection of *koa* and *'ōhi'a* by wood-craft manufacturer, Blair Woods Hawaii; who manufactured lumber, utensils, dishes, platters, and artwork (Maly and Maly 2006:4).

Recommendations resulting from the study include, first and foremost, that the protection of the forest does not hinder or stop traditional and customary practices but rather that these practices be carried out "in a manner consistent with cultural subsistence, where each form of native life is treasured and protected" (Maly and Maly 2006:6). It was recommended that when work is done within the proposed Laupāhoehoe HETF, cultural remains remain unimpacted. Furthermore, it was recommended that all staff working on fencing or ground-altering activities should consult with the DLNR-SHPD to be informed of the Historic Preservation Guidelines and be made aware that should any stone features be discovered, all work in the area should be halted and modified to minimize the impacts to such resources. Monitoring of all clearing is also recommended "to ensure proper treatment of sites" (Maly and Maly 2006:5). If cultural sites are identified during any work, consultation with the Hawaiian community of Laupāhoehoe and the DLNR-SHPD would ensue to determine treatment of the site(s). Any inadvertent discoveries of human remains should be protected in place and work within the site's vicinity should be ended and DLNR-SHPD notified of any findings. The final recommendation stated that if/when work begins, individuals with historical ties to the area be involved.

Aside from the studies summarized above, the most recent and relevant study to have taken place in the vicinity of the project area was a literature review and field inspection conducted by Cultural Surveys Hawai'i, Inc., (Wilkinson and Hammatt 2013) for drainage improvements to the Hawai'i Belt Road within Pāpa'aloa Ahupua'a (see Figure 53). As a result of their field inspection, Wilkinson and Hammatt (2013) identified the historic sugar plantation-era Pāpa'aloa Ditch, late-l950s concrete rubble masonry drainage infrastructure, and the Kaiwilahilahi Bridge. Following their study archaeological monitoring was requested by the SHPD and a monitoring plan was prepared by CSH (Wheeler et al. 2014). In 2020, an archaeological inventory survey (Donham 2020) in Kihalani Ahupua'a (see Figure

53) identified Site 50-10-16-31187, which consisted of two Historic sugar plantation related erosion berms constructed by the Laupāhoehoe Sugar Company in the early 1900s.

In 2020, an archaeological inventory survey (Donham 2020) conducted in Kihalani Homesteads (see Figure 53) identified Site 50-10-16-31187, which consisted of two Historic sugar plantation-related erosion berms constructed by the Laupāhoehoe Sugar Company in the early 1900s.

A review of reports and correspondence on the Hawai‘i Cultural Resource Information System (HICRIS) online database indicates that SHPD has previously written "no effect" letters for at least two parcels located in the Pāpa‘aloa Homesteads (*mauka* of the project area) within Kaiwilahilahi Ahupua‘a. These "no effect" letters include a November 9, 1992 letter for TMK: (3) 3-5-003:038 (*Log No. 6726 Doc No. 9211KS06*), and an undated letter for TMK: (3) 3-5-001:043 (*Log No. 10085 Doc No. 9311ms07*). The reason generally given for SHPD's belief that the proposed development of these parcels would have "no effect" on significant historic sites, was that they were both utilized extensively for the cultivation of sugarcane which had altered the land.

In 2023, ASM Affiliates conducted an archaeological inventory survey (ASM 2024 in prep) of the current project area (see Figure 53). As a result, six Historic Period sites were identified in the project area including the Old Māmalahoa Highway (Site 50-10-16-30187), a concrete foundation (Site T-1), a terrace wall (Site T-2), two buildings associated with the Laupāhoehoe Sugar Company (Site T-3), a flume foundation (Site T-4), and the Pāpa‘aloa Park (Site T-5); the locations of which are shown below in Figure 54. Four of the sites (Sites 30187, T-1, T-2, and T-4) were considered significant under Criterion d for the information they yielded during the current study. Additionally, Site 30187 was assessed as significant under Criterion a for its association with important late 19th and early 20th century events in establishing a regional transportation network and Site T-4 was assessed as significant under Criterion a for being associated with, and contributing information to, the overall history of the sugarcane plantation era in Hawai‘i and specifically to the Laupāhoehoe and Davies Hamakua Plantation, Inc. sugar companies. Sites 30787, T-1, T-2, and T-4 were adequately documented during the ASM and were recommended for no further historic preservation work. Two of the sites (Sites T-3 and T-5) are significant architectural properties that need further documentation and evaluation by a qualified architectural historian. ASM's inventory survey concluded that the proposed project will affect historic properties within the project area therefore the recommended determination of effect for the project was "Effect with proposed mitigation commitments." The proposed mitigation commitments include the documentation and evaluation of Sites T-3 and T-5 by a qualified architectural historian and the preparation of an Architectural Reconnaissance Level Survey (RLS). It is anticipated that following preparation of the RLS no further historic preservation work will be necessary at Sites T-3 and T-5.

Figure 53. U.S.G.S. map showing the location of previous studies conducted in the vicinity of the project area.

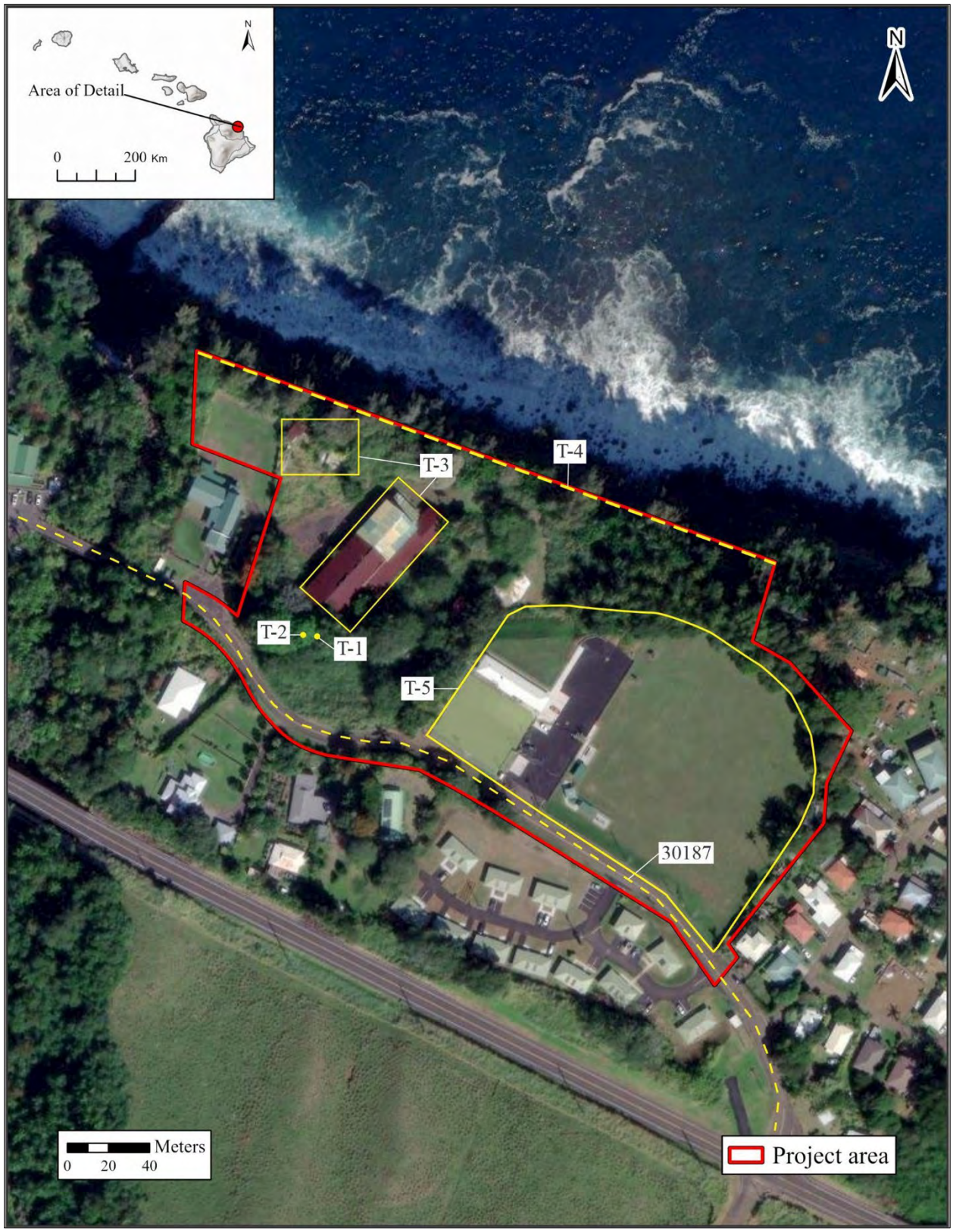


Figure 54. Ketner and Clark (2024) site map showing historic properties identified in the project area.

3. CONSULTATION

Gathering input from community members with genealogical ties and long-standing residency or relationships to the study area is vital to the process of assessing potential cultural impacts to resources, practices, and beliefs. It is precisely these individuals that ascribe meaning and value to traditional resources and practices. Community members often possess traditional knowledge and in-depth understanding that are unavailable elsewhere in the historical or cultural record of a place. As stated in the OEQC (1997) *Guidelines for Assessing Cultural Impacts*, the goal of the oral interview process is to identify potential cultural resources, practices, and beliefs associated with the affected project area. It is the present authors' further contention that the oral interviews should also be used to augment the process of assessing the significance of any identified traditional cultural properties. Thus, it is the researcher's responsibility to use the gathered information to identify and describe potential cultural impacts and propose appropriate mitigation as necessary. This section of the report begins with a description of level of effort undertaken to identify persons believed to have knowledge of the study area, followed by the interview methodology. This section of the report concludes with a presentation of the interview summaries that have been reviewed and approved by the consulted parties.

In an effort to identify individuals knowledgeable about traditional cultural practices and/or uses associated with the current project and study area, a public notice containing (a) locational information about the project area, (b) a description of the proposed project, and (c) contact information was printed in a newspaper with state-wide readership. The public notice was submitted to the Office of Hawaiian Affairs (OHA) on January 17, 2024, for publication in their monthly newspaper, *Ka Wai Ola*. This notice was published in the February edition of *Ka Wai Ola* and a copy of the public notice will be included in Appendix A of this report. From the public notice, zero responses were received.

Additionally, ASM staff contacted seven individuals and organizations, to date, via phone and email: Lisa Barton, Bethany Morrison, Mr. and Mrs. Peter Pua, Lucille Chung, Roylen Valera, and the Office of Hawaiian Affairs. These individuals/organizations were identified as either long-time residents of the area and were believed to have knowledge of past land use, history, or relevant cultural information. Each of the persons contacted was provided with a consultation packet that contained maps of the project area, a description of the proposed project, and the proposed plans. Of the six people contacted, four, Lisa Barton, Mr. and Mrs. Peter Pua, and Lucille Chung, agreed to be interviewed for this study. Of the four, only three approved their interview summaries for inclusion in this study which are included below.

INTERVIEW METHODOLOGY AND CONSTRAINTS

Prior to the interview, ASM staff provided information about the nature and location of the proposed project and informed the potential interviewees about the current study. The potential interviewees were informed that the interviews were completely voluntary and that they would be allowed to review their interview summary prior to inclusion in this report. With their consent, ASM staff then asked questions about their background, their knowledge of past land use, and the history of the project area, as well as their knowledge of any past or ongoing cultural practices. The informants were also invited to share their thoughts on the proposed development and offer mitigative solutions. They were also asked if there were others in the community who may know about such information and invited to share their name(s) and contact information with ASM staff. All interviews were conducted at a location specified by the interviewee.

Due to time constraints associated with the expenditure of the funds for the Phase I Development portion of the project, ASM was put under tight time constraints to complete this CIA. The contracting period for this study commenced on October 11, 2023, with an internal draft due on January 31, 2024, and a second final report due on March 11, 2024. The authors of this study believe this this timeline, which was further hampered by the holiday season, limited our capacity to conduct additional outreach with other members of the community. Furthermore, at least one of the consulted parties, who initially participated in an interview with ASM staff, expressed that the CIA consultation process along with other aspects of the projects had merely become a "regulatory check box" and felt that that their concerns or recommendations were not going to be considered. ASM staff believes these feelings may have contributed to at least one of the interviewee's total withdrawal from the CIA consultation process.

MR. AND MRS. PETER PUA

On January 24, 2024, Mrs. Flo Pua was contacted by ASM staff, Candace Gonzales via telephone, regarding the proposed project and the nature of the current study. An interview with Mrs. Flo Pua and her husband Mr. Peter Pua was conducted in person on January 29, 2024, at Pāpa'aloa Park. Mrs. Pua was born in the car on the road to

Kohala then later she moved to Mountain View, Camp 14, a Filipino plantation camp, with her parents before moving into the home in Keaʻau where she was raised. She went to school in Hilo before going on to attend the commercial college there. She shared that the high cost of schooling caused her to eventually stop attending school at which point she moved to Oʻahu for work. While working on Oʻahu she started seeing her now husband, Peter Pua. They had known each other from their time as students at Hilo High School but Mrs. Pua reflected that she was more interested in working than boys at the time. The Pua *ʻohana* eventually moved to California. In the 1960s, Mr. Pua's grandparents decided to sell their property in Pāpaʻaloa to Peter and Flo. However, it was not until 1973, that they returned to Hawaiʻi and moved into their Pāpaʻaloa home where they have remained, raising pigs, goats, rabbits, cows and milking cows, and chickens and their three sons. Being area residents and having three young boys, the Puas spent much time at the Pāpaʻaloa Park.

Mrs. Pua stated that the gymnasium and park had been created by the plantation for their laborers and that every plantation had its park and gymnasium. People would come from all over the island to compete against the teams at Pāpaʻaloa Park. Mrs. Pua recalled a lot of social activities and recreational sports while under the plantation's ownership; however, when the County of Hawaiʻi Parks and Recreation took over and began organizing, there were fewer people with some simply just losing interest. In the past, the park had been used for an array of sports including volleyball, basketball, and baseball. Sports were not the only way the community utilized the gym. There were also *hula* classes and social events like dances, Halloween haunted houses, and community meetings. Mrs. Pua recalled that the Annex building was where neighbors would come together and discuss issues, concerns, and hopes for the future of their community. Additionally, there were senior dinners and club meetings like the 4-H and Bridge Club and election voting was done in the gymnasium as well.

Volleyball is the sport enjoyed by both Mr. and Mrs. Pua. Mrs. Pua started playing volleyball at the park regularly after being asked by Stew Suzuki with Parks and Recreation if she could put together a team. That's how it was she says, they would go find six ladies, come together, and play games against each other. Eventually, the Puas were running the children's volleyball games on Tuesdays and Thursdays at the park. For about five years they came together and whoever showed up would play. Two teams would challenge each other and the winner would continue to challenge the next team. Mrs. Pua shared that all the teams wanted to win partly because they just wanted to keep playing.

Mrs. Pua's eyes lit up as she reminisced about the Filipino dances. She says that the dances were a big hit with the Filipino plantation workers noting that many of these plantation workers were men who had left their families behind to come to work in Hawaiʻi. Some of the men were working to save enough to send for their families to come to Hawaiʻi; others were sending money home to support their families with intentions of returning home; all of them enjoyed dancing with beautiful young women. These dances were hosted at the gymnasium to raise funds. The young girls would compete for the title of "Queen" through ticket sales. Girls would sell tickets at approximately fifty cents for three to four minutes of dancing. The men would purchase tickets to dance with the girls and each dance was regulated with a timer. The girl who sold the most tickets would be crowned queen of the dance. Mrs. Pua reflected that the gym was small but good enough and she strongly feels the County should have asked the community before tearing it down because there was nothing wrong with it; it was still capable of hosting events and providing space to practice sports.

When asked about the cultural practices of the area, Mrs. Pua paused and stated that she is unsure whether or not this is considered a cultural practice but being a community hub for so long, the park has hosted many first birthday *lūʻaus*. Mrs. Pua also mentioned having had a *kumu hula* from Kohala come to teach *hula* classes in the gymnasium and that the park was like a home away from home. In addition to the recreational activities already mentioned, this was where individuals went to see their friends, have meals together, brainstorm, problem-solve, and celebrate. The park's location allowed the community of Pāpaʻaloa to have a gathering space of their own.

When asked about recommendations for the future of the park, Mrs. Pua expressed concerns that she will not live long enough to see the new gym. She went on to, again, emphasize the preference for a smaller gym stating "no need be big; what was there before was enough." She prefers the gym to stay small to encourage community and socialization—and cultivate *aloha*.

LUCILLE CHUNG

On January 24, 2024, Mrs. Lucille Chung was contacted by ASM staff, Candace Gonzales via telephone, regarding the proposed project and the nature of the current study. The interview with Mrs. Lucille Chung was conducted in person on February 12, 2024, at Sakura Japanese Sushi restaurant in Hilo.

Born and raised in Laupāhoehoe, Mrs. Chung currently lives in Hilo to be closer to services but still owns her home and other property in Laupāhoehoe. The home she was born in was passed on to her mother from her great-grandfather and has now been passed on to her from her mother. Her grandson now lives in it. She reminisced of a slower time when she was a child and recalled going down the street from her home to her Kuku's (Grandpa) home to make *poi* every Saturday. She shared fond memories of all the cousins attending and everybody being so close. Since then, she has raised her children and now has grandchildren.

Mrs. Chung has been very involved in the Pāpa'aloa and Laupāhoehoe communities, having worked at and retired from the Police Department's Laupāhoehoe Police Station after 33 years of service and the Queen Lili'uokalani Trust's Children's Center after 15 years of service, first assigned to the North Hilo District due to the closure of the Hāmākua Sugar Company in 1994. She was later assigned to the Puna District because of downsizing in the agency after 9/11 but requested that she be allowed to continue her involvement with the Hāmākua coast communities. Mrs. Chung worked at both the Puna and Hāmākua Districts and thus remains active in the Hāmākua District and as needed in the Puna communities. While working at the Laupāhoehoe Police Station, she, her then Captain, Teruo Morigaki, and House of Representative Member, Yoshito Takamine, and other community leaders, organized the North Hilo Community Council (NHCC) to more cohesively address and advocate for community issues and concerns. Of immediate concern at that time was housing for police officers who were mandated to live in the district they worked in. The homes in the North Hilo District were either provided for the sugar plantation's employees and their families or were owned and lived in by individual families, handed down from generation to generation as her mother's home was. While addressing this issue and finding some success and resolution, the NHCC became the voice of the community in addressing other issues of concern such as roads, parks, the swimming pool, the library, fire, police, etc.

When asked about the park, Mrs. Chung stated that the Pāpa'aloa Park has always been the center of the community. While the park complex once saw many children and their families participating in various activities in the past, since the closure of the plantation in 1994, all of this has slowly diminished because the would-be volunteer coaches no longer work in the area which allowed them to participate with the children in the community after work. Working further away meant they got home later from other areas of the island unable to participate in the evening sports.

The nearby senior housing and available senior transportation made the gym and annex easily accessible for senior nutrition programs and other senior activities. She explained how the senior housing across the park was put together with the old Laupāhoehoe School teacher's cottages that had been built at the present school's site after the 1946 Tidal wave destroyed the teacher's cottages at Laupāhoehoe Point. The old structures have been replaced by new and more senior housing at the same site across from the park.

Mrs. Chung went on to state that the park has always been a social community gathering space. The park was first constructed by the plantation for recreational activities for the plantation's employees. When the Laupāhoehoe School was moved from the Laupāhoehoe Point to its current location in 1952, the school did not have a gym or a park, so the Plantation allowed the Pāpa'aloa Gym Complex to become the home of the Laupāhoehoe School's sports- indoor and outdoor- until the school was able to secure funds for a gym and a field. As such, that is one of the reasons the park has always been a big part of the community. Everyone would come out to support the school, participating in the cheers and all. Mrs. Chung stated that she enjoyed cheering along with her schoolmates. Unlike today, only the cheerleaders cheer while the spectators watch. After each game the school's social club would serve refreshments to both teams and the kids would all hang out together after the games. There was no rivalry; it was all fun and games. Unfortunately, this is no longer happening. She noted that all the indoor sports were played in the Pāpa'aloa gymnasium including basketball, volleyball, and badminton, while baseball, T-ball, and Coach Pitch were played in the park and tennis matches on the tennis court. There also were active *kupuna* baseball teams that utilized the park. Mrs. Chung also related that her Laupāhoehoe Hawaiian Civic Club hosted many bazaars, and volleyball and baseball tournaments at the Pāpa'aloa Gym Complex.

The park was not only a place for recreational sports. In the past, the park has been the venue for Aloha Week. During Aloha Week there were all kinds of contests, food booths, games, community outreach booths, as well as a selected king and queen. Mrs. Chung is unaware of how the king and queen were selected but remembers well the *mu'umu'u* and *aloha* shirt contests and the schools coming out and performing *hula*. It was also the community gathering place where weddings, birthdays, and all the community parties were held. John Kushi, a former Recreational leader of Pāpa'aloa Park, had organized a nonprofit, Koaniani, that hosted Easter egg hunts and Halloween events including a haunted house, games, and a pumpkin patch at the park. Koaniani also held a concession stand during their events to raise funds.

During the shift of the park from being under the plantation to the County, there were noticeable changes, says Mrs. Chung. The biggest change was the Recreational Leaders for the Pāpa‘aloa Complex hired by the County came from outside the district where relationships had to be built with members of the community. Under the plantation, the holders of the keys for the complex came from within the community where everyone was familiar with everyone else. Over the years there have been several new recreational leaders, all needing to build relationships. Some were very successful in their approach and were in place for many years like Ron Takeya and John Kushi. Others were short-term. All of them came with their expertise. Mrs. Chung stated that Matt, the current Recreational Leader, is trying his best and she likes that he attends community meetings to get the pulse of the community and share his programs with the community.

When the gymnasium had to be demolished, Hawai‘i County Council Chair Heather Kimball, representing the North Hilo District, and Parks and Recreation Director, Maurice Messina told the community there were no funds for the construction of a new gym. As such Bethany Morrison, current President of NHCC, mobilized the community and began campaigning for funds. The State, through, then State Representative, now Lt. Governor Sylvia Luke, and Representative Mark Nakashima secured five million dollars from the State, which Mrs. Chung says, inspired Mitch Roth the Hawai‘i County Mayor, to also allocate five million dollars to the project. However, the community was told that ten million was not enough for a gymnasium and that they would be constructing a covered play court instead. The lower portion of the project area, just east of the current park has been untouched since the plantation except for one local trucking company. Both occupants had used the area as a mechanic garage and base yard.

When asked about cultural and natural resources in the area, Mrs. Chung is unable to recall anything. She did mention fishing and fishing tournaments being done at Laupāhoehoe Point and has referenced *kalo* cultivation and *poi* production in the *mauka* regions but is unaware of anything specific to the project area.

In closing, Mrs. Chung stated, the community has worked so hard to get the funding for the park project and she is concerned that the County will ignore the community’s requests and recommendations for the park. The County of Hawai‘i Parks and Recreation (P&R), the hired consultant, and the community have held three meetings. She attended the first meeting which gave the community a lot of hope. She did not attend the second meeting because of another commitment. She attended the third meeting held on December 21st and she and others were not happy with what was presented by P&R and the consultants. The next day after conferring with the community members who attended the meeting whom she learned felt the same as she did, she sent an email to P&R, the consultants, the Mayor, and others expressing those concerns and followed up with another email with additional information she had learned about a dry well. The P&R Director Messina replied that he and the team would meet to discuss their concerns and get back to the community. Again, because the community is the one who campaigned for the funding of the park, she feels the County should be responsible in their spending.

Mrs. Chung strongly advocated for the County to leave the lower (eastern) portion of the project area where the old metal buildings are present alone. She recommends investing funds for the construction of the gymnasium rather than the demolition and environmental cleanup which will be needed before they can utilize the lower portion. Additionally, Mrs. Chung feels it is important to continue to provide recreational sports to the youth in the area however, with parents working further away and the requirements of modern life, finding volunteers to coach has become extremely difficult. She suggested the County consider providing some sort of incentive for coaches, mentioning a stipend as one possibility. She stated that people are just too busy to be volunteering.

Since the last community meeting, Mrs. Chung stated that she received an email dated February 5, 2024, that also went out to community leaders showing new plans from James Komata, P&R Planner, which took the community’s recommendations into consideration. A public announcement of these plans was made in the Hawai‘i Tribune-Herald dated Monday, February 12, 2024, by P&R Director Messina, including a map of the project and the environmental assessment inviting public comment until the eleventh of March 2024. Mrs. Chung is pleased with the current plans and hopes that those who still have concerns respond to the invitation to provide comments before the deadline. Lastly, Mrs. Chung recommended contacting Lieutenant Roylen Valera, Acting Captain for the South Kohala District, Hawai‘i Police Department.

4. IDENTIFICATION AND MITIGATION OF POTENTIAL CULTURAL IMPACTS

The OEQC guidelines identify several possible types of cultural practices and beliefs that are subject to assessment. These include "...subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs" (OEQC 1997:1). The guidelines also identify the types of cultural resources, associated with cultural practices and beliefs that are subject to assessment. These include other types of historic properties, both man made and natural, submerged cultural resources, and traditional cultural properties. The origin of the concept and the expanded definition of traditional cultural property is found in National Register Bulletin 38 published by the U.S. Department of Interior-National Park Service (Parker and King 1998). An abbreviated definition is provided below:

> "Traditional cultural property" means any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions shall be founded in an ethnic community's history and contribute to maintaining the ethnic community's cultural identity. Traditional associations are those demonstrating a continuity of practice or belief until present or those documented in historical source materials, or both.

"Traditional" as it is used, implies a time depth of at least 50 years, and a generalized mode of transmission of information from one generation to the next, either orally or by act. "Cultural" refers to the beliefs, practices, lifeways, and social institutions of a given community. The use of the term "Property" defines this category of resource as an identifiable place. Traditional cultural properties are not intangible, they must have some kind of boundary; and are subject to the same kind of evaluation as any other historic resource, with one very important exception. By definition, the significance of traditional cultural properties should be determined by the community that values them.

It is however with the definition of "Property" wherein there lies an inherent contradiction, and corresponding difficulty in the process of identification and evaluation of potential Hawaiian traditional cultural properties, because it is precisely the concept of boundaries that runs counter to the traditional Hawaiian belief system. The sacredness of a particular landscape feature is often cosmologically tied to the rest of the landscape as well as to other features on it. To limit a property to a specifically defined area may actually partition it from what makes it significant in the first place. However offensive the concept of boundaries may be, it is nonetheless the regulatory benchmark for defining and assessing traditional cultural properties.

As the OEQC guidelines do not contain criteria for assessing the significance of traditional cultural properties, this study will adopt the state criteria for evaluating the significance of historic properties, of which traditional cultural properties are a subset. To be significant the potential historic property or traditional cultural property must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

a Be associated with events that have made an important contribution to the broad patterns of our history;

b Be associated with the lives of persons important in our past;

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

d Have yielded, or is likely to yield, information important for research on prehistory or history;

e Have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity.

While it is the practice of the DLNR-SHPD to consider most historic properties significant under Criterion d at a minimum, it is clear that traditional cultural properties by definition would also be significant under Criterion e. A further analytical framework for addressing the preservation and protection of customary and traditional native practices specific to Hawaiian communities resulted from the *Ka Pa'akai O Ka 'Āina* v Land Use Commission court case. The court decision established a three-part process relative to evaluating such potential impacts: first, to identify whether any valued cultural, historical or natural resources are present and/or past or ongoing traditional customary practices; and identify the extent to which any traditional and customary native Hawaiian rights are exercised; second,

to identify the extent to which those resources and rights will be affected or impaired; and third, specify any mitigative actions to be taken to reasonably protect native Hawaiian rights if they are found to exist.

IDENTIFICATION OF TRADITIONAL AND CUSTOMARY PRACTICES, VALUED CULTURAL RESOURCES

As a result of the culture-historical background in conjunction with the results of the consultation process, the following have been identified as they relate to the presence of valued cultural, historical, or natural resources and or past or ongoing traditional customary practices within the project area. While the vast majority of the information discussed below comes primarily from the culture-historical background and the three approved interviews, the unapproved interview did include information about valued natural resources. Although this interview was not approved for inclusion in this CIA, ASM staff felt that this bit of information was important to discuss and include as part of this study's findings and recommendations.

Pāpa‘aloa Park and Other Plantation-Era Infrastructure

Concerning valued cultural and historical resources, the majority of such resources identified in the project area are associated with the plantation era and the Laupāhoehoe Sugar Company. This includes five of the six sites documented during ASM's archaeological inventory survey of the project area, namely the concrete foundation (Site T-1), a terrace wall (Site T-2), two buildings (Site T-3), a flume foundation (Site T-4), and the Pāpa‘aloa Park (Site T-5). Of these resources, those consulted as part of this study shared detailed information about Site T-3 including its more recent use as a mechanic garage and base yard as well as the former stores and houses that once stood on the edge of Māmalahoa Highway (the remains of which have been associated with Site T-1 and Site T-2), and Pāpa‘aloa Park (Site T-5).

Those consulted during this study shared fond memories of Pāpa‘aloa Park, which was built during the late 1930s by the Laupāhoehoe Sugar Company. The consultees shared how raising their families at the park fosters social bonds with their children and other in the community through various events and programs. They unanimously concluded that the park, in and of itself, is a valued resource because of its historic origins, design, and more importantly its long-standing history of hosting countless cultural, recreational, and social events that brought the community together. This sentiment was echoed throughout the interviews thus underscoring the significance of this park to this community's social capital. Furthermore, it is evident from the consultation process that the demolition of the original Pāpa‘aloa Gym has led to some community members developing a sense of loss and nostalgia for their historic community, and mistrust of the County. Many of the consultants expressed the initial sense of hope they experienced during the first community meeting, which quickly dissipated in subsequent meetings. As described by some of the consultants, these feelings of mistrust and skepticism toward the County stem from perceived ingenuine interactions that leave the community feeling unheard and subjected to a top-down decision-making approach.

Regarding the original Pāpa‘aloa Gym, it was echoed throughout the interviews that the gym served a purpose beyond organized recreation. Because of its design elements (stage, playcourt, seating, etc.), it served as a multi-functional gathering place for all ages and was the central hub for this community. There was a sense of concern that the proposed open play court design would not adequately fill the gap created by the loss of the original gym. The importance of Pāpa‘aloa Park to this community cannot be understated. While opinions differ on the layout and design elements, there is a strong stance from those consulted to ensure this park remains in use by current and future generations and that it is built in a manner consistent with the needs and values of this community.

Old Māmalahoa Highway

The culture-historical background identified the Old Māmalahoa Highway as a valued historical resource that extends along the *mauka* boundary of the project area. This road, other portions of which have been documented as a historic roadway and assigned as Site 30187, once served as the primary thoroughfare through Pāpa‘aloa and other historic communities around Hawai‘i Island. This road remained in use until 1953 at which point it was superseded and in some places cut off by the Hawai‘i Belt Road (Highway 19). This road is not only valued for its historic importance particularly its association with the establishment of a regional transportation network (Criterion a) but it remains a key feature that connects Pāpa‘aloa Park with other valued historic and scenic elements of the Pāpa‘aloa community.

Coconut Grove

One of the consulted parties spoke about the coconut grove located on the *makai* edge of the existing ball field.

While the origins of this grove remain unknown, this consulted party shared that this grove has been utilized by the community whenever they needed material from coconut trees.

Pāpa‘aloa Historic District

The culture-historical background revealed that the project area is within the Pāpa‘aloa [Historic] District (Site 7398), which was listed on the Hawai‘i Register of Historic Places in 1973. The nomination form identified the key elements of this district including “several camp areas, an abandoned commercial area including five structures, a gym, the Sugikawa Store, several individual houses, a Hongwanji Mission and school building, the Papaaloa Community Store, a branch of Bank of Hawaii, and St. James Episcopal Church” (Wright 1973:2). This designation was based on the combination of architectural and historic interest. The original Pāpa‘aloa Gym, which was considered a defining element of this district and once located in the project area was removed in 2022.

FINDINGS, RECOMMENDATIONS, AND CONCLUSION

It is the findings of this study that, the proposed project has the potential to impact all of the above-identified valued cultural, natural, and historic resources and their associated past or ongoing traditional customary practices. The following recommendations are intended to help the County avoid and or mitigate impacts to the above-identified resources and associated practices.

Concerning the Pāpa‘aloa Park, other plantation-era infrastructure, and the Old Māmalahoa Highway, it is recommended that the County submit the archaeological inventory survey to the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) for review and acceptance, and comply with any of the agreed-upon mitigative measures. With respect to Site T-5 (Pāpa‘aloa Park), it is further recommended that the County develop its master plan in a manner that aligns with the needs of this community and does not necessitate the loss of existing recreational spaces or facilities. Examples of this include being considerate of the scale of the project, minimizing overdesigning, being sensitive to the natural, historic, and social context, and avoiding constructing new facilities at the expense of another valued space without exhausting all other alternatives. Because the original Pāpa‘aloa Gym served as the main communal multi-function gathering place, it is also recommended that the County make efforts to understand how that facility served this community and incorporate as many of those elements into any future gym. As the park is within the Pāpa‘aloa [Historic] District, it is also recommended that the County consult with DLNR-SHPD to determine whether the proposed project may impact this historic district and adhere to any recommended mitigative measures. With regards to the coconut grove, it is recommended that the County avoid any construction activities in this area and maintain this grove as is.

It is strongly recommended that the County continue engaging with this community and make concerted efforts to hear their concerns and ideas and where feasible, incorporate them into the master plan. Garnering community support is crucial to the success of this project and the well-being of this community. Understandably, not all ideas and or recommendations can be incorporated into the master plan due to various regulatory, permitting, and other constraints. However, it is precisely these individuals who know the nuances of their community from its history, the local ecology, their needs, and aspirations. Their knowledge and recommendations are invaluable and we urge the County to recognize their knowledge as an asset to their planning and management process. The County P&R division is uniquely positioned to provide opportunities that help to strengthen our communities and these aspects must carry over into all park planning projects while respecting the unique historical, cultural, social, and environmental contexts. If the County continues to engage with and aspire to be of service to our Hawai‘i Island communities, we encourage them to seek models of engagement that promote well-being and unity.

Lastly, several of the consultants felt that the County must improve its facilities management process as a means to avoid the loss or degradation of treasured facilities. We urge the County to recognize that these wooden historic gyms are more than static structures, they are deeply tied to a community’s collective identity, a place where memories are made, where family structures are fortified, and where community relationships are built. When we lose a facility, the community experiences a real sense of loss and this was evident in the interviews. We encourage the County to provide space in its planning process that will allow those affected by the loss of the original Pāpa‘aloa Gym to reflect on what this facility meant to them and help provide some closure and healing.

ASM staff would like to thank all who participated in the consultation process and who so willingly gave their time and knowledge. Such a study would not be possible without their participation. In closing, if the County adheres to the recommendations outlined above, impacts to the above-identified valued resources and traditional customary practices would be avoided and or mitigated.

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APPENDIX A. *KA WAI OLA PUBLIC NOTICE*

Ma o ke County of Hawai'i, Department of Parks and Recreation, ke ho'omākaukau nei 'o ASM Affiliates i wahi Cultural Impact Assessment i kō pono nā koina o ka HRS, Chapter 343 Environmental Assessment no ka Pāpa'aloa Master Plan and Phase I Development Project. Aia kēia papahana ma 12 'eka, e like pū me TMK: (3) 3-5-003:032 a me kekahi 'āpana 088, ma Kaiwilahilahi Ahupua'a, Hilo 'Ākau, Mokupuni O Hawai'i.

Ke 'imi nei 'o ASM i po'e kama'āina i loa'a paha ka 'ike no nā kumu waiwai mo'omeheu, nā loina, a me nā hana ku'una i pili me kēia 'āina. Ke 'imi pū nei mākou i nā mana'o e pale ai a ho'ēmi ai i nā hopena hiki i ia mau mea. Inā he 'ike kāu, e ho'oka'a'ike me Lokelani Brandt, lbrandt@asmaffiliates.com, phone (808) 969-6066.

On behalf of County of Hawai'i, Department of Parks and Recreation, ASM Affiliates is preparing a Cultural Impact Assessment to fulfill the requirements of an HRS, Chapter 343 Environmental Assessment being prepared for the Pāpa'aloa Master Plan and Phase I Development Project. The project is located on 12 acres inclusive of TMK: (3) 3-5-003:032 *and a portion of parcel 008, Kaiwilahilahi Ahupua'a, North Hilo District, Island of Hawai'i.*

ASM is seeking kama'āina familiar with the area's cultural resources, customs, and practices. We also seek input regarding strategies to prevent or mitigate impacts on culturally valued resources or traditional customary practices. If you know of such information, contact Lokelani Brandt, lbrandt@asmaffiliates.com, phone (808) 969-6066. ■

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APPENDIX F

Traffic Impact Analysis

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TRAFFIC IMPACT ANALYSIS

Pāpa‘aloa Master Plan
And Phase I Development

Pāpa‘aloa, Island of Hawaii, Hawaii

January 2024

TRAFFIC IMPACT ANALYSIS

Pāpa‘aloa Master Plan

And Phase I Development

Pāpa‘aloa, Island of Hawaii, Hawaii

January 2024

Prepared For:
KYA, Inc.
934 Pumehana Street
Honolulu, Hawaii 96826

Prepared By:
WSP USA, Inc.
1001 Bishop Street, Suite 2400
Honolulu, HI 96813

WSP Reference Number:

30903175.000

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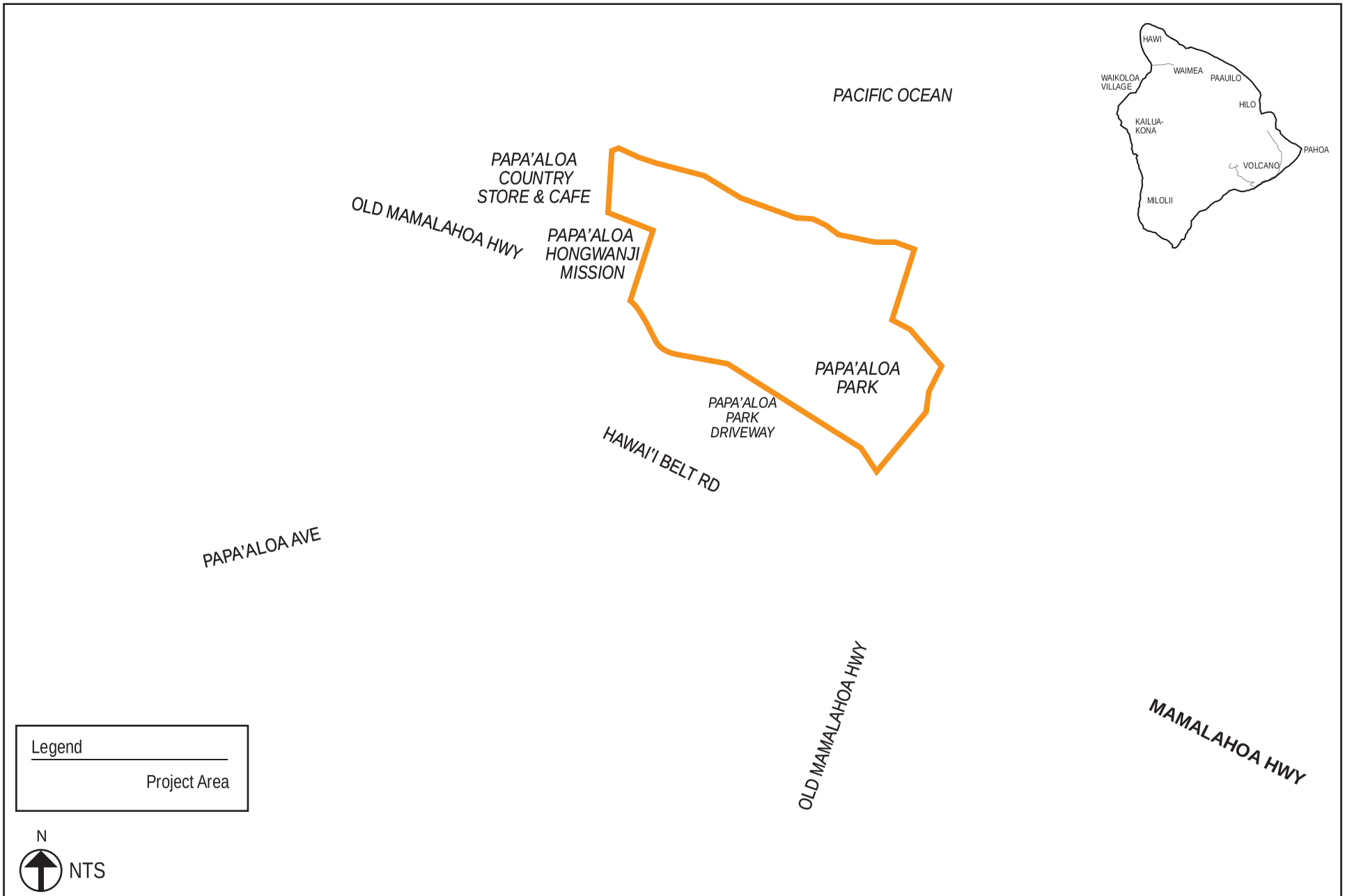
I. INTRODUCTION

Pāpa‘aloa Park is located northwest of the village of Pāpa‘aloa on northeast side of the island of Hawaii, just southeast of Laupāhoehoe as shown in Figure 1. The park helps to service the recreational demands of the Laupāhoehoe through Nīnole communities along the Hāmākua Coast.

The park currently provides a baseball field, which remains open to the public despite not currently being used for little league practice or games. Following the necessary razing of Pāpa‘aloa Gymnasium, the Hawaii County Department of Parks & Recreation is planning to develop new recreational facilities at the existing Pāpa‘aloa Park located on Old Māmalahoa Highway in Pāpa‘aloa on the Big Island. As shown in Figure 2, a new covered play court will be provided to replace the Pāpa‘aloa Gymnasium to pair with the existing baseball field. The field will be refurbished and is planned to be used for little league practice and games. The project was included in Hawaii County’s Fiscal Year 2022 Capital Improvement Plan (CIP).

The proposed covered play court will be 9600 square feet. 48 parking stalls will be provided on-site. The proposed year of opening is 2025.



Vicinity Map

Figure 1

Project Site Plan

Figure 2

II. Existing Conditions

A. EXISTING LAND USE

The project site is located north of Pāpa‘aloa along the Hāmākua Coast on the island of Hawaii. The east coast of the island is rural, located about 20 miles north of Hilo and 30 miles east of Waimea. The project itself is located on Old Māmalahoa Highway just off Hawaii Belt Road. The area surrounding the park is primarily residential. A United States Post Office location, the Pāpa‘aloa Country Store & Café, and the former Pāpa‘aloa Hongwanji Mission are located on Old Māmalahoa Highway just west of the park. The existing Pāpa‘aloa Park provides about 2.3 acres of park which is configured as a baseball field. The Pāpa‘aloa Gymnasium was demolished in 2022.

B. EXISTING ROADWAY SYSTEM

The project study area centers around the project’s Old Māmalahoa Highway driveway and two access points to Hawaii Belt Road at Pāpa‘aloa Avenue and Old Māmalahoa Highway.

1. Hawaii Belt Road

State Route 19 (SR 19) is a 99-mile highway that travels counterclockwise around the island of Hawaii. It originates in Hilo, traveling north and west through Waimea, then follows the west coast of the island, terminating in Kailua-Kona where it transitions to State Route 11 (SR 11) at milepost 99.526. Within the study area, SR 19 is known as Hawaii Belt Road and is a two-lane, undivided principal arterial which is a part of the National Highway System (NHS). The posted speed limit within the study area is 45 miles per hour (mph) and 55 mph just east of the study area. Intersections are unsignalized with two-way stop control on the minor streets.

2. Old Māmalahoa Highway

Old Māmalahoa Highway is a two-lane roadway that provides local access in the vicinity of Pāpa‘aloa Park. 20 mph speed limit warning signs are posted approaching the park.

3. Pāpa‘aloa Avenue

Pāpa‘aloa Avenue is a two-lane private roadway connecting Old Māmalahoa Highway in the study area to Hawaii Belt Road. It continues mauka of Hawaii Belt Road, providing access to residential and agricultural land uses. The posted speed limit on Pāpa‘aloa Avenue is 25 mph.

C. EXISTING TRANSIT

Hawaii County operates the Hele-On public transport bus service on the Island of Hawaii. The bus routes are generally categorized as follows:

- Connector routes which provide service between communities;
- Circulator routes which provide service within communities; and
- Commuter routes which provide service between residential areas and employment centers.

The Hāmākua Coast area is serviced by three connector routes:

- Route 1 Hilo to Kailua-Kona, which connects the two major population centers via SR 19 and SR 190. The route takes about 3 hours from end to end. There are two westbound buses originating in Hilo during the mid-morning and late afternoon time periods and two eastbound buses originating in Kailua-Kona during the AM commuter peak period and the mid-day peak period.
- Route 60 Hilo to Waimea. The route takes about an hour from end to end and provides two buses in the south/eastbound direction and one bus in the north/westbound direction. The south/eastbound bus originates in Honoka‘a during the AM peak hour and during the late evening while the north/westbound bus originates in Hilo in the early afternoon.
- Route 80 Hilo to South Kohala Resorts, which connects Hilo to the Kona International Airport via SR 19, making stops at major resort and tourist areas. The route takes about 3 hours from end to end. Four north/westbound buses depart Hilo during the early morning, operating with 30-45-minute headways. Two additional north/westbound buses leave Hilo during the mid-day and evening. Four south/eastbound buses depart Kailua-Kona during the PM commuter peak while two additional buses operate during the AM commuter peak and late evening time periods.

In the vicinity of the project, there are bus stops in Laupāhoehoe, Pāpa‘aloa, and Nīnole with the closest set of bus stops being located approximate 0.25 miles west of Pāpa‘aloa Avenue. A pedestrian overpass is provided at the bus stops that connects to the mauka residential area.

D. EXISTING INTERSECTION GEOMETRY AND CONTROL

Existing traffic conditions were observed and documented, and operations of study area intersections were analyzed. The existing intersection operational characteristics established base conditions for comparison between future operations with and without the project.

Traffic-related data was collected for each of the study intersections below:

- Hawaii Belt Road/Pāpa‘aloa Avenue
- Hawaii Belt Road/Old Māmalahoa Highway
- Old Māmalahoa Highway/Pāpa‘aloa Park

Traffic turning movement counts, field observations of intersection operations, and general intersection characteristics were noted. Geometric lane configurations and intersection traffic control were collected. Intersection geometry inventory included the following:

- Number of lanes and lane widths,
- Crosswalk locations,
- Unsignalized intersection control, and
- Posted speed limits.

These data were used as inputs into the intersection analyses. The existing lane configurations are shown in Figure 3.

E. BICYCLE/PEDESTRIAN FACILITIES

Within the study area, bicyclists are expected to share the road with motorists. No sidewalks or marked crosswalks are provided within the study area. No bikes were observed at any intersection. As mentioned earlier, a pedestrian overpass across Hawaii belt Road is provided at the bus stops northwest of the project.

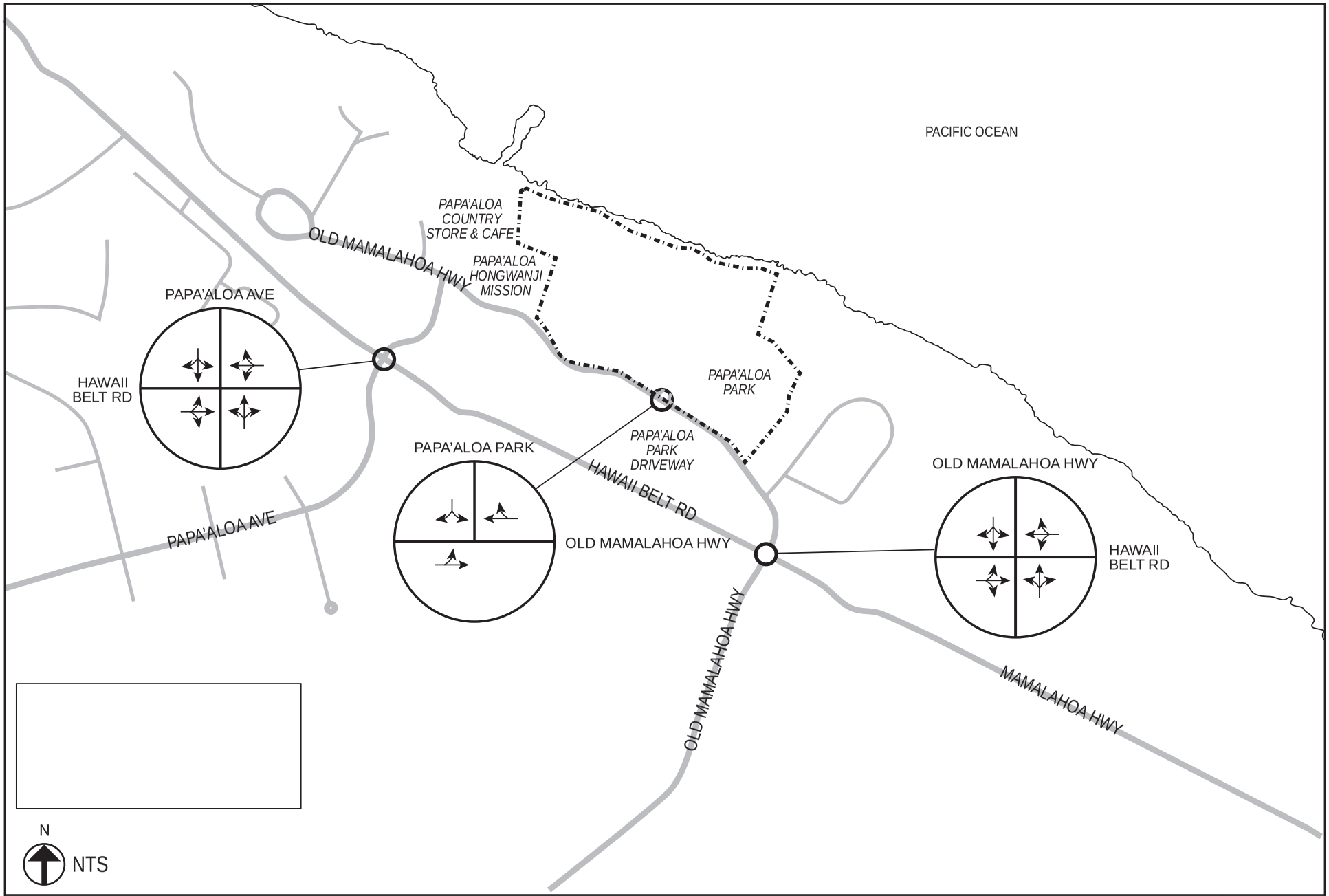
F. EXISTING TRAFFIC/PEDESTRIAN VOLUMES

Traffic turning movement counts and pedestrian/bicycle counts were conducted on Wednesday, October 18, 2023 during the AM and PM peak hours at the study area intersections:

- Hawaii Belt Road/Pāpa‘aloa Avenue
- Hawaii Belt Road/Old Māmalahoa Highway
- Old Māmalahoa Highway/Pāpa‘aloa Park

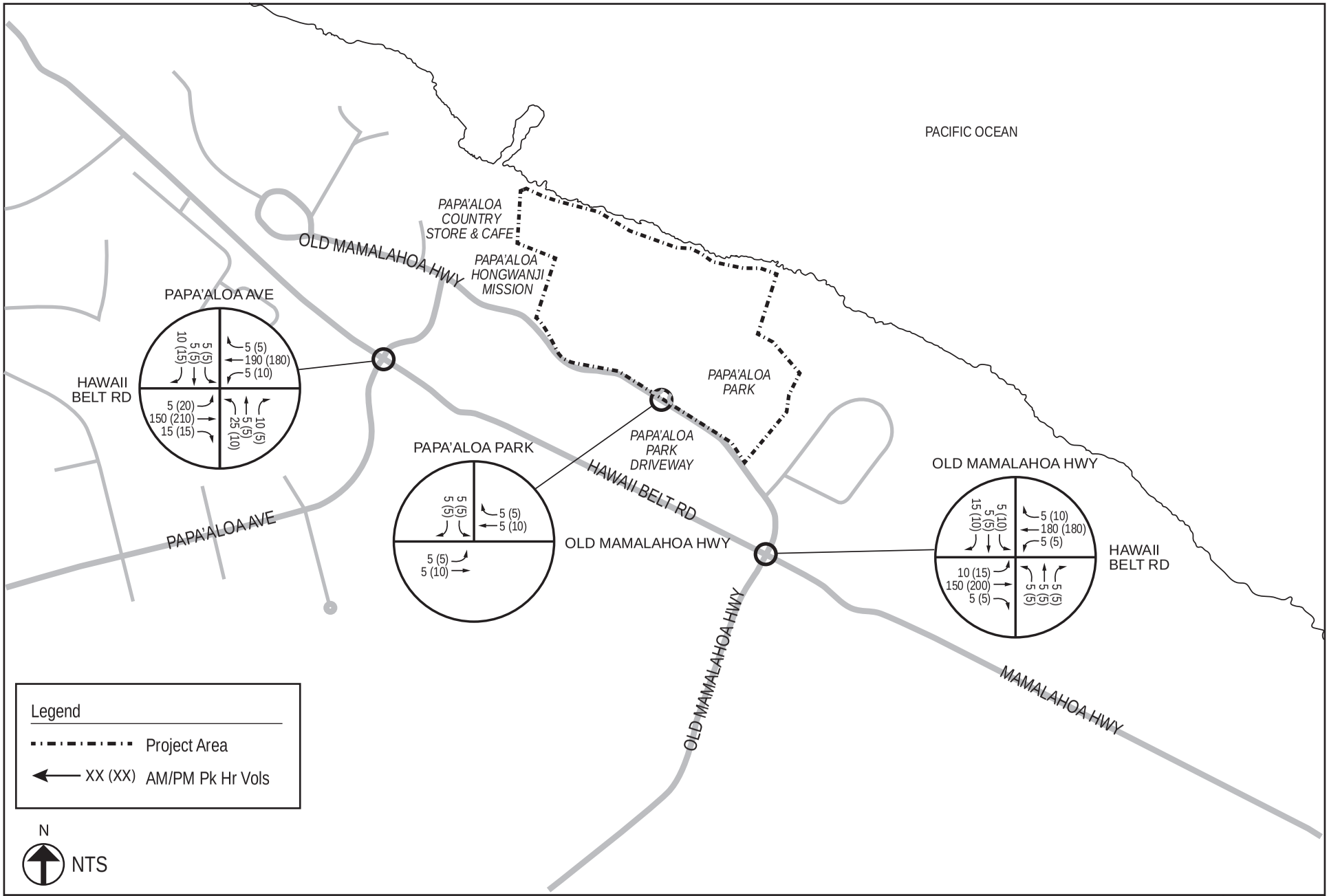
The AM and PM peak hours were found to occur from 7:00 AM to 8:00 AM and from 4:00 PM to 5:00 PM, respectively. Figure 4 shows the existing peak hour traffic volumes for each turning movement at these intersections. Existing traffic count data can be found in Appendix A. Overall pedestrian volumes are low:

- Hawaii Belt Road/Pāpa‘aloa Avenue – 5 pedestrians crossed Hawaii Belt Road during the AM peak hour. No pedestrians were observed during the PM peak hour.



Existing Lane Configurations

Figure 3



Existing Peak Hour Traffic Volumes

Figure 4

- Hawaii Belt Road/Old Māmalahoa Highway – No pedestrians were observed during either peak hour.
- Old Māmalahoa Highway/Pāpa‘aloa Park Driveway – 3 pedestrians were observed at the Park entrance during the AM peak hour. 3 pedestrians were observed at the Park entrance during the PM peak hour including kids who were playing near the driveway.

G. EXISTING TRAFFIC OPERATIONS

The intersections were analyzed in Synchro 11 using the methodologies for unsignalized intersections outlined in the *Highway Capacity Manual 6th Edition (HCM6)*.

Operating conditions at an intersection by approach are expressed as a qualitative measure known as Level of Service (LOS) ranging from A to F. LOS A represents free-flow operations with low delay, while LOS F represents congested conditions with relatively high delay. The overall intersection LOS is a weighted average of the LOS of individual traffic movement groups. Appendix B has more detailed definitions of intersection LOS. Appendix C contains the Synchro worksheets. Table 1 displays the existing conditions LOS for each intersection.

Table 1 Existing Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Hawaii Belt Rd /Pāpa‘aloa Ave	NB Pāpa‘aloa Ave	LTR	B	11.5	0.07	B	12.4	0.04
	SB Pāpa‘aloa Ave	LTR	B	11.0	0.04	B	11.0	0.04
	Highest Delay Movement		B	11.5	0.07	B	12.4	0.04
Hawaii Belt Rd /Old Māmalahoa Hwy	NB Māmalahoa Hwy	LTR	B	11.0	0.03	B	11.6	0.03
	SB Māmalahoa Hwy	LTR	B	10.4	0.04	B	11.5	0.05
	Highest Delay Movement		B	11.0	0.03	B	11.6	0.03
Old Māmalahoa Hwy /Pāpa‘aloa Park Drwy	SB Pāpa‘aloa Park Drwy	LR	A	8.5	0.01	A	8.6	0.01
	Highest Delay Movement		A	8.5	0.01	A	8.6	0.01

Delay shown in seconds per vehicle, L=left turn, T=through movement, R=right turn

H. SUMMARY OF RESULTS

The study area intersections operate well in the existing condition. As shown in Table 1, all stop-controlled approaches at the unsignalized intersections operate at LOS B or better with little delay to vehicle movements.

III. FUTURE 2025 CONDITIONS WITHOUT PROJECT

Construction of the covered play court is planned to be completed in 2025. The 2025 conditions without project were analyzed to identify the project's impacts on study area intersections.

A. FUTURE 2025 LAND USE AND ROADWAY SYSTEM

No changes to the existing land use or roadway system within the study area were assumed.

B. FUTURE 2025 TRANSIT

No bus route changes are anticipated along Hawaii Belt Road. Hawaii County is planning to replace buses in the upcoming years but this will not affect the routes.

C. 2025 TRAFFIC VOLUMES WITHOUT PROJECT

In deriving Year 2025 background traffic volumes, historical traffic volumes on SR 19 were obtained at Station B71022200000 in Laupāhoehoe west of the project. A total of three years were obtained between 2010 and the current year. Annual Average Daily Traffic (AADT) is shown in Table 2 below.

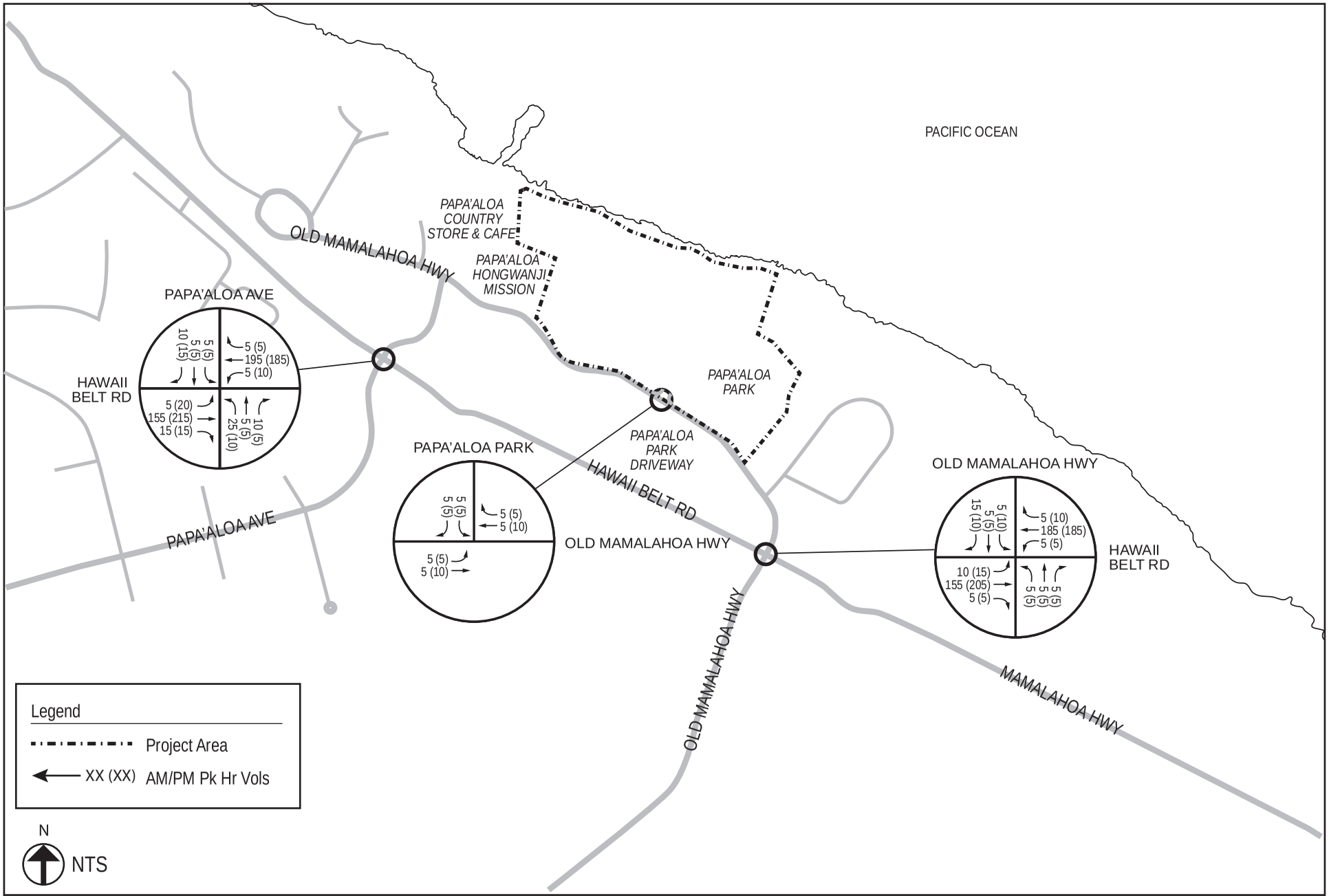
Table 2 Historical AADT on SR 19

Year	AADT
2011	1128*
2016	870
2019	530

Note: AADT in vehicles per day
* No AADT given; 2-day average shown.

As shown, the historical data is inconsistent, with significant drops in daily traffic between 2011 and 2016 and then again between 2016 and 2019. It was determined that historical data could not be used as a basis to generate future growth.

U.S. Census Bureau data was consulted to help estimate future SR 19 traffic. Based on a March 2023 report, county-level 2022 population estimates indicated that Hawaii County grew by 1.4% annually between July 2020 and July 2022. A 1.4% annual growth rate was applied to the existing 2023 traffic volumes to obtain projected 2025 background traffic without project. The projected 2025 traffic volumes without project are shown in Figure 5.



Projected Year 2025 Peak Hour Vehicle Traffic Volumes Without Project

Figure 5

D. FUTURE 2025 TRAFFIC OPERATIONS WITHOUT PROJECT

The intersections were analyzed in Synchro 11 using the methodologies for unsignalized intersections outlined in the *Highway Capacity Manual 6th Edition (HCM6).* Table 3 displays the projected 2025 LOS without project for each intersection.

Table 3 Projected 2025 Without Project Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Hawaii Belt Rd /Pāpa‘aloa Ave	NB Pāpa‘aloa Ave	LTR	B	11.6	0.07	B	12.5	0.04
	SB Pāpa‘aloa Ave	LTR	B	11.0	0.04	B	11.1	0.04
	Highest Delay Movement		B	11.6	0.07	B	12.5	0.04
Hawaii Belt Rd /Old Māmalahoa Hwy	NB Māmalahoa Hwy	LTR	B	11.1	0.03	B	11.7	0.03
	SB Māmalahoa Hwy	LTR	B	10.5	0.04	B	11.6	0.05
	Highest Delay Movement		B	11.1	0.03	B	11.7	0.03
Old Māmalahoa Hwy /Pāpa‘aloa Park Drwy	SB Pāpa‘aloa Park	LR	A	8.5	0.01	A	8.6	0.01
	Highest Delay Movement		A	8.5	0.01	A	8.6	0.01

Delay shown in seconds per vehicle

E. SUMMARY OF RESULTS

The study area intersections are projected to continue to operate well in the Future Without Project condition. As shown in Table 3, all stop-controlled approaches at the unsignalized intersections are projected to operate at LOS B or better with little delay to vehicles.

IV. FUTURE 2025 CONDITIONS WITH PROJECT

Construction of the covered play court facility is expected to be completed in 2025; therefore 2025 conditions with project were analyzed to identify the project's impacts on study area intersections.

A. FUTURE 2025 LAND USE AND ROADWAY SYSTEM

Same as without project.

B. FUTURE 2025 TRANSIT

Same as without project.

C. FUTURE 2025 TRAFFIC VOLUMES WITH PROJECT

In order to analyze the Project's operational impacts, the 2025 traffic volumes with project were estimated. Project-related trips were estimated and added to 2025 traffic volumes without project, resulting in 2025 traffic volumes with project.

1. Trip Generation

As shown in Figure 2, a covered play court area is proposed to replace the recently demolished Pāpa'aloa Gymnasium. The new covered court will have a 9,600 SF footprint. The existing baseball field will remain and will once again host little league games and practice. The *Institute of Transportation Engineers (ITE), Trip Generation, 11th edition* was used to estimate the number of trips generated by the court and baseball field. Table 4 summarizes the trips generated by the proposed development in its build year 2025.

Table 4 Pāpa'aloa Master Plan and Phase I Development Trip Generation Summary

Land Use		Density		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
495	Recreational Community Center	9.6	k SF	11	7	18	11	13	24
411	Public Park	2.3	acres	8	5	13	6	10	16
Total				19	12	31	17	23	40

The peak hour of generator equations were used to estimate vehicular traffic generated by the reconfigured Pāpa'aloa Park because they produce higher traffic volumes, reflecting a "worst-case"

scenario. Trip generation equations and graphs are shown in Appendix D. The project is estimated to generate 31 AM peak hour trips and 40 PM peak hour trips, an amount consistent with the proposed parking (48 stalls) that will be provided as part of the renovated Pāpa‘aloa Park.

2. Trip Assignment

Existing traffic patterns into and out of the park and surrounding community indicates a preference for the eastern Hawaii Belt Road/Old Māmalahoa Highway intersection. This preference is likely due to the closer proximity of this intersection to the park as well as allowing traffic to avoid the single-lane Kaiwilahilahi Stream Bridge. Based on existing traffic counts and as shown in Table 5, roughly 2/3 of the existing traffic is oriented towards Waimea while the other 1/3 is oriented towards Hilo.

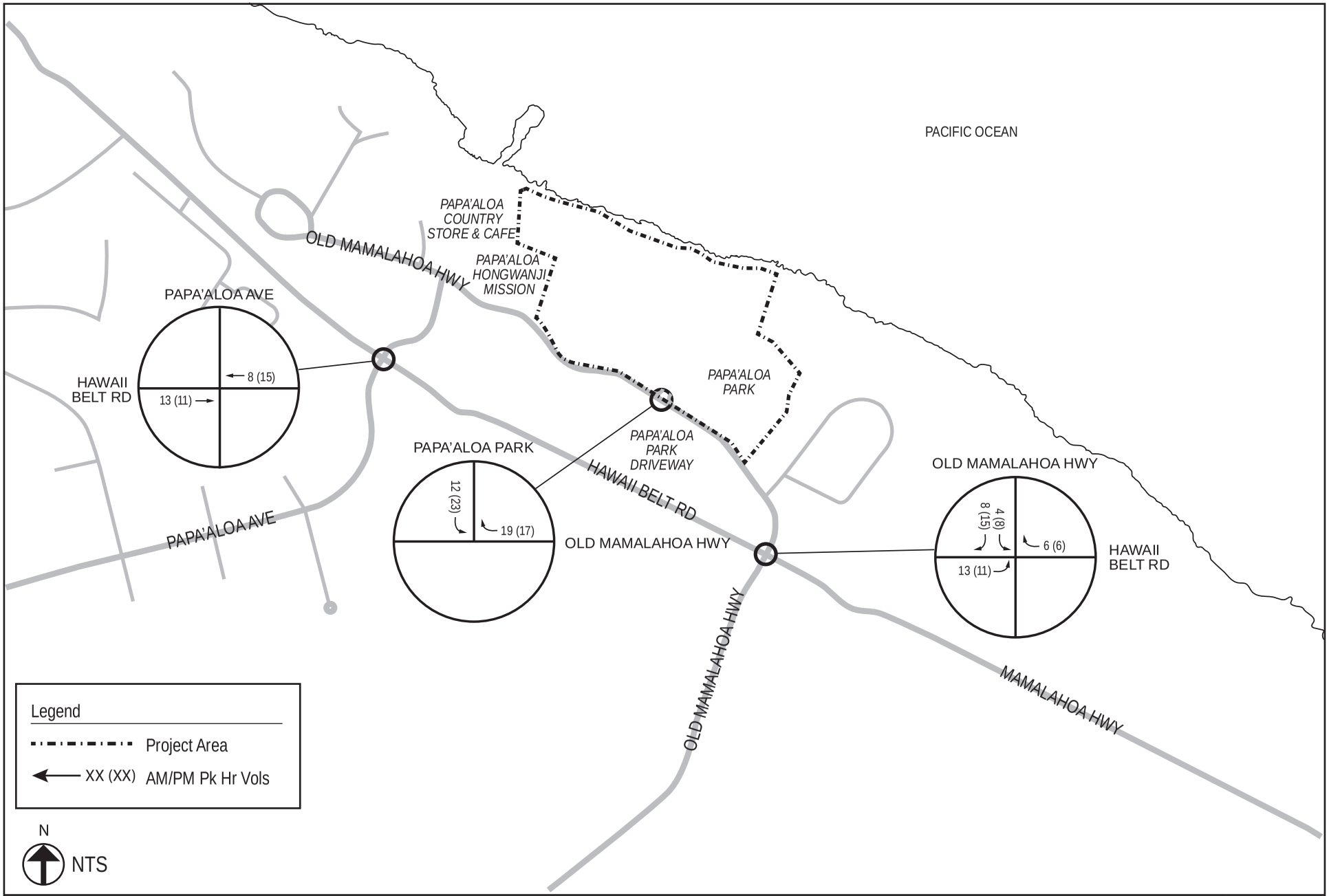
Table 5 Pāpa‘aloa Master Plan and Phase I Development Trip Distribution

Westbound to Waimea	Eastbound to Hilo
67%	33%

Project-generated trips were directionally distributed and assigned to the roadway network based on existing these travel patterns. Project-generated trips are shown in Figure 6. The projected 2025 peak hour volumes with project are shown in Figure 7.

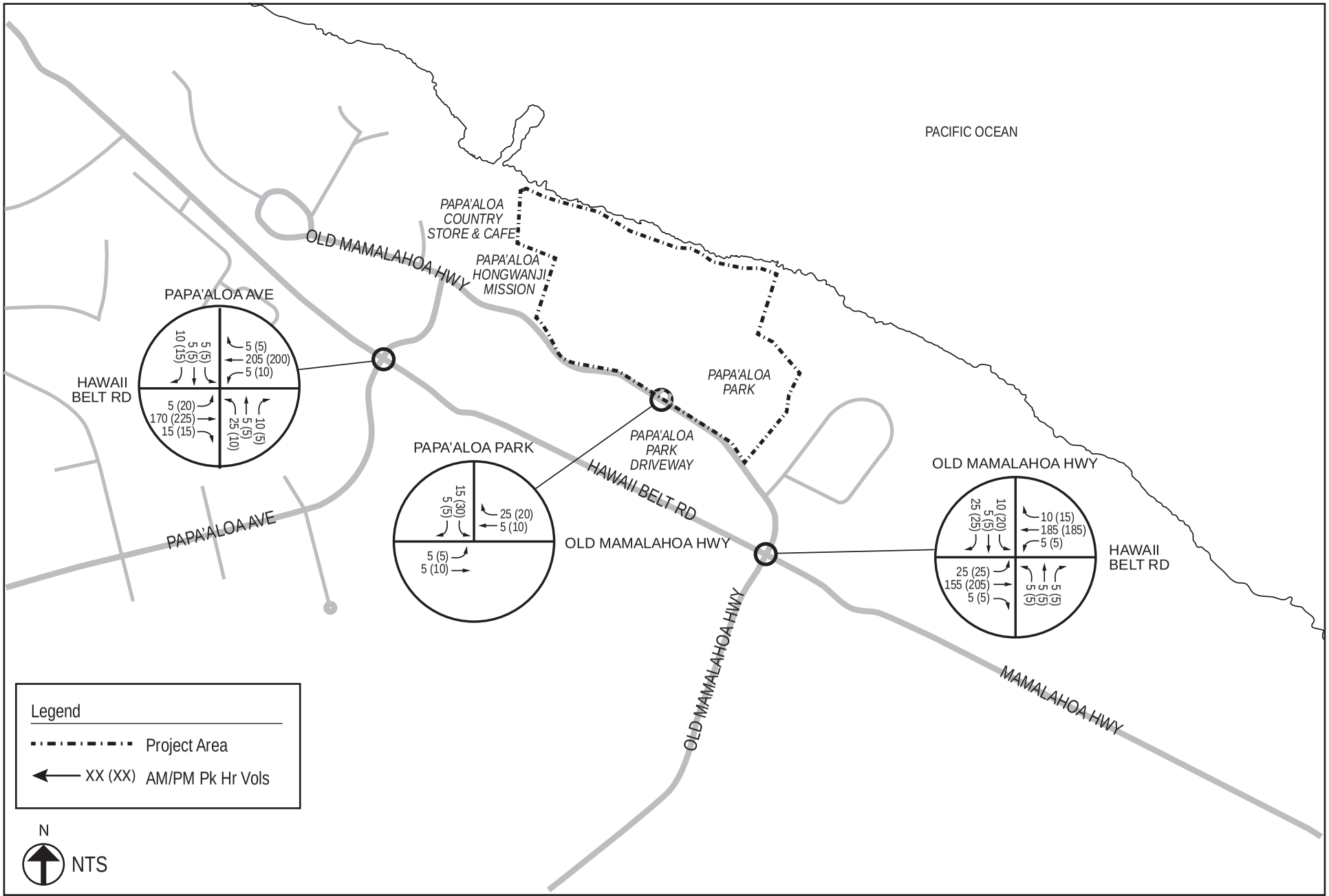
D. FUTURE 2025 TRAFFIC OPERATIONS WITH PROJECT

The intersections were analyzed in Synchro 11 using the methodologies for unsignalized intersections outlined in the *Highway Capacity Manual 6th Edition (HCM6).* Table 6 displays the projected 2025 LOS with project for each intersection.



Project Generated Peak Hour Traffic Volumes

Figure 6



Projected Year 2025 Peak Hour Traffic Volumes with Project

Figure 7

Table 6 Projected 2025 With Project Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Hawaii Belt Rd /Pāpa‘aloa Ave	NB Pāpa‘aloa Ave	LTR	B	11.9	0.08	B	12.8	0.05
	SB Pāpa‘aloa Ave	LTR	B	11.2	0.04	B	11.3	0.05
	Highest Delay Movement		B	11.9	0.08	B	12.8	0.05
Hawaii Belt Rd /Old Māmalahoa Hwy	NB Māmalahoa Hwy	LTR	B	11.4	0.03	B	12.0	0.03
	SB Māmalahoa Hwy	LTR	B	10.7	0.07	B	11.7	0.09
	Highest Delay Movement		B	11.4	0.03	B	12.0	0.03
Old Māmalahoa Hwy /Pāpa‘aloa Park Drwy	SB Pāpa‘aloa Park	LR	A	8.7	0.02	A	8.8	0.04
	Highest Delay Movement		A	8.7	0.02	A	8.8	0.04

Delay shown in seconds per vehicle

E. SUMMARY OF RESULTS

The study area intersections are projected to continue to operate well in the Future With Project condition. As shown in Table 6, all stop-controlled approaches at the unsignalized intersections are projected to operate at LOS B or better with little delay to vehicles.

V. CONCLUSIONS & RECOMMENDATIONS

The Hawai‘i County Department of Parks & Recreation is planning to develop new recreational facilities at Pāpa‘aloa Park including the replacement of the Pāpa‘aloa Gymnasium with a new covered play court by the year 2025. The field will be refurbished and is planned to be used for little league games and practice.

A. CONCLUSIONS

Based on the LOS analysis comparing the with and without project scenarios, it is concluded that the project will not impact traffic operations at the study area intersections in the vicinity of the project. As shown in Tables 3 and 6, the study area intersections are projected to operate at LOS B or better during the existing, future without project, and future with project scenarios. LOS B indicates little delay to vehicles using these intersections.

B. RECOMMENDATIONS

Based on the traffic analysis results, the following are recommended:

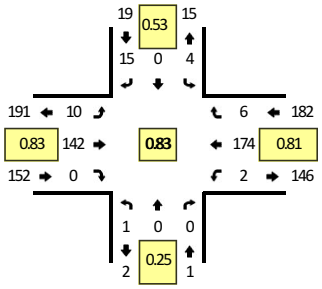
- Maintain adequate intersection sight distance at the Pāpa‘aloa Park driveway for operational traffic safety.
- Include a centerline pavement marking on the Pāpa‘aloa Park Driveway approach to Old Māmalahoa Highway.

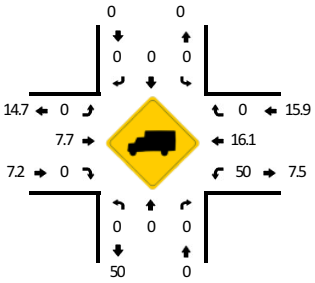
Appendix A Traffic Count Data

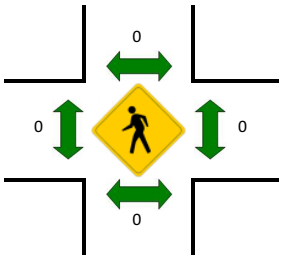
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

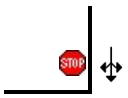
LOCATION: Old Mamalahoa Hwy -- Hawai'i Belt Rd | **QC JOB #:** 16323501
CITY/STATE: Laupahoehoe, HI | **DATE:** Wed, Oct 18 2023

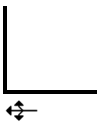
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

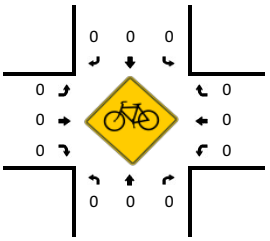


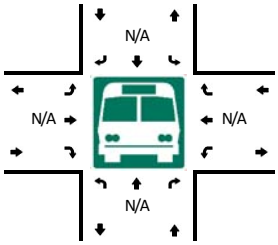


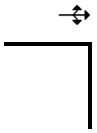


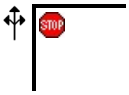


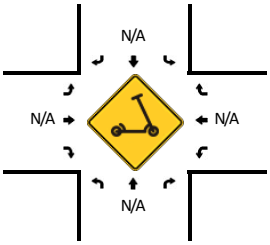












15-Min Count Period Beginning At	Old Mamalahoa Hwy (Northbound)				Old Mamalahoa Hwy (Southbound)				Hawai'i Belt Rd (Eastbound)				Hawai'i Belt Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	2	0	4	0	2	26	0	0	0	42	3	0	79	
7:15 AM	0	0	0	0	0	0	2	0	1	31	0	0	0	54	2	0	90	
7:30 AM	0	0	0	0	1	0	8	0	5	40	0	1	2	49	0	0	106	
7:45 AM	1	0	0	0	1	0	1	0	1	45	0	0	0	29	1	0	79	354
8:00 AM	0	0	0	0	1	0	0	0	2	37	1	0	0	32	1	0	74	349
8:15 AM	0	0	0	0	2	0	1	0	2	44	0	0	0	33	0	0	82	341
8:30 AM	0	0	0	0	2	0	0	0	1	36	0	0	0	25	1	0	65	300
8:45 AM	0	0	0	0	0	0	2	0	0	56	0	0	0	36	1	0	95	316

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	32	0	20	160	0	4	8	196	0	0	424
Heavy Trucks	0	0	0		0	0	0		0	8	0		4	32	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

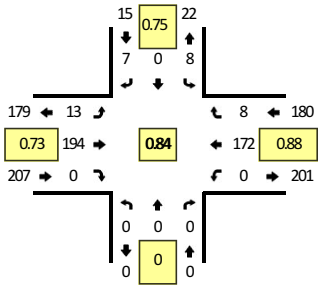
Report generated on 11/27/2023 11:27 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

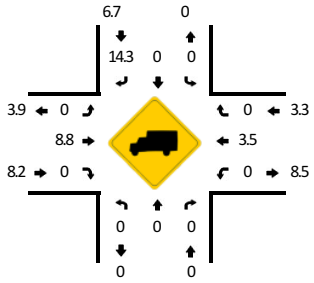
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

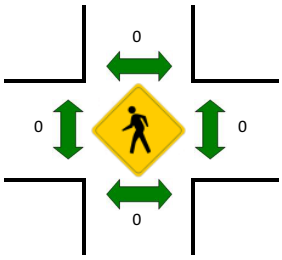
LOCATION: Old Mamalahoa Hwy -- Hawai'i Belt Rd
CITY/STATE: Laupahoehoe, HI

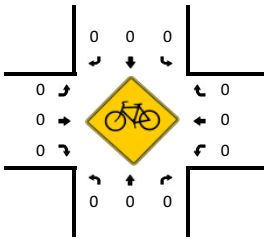
QC JOB #: 16323502
DATE: Wed, Oct 18 2023

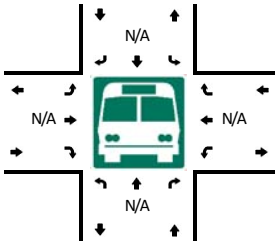
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

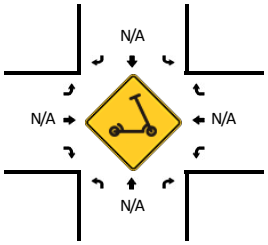












15-Min Count Period Beginning At	Old Mamalahoa Hwy (Northbound)				Old Mamalahoa Hwy (Southbound)				Hawai'i Belt Rd (Eastbound)				Hawai'i Belt Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	1	0	3	0	5	66	0	0	0	40	4	0	119	
4:15 PM	0	0	0	0	2	0	3	0	4	44	0	0	0	41	1	0	95	
4:30 PM	0	0	0	0	3	0	1	1	2	48	0	0	0	41	2	0	98	
4:45 PM	0	0	0	0	1	0	0	0	2	36	0	0	0	50	1	0	90	402
5:00 PM	0	0	0	0	2	0	5	0	8	51	0	0	0	51	2	0	119	402
5:15 PM	0	0	0	0	2	0	2	0	0	37	0	0	0	41	1	0	83	390
5:30 PM	0	0	0	0	2	0	2	0	2	30	0	0	0	42	1	0	79	371
5:45 PM	0	0	0	0	0	0	2	0	5	24	0	0	1	37	0	0	69	350

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	12	0	20	264	0	0	0	160	16	0	476
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	12	0		24
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/27/2023 11:27 AM

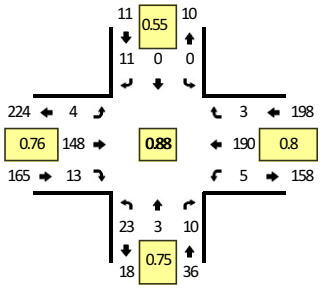
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

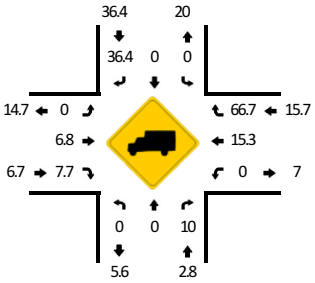
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

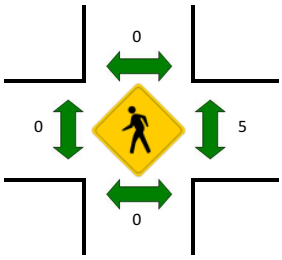
LOCATION: Papa'aloa Ave -- Hawai'i Belt Rd
CITY/STATE: Laupahoehoe, HI

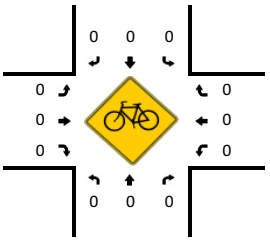
QC JOB #: 16323503
DATE: Wed, Oct 18 2023

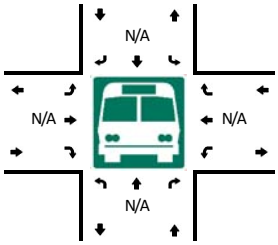
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

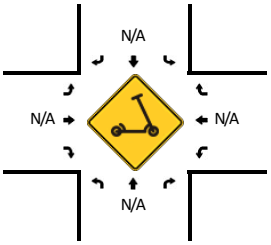












15-Min Count Period Beginning At	Papa'aloa Ave (Northbound)				Papa'aloa Ave (Southbound)				Hawai'i Belt Rd (Eastbound)				Hawai'i Belt Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	1	5	0	0	0	5	0	1	25	4	0	1	44	0	0	87	
7:15 AM	10	0	2	0	0	0	5	0	1	33	2	0	1	56	2	0	112	
7:30 AM	4	2	3	0	0	0	1	0	1	44	0	0	2	59	1	0	117	
7:45 AM	8	0	0	0	0	0	0	0	1	46	7	0	1	31	0	0	94	410
8:00 AM	2	0	1	0	0	0	4	0	3	41	2	0	0	24	5	0	82	405
8:15 AM	0	1	3	0	1	0	1	0	1	43	0	0	0	36	1	0	87	380
8:30 AM	2	0	2	0	0	0	1	0	2	33	1	0	0	19	0	0	60	323
8:45 AM	2	0	3	0	0	0	0	0	1	52	2	0	2	40	0	0	102	331

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	8	12	0	0	0	4	0	4	176	0	0	8	236	4	0	468
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	40	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/27/2023 11:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

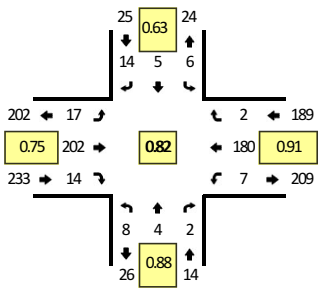
Type of peak hour being reported: Intersection Peak

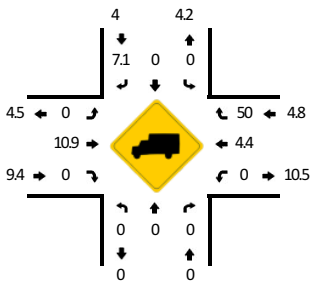
Method for determining peak hour: Total Entering Volume

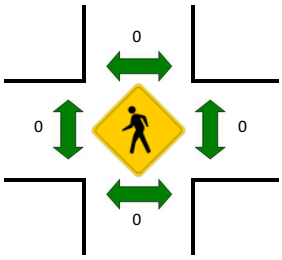
LOCATION: Papa'aloa Ave -- Hawai'i Belt Rd
CITY/STATE: Laupahoehoe, HI

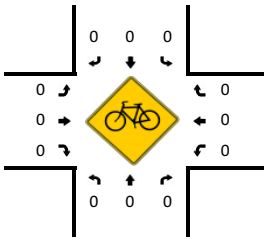
QC JOB #: 16323504
DATE: Wed, Oct 18 2023

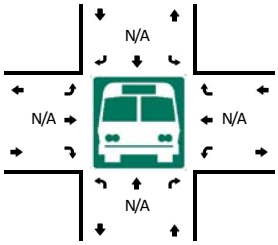
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

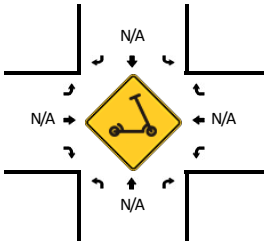












15-Min Count Period Beginning At	Papa'aloa Ave (Northbound)				Papa'aloa Ave (Southbound)				Hawai'i Belt Rd (Eastbound)				Hawai'i Belt Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	1	0	0	4	2	3	1	8	66	4	0	0	49	0	0	141	
4:15 PM	0	1	1	0	0	0	5	0	2	48	5	0	1	40	1	0	104	
4:30 PM	3	1	0	0	0	3	1	0	4	50	2	0	3	42	1	0	110	
4:45 PM	2	1	1	0	1	0	5	0	3	38	3	0	3	49	0	0	106	461
5:00 PM	1	1	2	0	1	1	5	0	3	63	4	0	3	52	1	0	137	457
5:15 PM	2	1	0	0	1	1	3	0	6	36	4	0	2	40	2	0	98	451
5:30 PM	1	1	1	0	1	0	5	0	5	28	6	0	3	37	1	0	89	430
5:45 PM	3	2	2	0	0	1	6	0	7	26	6	0	2	38	3	0	96	420

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	4	0	0	16	8	12	4	32	264	16	0	0	196	0	0	564
Heavy Trucks	0	0	0		0	0	0		0	24	0		0	20	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/27/2023 11:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

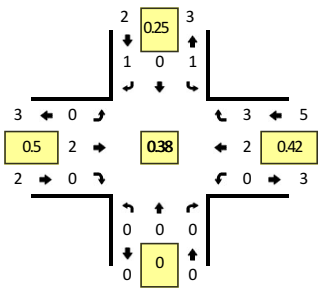
Type of peak hour being reported: Intersection Peak

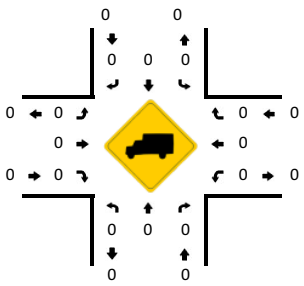
Method for determining peak hour: Total Entering Volume

LOCATION: Papa'aloa Park Dwy -- Old Mamalahoa Hwy
CITY/STATE: Laupahoehoe, HI

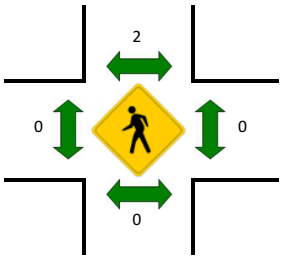
QC JOB #: 16323505
DATE: Wed, Oct 18 2023

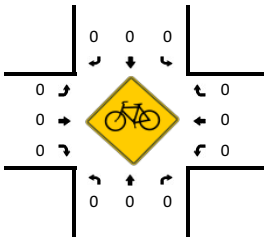
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:00 AM -- 7:15 AM

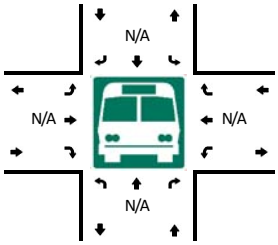


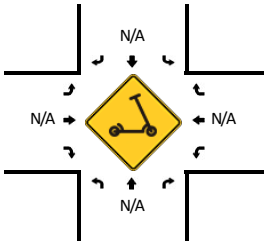


TRUE DATA TO IMPROVE MOBILITY









15-Min Count Period Beginning At	Papa'aloa Park Dwy (Northbound)				Papa'aloa Park Dwy (Southbound)				Old Mamalahoa Hwy (Eastbound)				Old Mamalahoa Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	0	1	0	0	1	0	0	0	1	2	0	6	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	9
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2	5
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	5
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	4	0	0	4	0	0	0	4	8	0	24
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				8				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/27/2023 11:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

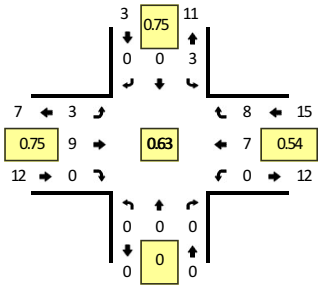
Type of peak hour being reported: Intersection Peak

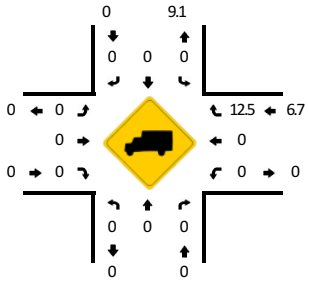
Method for determining peak hour: Total Entering Volume

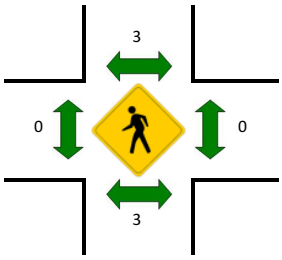
LOCATION: Papa'aloa Park Dwy -- Old Mamalahoa Hwy
CITY/STATE: Laupahoehoe, HI

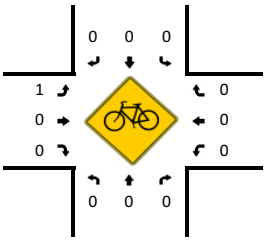
QC JOB #: 16323506
DATE: Wed, Oct 18 2023

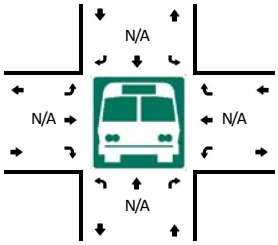
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

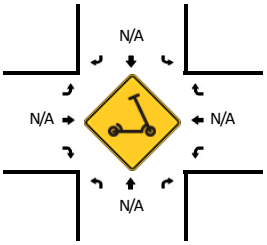












15-Min Count Period Beginning At	Papa'aloa Park Dwy (Northbound)				Papa'aloa Park Dwy (Southbound)				Old Mamalahoa Hwy (Eastbound)				Old Mamalahoa Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	2	0	0	0	2	1	0	0	0	3	2	0	10	
4:15 PM	0	0	0	0	1	0	0	0	1	3	0	0	0	2	0	0	7	
4:30 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	3	2	0	9	
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	28
5:00 PM	0	0	0	0	1	0	0	0	2	2	0	0	0	1	6	0	12	30
5:15 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	4	27
5:30 PM	0	0	0	0	1	0	0	0	1	2	0	0	0	1	0	0	5	23
5:45 PM	0	0	0	0	1	0	1	0	0	2	0	0	0	0	3	0	7	28

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	0	0	8	8	0	0	0	4	24	0	48
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	4		4
Buses																	
Pedestrians		8				12				0				0			20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/27/2023 11:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix B Level of Service Definitions

The *Highway Capacity Manual* defines six Intersection Levels of Service (LOS), labeled A through F, from free flow to congested conditions.

Levels of Service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group.

LEVEL-OF-SERVICE A: Low control delay, up to 10 seconds/vehicle (s/veh). This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

LEVEL-OF-SERVICE B: Control delay greater than 10 and up to 20 s/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

LEVEL-OF-SERVICE C: Control delay greater than 20 and up to 35 s/veh. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LEVEL-OF-SERVICE D: Control delay greater than 35 and up to 55 s/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LEVEL-OF-SERVICE E: Control delay greater than 55 and up to 80 s/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

LEVEL-OF-SERVICE F: Control delay in excess of 80 s/veh. This level, considered unacceptable to most drivers, often occurs with oversaturation, that is when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

For unsignalized intersections, the *Highway Capacity Manual* evaluates gaps in the major street traffic flow and calculates available gaps for left-turns across oncoming traffic and for the left and right-turns onto the major roadway from the minor street. Average control delay, based on these factors, is still used to define the levels of service.

LEVEL-OF-SERVICE A: Low control delay, up to 10 s/veh.

LEVEL-OF-SERVICE B: Control delay greater than 10 and up to 15 s/veh.

LEVEL-OF-SERVICE C: Control delay greater than 15 and up to 25 s/veh.

LEVEL-OF-SERVICE D: Control delay greater than 25 and up to 35 s/veh.

LEVEL-OF-SERVICE E: Control delay greater than 35 and up to 50 s/veh.

LEVEL-OF-SERVICE F: Control delay in excess of 50 s/veh.

Appendix C Synchro Reports

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	150	15	5	190	5	25	5	10	5	5	10
Future Vol, veh/h	5	150	15	5	190	5	25	5	10	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	8	0	15	67	0	0	10	0	0	36
Mvmt Flow	5	163	16	5	207	5	27	5	11	5	5	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	212	0	0	179	0	0	409	403	171	409	409	210
Stage 1	-	-	-	-	-	-	181	181	-	220	220	-
Stage 2	-	-	-	-	-	-	228	222	-	189	189	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.3	7.1	6.5	6.56
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.39	3.5	4	3.624
Pot Cap-1 Maneuver	1370	-	-	1409	-	-	556	539	852	556	535	752
Stage 1	-	-	-	-	-	-	825	754	-	787	725	-
Stage 2	-	-	-	-	-	-	779	723	-	817	748	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1370	-	-	1409	-	-	540	535	852	542	531	752
Mov Cap-2 Maneuver	-	-	-	-	-	-	540	535	-	542	531	-
Stage 1	-	-	-	-	-	-	822	751	-	784	722	-
Stage 2	-	-	-	-	-	-	759	720	-	798	745	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.5	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	594	1370	-	-	1409	-	-	626
HCM Lane V/C Ratio	0.073	0.004	-	-	0.004	-	-	0.035
HCM Control Delay (s)	11.5	7.6	0	-	7.6	0	-	11
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	5	5	5	5	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1623	-	-	-	1036
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	150	5	5	180	5	5	5	5	5	5	15
Future Vol, veh/h	10	150	5	5	180	5	5	5	5	5	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	8	0	50	16	0	0	0	0	0	0	0
Mvmt Flow	11	163	5	5	196	5	5	5	5	5	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	201	0	0	168	0	0	407	399	166	402	399	199
Stage 1	-	-	-	-	-	-	188	188	-	209	209	-
Stage 2	-	-	-	-	-	-	219	211	-	193	190	-
Critical Hdwy	4.1	-	-	4.6	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.65	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1383	-	-	1165	-	-	558	542	884	562	542	847
Stage 1	-	-	-	-	-	-	818	748	-	798	733	-
Stage 2	-	-	-	-	-	-	788	731	-	813	747	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1383	-	-	1165	-	-	537	534	884	549	534	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	537	534	-	549	534	-
Stage 1	-	-	-	-	-	-	811	741	-	791	729	-
Stage 2	-	-	-	-	-	-	763	727	-	795	740	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	11	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	617	1383	-	-	1165	-	-	691
HCM Lane V/C Ratio	0.026	0.008	-	-	0.005	-	-	0.039
HCM Control Delay (s)	11	7.6	0	-	8.1	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	210	15	10	180	5	10	5	5	5	5	15
Future Vol, veh/h	20	210	15	10	180	5	10	5	5	5	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	11	0	0	4	50	0	0	0	0	0	7
Mvmt Flow	22	228	16	11	196	5	11	5	5	5	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	201	0	0	244	0	0	511	503	236	506	509	199
Stage 1	-	-	-	-	-	-	280	280	-	221	221	-
Stage 2	-	-	-	-	-	-	231	223	-	285	288	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	1383	-	-	1334	-	-	476	474	808	480	470	829
Stage 1	-	-	-	-	-	-	731	683	-	786	724	-
Stage 2	-	-	-	-	-	-	776	723	-	727	677	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1383	-	-	1334	-	-	453	461	808	463	457	829
Mov Cap-2 Maneuver	-	-	-	-	-	-	453	461	-	463	457	-
Stage 1	-	-	-	-	-	-	718	671	-	772	717	-
Stage 2	-	-	-	-	-	-	748	716	-	703	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	12.4	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	511	1383	-	-	1334	-	-	628
HCM Lane V/C Ratio	0.043	0.016	-	-	0.008	-	-	0.043
HCM Control Delay (s)	12.4	7.6	0	-	7.7	0	-	11
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	10	10	5	5	5
Future Vol, veh/h	5	10	10	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	25	0	0
Mvmt Flow	5	11	11	5	5	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	16	0	-	0	35	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1615	-	-	-	983	1072
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1615	-	-	-	980	1072
Mov Cap-2 Maneuver	-	-	-	-	980	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1024
HCM Lane V/C Ratio	0.003	-	-	-	0.011
HCM Control Delay (s)	7.2	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	200	5	5	180	10	5	5	5	10	5	10
Future Vol, veh/h	15	200	5	5	180	10	5	5	5	10	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	9	0	0	3	0	0	0	0	0	0	14
Mvmt Flow	16	217	5	5	196	11	5	5	5	11	5	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	207	0	0	222	0	0	472	469	220	469	466	202
Stage 1	-	-	-	-	-	-	252	252	-	212	212	-
Stage 2	-	-	-	-	-	-	220	217	-	257	254	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.426
Pot Cap-1 Maneuver	1376	-	-	1359	-	-	506	495	825	508	497	809
Stage 1	-	-	-	-	-	-	757	702	-	795	731	-
Stage 2	-	-	-	-	-	-	787	727	-	752	701	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1376	-	-	1359	-	-	489	487	825	494	489	809
Mov Cap-2 Maneuver	-	-	-	-	-	-	489	487	-	494	489	-
Stage 1	-	-	-	-	-	-	747	693	-	785	728	-
Stage 2	-	-	-	-	-	-	768	724	-	732	692	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	11.6	11.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	565	1376	-	-	1359	-	-	584
HCM Lane V/C Ratio	0.029	0.012	-	-	0.004	-	-	0.047
HCM Control Delay (s)	11.6	7.6	0	-	7.7	0	-	11.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	155	15	5	195	5	25	5	10	5	5	10
Future Vol, veh/h	5	155	15	5	195	5	25	5	10	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	8	0	15	67	0	0	10	0	0	36
Mvmt Flow	5	168	16	5	212	5	27	5	11	5	5	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	184	0	0	419	413	176	419	419	215
Stage 1	-	-	-	-	-	-	186	186	-	225	225	-
Stage 2	-	-	-	-	-	-	233	227	-	194	194	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.3	7.1	6.5	6.56
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.39	3.5	4	3.624
Pot Cap-1 Maneuver	1365	-	-	1403	-	-	548	532	847	548	528	747
Stage 1	-	-	-	-	-	-	820	750	-	782	721	-
Stage 2	-	-	-	-	-	-	775	720	-	812	744	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1365	-	-	1403	-	-	533	528	847	533	524	747
Mov Cap-2 Maneuver	-	-	-	-	-	-	533	528	-	533	524	-
Stage 1	-	-	-	-	-	-	817	747	-	779	718	-
Stage 2	-	-	-	-	-	-	755	717	-	793	741	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.6	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	587	1365	-	-	1403	-	-	619
HCM Lane V/C Ratio	0.074	0.004	-	-	0.004	-	-	0.035
HCM Control Delay (s)	11.6	7.6	0	-	7.6	0	-	11
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	5	5	5
Future Vol, veh/h	5	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	5	5	5	5	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	10	0	-	0	23	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	998	1080
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1623	-	-	-	995	1080
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1623	-	-	-	1036
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	155	5	5	185	5	5	5	5	5	5	15
Future Vol, veh/h	10	155	5	5	185	5	5	5	5	5	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	8	0	50	16	0	0	0	0	0	0	0
Mvmt Flow	11	168	5	5	201	5	5	5	5	5	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	206	0	0	173	0	0	417	409	171	412	409	204
Stage 1	-	-	-	-	-	-	193	193	-	214	214	-
Stage 2	-	-	-	-	-	-	224	216	-	198	195	-
Critical Hdwy	4.1	-	-	4.6	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.65	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1377	-	-	1160	-	-	550	535	878	554	535	842
Stage 1	-	-	-	-	-	-	813	745	-	793	729	-
Stage 2	-	-	-	-	-	-	783	728	-	808	743	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1377	-	-	1160	-	-	530	528	878	541	528	842
Mov Cap-2 Maneuver	-	-	-	-	-	-	530	528	-	541	528	-
Stage 1	-	-	-	-	-	-	806	738	-	786	725	-
Stage 2	-	-	-	-	-	-	758	724	-	790	736	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	11.1	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	610	1377	-	-	1160	-	-	684
HCM Lane V/C Ratio	0.027	0.008	-	-	0.005	-	-	0.04
HCM Control Delay (s)	11.1	7.6	0	-	8.1	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	215	15	10	185	5	10	5	5	5	5	15
Future Vol, veh/h	20	215	15	10	185	5	10	5	5	5	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	11	0	0	4	50	0	0	0	0	0	7
Mvmt Flow	22	234	16	11	201	5	11	5	5	5	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	206	0	0	250	0	0	522	514	242	517	520	204
Stage 1	-	-	-	-	-	-	286	286	-	226	226	-
Stage 2	-	-	-	-	-	-	236	228	-	291	294	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	1377	-	-	1327	-	-	468	467	802	472	463	824
Stage 1	-	-	-	-	-	-	726	679	-	781	721	-
Stage 2	-	-	-	-	-	-	772	719	-	721	673	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1377	-	-	1327	-	-	445	454	802	455	450	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	445	454	-	455	450	-
Stage 1	-	-	-	-	-	-	712	666	-	766	715	-
Stage 2	-	-	-	-	-	-	744	713	-	697	660	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	12.5	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	504	1377	-	-	1327	-	-	620
HCM Lane V/C Ratio	0.043	0.016	-	-	0.008	-	-	0.044
HCM Control Delay (s)	12.5	7.7	0	-	7.7	0	-	11.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	10	10	5	5	5
Future Vol, veh/h	5	10	10	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	25	0	0
Mvmt Flow	5	11	11	5	5	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	16	0	-	0	35	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1615	-	-	-	983	1072
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1615	-	-	-	980	1072
Mov Cap-2 Maneuver	-	-	-	-	980	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1024
HCM Lane V/C Ratio	0.003	-	-	-	0.011
HCM Control Delay (s)	7.2	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	205	5	5	185	10	5	5	5	10	5	10
Future Vol, veh/h	15	205	5	5	185	10	5	5	5	10	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	9	0	0	3	0	0	0	0	0	0	14
Mvmt Flow	16	223	5	5	201	11	5	5	5	11	5	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	212	0	0	228	0	0	483	480	226	480	477	207
Stage 1	-	-	-	-	-	-	258	258	-	217	217	-
Stage 2	-	-	-	-	-	-	225	222	-	263	260	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.426
Pot Cap-1 Maneuver	1370	-	-	1352	-	-	497	488	818	499	490	804
Stage 1	-	-	-	-	-	-	751	698	-	790	727	-
Stage 2	-	-	-	-	-	-	782	723	-	747	697	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1370	-	-	1352	-	-	480	480	818	485	482	804
Mov Cap-2 Maneuver	-	-	-	-	-	-	480	480	-	485	482	-
Stage 1	-	-	-	-	-	-	741	689	-	780	724	-
Stage 2	-	-	-	-	-	-	763	720	-	727	688	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	11.7	11.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	557	1370	-	-	1352	-	-	576
HCM Lane V/C Ratio	0.029	0.012	-	-	0.004	-	-	0.047
HCM Control Delay (s)	11.7	7.7	0	-	7.7	0	-	11.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	170	15	5	205	5	25	5	10	5	5	10
Future Vol, veh/h	5	170	15	5	205	5	25	5	10	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	8	0	15	67	0	0	10	0	0	36
Mvmt Flow	5	185	16	5	223	5	27	5	11	5	5	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	228	0	0	201	0	0	447	441	193	447	447	226
Stage 1	-	-	-	-	-	-	203	203	-	236	236	-
Stage 2	-	-	-	-	-	-	244	238	-	211	211	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.3	7.1	6.5	6.56
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.39	3.5	4	3.624
Pot Cap-1 Maneuver	1352	-	-	1383	-	-	525	513	828	525	509	736
Stage 1	-	-	-	-	-	-	804	737	-	772	713	-
Stage 2	-	-	-	-	-	-	764	712	-	796	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1352	-	-	1383	-	-	510	509	828	511	505	736
Mov Cap-2 Maneuver	-	-	-	-	-	-	510	509	-	511	505	-
Stage 1	-	-	-	-	-	-	801	734	-	769	710	-
Stage 2	-	-	-	-	-	-	744	709	-	777	728	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.9	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	564	1352	-	-	1383	-	-	601
HCM Lane V/C Ratio	0.077	0.004	-	-	0.004	-	-	0.036
HCM Control Delay (s)	11.9	7.7	0	-	7.6	0	-	11.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	25	15	5
Future Vol, veh/h	5	5	5	25	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	5	5	27	16	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	32	0	-	0	34	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1593	-	-	-	984	1065
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1593	-	-	-	981	1065
Mov Cap-2 Maneuver	-	-	-	-	981	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	1013	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	1001
HCM Lane V/C Ratio	0.003	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	25	155	5	5	185	10	5	5	5	10	5	25
Future Vol, veh/h	25	155	5	5	185	10	5	5	5	10	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	8	0	50	16	0	0	0	0	0	0	0
Mvmt Flow	27	168	5	5	201	11	5	5	5	11	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	212	0	0	173	0	0	458	447	171	447	444	207
Stage 1	-	-	-	-	-	-	225	225	-	217	217	-
Stage 2	-	-	-	-	-	-	233	222	-	230	227	-
Critical Hdwy	4.1	-	-	4.6	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.65	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1370	-	-	1160	-	-	516	509	878	525	511	839
Stage 1	-	-	-	-	-	-	782	721	-	790	727	-
Stage 2	-	-	-	-	-	-	775	723	-	777	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1370	-	-	1160	-	-	485	495	878	507	497	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	495	-	507	497	-
Stage 1	-	-	-	-	-	-	765	705	-	773	723	-
Stage 2	-	-	-	-	-	-	741	719	-	749	704	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.2	11.4	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	575	1370	-	-	1160	-	-	671
HCM Lane V/C Ratio	0.028	0.02	-	-	0.005	-	-	0.065
HCM Control Delay (s)	11.4	7.7	0	-	8.1	0	-	10.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	225	15	10	200	5	10	5	5	5	5	15
Future Vol, veh/h	20	225	15	10	200	5	10	5	5	5	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	11	0	0	4	50	0	0	0	0	0	7
Mvmt Flow	22	245	16	11	217	5	11	5	5	5	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	222	0	0	261	0	0	549	541	253	544	547	220
Stage 1	-	-	-	-	-	-	297	297	-	242	242	-
Stage 2	-	-	-	-	-	-	252	244	-	302	305	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	1359	-	-	1315	-	-	450	451	791	453	447	807
Stage 1	-	-	-	-	-	-	716	671	-	766	709	-
Stage 2	-	-	-	-	-	-	757	708	-	712	666	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1359	-	-	1315	-	-	427	438	791	436	434	807
Mov Cap-2 Maneuver	-	-	-	-	-	-	427	438	-	436	434	-
Stage 1	-	-	-	-	-	-	702	658	-	751	702	-
Stage 2	-	-	-	-	-	-	729	701	-	688	653	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	12.8	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	486	1359	-	-	1315	-	-	601
HCM Lane V/C Ratio	0.045	0.016	-	-	0.008	-	-	0.045
HCM Control Delay (s)	12.8	7.7	0	-	7.8	0	-	11.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	10	10	20	30	5
Future Vol, veh/h	5	10	10	20	30	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	25	0	0
Mvmt Flow	5	11	11	22	33	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	33	0	-	0	43	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1592	-	-	-	973	1061
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	970	1061
Mov Cap-2 Maneuver	-	-	-	-	970	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	982
HCM Lane V/C Ratio	0.003	-	-	-	0.039
HCM Control Delay (s)	7.3	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	25	205	5	5	185	15	5	5	5	20	5	25
Future Vol, veh/h	25	205	5	5	185	15	5	5	5	20	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	9	0	0	3	0	0	0	0	0	0	14
Mvmt Flow	27	223	5	5	201	16	5	5	5	22	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	228	0	0	515	507	226	504	501	209
Stage 1	-	-	-	-	-	-	280	280	-	219	219	-
Stage 2	-	-	-	-	-	-	235	227	-	285	282	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.426
Pot Cap-1 Maneuver	1365	-	-	1352	-	-	474	471	818	482	475	802
Stage 1	-	-	-	-	-	-	731	683	-	788	726	-
Stage 2	-	-	-	-	-	-	773	720	-	727	681	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1365	-	-	1352	-	-	445	458	818	465	462	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	445	458	-	465	462	-
Stage 1	-	-	-	-	-	-	714	667	-	770	723	-
Stage 2	-	-	-	-	-	-	738	717	-	700	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.2	12	11.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	531	1365	-	-	1352	-	-	588
HCM Lane V/C Ratio	0.031	0.02	-	-	0.004	-	-	0.092
HCM Control Delay (s)	12	7.7	0	-	7.7	0	-	11.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Appendix D Trip Generation Equations

Recreational Community Center
(495)

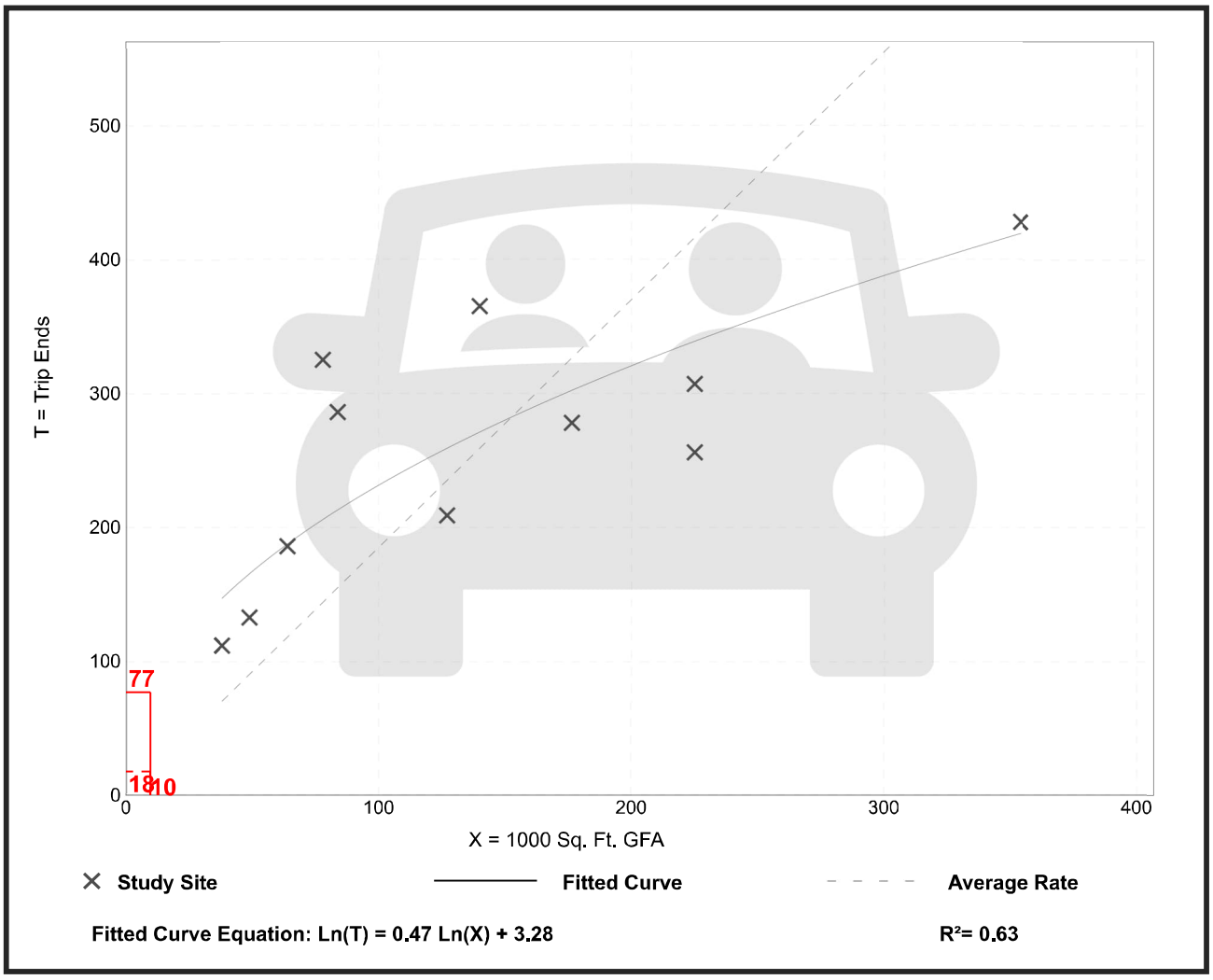
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 11
Avg. 1000 Sq. Ft. GFA: 142
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.85	1.14 - 4.17	0.91

Data Plot and Equation



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Recreational Community Center
(495)

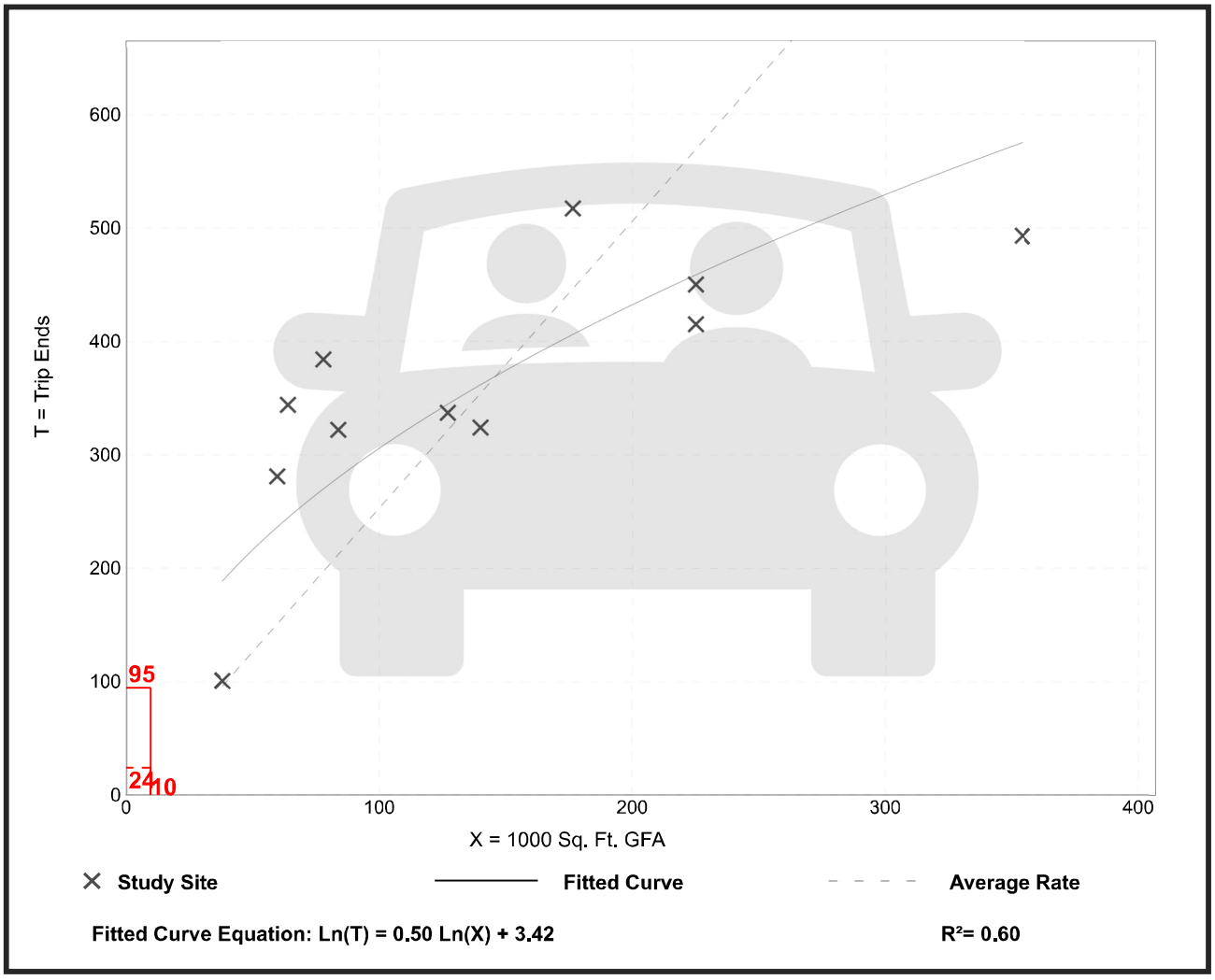
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 11
Avg. 1000 Sq. Ft. GFA: 143
Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.53	1.39 - 5.37	1.20

Data Plot and Equation



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Public Park
(411)

Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
AM Peak Hour of Generator

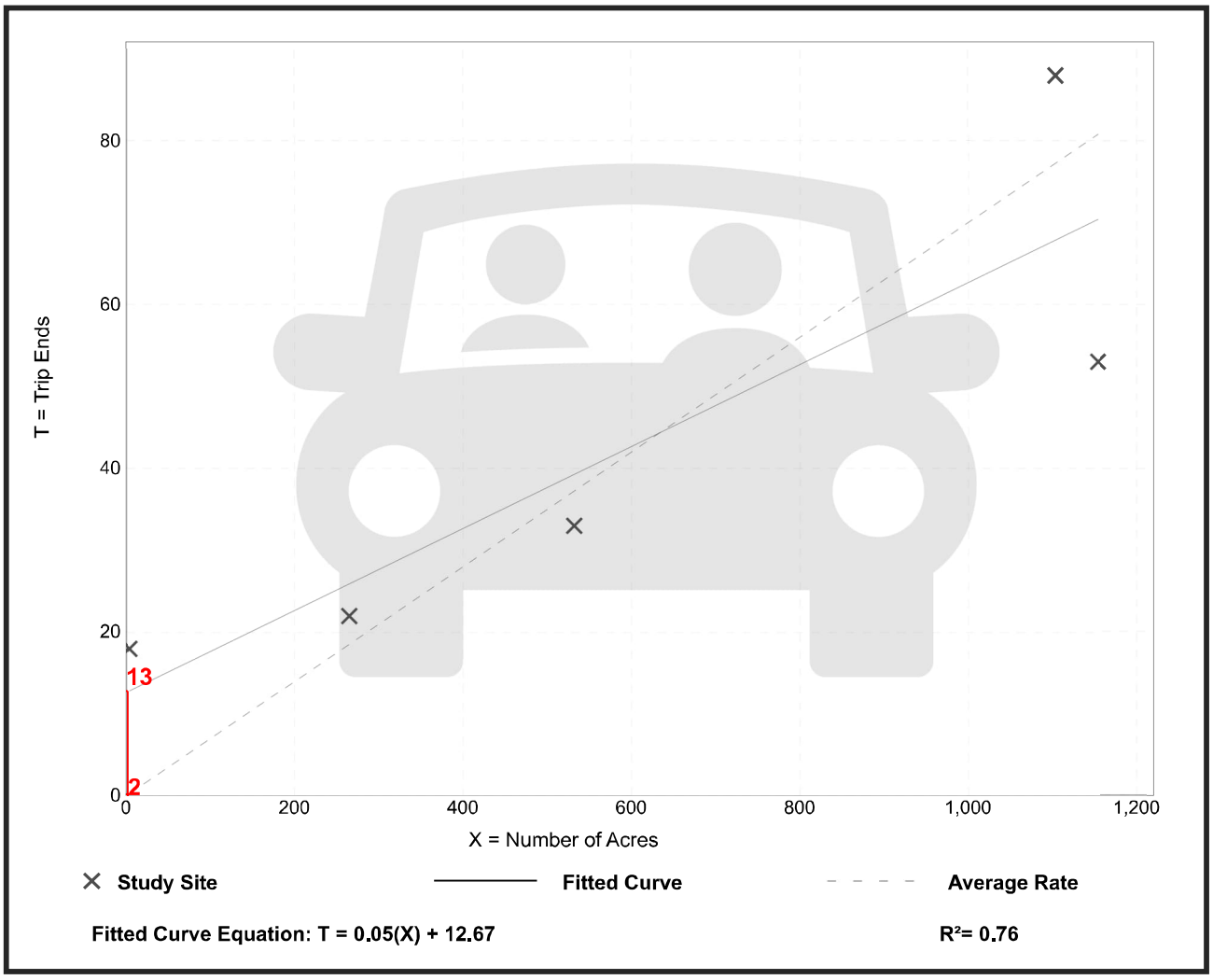
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Acres: 612
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.07	0.05 - 4.50	0.18

Data Plot and Equation

Caution – Small Sample Size



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Public Park
(411)

Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
PM Peak Hour of Generator

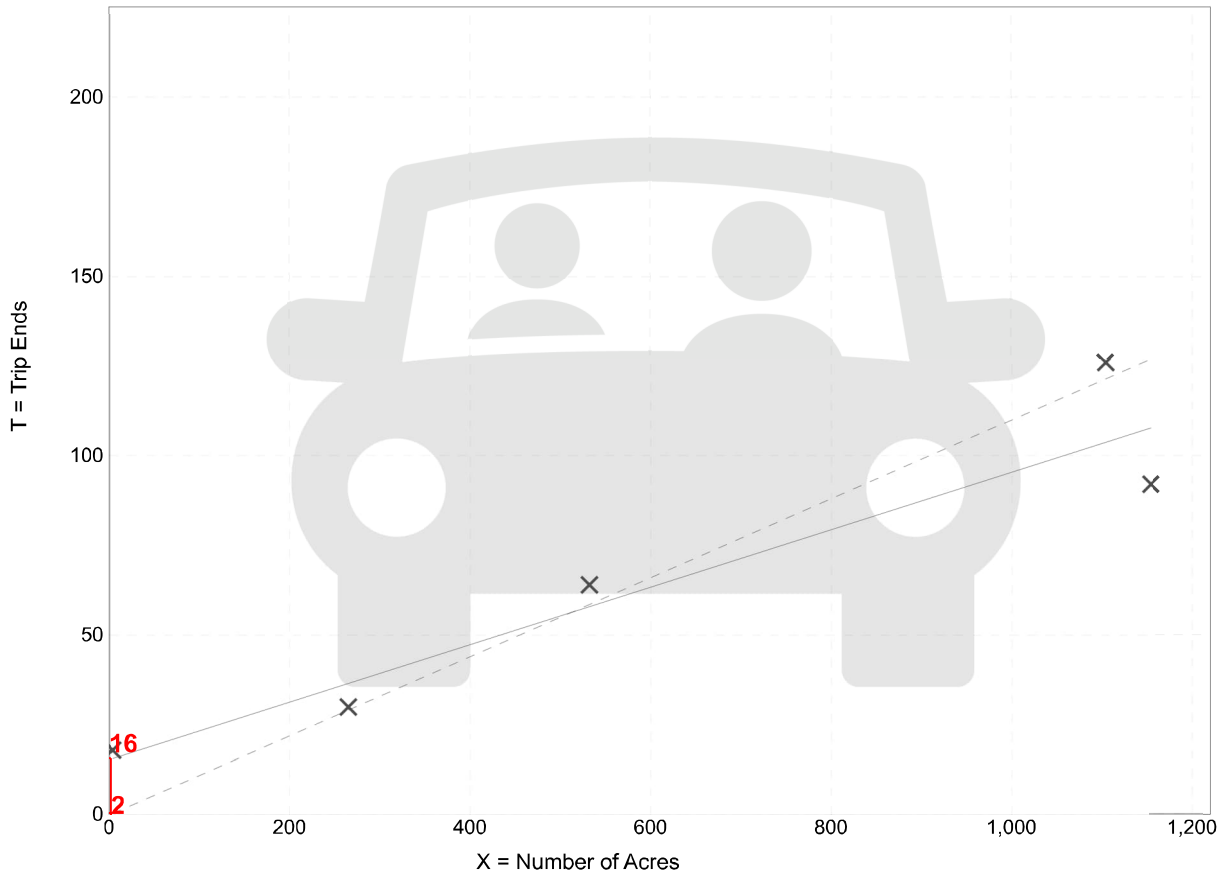
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Acres: 612
Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.11	0.08 - 4.50	0.18

Data Plot and Equation

Caution – Small Sample Size



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APPENDIX G

Figures

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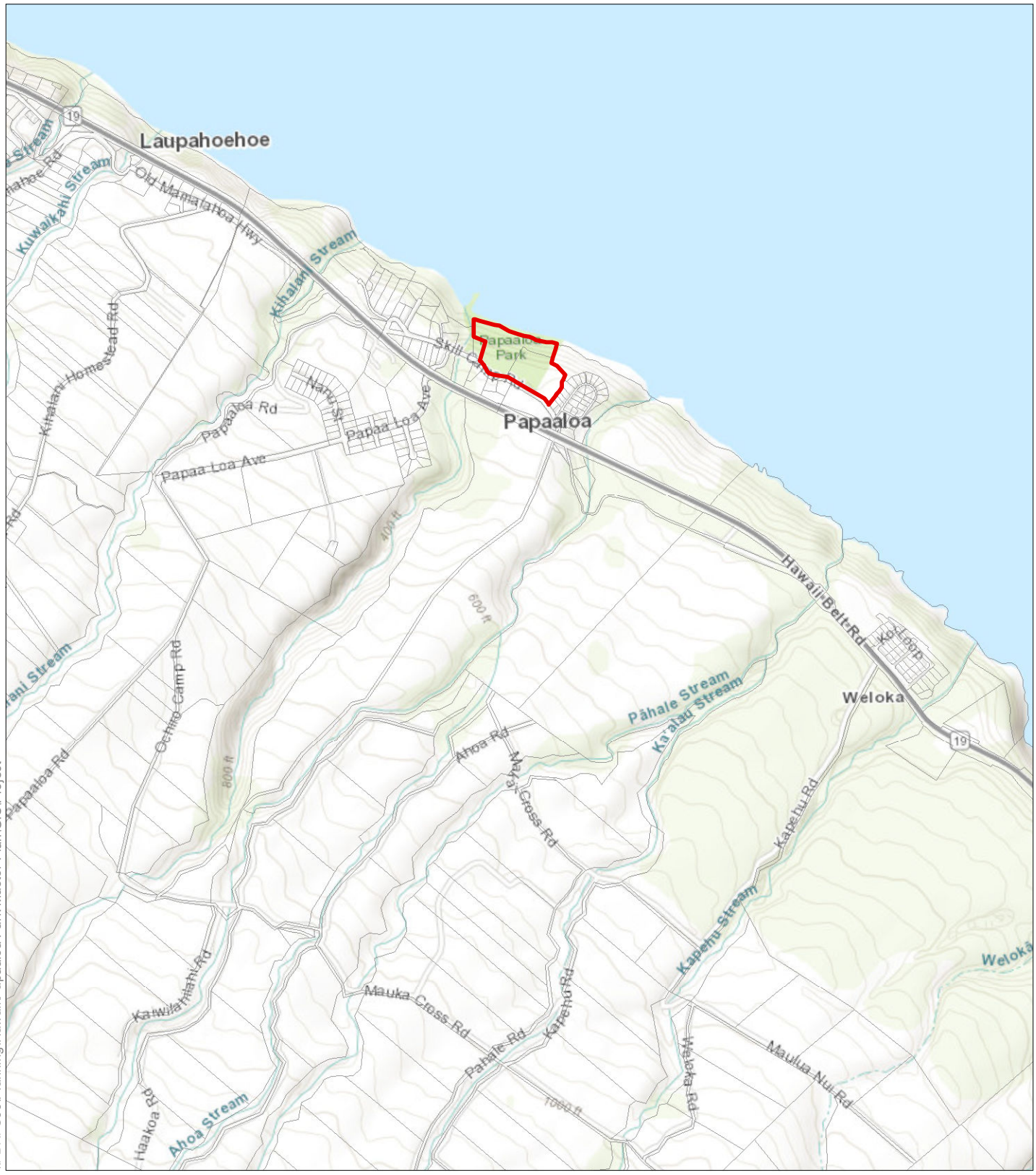

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DATE: 11/2/2023

LEGEND

- Project Site
- TMK Parcels

Figure 1 :
Regional Location Map

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

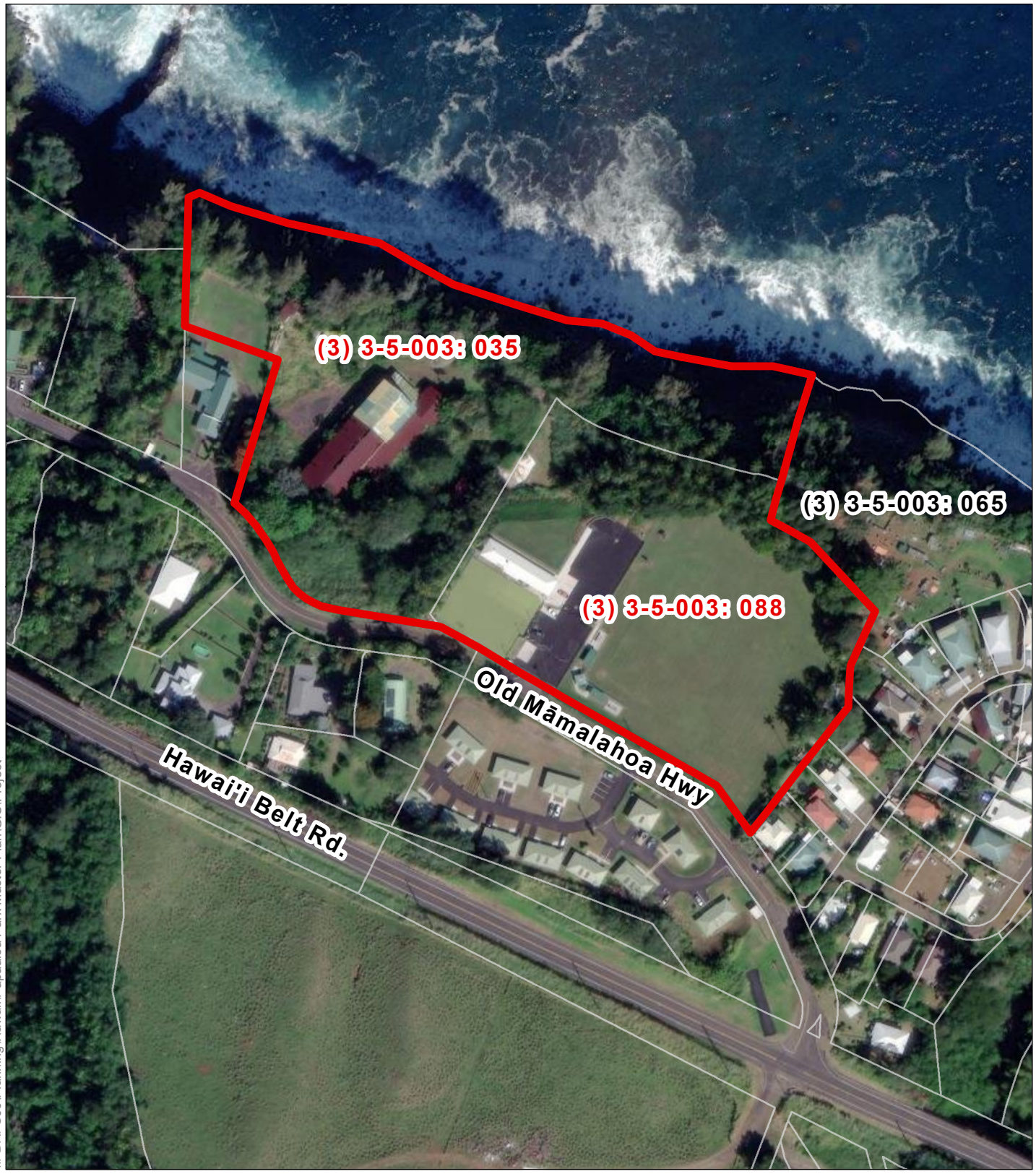
North

Linear Scale (feet)
0 750 1500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawai'i, 2023. Esri Basemap.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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- Project Site
- TMK Parcels

Figure 2 :
Tax Map Keys

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)
0 100 200

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Source: County of Hawai'i, 2023. Esri Basemap.
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- Project Site
- TMK Parcels

State Land Use Districts

- Agricultural
- Conservation
- Urban

Figure 3 :
State Land Use Districts

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)
0 100 200

PBR HAWAII & ASSOCIATES, INC.

Source: Imata & Associates, Inc. County of Hawai'i, 2023. Esri Basemap. State Land Use Commission, 2020.
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Project Site

TMK Parcels

LUPAG

Important Ag. Lands

Open Area

Figure 4 :
County General Plan LUPAG

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)
0 100 200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawai'i, 2022 & 2023. Esri Basemap.

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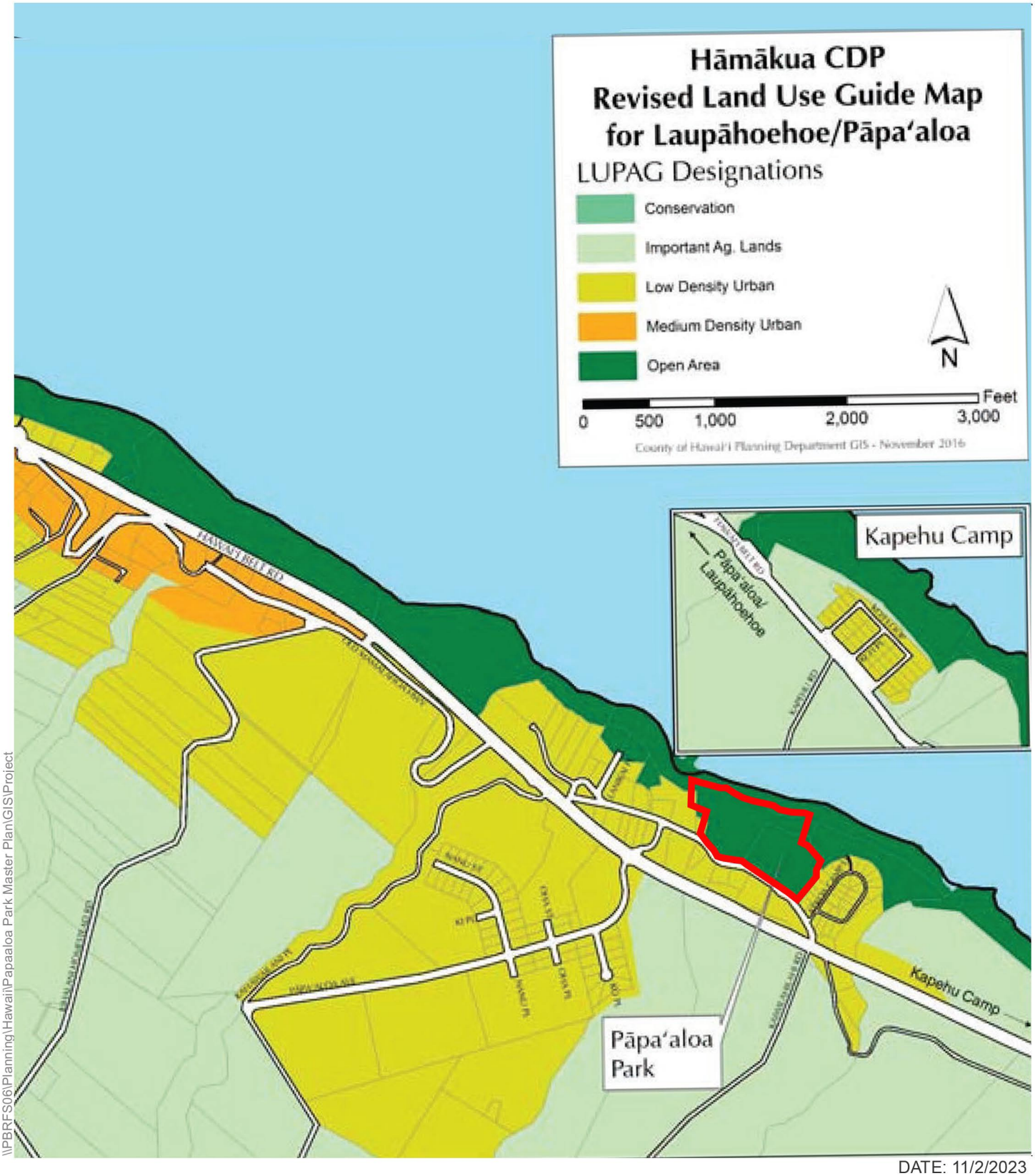

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LEGEND

Project Site

TMK Parcels

Figure 5 :
Hāmākua Community Development Plan Land Use Guide Map
Pāpa'aloa Park Master Plan
Hawai'i County Department of Parks and Recreation

North

Not to The Scale

Source: County of Hawai'i, 2023& 2018. Esri Basemap.
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- Project Site
- TMK Parcels

Zoning

- (road)
- A-1a
- A-20a
- CV-10
- MG-1a
- RS-15

Figure 6 :
County Zoning

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)
0 100 200

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Source: County of Hawai'i, 2022 & 2023. Esri Basemap.

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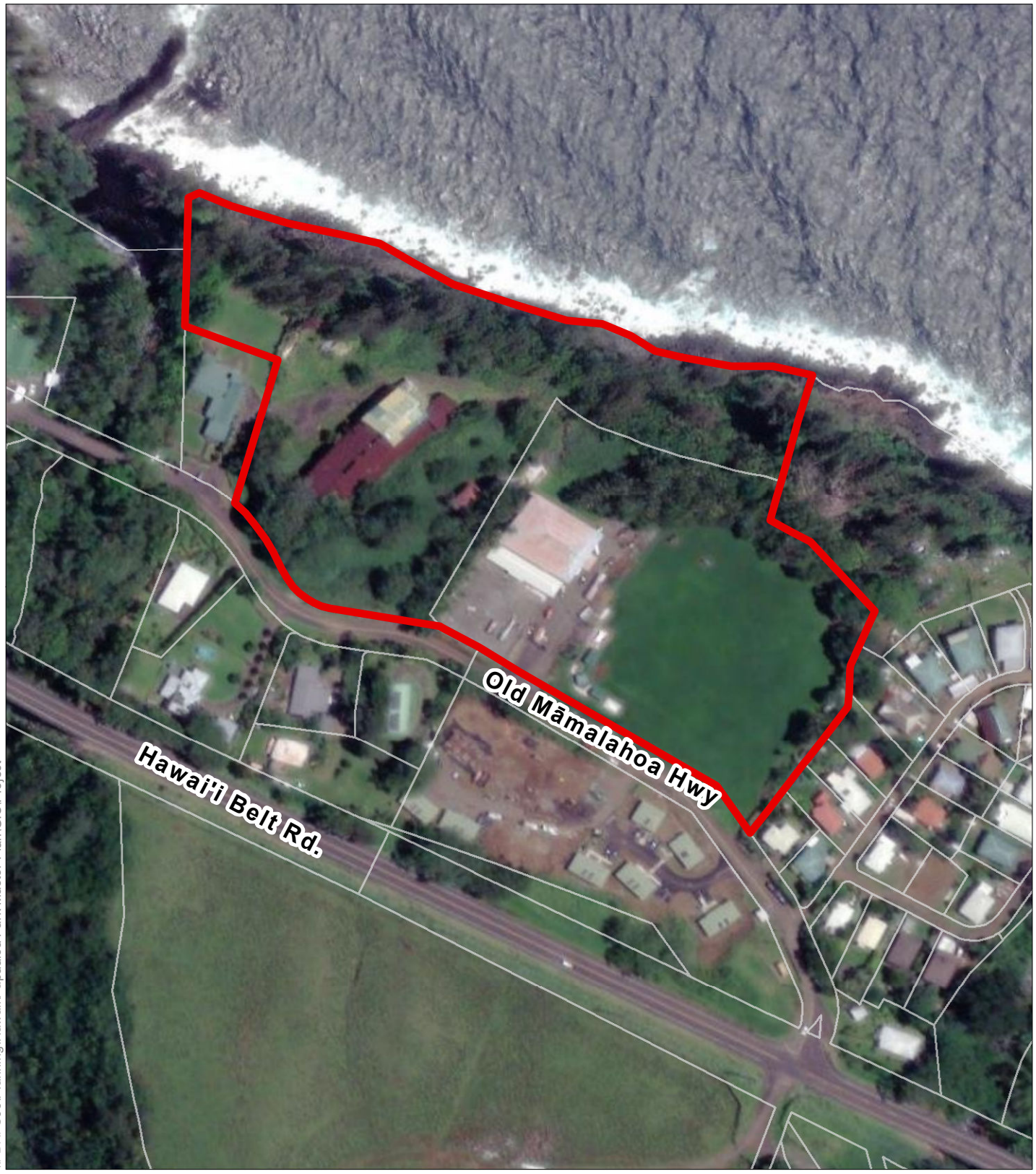

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LEGEND

- Project Site
- TMK Parcels

Figure 7 :
Aerial Map

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)
0 100 200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawai'i, 2023. Esri Basemap.

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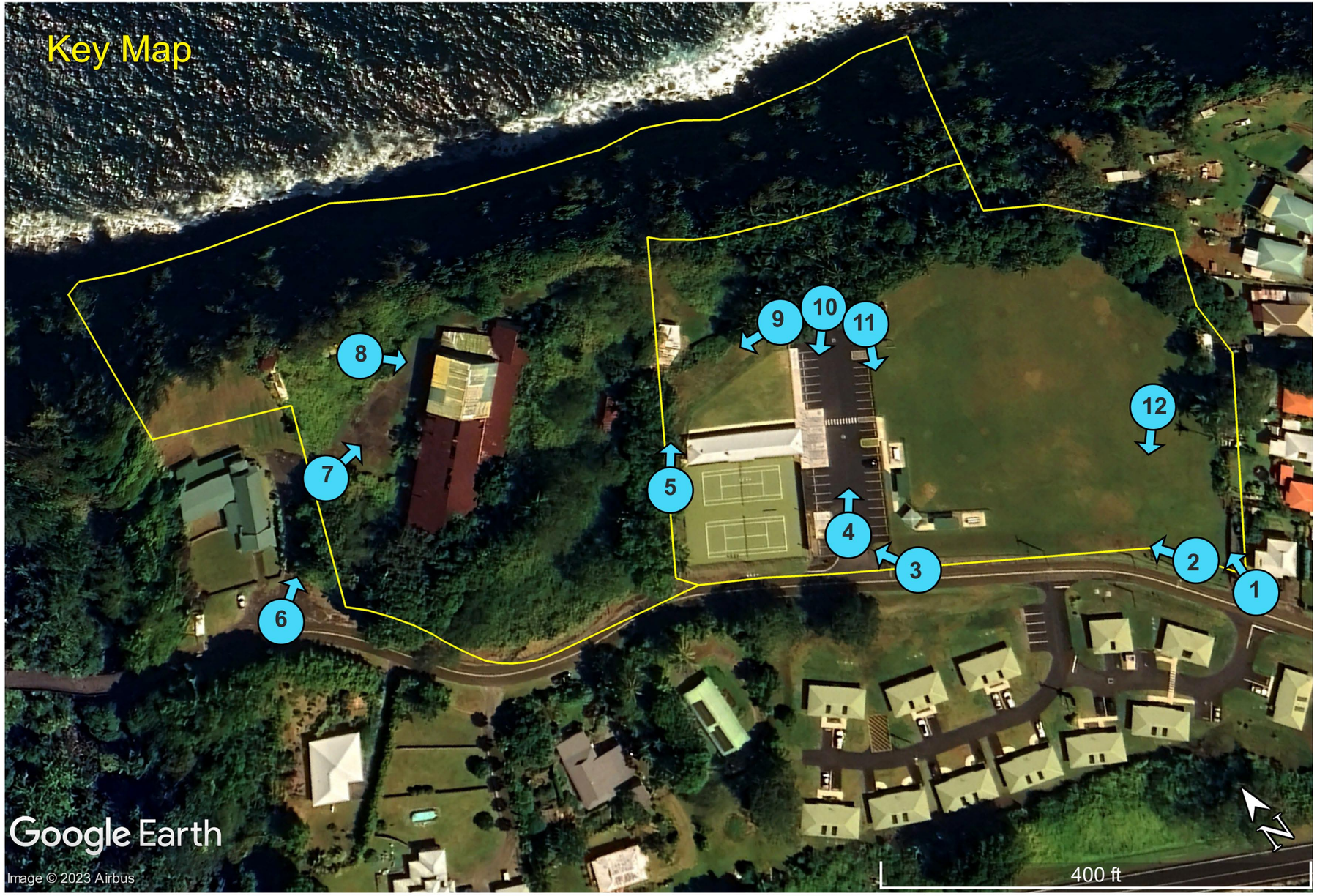

Path - Q:\Hawaii\Papaaloa Park Master Plan\PSD

DRAFT 12/20/2023

Figure 8A :
Site Photos (Page 1 of 3)

Pāpa‘aloa Park Master Plan

Hawai‘i County Department of Parks and Recreation

PBR HAWAII & ASSOCIATES, INC.

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1. Park Playfield from Skill Camp Road

2. Skill Camp Road along Park Playfield

3. Vehicular Entry from Skill Camp Road to Park Upper Area

4. Park Parking Lot

5. Slope Behind Annex Building to Lower Area

6. Entry to Lower Park Area

Path - Q:\Hawaii\Papaaloa Park Master Plan\PSD

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Figure 8B :
Site Photos (Page 2 of 3)

Pāpa‘aloa Park Master Plan

Hawai‘i County Department of Parks and Recreation

PBR HAWAII & ASSOCIATES, INC.

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7. Former Laupāhoehoe Shop Building in Lower Park Area

8. Scale of Former Shop Building

9. Slope Behind Former Gym Site Towards Former Shop Building

10. Annex Building from Northeastern End of Parking Lot

11. View of Parking Lot and Playfield

12. View of Embankment Along Skill Camp Road

Path - Q:\Hawaii\Papaaloa Park Master Plan\PSD

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Figure 8C :
Site Photos (Page 3 of 3)

Pāpa‘aloa Park Master Plan

Hawai‘i County Department of Parks and Recreation

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SUBJECT TO CHANGE

Figure 9: Master Plan

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Q:\Hawaii\Papaaloa Park Master Plan\PSD

SUBJECT TO CHANGE

Figure 9A:
Phase 1 Development

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Q:\Hawaii\Papaaloa Park Master Plan\PSD

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LEGEND

Project Site

Figure 10:
Topography

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation — Island of Hawai'i

Not to Scale

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2023. Imata & Associates, Inc., 12/11/2023.

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LEGEND

Project Site

TMK Parcels

USDA NRCS Soil Survey

952: Ookala medial silty clay loam, 10 to 20 percent slopes

954: Ookala-Rock outcrop complex, 35 to 100 percent slopes

Source: County of Hawai'i, 2023. Esri Basemap. USDA NRCS, 2020.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Figure 11 :
USDA NRCS Soil Survey

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)

0 100 200

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DATE: 1/19/2024

LEGEND

Project Site

TMK Parcels

LSB Land Classification

C - Fair

E - Very Poor

Figure 12 :
LSB Detailed Land Classifications

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)
0 100 200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawai'i, 2023. Esri Basemap. University of Hawaii Land Study Bureau, 1965, digitized by State OP, 2012.

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LEGEND

Project Site

TMK Parcels

Flood Hazard Areas

X: Outside 0.2%-Annual-Chance Floodplain

D: Unstudied Areas

Source: County of Hawai'i, 2023. Esri Basemap. FEMA Flood Map Service Center, 2023.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Figure 13 :
Flood Insurance Rate Map

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)

0 1000 2000

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LEGEND

Project Site

TMK Parcels

Lava-Flow Hazard Zones

1 2 3 4 5 6 7 8 9

Source: County of Hawai'i, 2023. Esri Basemap. U.S. Geological Survey, 1992.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Figure 14 :
Lava Flow Hazard Zones

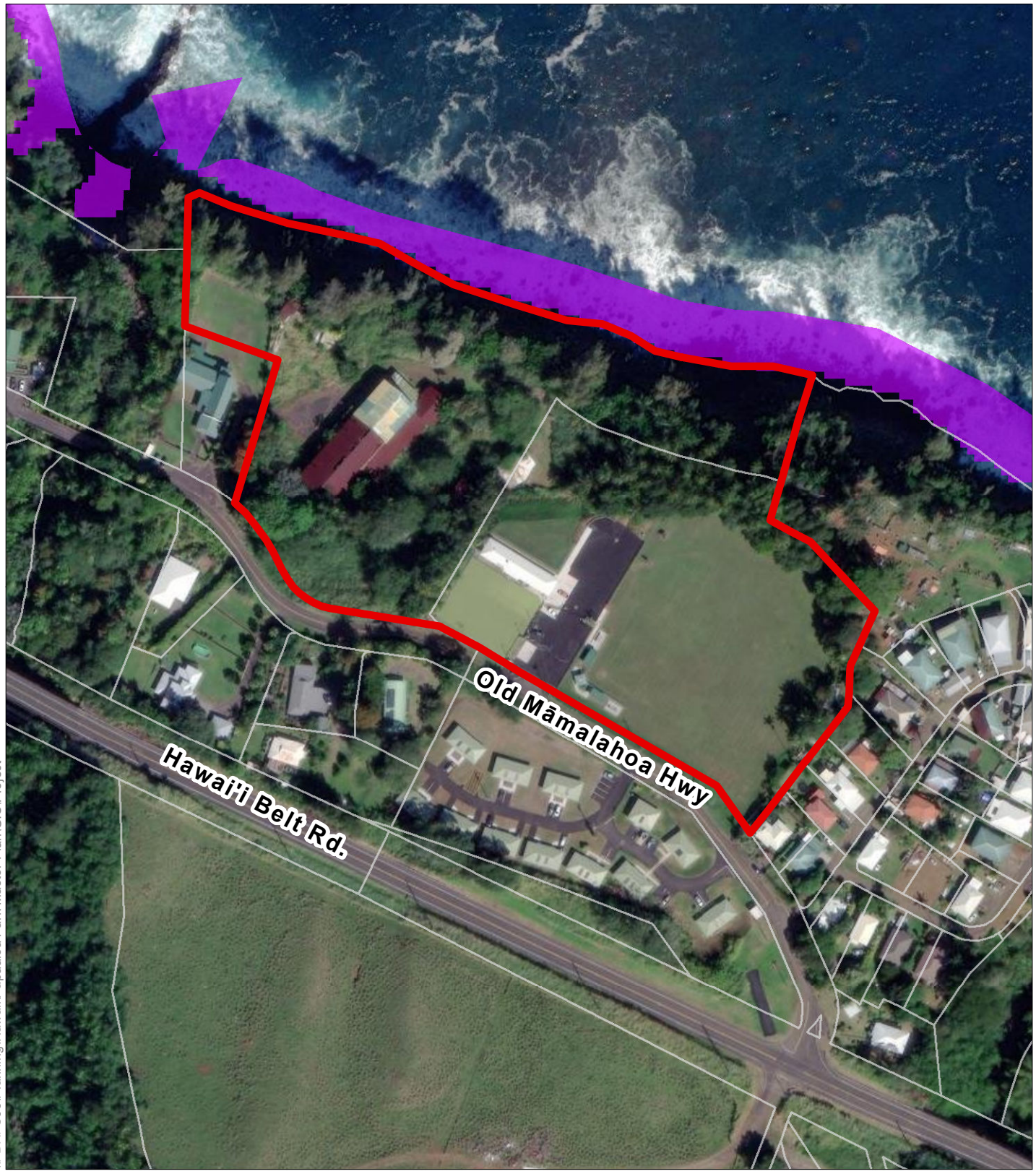
Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)
0 100 200

PBR HAWAII & ASSOCIATES, INC.



\\PBRFS06\Planning\Hawaii\Papaaloa Park Master Plan\GIS\Project

DATE: 1/19/2024

LEGEND

- Project Site
- TMK Parcels
- 3.2 ft Sea Level Rise Scenario

Figure 15 :
3.2-ft Sea Level Rise Exposure Area

Pāpa'aloa Park Master Plan

Hawai'i County Department of Parks and Recreation

North

Linear Scale (feet)
0 100 200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawai'i, 2023. Esri Basemap. University of Hawaii Coastal Geology Group & Tetra Tech, Inc., 2017

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Figure 16:
National Wetlands Inventory

March 26, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Site

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

APPENDIX H

Draft EA Public Review Comments & Responses

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JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

KEITH A. REGAN
COMPTROLLER
KA LUNA HO'OMALU HANA LAULĀ

MEOH-LENG SILLIMAN
DEPUTY COMPTROLLER
KA HOPE LUNA HO'OMALU HANA LAULĀ

STATE OF HAWAI'I | KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | KA 'OIHANA LOIHELU A LAWELAWE LAULĀ
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)24.019

FEB 13 2024

Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813

Dear Greg Nakai:

Subject: Draft Environmental Assessment
Papa'aloa Park Master Plan and Phase I Development
Papa'aloa, North Hilo District, Island of Hawaii
Tax Map Key (TMK): (3) 3-5-003:035 and 088

Thank you for the opportunity to provide comments on the subject project. The project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, your staff may call David DePonte of the Planning Branch at (808) 586-0492, or e-mail at david.c.deponte@hawaii.gov.

Sincerely,

GORDON S. WOOD
Acting Public Works Administrator

DD:mc

c: Kevin Sakai, Hawaii County, Department of Parks and Recreation
Roger Ross, DAGS Hawaii

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

KEITH A. REGAN
COMPTROLLER
KA LUNA HO'OMALU HANA LAULĀ

MEOH-LENG SILLIMAN
DEPUTY COMPTROLLER
KA HOPE LUNA HO'OMALU HANA LAULĀ

STATE OF HAWAI'I | KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | KA 'OIHANA LOIHELU A LAWELAWE LAULĀ
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)24.056

APR 08 2024

Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813

Dear Greg Nakai:

Subject: 2nd Draft Environmental Assessment
Papa'aloa Park Master Plan and Phase I Development
Papa'aloa, North Hilo District, Island of Hawaii
Tax Map Key (TMK): (3) 3-5-003:035 and 088

Thank you for the opportunity to provide comments on the subject project. The project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, your staff may call David DePonte of the Planning Branch at (808) 586-0492, or e-mail at david.c.deponte@hawaii.gov.

Sincerely,

GORDON S. WOOD
Acting Public Works Administrator

DD:mc

c: Kevin Sakai, Hawaii County, Department of Parks and Recreation
Roger Ross, DAGS Hawaii

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

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Executive Vice-President / Principal

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Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

ETSUYO KILA
Senior Associate

GREG NAKAI
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BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

May 16, 2024

Mr. Gordon S. Wood
Acting Public Works Administrator
State of Hawai‘i
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810-0119

Attn: Mr. David DePonte, Planning Branch

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Wood,

Thank you for your letters dated February 13, 2024 (reference no. (P)24.019), and April 8, 2024 (reference no. (P)24.056), regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that the proposed Project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

KENNETH S. HARA
MAJOR GENERAL
ADJUTANT GENERAL
KA 'AKUKANA KENELALA

STEPHEN F. LOGAN
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL
KA HOPE 'AKUKANA KENELALA

STATE OF HAWAI'I
KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF DEFENSE
KA 'OIHANA PILI KAUA
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAI'I 96816-4495

February 22, 2024

Mr. Kevin Sakai, Parks Project Manager
County of Hawaii
Department of Parks and Recreation
101 Pauahi Street, Suite 6
Hilo, Hawaii 96720

SUBJECT: Draft Environmental Assessment Papaaloa Park Master Plan,
North Hilo District, Island of Hawaii, Hawaii
TMK (3) 3-5-003: 035 and 088

Dear Mr. Sakai:

Thank you for the opportunity to comment on the above project. The State of Hawaii Department of Defense has no comments to offer relative to the project at this time.

Should there be any questions, please contact Mr. Tad T. Nakayama at 808-369-3490 or tad.t.nakayama@hawaii.gov.

Sincerely,

Shao Yu L. Lee, R.A.
Major, Hawaii National Guard
Chief Engineering Officer

c: PBR Hawaii & Associates, Inc.
ATTN: Greg Nakai, Senior Associate
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
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TOM SCHNELL, AICP
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MARC SHIMATSU, ASLA
Principal

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Cultural Sustainability Planner

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NICOLE SWANSON, ASLA
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BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

May 16, 2024

Ms. Shao Yu L. Lee, R.A.
Major, Hawai‘i National Guard
Chief Engineering Officer
State of Hawai‘i
Department of Defense
Office of the Adjutant General
3949 Diamond Head Road
Honolulu, HI 96816-4495

Attn: Mr. Tad T. Nakayama

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Major Lee,

We have reviewed your letter to Mr. Sakai dated February 22, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that the State of Hawai‘i Department of Defense (DOD) has no comments to offer relative to the project at this time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
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JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:
209505/209506 SL

April 18, 2024

Department of Parks and Rectreation
County of Hawai'i
ATTN: Kevin Sakai, Parks Project Manager
101 Pauahi Street, Suite 6
Hilo, Hawai'i 96720
Sent via e-mail to: kevin.m.sakai@hawaii.gov

Facility/Site: Papaaloa Park ADA Construction

Subject: Comments on Second Draft Environmental Assessment for the Papa'aloa Park Master Plan and Phase I Development

Dear Mr. Sakai,

The Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office has reviewed the Second Draft Environmental Assessment/Anticipated Finding of No Significant Impact (DEA/FONSI) for the Papa'aloa Park Master Plan and Phase I Development and has the following comments:

1. The draft DEA/FONSI states that the Phase I Development will be limited to Tax Map Key (TMK) (3) 3-5-003: Parcel 035. Please note that there is a HEER Office site located at that TMK called Papaaloa Park ADA Construction. The site documents are available on our iHEER website at https://eha-cloud.doh.hawaii.gov/iheer#!/site/3127/details/view. Based on a review of those documents, it appears that a limited soil assessment was conducted which identified lead contamination in the soil at the property. Additional contaminants that could be associated with historic structures at the property include arsenic and organochlorine pesticides which were commonly used in the past as insecticides around and beneath building foundations. If there was historical use of the site for pesticide mixing or other industrial activities during historic plantation-era use, then other contaminants of potential concern (COPCs) may also be present and should be investigated.

   Please plan to conduct a thorough environmental investigation in accordance with the HEER Office Technical Guidance Manual (TGM) to identify any other potential contaminant sources and to fully characterize the nature and extent of environmental contamination at the site prior to redevelopment. As described in Hawaii Revised Statute

(HRS) 128D and Hawaii Administrative Rule (HAR) 11-451, following site characterization you should conduct an evaluation of remedial alternatives and implement a response action to address any identified contaminants that pose a potential threat to human health or the environment prior to redevelopment. Please plan to work with the HEER Office to develop an acceptable sampling and analysis plan (SAP) and other documents as required based on the results of the initial investigation.

2. The DEA/FONSI also states that if funding is available, demolition of one or more plantation-era structures will occur on TMK (3) 3-5-003: Parcel 0035. Please also conduct an initial environmental assessment (e.g., a Phase I Environmental Site Assessment) of this parcel to identify any potential COPCs, and if deemed appropriate, conduct additional site characterization and remediation of this parcel prior to redevelopment as well. Please plan to submit all SAPs and other environmental documents to the HEER Office for review and approval prior to conducting sampling and environmental response activities.

If you have any questions or should you need a hardcopy of this letter, please feel free to contact me at 808-586-4249 or by email at sven.lindstrom@doh.hawaii.gov.

Sincerely,

Sven Lindstrom
Voluntary Cleanup Program Specialist
Site Discovery, Assessment and Remediation
Hazard Evaluation and Emergency Response Office
Hawaii Department of Health

cc: Greg Nakai, PBR (via e-mail)

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
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Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

printed on recycled paper

May 16, 2024

Mr. Sven Lindstrom
Voluntary Cleanup Program Specialist
State of Hawai'i
Department of Health
Hazard Evaluation and Emergency Response Office
P.O. Box 3378
Honolulu, HI 96801-3378

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Lindstrom,

As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), we thank you for your letter dated April 18, 2024 (reference no. 209505/209506 SL), regarding the subject project.

To clarify, the Draft Environmental Assessment (EA)/FONSI states that the Phase I Development will be limited to Tax Map Key (TMK) (3) 3-5-003: Parcel 088. As recommended in your letter, DPR will conduct a thorough environmental investigation in accordance with the HEER Office Technical Guidance Manual (TGM) to identify any other potential contaminant sources and to fully characterize the nature and extent of environmental contamination at the site prior to redevelopment. DPR and/or its environmental engineering consultants will work with the HEER Office to develop an acceptable sampling and analysis plan and other documents as required based on the results of the initial investigation.

At the appropriate stage of development of TMK (3) 3-5-003: 035, DPR and/or its environmental engineering consultants will conduct an initial environmental assessment (e.g., a Phase I Environmental Site Assessment) of this parcel to identify any potential contaminants of potential concern (COPCs), and if deemed appropriate, DPR will conduct additional site characterization and remediation of this parcel prior to redevelopment. It is understood that DPR will submit all SAPs and other environmental documents to the HEER Office for review and approval prior to conducting sampling and environmental response activities.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation
Kevin Sakai, County of Hawai'i, Department of Parks and Recreation

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

CATHY BETTS
DIRECTOR
KA LUNA HO'OKELE

JOSEPH CAMPOS II
DEPUTY DIRECTOR
KA HOPE LUNA HO'OKELE

TRISTA SPEER
DEPUTY DIRECTOR
KA HOPE LUNA HO'OKELE

STATE OF HAWAII
KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF HUMAN SERVICES
KA 'OIHANA MĀLAMA LAWELAWE KANAKA
BENEFIT, EMPLOYMENT AND SUPPORT SERVICES DIVISION
1010 Richards Street, Suite 512
Honolulu, Hawaii 96813

Refer to: 24-00030

February 26, 2024

Mr. Greg Nakai
Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Draft Environmental Assessment (DEA) for the Papaaloa Park Master Plan and Phase I Development

This is in response to letter dated February 5, 2024 requesting the Department of Human Services (DHS) to comment on the above-named project.

DHS has reviewed the Papaaloa Park Master Plan and Phase I Development DEA. At this time, DHS has no comments.

Should you have any questions regarding this matter, please contact Ms. Tracy Oshita, Acting Child Care Regulation Program Specialist at (808) 586-5243.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Cathy Betts, Director
Kevin Sakai, Parks Project Manager

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

CATHY BETTS
DIRECTOR
KA LUNA HO'OKELE

JOSEPH CAMPOS II
DEPUTY DIRECTOR
KA HOPE LUNA HO'OKELE

TRISTA SPEER
DEPUTY DIRECTOR
KA HOPE LUNA HO'OKELE

STATE OF HAWAII
KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF HUMAN SERVICES
KA 'OIHANA MĀLAMA LAWELAWE KANAKA
BENEFIT, EMPLOYMENT AND SUPPORT SERVICES DIVISION
1010 Richards Street, Suite 512
Honolulu, Hawaii 96813

Re: 24-00073

April 1, 2024

Mr. Greg Nakai
Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Second Draft Environmental Assessment (2nd DEA) for the Papaaloa Park Master Plan and Phase I Development

This is in response to letter dated March 21, 2024 requesting the Department of Human Services (DHS) to comment on the above-named project.

DHS has reviewed the Papaaloa Park Master Plan and Phase I Development 2nd DEA. At this time, DHS has no comments.

Should you have any questions regarding this matter, please contact Ms. Tracy Oshita, Acting Child Care Regulation Program Specialist, at (808) 586-5243.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Cathy Betts, Director
Kevin Sakai, Parks Project Manager

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

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Vice-President / Principal

CATIE CULLISON, AICP
Vice-President / Principal

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MARC SHIMATSU, ASLA
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ANN MIKIKO BOUSLOG, PhD
Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

ETSUYO KILA
Senior Associate

GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

May 16, 2024

Mr. Scott Nakasone
Assistant Division Administrator
State of Hawai‘i
Department of Human Services
Benefit, Employment and Support Services Division
1010 Richards Street, Suite 512
Honolulu, HI 96813

Attn: Ms. Tracy Oshita, Acting Child Care Regulation Program Specialist

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Nakasone,

Thank you for your letters dated February 26, 2024 (reference no. 24-00030) and April 1, 2024 (reference no. 24-00073), regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that the Department of Human Services (DHS) has no comments at this time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
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E-mail: sysadmin@pbrhawaii.com

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

March 8, 2024

County of Hawaii
Department of Parks and Recreation
Attn: Mr. Kevin Sakai, Parks Project Manager via email: ksakai@co.hawaii.hi.us
101 Pauahi Street, Suite 6
Hilo, Hawaii 96720

PBR HAWAII & Associates, Inc.
Attn: Mr. Greg Nakai, Senior Associate via email: gnakai@pbrhawaii.com
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Gentlemen:

SUBJECT: Draft Environmental Assessments for the Proposed **Papa'aloa Park Master Plan and Phase I Development** located at North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 035 and 088 on behalf of County of Maui, Department of Parks and Recreation

Thank you for the opportunity to review and comment on the subject matter. The Land Division of the Department of Land and Natural Resources (DLNR) distributed or made available a copy of your request pertaining to the subject matter to DLNR's Divisions for their review and comments.

At this time, enclosed are comments from the (a) Office of Conservation & Coastal Lands and (b) Land Division–Hawaii District on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

April 8, 2024

County of Hawaii
Department of Parks and Recreation
Attn: Mr. Kevin Sakai, Parks Project Manager via email: kevin.sakai@hawaiicounty.gov
101 Pauahi Street, Suite 6
Hilo, Hawaii 96720

PBR HAWAII & Associates, Inc.
Attn: Mr. Greg Nakai, Senior Associate via email: gnakai@pbrhawaii.com
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Gentlemen:

SUBJECT: Draft Environmental Assessments for the Proposed **Papa'aloa Park Master Plan and Phase I Development** located at North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 035 and 088 on behalf of County of Maui, Department of Parks and Recreation

Thank you for the opportunity to review and comment on the subject matter. In addition to our previous comments dated March 8, 2024, enclosed are comments from the Division of Forestry & Wildlife on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

April 19, 2024

County of Hawaii
Department of Parks and Recreation
Attn: Mr. Kevin Sakai, Parks Project Manager via email: kevin.sakai@hawaiicounty.gov
101 Pauahi Street, Suite 6
Hilo, Hawaii 96720

PBR HAWAII & Associates, Inc.
Attn: Mr. Greg Nakai, Senior Associate via email: gnakai@pbrhawaii.com
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Gentlemen:

SUBJECT: 2nd Draft Environmental Assessment for the Proposed **Papa'aloa Park Master Plan and Phase I Development** located at North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 088 and 035 on behalf of County of Maui, Department of Parks and Recreation

Thank you for the opportunity to review and comment on the subject matter. The Land Division of the Department of Land and Natural Resources (DLNR) distributed or made available a copy of your request pertaining to the subject matter to DLNR's Divisions for their review and comments.

At this time, enclosed are comments from the (a) Division of Aquatic Resources, (b) Office of Conservation & Coastal Lands, and (c) Land Division-Hawaii District on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

PBR HAWAII
& ASSOCIATES, INC.

May 16, 2024

Mr. Russell Y. Tsuji
Land Administrator
State of Hawai‘i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

Attn: Darlene K. Nakamura

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Tsuji,

Thank you for your letters dated March 8, 2024, April 8, 2024, and April 19, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we wish to inform you that separate responses were prepared and mailed directly to: (a) Office of Conservation & Coastal Lands, (b) Land Division-Hawai‘i District, (c) Division of Forestry & Wildlife, and (d) Division of Aquatic Resources.

We value your participation in the environmental review process. Your letters will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

JOSH GREEN, M.D.
GOVERNOR | KE KIAʻĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIAʻĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA ʻOIHANA KUMUWAIWAI ʻĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

April 1, 2024

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
___Div. of Boating & Ocean Recreation
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
X Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
X Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: 2nd Draft Environmental Assessment for the Proposed **Papa'aloa Park Master Plan and Phase I Development**
LOCATION: North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 088 and 035
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of County of Maui, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. The 2nd DEA was published on March 23, 2024, by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2024-03-23-TEN.pdf

Please submit any comments by **April 19, 2024**. If no response is received by this date, we will assume your agency has no comments. Should you have any questions, please contact Darlene Nakamura directly via email at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(☑) Comments are included/attached.

Signed: *[signature]*
Print Name: Brian J. Neilson- Administrator
Division: Aquatic Resources
Date: Apr 17, 2024

Attachments
cc: Central Files

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL
RESOURCES DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: 04/16/24
DAR # AR6615

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Troy Sakihara, Aquatic Biologist

SUBJECT: Pāpaʻaloa Park Master Plan and Phase I Development 2nd Draft Environmental Assessment

Request Submitted by: Russell Y. Tsuji, Land Administrator

Location of Project: North Hilo, Hawaiʻi Island, TMK: (3) 3-5-003: 088 and 035

Brief Description of Project:

The County of Hawaiʻi Department of Parks and Recreation is submitting a 2nd Draft Environmental Assessment and Anticipated Finding of No Significant Impact for the proposed Pāpaʻaloa Park Master Plan and Phase I Development. Said Plan proposes a new covered play court, new community center building, skate park, playground, picnic pavilions, walking paths, other park-related facilities yet to be determined, associated on- and off-site utility and infrastructure improvements and modifications, and various modifications/replacement/improvements to existing park amenities and features.

Comments:

☐ No Comments ☒ Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: _____ Date: Apr 17, 2024

Brian J. Neilson
DAR Administrator

DAR# AR6615

Comments

The DAR highly recommends the installation of denitrification systems or capacities to any existing and proposed individual wastewater systems included within the scope of this project. Current approved septic systems and leach fields do not reduce excess nutrient concentrations, such as those of nitrogen and phosphorus, within wastewater. Highly elevated nutrient concentrations from these wastewater systems can directly impact groundwater and aquatic ecosystems. Specifically, given the proximity of the project area to the coastline, potential impacts to nearshore marine and coastal habitats are of concern as elevated nutrients within these ecosystems can trigger algal blooms, thereby altering the habitat and impacting inhabiting species. Such impacts have been studied and documented in Hawai‘i and elsewhere.

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Senior Vice-President / Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Vice-President / Principal

CATIE CULLISON, AICP
Vice-President / Principal

TOM SCHNELL, AICP
Vice-President / Principal

MARC SHIMATSU, ASLA
Principal

RAYMOND T. HIGA, ASLA
Associate Principal

DACHENG DONG, LEED® AP
Associate Principal

NATHALIE RAZO
Associate Principal

ANN MIKIKO BOUSLOG, PhD
Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

ETSUYO KILA
Senior Associate

GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

May 16, 2024

Mr. Brian J. Neilson
DAR Administrator
State of Hawai‘i
Department of Land and Natural Resources
Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, HI 96813

Attn: Troy Sakihara, Aquatic Biologist

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Neilson,

We have reviewed the memorandum from Troy Sakihara dated April 16, 2024 (DAR# AR6615), regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we are appreciative of the comments on the potential impacts to nearshore marine and coastal habitats, and information of denitrifications systems.

We value your participation in the environmental review process. Your memorandum will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

February 12, 2024

MEMORANDUM

FROM: **DLNR Agencies:**
X Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
___Div. of Boating & Ocean Recreation
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
X Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
X Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Draft Environmental Assessments for the Proposed **Papa'aloa Park Master Plan and Phase I Development**
LOCATION: North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 035 and 088
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of County of Maui, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. The DEA was published on February 8, 2024, by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2024-02-08-TEN.pdf

Please submit any comments by **March 8, 2024**. If no response is received by this date, we will assume your agency has no comments. Should you have any questions, please contact Darlene Nakamura directly via email at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
☑) Comments are included/attached.

Signed: JDO
Print Name: Jason D. Omick, Acting Wildlife Prog. Mgr.
Division: Forestry and Wildlife
Date: Apr 8, 2024

Attachments
cc: Central Files

JOSH GREEN, M.D.
GOVERNOR | KE KIAʻĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIAʻĀINA

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA ʻOIHANA KUMUWAIWAI ʻĀINA

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

April 5,2024

Log no. 4426

MEMORANDUM

TO: RUSSELL Y. TSUJI, Administrator
Land Division

FROM: JASON D.OMICK, Acting Wildlife Program Manager
Division of Forestry and Wildlife

SUBJECT: Request for Comments on the Draft Environmental Assessment for the Proposed Papaʻaloa Park Master Plan and Phase 1 Development in North Hilo, Hawaiʻi.

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your request for comments on the Pre-Assessment Consultation for EA for the proposed Papaʻaloa Park Master Plan and Phase 1 Development in North Hilo on the island of Hawaiʻi; TMKs: (3) 3-5-003:035 and 088. The proposed project is located in the North Hilo Judicial District on Hawaiʻi Island. The project would involve a new covered play court facility, associated on-site and off-site infrastructure and utility improvements/ modifications, replacement/improvement of existing park amenities and recreational features impacted by any new/ required work, and related improvements necessary to connect all new and existing features of the park.

DOFAW concurs with the measures included in the DEA intended to avoid construction and operational impacts to State-listed species including the ʻōpeʻapeʻa or Hawaiian Hoary bat (*Lasiurus cinereus semotus*), the ʻio or Hawaiian Hawk (*Buteo solitarius*), nēnē or Hawaiian Goose (*Branta sandvicensis*), and seabirds. We also appreciate the measures outlined to minimize the movement of plant and soil material to prevent the spread of invasive species and for the use of best management practices to contain any soils and sediment with the purpose of preventing damage to near-shore waters and marine ecosystems. DOFAW provides the following additional comments regarding the potential for the proposed work to affect listed species in the vicinity of the project area.

The endemic pueo or Hawaiian Short-Eared Owl (*Asio flammeus sandwichensis)* could potentially nest in the project area. Before any potential vegetative alteration, especially

ground-based disturbance, we recommend that line transect surveys are conducted during crepuscular hours through the project area. If a pueo nest is discovered, a minimum buffer distance of 100 meters from the nest should be established until chicks are capable of flight.

DOFAW recommends using native plant species for landscaping that are appropriate for the area, i.e., plants for which climate conditions are suitable for them to thrive, plants that historically occurred there, etc. Please do not plant invasive species. DOFAW also recommends referring to www.plantpono.org for guidance on the selection and evaluation of landscaping plants and to determine the potential invasiveness of plants proposed for use in the project.

We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Katherine Cullison, Protected Species Habitat Conservation Planning Coordinator, at katherine.cullison@hawaii.gov.

Sincerely,

JASON D. OMICK
Acting Wildlife Program Manager

PBR HAWAII
& ASSOCIATES, INC.

May 16, 2024

Mr. Jason D. Omick
Acting Wildlife Program Manager
State of Hawai‘i
Department of Land and Natural Resources
Division of Forestry and Wildlife
1151 Punchbowl Street, Room 325
Honolulu, HI 96813

Attn: Katherine Cullison, Protected Species Habitat Conservation Planning Coordinator

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Omick,

We have reviewed your memorandum to Mr. Tsuji dated April 5, 2024 (Log no. 4426), regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we are appreciative of the information provided on the endemic pueo and the recommendations for landscaping, which will be included in the Final Environmental Assessment (EA).

We value your participation in the environmental review process. Your memorandum will be reproduced in the forthcoming Final EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

February 12, 2024

MEMORANDUM

TO: **DLNR Agencies:**
_X_ Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
___ Div. of Boating & Ocean Recreation
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___ Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
_X_ Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
_X_ Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Draft Environmental Assessments for the Proposed **Papa'aloa Park Master Plan and Phase I Development**
LOCATION: North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 035 and 088
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of County of Maui, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. The DEA was published on February 8, 2024, by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2024-02-08-TEN.pdf

Please submit any comments by **March 8, 2024**. If no response is received by this date, we will assume your agency has no comments. Should you have any questions, please contact Darlene Nakamura directly via email at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

(✓) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
( ) Comments are included/attached.

Signed: *Gordon C. Heit*
Print Name: Gordon C. Heit
Division: Land Division
Date: March 4, 2024

Attachments
cc: Central Files

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

April 1, 2024

MEMORANDUM

TO: **DLNR Agencies:**
_X_ Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
___ Div. of Boating & Ocean Recreation
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___ Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
_X_ Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
_X_ Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: 2nd Draft Environmental Assessment for the Proposed **Papa'aloa Park Master Plan and Phase I Development**
LOCATION: North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 088 and 035
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of County of Maui, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. The 2nd DEA was published on March 23, 2024, by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2024-03-23-TEN.pdf

Please submit any comments by **April 19, 2024**. If no response is received by this date, we will assume your agency has no comments. Should you have any questions, please contact Darlene Nakamura directly via email at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

(✓) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
( ) Comments are included/attached.

Signed: *Gordon Heit*
Print Name: Gordon Heit
Division: Land Division
Date: April 15, 2024

Attachments
cc: Central Files

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Senior Vice-President / Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Vice-President / Principal

CATIE CULLISON, AICP
Vice-President / Principal

TOM SCHNELL, AICP
Vice-President / Principal

MARC SHIMATSU, ASLA
Principal

RAYMOND T. HIGA, ASLA
Associate Principal

DACHENG DONG, LEED® AP
Associate Principal

NATHALIE RAZO
Associate Principal

ANN MIKIKO BOUSLOG, PhD
Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

ETSUYO KILA
Senior Associate

GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

May 16, 2024

Gordon C. Heit
State of Hawai‘i
Department of Land and Natural Resources
Land Division – Hawai‘i District
P.O. Box 621
Honolulu, HI 96809

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Heit,

We have reviewed your memorandums to Mr. Tsuji dated March 4, 2024, and April 15, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that Land Division – Hawai‘i District has no objections.

We value your participation in the environmental review process. Your memorandums will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

MK

Cnc. HA 24-121

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

February 12, 2024

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
___Div. of Boating & Ocean Recreation
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
X Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
X Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Draft Environmental Assessments for the Proposed **Papa'aloa Park Master Plan and Phase I Development**
LOCATION: North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 035 and 088
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of County of Maui, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. The DEA was published on February 8, 2024, by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2024-02-08-TEN.pdf

Please submit any comments by **March 8, 2024**. If no response is received by this date, we will assume your agency has no comments. Should you have any questions, please contact Darlene Nakamura directly via email at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(X) Comments are included/attached.

Signed: *Mari Kurosawa*
Print Name: Mari Kurosawa
Division: Office of Conservation & Coastal Lands
Date: 2/15/2024

Attachments
cc: Central Files

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
OFFICE OF CONSERVATION AND COASTAL LANDS
P.O. BOX 621
HONOLULU, HAWAII 96809

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RYAN K.P. KANAKA'OLE
FIRST DEPUTY

DEAN D. UYENO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

REF: OCCL: MK

COR: HA 24-121

Feb 14, 2024

Memorandum:

TO: Russell Y. Tsuji, Administrator
Land Division

FROM: S. Michael Cain, Administrator *S Michael Cain*
Office of Conservation and Coastal Lands

SUBJECT: Comments for Draft Environmental Assessments for the Proposed Pāpa'aloa Park Master Plan and Phase I Development
Pāpa'aloa, North Hilo, Hawai'i
TMK: (3) 3-5-003:035 and 088

The Office of Conservation and Coastal Lands (OCCL) has reviewed the County of Maui, Department of Parks and Recreation's Draft Environmental Assessment (DEA) regarding the subject matter. As previously identified, a makai portion of the parcel 035 is within the State of Hawai'i Land Use Conservation District's Resource Subzone. We note that the applicant is in the process of applying for a Boundary Interpretation from the State Land Use Commission. According to the DEA, the project does not currently propose any development within Conservation Land. Should the Boundary Interpretation show that there is proposed land use in the Conservation District or should this plan change, please contact the OCCL so that we may make a determination as to what type of authorization may be required.

Should you have any questions, please contact Mari Kurosawa of the OCCL at (808)-587-0381 or at mari.i.kurosawa@hawaii.gov.

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

2024 APR -5 AM 10:34

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

April 1, 2024

MEMORANDUM

TO: **DLNR Agencies:**
_X_ Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
___ Div. of Boating & Ocean Recreation
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___ Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
_X_ Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
_X_ Land Division – Hawaii District (gordon.c.heit@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: 2nd Draft Environmental Assessment for the Proposed **Papa'aloa Park Master Plan and Phase I Development**
LOCATION: North Hilo, Island of Hawaii; TMK: (3) 3-5-003: 088 and 035
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of County of Maui, Department of Parks and Recreation

Transmitted for your review and comment is information on the above-referenced subject matter. The 2nd DEA was published on March 23, 2024, by the State Environmental Review Program (formerly the Office of Environmental Quality Control) at the Office of Planning and Sustainable Development in the periodic bulletin, The Environmental Notice, available at the following link:

https://files.hawaii.gov/dbedt/erp/The_Environmental_Notice/2024-03-23-TEN.pdf

Please submit any comments by **April 19, 2024**. If no response is received by this date, we will assume your agency has no comments. Should you have any questions, please contact Darlene Nakamura directly via email at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
(✓) We have no additional comments.
( ) Comments are included/attached.

Signed: *K. Tyler Mills*
Print Name: K. Tyler Mills
Division: DLNR-DOCCL
Date: 4/4/2024

Attachments
cc: Central Files

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

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NATHALIE RAZO
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Director of Land Economics & Real Estate

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Cultural Sustainability Planner

ETSUYO KILA
Senior Associate

GREG NAKAI
Senior Associate

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E-mail: sysadmin@pbrhawaii.com

printed on recycled paper

May 16, 2024

Michael Cain, Administrator
State of Hawai'i
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, HI 96809

Attn: Mari Kurosawa and Tiger Mills

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Cain,

We have reviewed your memorandums to Mr. Tsuji dated February 14, 2024 (COR: HA 24-121) and April 4, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), we are appreciative of the information provided in your memorandums.

Upon receipt of the earlier memorandum, DPR's surveying subconsultant contacted the Land Use Commission regarding the (State Land Use) District Boundary Interpretation process, but through its consultations with area residents, DPR decided to limit initial plans to the portion of the Park located within TMK: (3) 3-5-003: 088, which is not located within the Conservation District. Of course, if DPR decides to develop parcel 035, it will apply for a Boundary Interpretation from the State Land Use Commission early in the planning process.

We value your participation in the environmental review process. Your memorandums will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation
Kevin Sakai, County of Hawai'i, Department of Parks and Recreation

From:	Kamakana Ferreira
To:	Papaaloapark; kevin.sakai@hawaiicounty.gov; Greg Nakai
Cc:	thomas.h.eisen@hawaii.gov; Kai Markell
Subject:	Completeness of DEA for Papa"aloa Park Master Plan?
Date:	Monday, February 26, 2024 9:33:24 AM

Aloha,

The Office of Hawaiian Affairs (OHA) is in receipt of your letter dated February 5, 2024, notifying us of the draft environmental assessment (DEA) for the Papa'aloa Park Master Plan and Phase I Development in North Hilo. PBR Hawaii has prepared this DEA on behalf of the County of Hawai'i, Department of Parks and Recreation, pursuant to HRS Chapter 343. The plan would involve: a new covered play court facility; a new community center building, a skate park; a playground; picnic pavilions; a perimeter walking path; and, other park related facilities to be determined. Work will include associated on-site and off-site infrastructure utility modifications, replacement of existing parm amenities, and related improvements to connect all new and existing features of the park.

OHA has concerns regarding the incompleteness of the cultural impact assessment (CIA) done for the DEA. The DEA mentions that 4 individuals had agreed to take part in interviews for the CIA, but that these interviews have not occurred yet. The DEA further states "it is acknowledged that the entire picture of potential cultural impacts and mitigation measures cannot be concluded without the completion of the consultation process." The CIA, included as Appendix E, indicates within the "findings, recommendations, and conclusion" section that "information will be included once the consultation is complete." It is suggested that this information will be available for the Final EA.

OHA believes submitting an incomplete CIA may have rendered the entire DEA incomplete as HAR 11-200.1-18(d)(8) requires that "proposed mitigation measures" be included within the DEA for the various environmental components that are assessed. The intent of HRS Chapter 343 is to ensure a project's impact to the environment is fully considered in the planning process and to integrate mitigation where needed to minimize significant environmental harm. However, the decision made to provide an incomplete CIA here has now foreclosed the opportunity for the public to review and comment on adverse impacts and respective mitigations. If a precedent is set to allow the inclusion of incomplete CIAs within DEAs, OHA believes this would go against the way environmental reviews have typically been done in the State of Hawai'i and potentially encourage other projects to conduct environmental reviews in a manner that is not consistent with the intent of the law and conceals important facts from the public.

We look forward to your response. Thomas Eisen of the Environmental Review Program is included on this email as perhaps he could assist you in determining whether its acceptable to omit the identification of impacts and respective mitigation findings from a DEA for any environmental components. Absent a response, OHA will follow up with a formal letter.

Mahalo,

Kamakana C. Ferreira, M.A.
Lead Compliance Specialist
Office of Hawaiian Affairs
560 N. Nimitz Hwy

Honolulu, Hi. 96817

(808)594-0227

From: Kamakana Ferreira
To: Papaaloapark; kevin.sakai@hawaiicounty.gov; Greg Nakai
Subject: OHA Comment Re: 2nd DEA for Papa"aloa Park Master Plan
Date: Friday, April 12, 2024 9:13:08 AM

Aloha,

The Office of Hawaiian Affairs (OHA) is in receipt of your letter dated March 21, 2024, notifying us of the second draft environmental assessment (DEA) for the Papa'aloa Park Master Plan and Phase I Development in North Hilo. PBR Hawaii has prepared this DEA on behalf of the County of Hawai'i, Department of Parks and Recreation, pursuant to HRS Chapter 343. The plan would involve: a new covered play court facility; a new community center building, a skate park; a playground; picnic pavilions; a perimeter walking path; and, other park related facilities to be determined. Work will include associated on-site and off-site infrastructure utility modifications, replacement of existing parm amenities, and related improvements to connect all new and existing features of the park.

OHA acknowledges that the second DEA contains a complete cultural impact assessment (CIA), whereas the first release of the DEA did not. From the interviews in the CIA, it appears the community is very eager for a new park, but that there are some concerns that the County is not really listening to their requests. For this reason, the CIA recommends further community engagement. The CIA further recommends that the County submit their archaeological inventory survey (AIS) report to the State Historic Preservation Division (SHPD) as part of HRS 6E-8 review.

OHA supports the recommendations in the CIA to further community engagement and submit the AIS report to SHPD. We further respectfully request a copy of the AIS report and any SHPD comments that should follow.

Mahalo for the opportunity to comment. We look forward to seeing our recommendations considered and receiving the requested information. Please let me know if you have any questions at this time.

Mahalo,

Kamakana C. Ferreira, M.A.
Lead Compliance Specialist
Office of Hawaiian Affairs
560 N. Nimitz Hwy
Honolulu, Hi. 96817

(808)594-0227

PBR HAWAII
& ASSOCIATES, INC.

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President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
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printed on recycled paper

May 16, 2024

Mr. Kamakana C. Ferreira, M.A.
Lead Compliance Specialist
State of Hawai'i
Office of Hawaiian Affairs
560 N. Nimitz Highway
Honolulu, HI 96817

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Ferreira,

Thank you for your emails dated February 26, 2024, and April 12, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), the Final Environmental Assessment (EA) will note that:

> *"OHA acknowledges that the second DEA contains a complete cultural impact assessment (CIA), whereas the first release of the DEA did not. From the interviews in the CIA, it appears the community is very eager for a new park, but that there are some concerns that the County is not really listening to their requests. For this reason, the CIA recommends further community engagement. The CIA further recommends that the County submit their archaeological inventory survey (AIS) report to the State Historic Preservation Division (SHPD) as part of HRS 6E-8 review.*
>
> *OHA supports the recommendations in the CIA to further community engagement and submit the AIS report to SHPD. We further respectfully request a copy of the AIS report and any SHPD comments that should follow."*

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation
Kevin Sakai, County of Hawai'i, Department of Parks and Recreation

From: Lara, Kirsten F CIV USARMY CEPOH (USA)
To: Papaaloapark; kevin.sakai@hawaiicounty.gov
Cc: Greg Nakai
Subject: POH-2024-00044, Papa"aloa Park Master Plan, Hilo
Date: Monday, March 25, 2024 5:13:49 PM
Attachments: image001.jpg

Aloha Mr. Sakai,

The US Army Corps of Engineers (Corps) received your request for comments on the proposed Papa'aloa Park Master Plan and Phase I Development Project.

The Corps' regulatory authorities are based on Section 10 of the Rivers and Harbors Act (RHA) of 1899 and Section 404 of the Clean Water Act. Section 10 of the RHA of 1899 prohibits the obstruction or alteration of any navigable water of the U.S. (WOTUS) without a Department of the Army (DA) permit. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into WOTUS without a DA permit. For projects that are being developed, we ask that you identify areas that may fall within the Corps jurisdiction as WOTUS such as streams, rivers, and wetlands.

If you determine that your project would need a permit from the Corps, then we would require an application to be provided. We must also evaluate the project for any impacts to resources such as threatened or endangered species, historic properties, and/or essential fish habitat, and consult if necessary. If applying for a permit, include detailed plans/drawings of the proposed project where streams or wetlands are present. Include a clear line indicating the ordinary high water mark (OHWM) in your plans and also include the amount and type of fill that would be placed below the OHWM.

A permit is not required if all work being done is located in uplands.

Please visit https://www.poh.usace.army.mil/Missions/Regulatory/Permits/Nationwide-Permits/ to find more information about our program and to apply for a permit. Email permit applications to CEPOH-RO@usace.army.mil, as we have gone paperless.

Feel free to contact me with any further questions.

Mahalo,

Kirsten Lara
Biologist/Regulatory Specialist
U.S. Army Corps of Engineers
Honolulu District
Building 252, Fort Shafter, Hawai'i
96858
Email kirsten.f.lara@usace.army.mil
Phone 808-835-4307

PBR HAWAII
& ASSOCIATES, INC.

May 16, 2024

Ms. Kirsten Lara
Biologist/Regulatory Specialist
U.S. Army Corps of Engineers
Honolulu District
Building 252
Fort Shafter, HI 96858

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Ms. Lara,

We have reviewed your email to Kevin Sakai dated March 25, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we appreciate the information provided on Section 10 of the Rivers and Harbors Act (RHA) of 1899 and Section 404 of the Clean Water Act.

All of the work related to the proposed Project will be located in uplands of any streams, rivers and wetlands. The Final Environmental Assessment (EA) will include a screenshot of the U.S. Fish and Wildlife Service’s National Wetlands Inventory.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

From:	Cole, Colleen
To:	Papaaloapark; kevin.sakai@hawaiicounty.gov
Cc:	Asman, Lindsy; PIFWO_Admin, FW1
Subject:	Comments for Pāpa'aloa Park Master Plan and Phase 1 Development Draft Environmental Assessment
Date:	Wednesday, March 13, 2024 8:41:50 AM
Attachments:	How to IPAC .docx Papaaloa_Animal Avoidance and Minimization Measures - FINAL May 2023.docx

---

Dear Kevin Sakai,

The U.S. Fish and Wildlife Service (Service) received your request for comments on February 21, 2024, for the Pāpaʻaloa Park Master Plan and Phase 1 Development Draft Environmental Assessment. We recommend you obtain an official species list for the proposed project site with the associated Avoidance and Minimization Measures (AMMs) for those species. (instructions are attached). We appreciate the consideration of federally listed species included in the Draft Environmental Assessment that may be impacted by the proposed activities:

- ʻŌpeʻapeʻa or Hawaiian hoary bat (*Lasiurus cinereus semotus*),
- Nēnē or Hawaiian goose (*Branta sandvicensis*),
- Hawaiian seabirds, including Hawaiʻi Distinct Population Segment of the ʻakēʻakē or band-rumped storm-petrel (*Hydrobates castro*), ʻaʻo or Newell's shearwater (*Puffinus newelli*), ʻuaʻu or Hawaiian petrel (*Pterodroma sandwichensis*), and short-tailed albatross (*Phoebastria albatrus*)

In addition to the species listed above, the following listed species are potentially found in the area and AMMs should be incorporated into the project activities to avoid impacts to these species:

- Hawaiian waterbirds, including aeʻo or Hawaiian stilt (*Himantopus mexicanus knudseni*), ʻalae keʻokeʻo or Hawaiian coot (*Fulica alai*), and koloa maoli or Hawaiian duck (*Anas wyvilliana*)
- Sea turtles, including the Honu or green sea turtle (*Chelonia mydas*) and the honuʻea or Hawksbill sea turtle (*Eretmocheyls imbricata*),

Please ensure you have incorporated all the recommended AMMs (attached) for these species. We understand you conducted a natural resources survey that did not observe these species in the proposed project area, however, these species could still occur in the area and potentially be impacted by proposed project activities.

Thank you for protecting federally listed species. Please let me know if you have any questions.

Mahalo,

Colleen Cole
Biologist - Maui Nui & Hawaiʻi Island Team
Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service

154 Waiānuenue Avenue Suite 103
PO Box 10225
Hilo, Hawai‘i 96720-2452

Cell Phone: 808-859-1002
Email: colleen_cole@fws.gov

How to obtain an IPaC Official Species List
(Creates ECOSphere Project with most data fields completed automatically)

The US Fish and Wildlife Service (Service) has streamlined portions of the consultation process. Your first step in our updated process is to obtain an Official Species List in our new Information for Planning and Consultation (IPaC) online tool, for which a link can be found at the box in top left corner of the this home page: **https://ecos.fws.gov/ecp/**

After entering basic project information, including a map of the project (you can use the map drawing tool or upload a GIS polygon that contains the project area(s)), please navigate to request an Official Species List. In addition to creating your species list, this process automatically generates an ECOSphere Project in our system, facilitating our work on your project. Each submitted project is assigned a unique Project Code; please provide this Project Code in any correspondence with our office relating to the project.

Your IPaC-generated Official Species List will include all federally listed species, critical habitat, migratory birds, and wetland habitat that occurs, or may transit through, the project vicinity. For projects in Hawaii, each species on your Official Species List page links directly below it that provides the Service's recommended avoidance and minimization measures for that species. For projects on other islands, please email pifwo_admin@fws.gov to request our general avoidance and minimization measures so you can refer to them in the preliminary stages of project design.

A few IPAC tips:

- If you upload a polygon for your project area, please include all sites in a single file. Otherwise, you will get a project code for every site. To facilitate your closer look at which species may occur within smaller portions of your project site, you may utilize IPaC's functionality, without making the Official Species List request.
- Unless you are a federal agency with an existing programmatic consultation with us, you can ignore any prompts to further your consultation in IPaC or to utilize D Keys.
- Once you have an established account in Login.gov, you may access IPaC directly at **https://ipac.ecosphere.fws.gov/** or continue to access IPaC via the home page at **https://ecos.fws.gov/ecp/**, accessing IPaC in the upper left hand corner.
- Additional background information about IPaC:
    - Your offical IPaC species list is based on species' range maps shown on each species' page in https://ecos.fws.gov/ecp/.
    - Survey the project footprint and adjacent areas that may be affected by project-related increases in noise, lighting, invasive species, wildfire, and other stressors. Use the survey data to inform project design and your analysis of the effects of the action to the species.
    - Address all the species in the Official Species List in your effects analysis.
    - Incorporate the Service's recommended avoidance and minimization measures to the extent you can, and coordinate with our office for project-specific technical assistance when the avoidance measures can't be implemented.

Please do not hesitate to contact pifwo_admin@fws.gov for additional assistance.

FINAL Avoidance and Minimization Measures (AMMs)
Final revised May 2023

ESA Listed Species

Endangered ʻōpeʻapeʻa (Hawaiian hoary bat, *Lasiurus cinereus semotus*): The Hawaiian hoary bat roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).
- Do not use barbed wire for fencing.

Endangered ʻuaʻu (Hawaiian petrel, *Pterodroma sandwichensis*), Threatened ʻaʻo, (Newell's shearwater, *Puffinus newelli*), and Endangered Hawaiʻi Distinct Population Segment of the ʻakēʻakē (band-rumped storm-petrel, *Hydrobates castro*):
Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable to light attraction.

To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following measures into your project description:

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

Seabirds have been known to collide with fences, powerlines, and other structures near nesting colonies. To avoid and minimize the likelihood of collision we recommend you incorporate the following measures into your project description:

- Where fences extend above vegetation, integrate three strands of polytape into the fence to increase visibility.

- For powerlines, guy-wires and other cables, minimize exposure above vegetation height and vertical profile.

Threatened nēnē (Hawaiian goose, *Branta (Nesochen) sandvicensis*): Nēnē are found on the islands of Hawai‘i, Maui, Moloka‘i, and Kaua‘i. They are observed in a variety of habitats, but prefer open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.

To avoid and minimize potential project impacts to nēnē we recommend you incorporate the following measures into your project description:

- Do not approach, feed, or disturb nēnē.
- If nēnē are observed loafing or foraging within the project area during the breeding season (September through April), have a biologist familiar with nēnē nesting behavior survey for nests in and around the project area prior to the resumption of any work. Repeat surveys after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
- Cease all work immediately and contact the Service for further guidance if a nest is discovered within a radius of 150 feet of proposed project, or a previously undiscovered nest is found within the 150-foot radius after work begins.
- In areas where nēnē are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.

Endangered Hawaiian waterbirds (ae‘o, Hawaiian stilt, *Himantopus mexicanus knudseni*; ‘alae ke‘oke‘o, Hawaiian coot, *Fulica alai*; ‘alae ‘ula; koloa maoli, Hawaiian duck, *Anas wyvilliana*): Hawaiian waterbirds are currently found in a variety of wetland habitats including freshwater marshes and ponds, coastal estuaries and ponds, artificial reservoirs, kalo or taro (*Colocasia esculenta*) lo‘i or patches, irrigation ditches, sewage treatment ponds, and in the case of the Hawaiian duck, montane streams and marshlands. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur. Threats to these species include non-native predators, habitat loss, and habitat degradation. Hawaiian ducks are also subject to threats from hybridization with introduced mallards.

Based on the project details provided, your project may result in the creation of standing water or open water that could attract Hawaiian waterbirds to the project site. In particular, the Hawaiian stilt is known to nest in sub-optimal locations (e.g., any ponding water), if water is present. Hawaiian waterbirds attracted to sub-optimal habitat may suffer adverse impacts, such as predation and reduced reproductive success, and thus the project may create an attractive nuisance. Therefore, we recommend you work with our office during project planning so that we may assist you in developing measures to avoid impacts to listed species (e.g., fencing, vegetation control, predator management).

To avoid and minimize potential project impacts to Hawaiian waterbirds we recommend you incorporate the following measures into your project description:

- In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.
- If water resources are located within or adjacent to the project site, incorporate applicable best management practices regarding work in aquatic environments into the project design (see enclosure).
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the proposed project site prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest). If a nest or active brood is found:
    - Contact the Service within 48 hours for further guidance.
    - Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
    - Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

Threatened (Central North Pacific DPS) Green sea turtles (*Chelonia mydas*) and Endangered Hawksbill sea turtle (*Eretmochelys imbricata*) (collectively referred to as sea turtles): The Service consults on sea turtles and their use of terrestrial habitats (beaches where nesting and/or basking is known to occur), whereas the National Oceanic and Atmospheric Administration (NOAA) Fisheries consults on sea turtles in aquatic habitats. We recommend that you consult with NOAA Fisheries regarding the potential impacts from the proposed project if it may affect off-shore or open ocean habitats.

Green sea turtles may nest on any sandy beach area in the Pacific Islands. Hawksbill sea turtles exhibit a wide tolerance for nesting substrate (ranging from sandy beach to crushed coral) with nests typically placed under vegetation. Both species exhibit strong nesting site fidelity. Nesting occurs on beaches from May through September, peaking in June and July, with hatchlings emerging through November and December.

Construction on, or in the vicinity of, beaches can result in sand and sediment compaction, sea turtle nest destruction, beach erosion, contaminant and nutrient runoff, and an increase in direct and ambient light pollution which may disorient hatchlings or deter nesting females. Off-road vehicle traffic may result in direct impacts to sea turtles or nests, and also contributes to habitat degradation through erosion and compaction.

Where possible, projects should consider alternatives that avoid the modification or hardening of coastlines. Beach nourishment or beach hardening projects should evaluate the long-term effect to sea turtle nesting habitat and consider the cumulative effects.

Optimal sea turtle nesting habitat is a dark beach free of barriers that restrict sea turtle movement. Nesting turtles may be deterred from approaching or laying successful nests on

lighted or disturbed beaches. They may become disoriented by artificial lighting, leading to exhaustion and placement of a nest in an inappropriate location (such as at or below the high tide line). Hatchlings that emerge from nests may also be disoriented by artificial lighting. Inland areas visible from the beach should be sufficiently dark to allow for successful navigation by hatchlings to the ocean.

To avoid and minimize project impacts to sea turtles from lighting we recommend incorporating the following applicable measures into your project description:

- Avoid nighttime work during the nesting and hatching season (May to December).
- Minimize the use of lighting on or near beaches and shield all project-related lights so the light is not visible from any beach.
    - If lights can't be fully shielded or if headlights must be used, fully enclose the light source with light filtering tape or filters.
- Incorporate design measures into the construction or operation of buildings adjacent to the beach to reduce ambient outdoor lighting such as:
    - tinting or using automatic window shades for exterior windows that face the beach;
    - reducing the height of exterior lighting to below 3 feet and pointed downward or away from the beach; and
    - minimize light intensity to the lowest level feasible and, when possible, include timers and motion sensors.

From:	Cole, Colleen
To:	kevin.sakai@hawaiicounty.gov; Papaaloapark
Cc:	Asman, Lindsy; PIFWO_Admin, FW1
Subject:	Fw: Comments for Pāpa'aloa Park Master Plan and Phase 1 Development Draft Environmental Assessment
Date:	Tuesday, March 26, 2024 11:10:39 AM
Attachments:	How to IPAC .docx Papaaloa_Animal Avoidance and Minimization Measures - FINAL May 2023.docx

Dear Kevin Sakai,
I am resubmitting the comments below for the Second Draft Environmental Assessment (DEA) for the Pāpa‘aloa Park Master Plan and Phase I Development. These comments were submitted after the first comment period ended for the First DEA.

Please let me know if you have any questions.

Mahalo,
Colleen Cole
Biologist - Maui Nui & Hawai‘i Island Team
Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service
154 Waiānuenue Avenue Suite 103
PO Box 10225
Hilo, Hawai‘i 96720-2452

Cell Phone: 808-859-1002
Email: colleen_cole@fws.gov

From: Cole, Colleen
Sent: Wednesday, March 13, 2024 8:41 AM
To: PapaaloaPark@pbrhawaii.com <PapaaloaPark@pbrhawaii.com>; kevin.sakai@hawaiicounty.gov <kevin.sakai@hawaiicounty.gov>
Cc: Asman, Lindsy <Lindsy_Asman@fws.gov>; PIFWO_Admin, FW1 <pifwo_admin@fws.gov>
Subject: Comments for Pāpa‘aloa Park Master Plan and Phase 1 Development Draft Environmental Assessment

Dear Kevin Sakai,
The U.S. Fish and Wildlife Service (Service) received your request for comments on February 21, 2024, for the Pāpa‘aloa Park Master Plan and Phase 1 Development Draft Environmental Assessment. We recommend you obtain an official species list for the proposed project site with the associated Avoidance and Minimization Measures (AMMs) for those species. (instructions are attached). We appreciate the consideration of federally listed species included in the Draft Environmental Assessment that may be

impacted by the proposed activities:

- ʻŌpeʻapeʻa or Hawaiian hoary bat (***Lasiurus cinereus semotus***),
- Nēnē or Hawaiian goose (***Branta sandvicensis***),
- Hawaiian seabirds, including Hawaiʻi Distinct Population Segment of the ʻakēʻakē or band-rumped storm-petrel (***Hydrobates castro***), ʻaʻo or Newell's shearwater (***Puffinus newelli***), ʻuaʻu or Hawaiian petrel (***Pterodroma sandwichensis***), and short-tailed albatross (***Phoebastria albatrus***)

In addition to the species listed above, the following listed species are potentially found in the area and AMMs should be incorporated into the project activities to avoid impacts to these species:

- Hawaiian waterbirds, including aeʻo or Hawaiian stilt (***Himantopus mexicanus knudseni***), ʻalae keʻokeʻo or Hawaiian coot (***Fulica alai***), and koloa maoli or Hawaiian duck (***Anas wyvilliana***)
- Sea turtles, including the Honu or green sea turtle (***Chelonia mydas***) and the honuʻea or Hawksbill sea turtle (***Eretmocheyls imbricata***),

Please ensure you have incorporated all the recommended AMMs (attached) for these species. We understand you conducted a natural resources survey that did not observe these species in the proposed project area, however, these species could still occur in the area and potentially be impacted by proposed project activities.

Thank you for protecting federally listed species. Please let me know if you have any questions.

Mahalo,

Colleen Cole
Biologist - Maui Nui & Hawaiʻi Island Team
Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service
154 Waiānuenue Avenue Suite 103
PO Box 10225
Hilo, Hawaiʻi 96720-2452

Cell Phone: 808-859-1002
Email: colleen_cole@fws.gov

How to obtain an IPaC Official Species List
(Creates ECOSphere Project with most data fields completed automatically)

The US Fish and Wildlife Service (Service) has streamlined portions of the consultation process. Your first step in our updated process is to obtain an Official Species List in our new Information for Planning and Consultation (IPaC) online tool, for which a link can be found at the box in top left corner of the this home page: **https://ecos.fws.gov/ecp/**

After entering basic project information, including a map of the project (you can use the map drawing tool or upload a GIS polygon that contains the project area(s)), please navigate to request an Official Species List. In addition to creating your species list, this process automatically generates an ECOSphere Project in our system, facilitating our work on your project. Each submitted project is assigned a unique Project Code; please provide this Project Code in any correspondence with our office relating to the project.

Your IPaC-generated Official Species List will include all federally listed species, critical habitat, migratory birds, and wetland habitat that occurs, or may transit through, the project vicinity. For projects in Hawaii, each species on your Official Species List page links directly below it that provides the Service's recommended avoidance and minimization measures for that species. For projects on other islands, please email pifwo_admin@fws.gov to request our general avoidance and minimization measures so you can refer to them in the preliminary stages of project design.

A few IPAC tips:

- If you upload a polygon for your project area, please include all sites in a single file. Otherwise, you will get a project code for every site. To facilitate your closer look at which species may occur within smaller portions of your project site, you may utilize IPaC's functionality, without making the Official Species List request.
- Unless you are a federal agency with an existing programmatic consultation with us, you can ignore any prompts to further your consultation in IPaC or to utilize D Keys.
- Once you have an established account in Login.gov, you may access IPaC directly at **https://ipac.ecosphere.fws.gov/** or continue to access IPaC via the home page at **https://ecos.fws.gov/ecp/**, accessing IPaC in the upper left hand corner.
- Additional background information about IPaC:
    - Your offical IPaC species list is based on species' range maps shown on each species' page in https://ecos.fws.gov/ecp/.
    - Survey the project footprint and adjacent areas that may be affected by project-related increases in noise, lighting, invasive species, wildfire, and other stressors. Use the survey data to inform project design and your analysis of the effects of the action to the species.
    - Address all the species in the Official Species List in your effects analysis.
    - Incorporate the Service's recommended avoidance and minimization measures to the extent you can, and coordinate with our office for project-specific technical assistance when the avoidance measures can't be implemented.

Please do not hesitate to contact pifwo_admin@fws.gov for additional assistance.

FINAL Avoidance and Minimization Measures (AMMs)
Final revised May 2023

ESA Listed Species

Endangered ʻōpeʻapeʻa (Hawaiian hoary bat, *Lasiurus cinereus semotus*): The Hawaiian hoary bat roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).
- Do not use barbed wire for fencing.

Endangered ʻuaʻu (Hawaiian petrel, *Pterodroma sandwichensis*), Threatened ʻaʻo, (Newell's shearwater, *Puffinus newelli*), and Endangered Hawaiʻi Distinct Population Segment of the ʻakēʻakē (band-rumped storm-petrel, *Hydrobates castro*):
Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable to light attraction.

To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following measures into your project description:

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

Seabirds have been known to collide with fences, powerlines, and other structures near nesting colonies. To avoid and minimize the likelihood of collision we recommend you incorporate the following measures into your project description:

- Where fences extend above vegetation, integrate three strands of polytape into the fence to increase visibility.

- For powerlines, guy-wires and other cables, minimize exposure above vegetation height and vertical profile.

Threatened nēnē (Hawaiian goose, *Branta (Nesochen) sandvicensis*): Nēnē are found on the islands of Hawai‘i, Maui, Moloka‘i, and Kaua‘i. They are observed in a variety of habitats, but prefer open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.

To avoid and minimize potential project impacts to nēnē we recommend you incorporate the following measures into your project description:

- Do not approach, feed, or disturb nēnē.
- If nēnē are observed loafing or foraging within the project area during the breeding season (September through April), have a biologist familiar with nēnē nesting behavior survey for nests in and around the project area prior to the resumption of any work. Repeat surveys after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
- Cease all work immediately and contact the Service for further guidance if a nest is discovered within a radius of 150 feet of proposed project, or a previously undiscovered nest is found within the 150-foot radius after work begins.
- In areas where nēnē are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.

Endangered Hawaiian waterbirds (ae‘o, Hawaiian stilt, *Himantopus mexicanus knudseni*; ‘alae ke‘oke‘o, Hawaiian coot, *Fulica alai*; ‘alae ‘ula; koloa maoli, Hawaiian duck, *Anas wyvilliana*): Hawaiian waterbirds are currently found in a variety of wetland habitats including freshwater marshes and ponds, coastal estuaries and ponds, artificial reservoirs, kalo or taro (*Colocasia esculenta*) lo‘i or patches, irrigation ditches, sewage treatment ponds, and in the case of the Hawaiian duck, montane streams and marshlands. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur. Threats to these species include non-native predators, habitat loss, and habitat degradation. Hawaiian ducks are also subject to threats from hybridization with introduced mallards.

Based on the project details provided, your project may result in the creation of standing water or open water that could attract Hawaiian waterbirds to the project site. In particular, the Hawaiian stilt is known to nest in sub-optimal locations (e.g., any ponding water), if water is present. Hawaiian waterbirds attracted to sub-optimal habitat may suffer adverse impacts, such as predation and reduced reproductive success, and thus the project may create an attractive nuisance. Therefore, we recommend you work with our office during project planning so that we may assist you in developing measures to avoid impacts to listed species (e.g., fencing, vegetation control, predator management).

To avoid and minimize potential project impacts to Hawaiian waterbirds we recommend you incorporate the following measures into your project description:

- In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.
- If water resources are located within or adjacent to the project site, incorporate applicable best management practices regarding work in aquatic environments into the project design (see enclosure).
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the proposed project site prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest). If a nest or active brood is found:
    - Contact the Service within 48 hours for further guidance.
    - Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
    - Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

Threatened (Central North Pacific DPS) Green sea turtles (*Chelonia mydas*) and Endangered Hawksbill sea turtle (*Eretmochelys imbricata*) (collectively referred to as sea turtles): The Service consults on sea turtles and their use of terrestrial habitats (beaches where nesting and/or basking is known to occur), whereas the National Oceanic and Atmospheric Administration (NOAA) Fisheries consults on sea turtles in aquatic habitats. We recommend that you consult with NOAA Fisheries regarding the potential impacts from the proposed project if it may affect off-shore or open ocean habitats.

Green sea turtles may nest on any sandy beach area in the Pacific Islands. Hawksbill sea turtles exhibit a wide tolerance for nesting substrate (ranging from sandy beach to crushed coral) with nests typically placed under vegetation. Both species exhibit strong nesting site fidelity. Nesting occurs on beaches from May through September, peaking in June and July, with hatchlings emerging through November and December.

Construction on, or in the vicinity of, beaches can result in sand and sediment compaction, sea turtle nest destruction, beach erosion, contaminant and nutrient runoff, and an increase in direct and ambient light pollution which may disorient hatchlings or deter nesting females. Off-road vehicle traffic may result in direct impacts to sea turtles or nests, and also contributes to habitat degradation through erosion and compaction.

Where possible, projects should consider alternatives that avoid the modification or hardening of coastlines. Beach nourishment or beach hardening projects should evaluate the long-term effect to sea turtle nesting habitat and consider the cumulative effects.

Optimal sea turtle nesting habitat is a dark beach free of barriers that restrict sea turtle movement. Nesting turtles may be deterred from approaching or laying successful nests on

lighted or disturbed beaches. They may become disoriented by artificial lighting, leading to exhaustion and placement of a nest in an inappropriate location (such as at or below the high tide line). Hatchlings that emerge from nests may also be disoriented by artificial lighting. Inland areas visible from the beach should be sufficiently dark to allow for successful navigation by hatchlings to the ocean.

To avoid and minimize project impacts to sea turtles from lighting we recommend incorporating the following applicable measures into your project description:

- Avoid nighttime work during the nesting and hatching season (May to December).
- Minimize the use of lighting on or near beaches and shield all project-related lights so the light is not visible from any beach.
    - If lights can't be fully shielded or if headlights must be used, fully enclose the light source with light filtering tape or filters.
- Incorporate design measures into the construction or operation of buildings adjacent to the beach to reduce ambient outdoor lighting such as:
    - tinting or using automatic window shades for exterior windows that face the beach;
    - reducing the height of exterior lighting to below 3 feet and pointed downward or away from the beach; and
    - minimize light intensity to the lowest level feasible and, when possible, include timers and motion sensors.

PBR HAWAII
& ASSOCIATES, INC.

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President / Chairman

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printed on recycled paper

May 16, 2024

Ms. Colleen Cole
Biologist – Maui Nui & Hawai‘i Island Team
Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service
P.O. Box 10225
Hilo, HI 96720-2452

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Ms. Cole,

We have reviewed your emails to Kevin Sakai dated March 13, 2024 and March 26, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we appreciate the information provided on federally listed species. In anticipation of USFWS’s comments, AECOS, Inc. was contracted to undertake a natural resources assessment (including a terrestrial vertebrates survey) of the subject properties. No surveys were conducted for invertebrates as AECOS determined it is not reasonable to assume that invertebrates of conservation interest would be present in a developed area with almost no native plants. The following species were among those addressed in the Draft EA:

- ‘Ōpe‘ape‘a or Hawaiian hoary bat (*Lasiurus cinereus semotus*),
- Nēnē or Hawaiian goose (*Branta sandvicensis*),
- Hawaiian seabirds, including Hawai‘i Distinct Population Segment of the ‘akē‘akē or band-rumped storm-petrel (*Hydrobates castro*), ‘a‘o or Newell’s shearwater (*Puffinus newelli*), ‘ua‘u or Hawaiian petrel (*Pterodroma sandwichensis*), and shorttailed albatross (*Phoebastria albatrus*).

No Hawaiian waterbirds including ae‘o or Hawaiian stilt (*Himantopus mexicanus knudseni*), ‘alae ke‘oke‘o or Hawaiian coot (*Fulica alai*), and koloa maoli or Hawaiian duck (*Anas wyvilliana*) were sighted during AECOS natural resources assessment.

The lowest “usable” portion of the Project site above the cliff is at elevation 231 feet AMSL, therefore it was determined that the developable area would not be visited by sea turtles, including the Honu or green sea turtle (*Chelonia mydas*) and the honu ‘ea or Hawksbill sea turtle (*Eretmocheyls imbricata*).

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

Mitchell D. Roth
Mayor

Deanna S. Sako
Managing Director

Stephen M. Pause, P.E.
Director

Malia A. Kekai
Deputy Director

County of Hawai'i

DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630
public_works@hawaiicounty.gov

March 8, 2024

ATTN: KEVIN SAKAI
COUNTY OF HAWAII
DEPARTMENT OF PARK AND RECREATION
101 PAUAHI STREET, SUITE 6
HILO, HAWAII 96720
(via email to kevin.sakai@hawaiicounty.gov)

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT
NORTH HILO DISTRICT, ISLAND OF HAWAII
TMK: (3) 3-5-003:035 & 088

We received the subject dated February 5, 2024 and have the following comments:

The subject parcel is in an area designated as Zone X on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA). Zone X is an area determined to be outside the 500-year floodplain.

All development-generated runoff shall be disposed of on site and not directed toward any adjacent properties. A drainage study shall be prepared and the recommended drainage system shall be constructed meeting the approval of the Department of Public Works.

All activities shall comply with the requirements of Hawaii County Code (HCC), Chapter 10, Erosion and Sedimentary Control.

Construction within the Old Mamalahoa Highway right-of-way shall comply with Hawaii County Code (HCC), Chapter 22, County Streets.

Should there be any questions concerning this matter, please contact Ms. Robyn Matsumoto in our Engineering Division at (808) 961-8924.

for ALAN K. THOMPSON, Division Chief
Engineering Division

RM

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
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W. FRANK BRANDT, FASLA
Founding Partner

May 16, 2024

Alan K. Thompson, Division Chief
Engineering Division
County of Hawai‘i
Department of Public Works
Aupuni Center
101 Pauahi Street, Suite 7
Hilo, HI 96720-4224

Attn: Ms. Robyn Matsumoto, Engineering Division

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Thompson,

We have reviewed your letter to Mr. Kevin Sakai dated March 8, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we appreciate the information provided on the flood zone designation on the Flood Insurance Rate Map.

We also appreciate the information on the proposed drainage system, as well as Hawai‘i County Code (HCC), Chapters 10 (Erosion and Sedimentary Control) and 22 (County Streets).

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

Mitchell D. Roth
Mayor

Benjamin T. Moszkowicz
Police Chief

Reed K. Mahuna
Deputy Police Chief

County of Hawai`i

POLICE DEPARTMENT
349 Kapi`olani Street • Hilo, Hawai`i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

February 12, 2024

Greg Nakai, Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484
sysadmin@pbrhawaii.com

Dear Mr. Nakai:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR THE PAPAALOA PARK MASTER PLAND AND PHASE I DEVELOPMENT

Staff has reviewed your request for comments regarding your proposed project.

The Hawai'i Police Department has no concerns as it relates to traffic and public safety on this project.

Should you need further assistance, you may contact Captain Reynold Kahalewai, Honokaa district commander at (808)775-7533 or by email at reynold.kahalewai@hawaiicounty.gov.

Sincerely,

KENNETH A.K. QUIOCHO
ASSISTANT POLICE CHIEF
AREA I OPERATIONS

Mitchell D. Roth
Mayor

Benjamin T. Moszkowicz
Police Chief

Reed K. Mahuna
Deputy Police Chief

County of Hawai`i

POLICE DEPARTMENT
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(808) 935-3311 • Fax (808) 961-2389

April 1, 2024

Greg Nakai, Senior Associate
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Nakai:

SUBJECT: SECOND DRAFT ENVIRONMENTAL ASSESSMENT (2ND DEA) FOR THE PAPAALOA PARK MASTER PLAND AND PHASE I DEVELOPMENT

Staff has reviewed your request for comments regarding your proposed project.

The Hawai'i Police Department has no concerns as it relates to traffic and public safety on this project.

Should you need further assistance, you may contact Captain Reynold Kahalewai, Honokaa district commander at (808)775-7533 or by email at reynold.kahalewai@hawaiicounty.gov.

Sincerely,

KENNETH A.K. QUIOCHO
ASSISTANT POLICE CHIEF
AREA I OPERATIONS

PBR HAWAII
& ASSOCIATES, INC.

May 16, 2024

Kenneth A.K. Quiocho, Assistant Police Chief
Area I Operations
County of Hawai‘i
Police Department
349 Kapi‘olani Street
Hilo, HI 96720-3998

Attn: Captain Reynold Kahalewai, Honoka‘a District Commander

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Quiocho,

Thank you for your letters dated February 12, 2024 and April 1, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we acknowledge that the Police Department has no concerns as it relates to traffic and public safety on this project.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final Environmental Assessment (EA).

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

From:	Lucille Chung
To:	Papaaloapark
Cc:	Heather Kimball; Maurice Messina; James Komata; Bethany Morrison; Dave Molenaar; Lily & Jake Hubbard Niki Hubbard And Lucas Barton; Dwight Takamine; Lisa Barton; Michelle Hiraishi; Roy Valera; Kurt Rix; Beverly Yates-Tese; Brittany Iyo; Mitch D. Roth; Tammylyn K. Kaniho; Kevin Sakai; Lindsey Iyo; Mark Nakashima
Subject:	Papaaloa Park Draft Assessment
Date:	Monday, March 11, 2024 10:40:32 AM
Attachments:	Papaaloa Plan EA - my response.pdf

Attached are my responses to the Draft Assessment re Papaaloa Park.

Papaaloa Park Draft Assessment Comments

Thank you for the opportunity to provide comments. I was happy to see that since the third community meeting and additional comments you received after said meeting, community recommendations were taken into consideration in the current plans provided for review with this Draft Assessment.

I know that it is impossible to satisfy everyone's desires and expectations, but I think we are meeting most with this plan. I am basically okay with it except for a few comments which are as follows:

1. Page 13 - the statement that Laupahoehoe School was destroyed is not correct.

   Laupahoehoe School was impacted by the 1946 Tsunami with the loss of 24 lives, the teachers' cottages and several buildings on the park level of the school. The main "U" shaped campus that consisted of the classrooms, administrative offices and the cafeteria remained intact allowing for classes to continue until September 1952, when the new school was completed and opened. It continues in this capacity to this day as the Laupahoehoe Community/Public Charter School.

   A few years later, the buildings at the school at Laupahoehoe Point was auctioned off and removed. The area is now a public park belonging to the County of Hawaii.

2. Page 17 – I question the statement "warning heard". Can the warning signal sounding approximately one and a half miles away at Pualaea Place, Laupahoehoe actually be heard at Papaaloa Park?

3. Page 50 – why is there no enrollment count for Laupahoehoe Community Public Charter School? It's right there in the community to call and ask.

4. Pages 77, 80, 88,103 and there may be others where this particular "Discussion" paragraph was cut and pasted uses the word "identities" and I believe the word should be "identifies".

5. Page 80 – HRS 226-24 – Discussion – "No direct relation, etc...." but there are two check marks in support of two items?

6. Page 91 – Education – I believe there should be some connection between the school and P&R at Papaaloa

7. Page 96 – Education – Same as #7

8. Page 109 – (4) the word "have" is missing

OMG – It took me days, as time permitted, for me to read this document and really, I'm not finished with the appendices. Thank you for your tedious work.

Thank you for the cultural and historical research done. Found them very interesting and informative.

Under King Kalakaua there were only six districts, we now have nine districts because Hilo, Kohala and Kona were divided into North and South Districts.

In your research, did you come across any information as to when this happened and why?

I can understand why Kona and Kohala were divided into North and South because both districts are very large. I have been curious as to why Hilo was divided into North and South Hilo, because North Hilo is a very small district and the district in which this project is being developed, compared to South Hilo.

I would appreciate it if someone could point me in the direction of where I could possibly find information relating to this subject matter.

Mahalo nui
Lucille V. Chung

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Senior Vice-President / Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Vice-President / Principal

CATIE CULLISON, AICP
Vice-President / Principal

TOM SCHNELL, AICP
Vice-President / Principal

MARC SHIMATSU, ASLA
Principal

RAYMOND T. HIGA, ASLA
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RAMSAY R. M. TAUM
Cultural Sustainability Planner

ETSUYO KILA
Senior Associate

GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

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printed on recycled paper

May 16, 2024

Ms. Lucille V. Chung
lchung1940@yahoo.com

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA'ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI'I ISLAND, HAWAI'I, TMK (3) 3-5-003: 035 AND 088

Dear Ms. Chung,

We have reviewed your email dated March 11, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai'i, Department of Parks and Recreation (DPR), we greatly appreciated your thoughtful and detailed comments and suggestions and have made appropriate revisions that will be reflected in the Final EA.

As to your interest in the background on "districting" and some direction on where to find out more about this topic, one of the authors of the Cultural Impact Assessment (CIA), Lokelani Brandt, provided the following:

> *"I pulled this from page 20 of the CIA. 'As part of the Session Laws of 1900, for taxation, educational, and judicial purposes, the Territorial Government divided the Hilo District into two; North Hilo, extending north from Hakalau Stream to Ka'ula Gulch and South Hilo encompassing the remaining portion of Hilo south of Hakalau Stream (King 1935).'*
>
> *Robert King wrote an article about the district subdivision which he published in A Gazetteer of the Territory of Hawaii. See page 219 for specific reference to the subdividing of Hilo.*
>
> *King, R.*
> *1935 Districts in the Hawaiian Islands. In A Gazetteer of the Territory of Hawaii, pp. 214-230. Edited by J. W. Coulter. University of Hawaii, Honolulu."*

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai'i, Department of Parks and Recreation
Kevin Sakai, County of Hawai'i, Department of Parks and Recreation

From: dmolenaar@hawaii.rr.com <dmolenaar@hawaii.rr.com>
Sent: Sunday, April 21, 2024 2:47 PM
To: Sakai, Kevin <Kevin.Sakai@hawaiicounty.gov>; 'sysadmin@pbrhawaii.com' <sysadmin@pbrhawaii.com>
Subject: Comments for 2nd DEA

Hi Kevin,

I would like to share some input / comments in regard to section 2.3, of the 2nd DEA, dealing with the Papa` aloa Park Master Plan.

These comments are in regard to the kids playground, which in the last drawing shared, by your department and PBR Hawaii, showed the proposed location in the middle of the now grassy fenced in area where the old gym was located.

This proposed location in the Master Plan is supported by many members of the community as it's already fenced, plus there is easy access to the existing bathrooms located in the Annex Building.

What I would like to suggest in the layout design is to keep open a small grassy area, about the size of two 20 ft by 20 ft tents, on the Honokaa side, which could be used as a location to set-up a couple of 20 ft by 20 ft tents, with portable tables and chairs, to celebrate kids birthday parties, etc.

In addition, it would be good to include in the design a canvas type of roof covering over the playground itself, if possible. This would help keep the playground dry, plus it would help stop the slide, and other sections of the playground, from becoming burning hot on a warm sunny day.

The other input is, besides the kids playground, this area should also include a few benches for adults to sit on while watching the kids play. In addition, perhaps a couple of permanent picnic tables could be set-up on the parking lot side (Hilo side) of the grassy area.

In regard to the proposed three picnic pavilions along the ocean side of the park, I would like to propose that instead of three separate small picnic pavilions, we build one large pavilion, just like the one located at Laupahoehoe Point.

This large pavilion would provide another large area where community members can gather, just like a Community Center. In fact, many community members have expressed they would prefer this type of Community Center versus an enclosed building, plus having a large pavilion versus the proposed three small pavilions.

The large pavilion at Laupahoehoe Point has been used for all types of community

gatherings, meetings, celebrations, etc, so it is the "Hamakua Coast" style of a Community Center.

Due the safety issues of driving down to the Point, having another such facility include in the Papa`aloa Park Master Plan would be a wonderful addition as another place where community members can safely gather, sharing time with each other, plus it could be reserved, at a fairly low cost, just like the one at Laupahoehoe Point, to be used for community member's celebrations / events, etc.

I would also like to proposed that this new community pavilion be called the "Auntie Lucille Pavilion".

Lucille as been a long time community leader and supporter and I think it's only right that we name this new community gathering place, this large pavilion, after her.

Best regards,

Dave Molenaar
P.O. Box 261
Laupahoehoe, HI 96764

From: dmolenaar@hawaii.rr.com <dmolenaar@hawaii.rr.com>
Sent: Monday, April 22, 2024 5:45 PM
To: Sakai, Kevin <Kevin.Sakai@hawaiicounty.gov>
Subject: RE: Comments for 2nd DEA

Hi Kevin,

A little more input.

The new Community Center type of pavilion should include bathrooms, outside sinks, and a grilling area, just like the one at the Point.

Since the new gym will be nearby, please make plans for those restrooms and sinks to drain their waste water into the same system that the new gym uses. If this is planned for upfront, it'll make it super easy to make the plumbing connections when funding becomes available to do it.

Also, if there is any money left after the gym is built, I would like to suggest that the next priority should be the kids playground. This would be the easiest to achieve and most impactful to the local community members that have young children.

FYI: I have no kids or grandchildren, so there is no self interest in prioritizing this as the next project. I just see it as the next one that's most achievable and most impactful.

Thanks for allowing me to share some input.

Best regards,
Dave

PBR HAWAII
& ASSOCIATES, INC.

May 16, 2024

Mr. Dave Molenaar
P.O. Box 261
Laupahoehoe, HI 96764

SUBJECT: HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – PĀPA‘ALOA PARK MASTER PLAN AND PHASE I DEVELOPMENT, NORTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I, TMK (3) 3-5-003: 035 AND 088

Dear Mr. Molenaar,

We have reviewed your emails to Kevin Sakai dated April 21 and April 22, 2024, regarding the subject project. As the planning sub-consultant for the County of Hawai‘i, Department of Parks and Recreation (DPR), we greatly appreciated your thoughtful and detailed comments regarding the playground (to be located in the Phase I Development), proposed picnic pavilions (to be located in a future phase of development), and the wastewater system for the new gym.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Final EA.

Sincerely,

PBR HAWAII

Greg T. Nakai
Senior Associate

cc: Richard Wong, KYA
James Komata, County of Hawai‘i, Department of Parks and Recreation
Kevin Sakai, County of Hawai‘i, Department of Parks and Recreation

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