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County of Hawai`i

DEPARTMENT OF PARKS AND RECREATION
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July 16, 2020

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

Dear Director:

With this letter, the County of Hawai'i, Department of Parks and Recreation hereby transmits the Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI) for the Miloli'i Beach Park Accessibility Improvement Project situated at Tax Map Key (TMK) (3) 8-9-004:001, in the South Kona District on the island of Hawai'i for publication in the next available edition of *The Environmental Notice*.

The following are included as part of the online submittal:

- A completed OEQC Publication Form;
- A searchable Adobe Acrobat PDF file of the DEA-AFONSI;
- A .zip file that contains the KML file for the action location boundary.

Should you have any questions, please feel free to contact me at:
Office – 808-961-8916
Mobile – 808-430-8273
Email – Jeffrey.Ochi@hawaiicounty.gov

Sincerely,

Jeffrey S. Ochi
Park Projects Manager

From: webmaster@hawaii.gov
To: HI Office of Environmental Quality Control
Subject: New online submission for The Environmental Notice
Date: Thursday, July 30, 2020 8:24:00 AM

Action Name

Miloliʻi Beach Park Accessibility Improvement Project

Type of Document/Determination

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds
- (2) Propose any use within any land classified as a conservation district
- (3) Propose any use within a shoreline area

Judicial district

South Kona, Hawaiʻi

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

(3) 8-9-004:001

Action type

Agency

Other required permits and approvals

Numerous

Proposing/determining agency

County of Hawaii, Department of Parks and Recreation

Agency contact name

Jeffrey Ochi

Agency contact email (for info about the action)

jeffrey.ochi@hawaiicounty.gov

Agency contact phone

(808) 961-8411

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Map It

Was this submittal prepared by a consultant?

Yes

Consultant

Bow Engineering and Development, Inc.

Consultant contact name

Korey Johnson

Consultant contact email

kjohnson@bowengineering.com

Consultant contact phone

(808) 369-8214

Consultant address

1953 S Beretania St, PH-A
Honolulu, HI 96826
United States
Map It

Action summary

The Department of Parks and Recreation proposes to improve Miloli'i Beach Park building and amenities to comply with current Americans with Disabilities Act (ADA) guidelines. The proposed project includes: replacement of the existing pavilion with proper permits to meet current ADA standards; replacement of the comfort station to meet current ADA standards; replacement of the non-potable water storage and booster pump station for the new comfort station; improvement of the parking lot to be ADA accessible; improvement of the walkways connecting the comfort station with the parking area and park facilities to ADA accessible; reconstruction and resurfacing of the basketball/volleyball courts; construction of the new playground; designation of a boat turnaround area; and installation of vehicular barriers to prevent unauthorized vehicles from accessing the shoreline and pavilion.

Reasons supporting determination

Refer to section "(5). Findings and Determination" in the Environmental Assessment for reasons supporting Finding of No Significant Impact (FONSI).

Attached documents (signed agency letter & EA/EIS)

- Draft-EA-_Milolii-Beach-Park-ADA-Improvements.pdf
- 20200716_Milolii-OEQC-DEA-Transmittal-County.PDF

Action location map

- Milolii-Beach-Park.zip

Authorized individual

Korey Johnson

Authorization

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

DRAFT
ENVIRONMENTAL ASSESSMENT

MILOLI'I BEACH PARK
ACCESSIBILITY IMPROVEMENT PROJECT

Miloli'i, South Kona, Island of Hawai'i

County of Hawai'i
Department of Parks and Recreation

July 2020

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Miloli‘i Beach Park Accessibility Improvement Project

Miloli‘i, South Kona, Island of Hawai‘i

Draft Environmental Assessment

This environmental document has been prepared pursuant to
Hawaii Revised Statutes, Chapter 343
and Hawaii Administrative Rules, Title 11, Chapter 200.1

Prepared for:

County of Hawai‘i
Department of Parks and Recreation
101 Pauahi St., Suite 6
Hilo, Hawai‘i 96720

Prepared by:

Bow Engineering & Development, Inc.

Civil Engineering *Planning*

1953 South Beretania Street, PH-A
Honolulu, Hawai‘i 96826
Telephone: (808) 941-8853
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and

Environmental Planning Partners, Inc.

July 2020

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PROJECT SUMMARY

Project:	Miloli‘i Beach Park Accessibility Improvement Project Miloli‘i, South Kona, Island of Hawai‘i
Type of Document:	Draft Environmental Assessment
Proposing/Approving Agency:	County of Hawai‘i, Department of Parks and Recreation 101 Pauahi St., Suite 6 Hilo, Hawai‘i 96720 Contact: Jeff Ochi, Project Manager (808) 961-8411
Location:	Miloli‘i Beach Park 89-1151 Miloli‘i Road Captain Cook, HI 96704 TMK: (3) 8-9-004:001
Proposed Project:	The proposed project includes the improvement of existing Miloli‘i Beach Park buildings and amenities to comply with current Americans with Disabilities Act guidelines.
HRS Ch. 343 Trigger:	Use of state lands and state funds; use of conservation district lands
State Land Use Designation:	Conservation District
Existing Zoning:	Open District
Special Management Area:	Within County of Hawai‘i SMA
Permits Anticipated:	Special Management Area Use Permit Shoreline Setback Variance Building Permit
Anticipated Determination:	Finding of No Significant Impact (FONSI)

SUMMARY OF MITIGATION MEASURES AND PROJECT COMMITMENTS TO MINIMIZE POTENTIAL IMPACTS OF THE PROJECT

The following measures have been incorporated into the project description:

Site-Specific Best Management Practices

Due to the proximity of nearshore ocean waters, the project could present increased potential for water quality impacts during construction. The proposed project would include site-specific Best Management Practices (BMP) to be implemented during project construction to minimize erosion and potential impacts to water quality. The BMPs would include but would not be limited to the USFWS recommended standard BMPs regarding sedimentation and erosion in aquatic environments:

1. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.
2. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP - see http://www.haccp- nrm.org/Wizard/default.asp) can help to prevent attraction and introduction of non-native species.
3. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (e.g., with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.
4. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.
5. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

These BMPs will be refined in accordance with County of Hawai‘i regulatory requirements as part of the permitting process.

MITIGATION MEASURES AND REGULATORY REQUIREMENTS
Geology, Topography, and Soils
All earthwork and grading operations would be conducted in compliance with dust and erosion control requirements of Hawaii County Code Chapter 10, *Erosion and Sedimentation Control*. The proposed action includes a site-specific BMP plan developed as part of the project to minimize erosion and sedimentation during construction. The BMPs would include site-specific measures as outlined in Section 2.2 of this EA.
Hydrology and Water Quality
The proposed action includes site-specific BMPs to be implemented during construction in order to prevent any stormwater, sediment, soil, and debris resulting from the proposed construction from adversely impacting the coastal ecosystem or adjacent properties. Further, all earthwork grading operations would be conducted in compliance with dust and erosion control requirements of Hawaiʻi County Code Chapter 10, *Erosion and Sedimentation Control*.
Biological Resources
During construction, site-specific BMPs developed as part of the permitting process would minimize erosion and sedimentation and potential adverse effects to aquatic biota in the vicinity of the project site.
Project design would reduce nighttime glare effects with low level footpath lighting and timered lights. All lighting would be properly shaded to eliminate light trespass. Therefore, adverse effects to seabirds due to nighttime lighting would be minimized with project features.
Historical, Archaeological, and Cultural Resources
While there is low probability of encountering archaeological sites in this area, in the event that historic resources, including human skeletal remains, are identified during the construction activities, all work would cease in the immediate vicinity of the find, the find would be protected from additional disturbance, and the State Historic Preservation Division would be contacted immediately.
Air Quality and Climate
All construction work will be in conformance with the air pollution control standards contained in HAR Title 11, Chapter 59, "Ambient Air Quality Standards," and Chapter 60, "Air Pollution Control," which would minimize air quality emissions.
Noise
Construction will be confined to 7 a.m. to 6 p.m., Monday through Friday, and 9 a.m. to 6 p.m. on Saturday. No construction activities exceeding maximum allowable noise levels will occur on Sundays and holidays without prior notice. Construction activities will comply with HAR Chapter 11-46, "Community Noise Control."

Implementation of these measures and compliance with regulatory requirements would minimize environmental impacts resulting from the proposed project. Permits and approvals required for implementation of the proposed project are listed in Section 2.3 of this EA.

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1 INTRODUCTION

1.1 PROJECT OVERVIEW AND PROJECT NEED

The County of Hawai'i Department of Parks and Recreation proposes to improve Miloli'i Beach Park buildings and amenities to comply with current Americans with Disabilities Act (ADA) guidelines, which would increase recreational access for visitors to the beach park. The project involves improvements to the comfort station and associated water supply, pavilion, parking lot, walkways, and basketball/volleyball courts.

The existing Miloli'i Beach Park parking lot, walkways, and basketball/volleyball courts are in a current state of disrepair, with cracks and eroded areas. These conditions have impacted park access and safety. Both the restroom and hālau/pavilion structures must be replaced in their entirety due to their age and extensive need for repair and modifications. Further, the existing pavilion is currently unpermitted, and would be brought up to County standards with implementation of the proposed improvements.

The County Department of Parks and Recreation has identified the following objectives of the Miloli'i Beach Park Accessibility Improvement Project (Miloli'i Beach Park Project):

- To protect the health and safety of the public.
- To bring the existing park facilities into compliance with ADA guidelines and County permit requirements.
- To provide connecting walks and ramps to park facilities for greater accessibility from feature to feature.
- To maintain the character of the existing Miloli'i Beach Park.
- To provide improved recreational facilities for the Miloli'i community.
- To improve the longevity of existing beach park facilities.

The Department of Parks and Recreation intends to retain the park amenities and features that currently exist while minimizing the amount of changes to the park as much as possible.

1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

The evaluation of projects to determine their effects on the environment is required by the Hawai'i Revised Statutes (HRS), Chapter 343. An Environmental Assessment (EA) is a "written evaluation to determine whether an action may have a significant effect" (HRS, Section 343-2). The agency with primary responsibility over the project (the proposing agency) is required to prepare an EA and make a final environmental determination according to the presence of significant impacts or the lack thereof. As stated in HRS, Section 343-1:

> An environmental review process will integrate the review of environmental concerns with existing planning processes of the State and counties, and alert decision makers to significant environmental effects which may result from the implementation of certain actions. …The process of reviewing environmental effects is desirable because environmental consciousness is enhanced, cooperation and coordination are encouraged, and public participation during the review process benefits all parties involved and society as a whole.

As described above, the basic purpose of an EA is to provide information to the public and decision makers on proposed actions. The EA must also disclose: potential significant adverse environmental impacts, the expected primary and secondary consequences, and the cumulative as well as the short- and long-term effects of the action.

1.3 FEDERAL AND STATE AUTHORITY

The proposed action would use state funding and would be subject to state environmental laws and regulations. Environmental review procedures required by the State of Hawai'i include compliance with HRS, Chapter 343 "Environmental Impact Statements", and Hawaii Administrative Rules (HAR), Title 11, Chapter 200.1, Department of Health, "Environmental Impact Statement Rules".

The project site is located within the State's land use district of "Conservation District," which is under the jurisdiction of the State Board of Land and Natural Resources (BLNR). Permitted uses, including recreational uses, are defined under HAR Title 13, Chapter 5, and require compliance with the State's environmental review process.

The project area is also located within the County's Special Management Area (SMA), as regulated under HRS, Chapter 2015A, Part II. Compliance with the State's environmental review process is required.

No federal funding is anticipated for Miloli'i Beach Park Accessibility Improvement project, and would not be subject to environmental requirements prescribed under the National Environmental Policy Act (NEPA).

1.4 STEPS IN THE ENVIRONMENTAL REVIEW PROCESS

Early Consultation and Data Gathering

HAR, Section 11-200.1-18 requires that an agency must consult with agencies and individuals that might have jurisdiction or expertise with respect to the proposed action. Early consultation is considered an important part of the environmental review process – the ultimate goal is the gathering of information, data, and public concerns. A preliminary description of the project was circulated to agencies and individuals in July 2019, and phone consultations were conducted with permitting agencies as necessary. For a detailed description of the early consultation component of this project, see Chapter 6, *Individuals, Community Groups, and Agencies Consulted,* of this EA.

Circulation of the Draft Environmental Assessment

Following completion of the Draft EA, the environmental document will be submitted to the State Office of Environmental Quality Control (OEQC). The OEQC will notify government agencies and the public when the Draft EA is available for review. The announcement will be made in a bimonthly bulletin called *The Environmental Notice*, which is available in print and online. Publication in *The Environmental Notice* marks the beginning of a 30-day comment period during which government agencies and the public can review and comment on the environmental document and its findings. For the proposed project, Department of Parks and Recreation has submitted a notice of determination with the Draft EA to the OEQC with an Anticipated Finding of No Significant Impact (AFONSI) (HAR, Section 11-200.1-11).

Final Environmental Assessment and Finding of No Significant Impact

After the 30-day review period, the Department of Parks and Recreation will consider all comments and incorporate necessary changes into a Final EA. The Final EA will support a Finding of No Significant Impact (FONSI), if appropriate. The publication of the notice of availability of the Final EA-FONSI in *The Environmental Notice* initiates a 30-day judicial challenge period under HRS, Section 343-7(b).

If the proposing agency reviews public comments on the Draft EA, and the public comments indicate that the proposed action could in fact have significant effects, the agency would prepare a Final EA supporting an Environmental Impact Statement Preparation Notice (EISPN) determination.

2 PROJECT DESCRIPTION

2.1 ENVIRONMENTAL SETTING

Project Location

Miloli‘i Beach Park is located at the coastal village of Miloli‘i in the South Kona District in the southwestern region of Hawai‘i Island (see Figure 1). Miloli‘i is considered one of the most traditional fishing villages in Hawai‘i. The existing park site includes approximately 1.41 acres identified as Tax Map Key (TMK): (3) 8-9-004:001 (see Figure 2).

Exhibit 2.1 – View of the existing pavilion and edge of parking area from the basketball court.

Existing Site Conditions

Existing facilities at the Miloli‘i Beach Park include a pavilion, restrooms serviced by an existing Individual Wastewater System (IWS) comprised of a septic tank and leach field, a basketball court, paved parking, a non-potable water system including a water tank, shed, picnic area, and designated camping area (see Figure 3 for existing and proposed facilities). According to the Department of Parks and Recreation, the existing Miloli‘i Beach Park pavilion was built (unpermitted) before 2006. The park pavilion, sometimes referred to as the Miloli‘i Hālau, is an open-air building, approximately 80 feet by 40 feet, with multiple picnic benches under the covered building. There is existing lighting in the pavilion.

On a daily basis the park is used for sightseeing, picnicking, sports, community gatherings, community library and education center, swimming and snorkeling, fishing, and camping. A charter school uses the pavilion frequently and has an ongoing research project at the park in the marine waters. The coastal portion of the park includes a rocky beach and a large tidal pool. The area near the beachfront is used as a campsite, and campers typically park their vehicle on the dirt beyond the parking area closer toward the beach. Based on camping permits for the site, a maximum of 22 campers per night are permitted.

Exhibit 2.2 – View of the campground area.

Exhibit 2.3 – View of the basketball court and comfort station in the background.

Surrounding land uses include Hau‘oli Kamana‘o Congregational Church to the east, a residence to the south, and the Pacific Ocean to the west and north.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The Department of Parks and Recreation proposes to improve Miloli'i Beach Park buildings and amenities to comply with current Americans with Disabilities Act (ADA) guidelines. The proposed project includes: replacement of the existing pavilion with proper permits to meet current ADA standards; replacement of the comfort station to meet current ADA standards; replacement of the non-potable water storage and booster pump station for the new comfort station; improvement of the parking lot to be ADA accessible; improvement of the walkways connecting the comfort station with the parking area and park facilities to be ADA accessible; reconstruction and resurfacing of the basketball/volleyball courts; construction of a new playground; designation of a boat turnaround area; and installation of vehicular barriers to prevent unauthorized vehicles from accessing the shoreline and the pavilion. The proposed action includes demolishing both the existing pavilion and comfort station (see Figure 3 for the conceptual site plan). Parking would include 12 standard stalls and 4 ADA accessible stalls.

The existing solar panels (PV system) on the pavilion would be salvaged before construction and reinstalled on the proposed pavilion, or replaced as necessary. The proposed project includes lighting for the restrooms and area lighting along the accessible paths. Security lighting for the pavilion would run off of the PV system. Park users are expected to provide their own power for lighting via plug-in generator. Solar tubes for natural lighting may be considered in the comfort station.

Two trees would be removed with construction of the proposed improvements. Excavated materials from construction would be separated and reused on the project site, as possible. Following completion of the proposed improvements, all unpaved areas to be graded would be grassed or hydroseeded. New signage would include accessible parking signs in the parking area and accessible signs for the restrooms.

The County aims to provide ongoing beach parking and access during construction of the proposed improvements. Temporary parking during construction would likely be onsite or along Miloli'i Road.

Site-Specific Best Management Practices

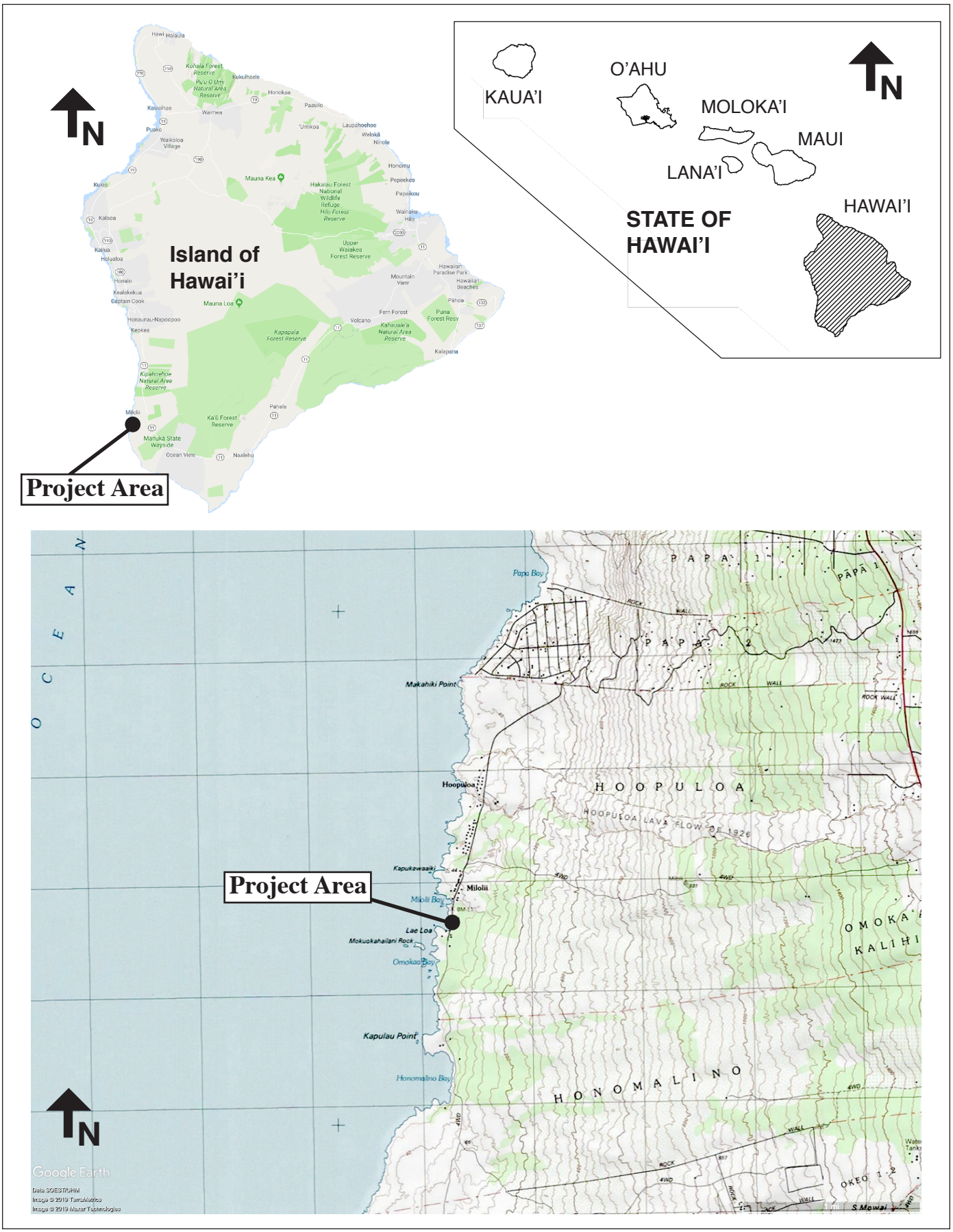
Due to the proximity of nearshore ocean waters, the project could present increased potential for water quality impacts during construction. The proposed project would include site-specific Best Management Practices (BMPs) to be implemented during project construction to minimize erosion and potential impacts to water quality. The BMPs would include but would not be limited to the USFWS recommended standard BMPs[1] regarding sedimentation and erosion in aquatic environments:

1. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.

[1] Since no activities are proposed in the nearby marine environment, several BMPs from the USFWS standard recommendations were not included.

2. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP - see http://www.haccp- nrm.org/Wizard/default.asp) can help to prevent attraction and introduction of non-native species.
3. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (e.g., with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.
4. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.
5. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non- invasive vegetation matting, hydro-seeding, etc.

These BMPs will be refined in accordance with County of Hawai‘i regulatory requirements as part of the permitting process.

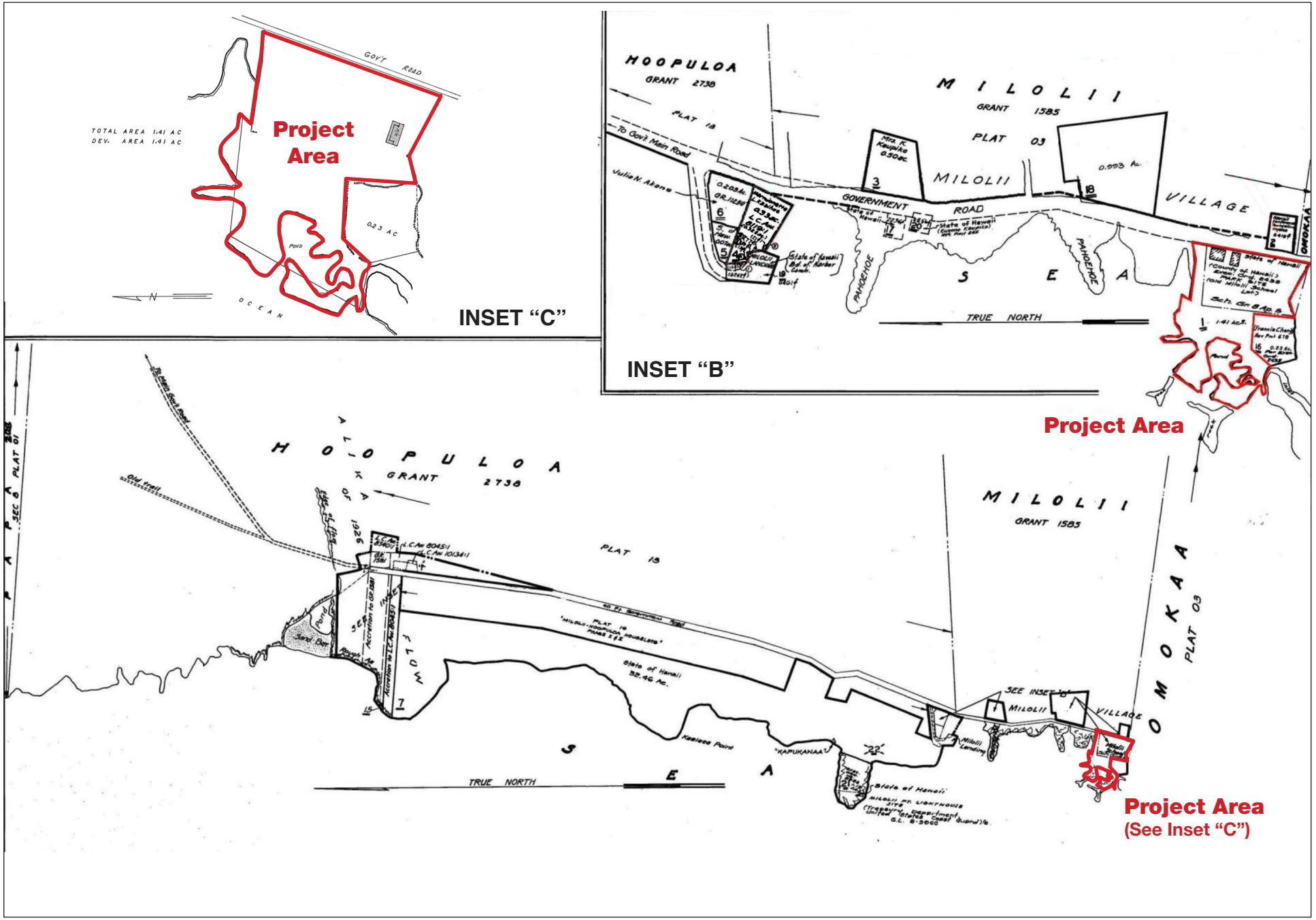


SOURCE: Planning Partners, 2019; Google Maps, Google Earth, 2019

Miloli'i Beach Park Accessibility Improvement

Figure 1

Vicinity and Location Map

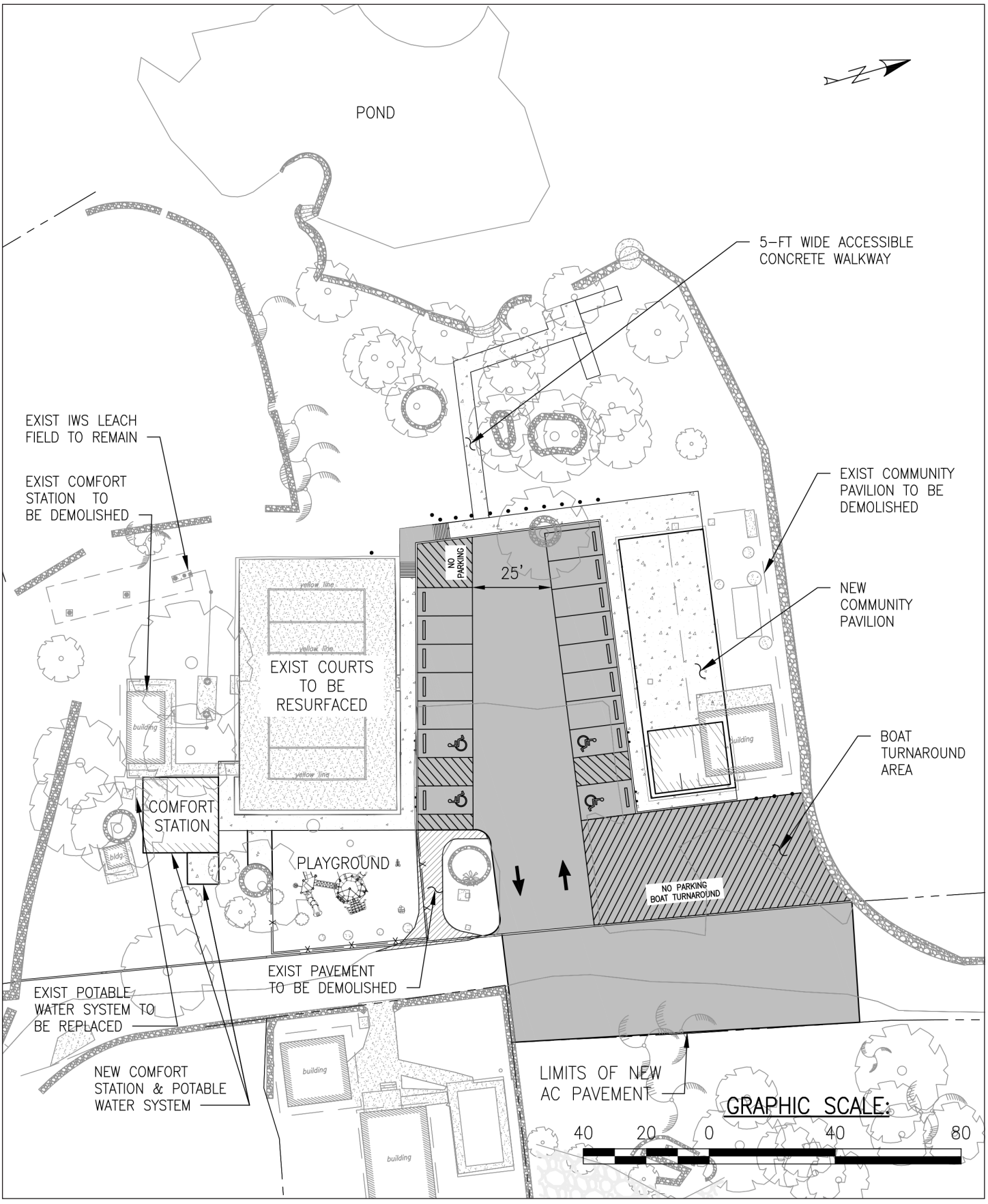


SOURCE: Planning Partners, 2019; Huan & Associates, 2019

Miloli'i Beach Park Accessibility Improvement

Figure 2

Project Area Tax Map Key



Miloli'i Beach Park Accessibility Improvement

SOURCE: Bow Engineering & Development, Inc. 2020

Figure 3
Conceptual Site Plan

Project Phasing and Construction Cost

The project would be constructed based on funding availability in one phase over approximately 6 to 8 months. The estimated construction costs for completion of the proposed beach park improvements is $1.75 million.

2.3 PERMITS AND APPROVALS REQUIRED OR POTENTIALLY REQUIRED

Government permits required or potentially required to implement the proposed action are listed below:

State of Hawai'i

- Chapter 343, HRS, Preparation and approval of an Environmental Assessment – The County of Hawai'i, Department of Parks and Recreation is the accepting agency for the proposed action and has the authority to determine if the EA is adequate and whether a FONSI is appropriate
- Conservation District Use Application (CDUA) – Site Plan approval is required by DLNR, Office of Conservation and Coastal Lands (OCCL)
- National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Stormwater Activities (**not required**) - since construction activities would disturb approximately 0.44 acres (less than one acre of total land area), an NPDES permit would not be required
- Special Management Area Permit (SMA) – County of Hawai'i, Department of Planning and Permitting
- Shoreline Setback Variance – A portion of the concrete walkway to the campground and additional paving would be located within the Shoreline Setback Area, which may require a Shoreline Setback Variance from the County of Hawai'i, Department of Planning and Permitting
- Noise Permit – State of Hawai'i, Department of Health
- Construction Permits – Grading and Grubbing permits from the Department of Public Works

3 DESCRIPTION OF THE AFFECTED ENVIRONMENT, ANTICIPATED EFFECTS, AND PROPOSED MITIGATION MEASURES

The intent of this chapter is to describe the existing physical and social environment that is affected by the proposed action. As defined in HAR, Section 11-200.1, Environmental Impact Statement Rules, potential project impacts or effects may include primary and secondary impacts, in addition to cumulative impacts:

- A "primary impact" or "direct impact" means impacts or effects that are caused by the action and occur at the same time and place.
- A "secondary impact" or "indirect impact" means an impact or effect that is caused by the action and occurs later in time, but is still reasonably foreseeable. An indirect effect may include a growth-inducing effect and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air, water, and other natural systems, including ecosystems.
- A "cumulative impact" means the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (HAR, Section 11-200.1-2).

Potential impacts that may result from implementation of the proposed action and mitigation measures to minimize the adverse impacts are described below.

3.1 GEOLOGY, TOPOGRAPHY, AND SOILS

Miloliʻi is located on the flat coastal plain off of the southwest slope of Mauna Loa, a volcano rising 13,679 feet above the Pacific Ocean. Mauna Loa is among the world's most active volcanoes, having erupted 33 times since its first well-documented historical eruption in 1843. Eight of these flows have reached down the slopes of Mauna Loa into North and South Kona, and four have reached the ocean. A 1926 eruption inundated a village named Hoʻopūloa, just north of Miloliʻi (USGS 2017).

The Natural Resources Conservation Service (NRCS) classifies the soils in Miloliʻi as Punaluu-Lava flows complex, 2 to 10 percent slopes (Map Symbol 121) (NRCS 2018). The land characteristics include organic material over Pahoehoe lava flows, which is common in this area. These soils are well drained (NRCS 2018).

The project area is relatively flat, with slopes ranging from 0 to 1.5 percent generally sloped toward the southern portion of the project site. Elevations on the project site range from 6.7-7.7 feet Mean Sea Level (MSL).

Based on soil suitability and extent, the State of Hawaiʻi, Department of Agriculture has established the Agricultural Lands of Importance to the State of Hawaiʻi (ALISH) system to identify areas of prime farmland. The ALISH system classifies three types of land suitable for agriculture: Prime Lands, Unique Lands, and Other Lands. The project site is not located on designated agricultural lands of importance (Hawaiʻi OP 1977).

IMPACTS AND MITIGATION MEASURES

Implementation of the proposed action would result in disturbance of less than 1 acre (approximately 0.44 acres). The proposed earthwork at the site would consist of minor grading. All vegetation within the grading limits would be removed during construction and re-grassed or hydroseeded following project completion.

Because the project site is relatively flat and has been previously graded and leveled, implementation of the project is not expected to involve substantial additional grading or earth-moving activities. There would be a short-term increase in dust during demolition and soil erosion during construction since grading associated with construction of the proposed facilities would result in the exposure of bare soil to potential erosion. All earthwork and grading operations would be conducted in compliance with dust and erosion control requirements of Hawaii County Code Chapter 10, *Erosion and Sedimentation Control*. The proposed action includes a site-specific Best Management Practices (BMP) plan developed as part of the project to minimize erosion and sedimentation during construction. The BMPs would include site-specific measures as outlined in Section 2.2 of this EA. With implementation of these BMPs, the proposed project would not result in a significant impact due to soil erosion or off-site sediment transport. For a discussion of drainage on the project site, see Section 3.2, *Hydrology and Water Quality*.

While the proposed accessibility improvements could slightly increase the amount of impermeable surfaces, all stormwater would continue to percolate into onsite soils. The construction of the accessibility improvements and replacement of existing park facilities would not alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation, or flooding on- or off-site. For a discussion of stormwater erosion and sedimentation, see Section 3.2, *Hydrology and Water Quality*.

No long-term or cumulative adverse effects to topography or soils are anticipated with implementation of the proposed action.

3.2 HYDROLOGY AND WATER QUALITY

Coastal Features

The village of Miloliʻi is located on the relatively flat Kapalilua coastal plain. There are three bays in the project area, including Hoʻopūloa Bay, Miloliʻi Bay, and Omokaʻa Bay, with little protection from ocean waves and surge. Shoreline features in the community include a black sand beach at Hoʻopūloa Bay; the broad, gently sloping lava flows extending into the sea between Hoʻopūloa Bay and Miloliʻi Bay; and the shallow and exposed lava platform reefs extending from Miloliʻi Bay to Omokaʻa Bay. (Paʻa Pono Miloliʻi 2017)

Surface Waters

There are no surface waters or streams in the project area. The majority of perennial streams on the island of Hawaiʻi occur in the windward areas of higher rainfall.

Groundwater

As described in Section 3.1, *Geology, Topography, and Soils*, the surface geology of the project area is characterized by historic lava flows with little soil coverage that is very well drained (NRCS 2018). On Hawai'i Island, groundwater recharge occurs when rainfall percolates through the root zone to the basal aquifer (State of Hawaii 2019). Because of the high permeability of the project area soils, precipitation on the project site generally percolates to the underlying groundwater, and direct runoff to the ocean rarely occurs (Farber & Associates 2012). During site investigations by Bow Engineering, Inc., brackish springs were observed in nearshore areas.

The project area is within Southwest Mauna Loa Aquifer Sector Area, within the Manukā ground water hydrologic unit (State of Hawaii 2019). The 2019 predicted sustainable yield for the Manukā groundwater unit is approximately 25 million gallons per day (State of Hawaii 2019).

Wetlands

A review of the USFWS National Wetland Inventory Map was completed to identify the presence of wetlands within the vicinity of the project. While there is Estuarine and Marine Deepwater and Wetland identified for the coastal shore, no potentially jurisdictional wetlands or wetlands of the United States were identified on the project site (see Figure 4) (USFWS 2019).

State Water Quality Standards

Coastal waters in the vicinity of Miloli'i Bay are classified by the State Department of Health (DOH) as "AA" (DOH 2014). The objective of Class AA waters is that their waters remain in their natural pristine state as nearly as possible. According to HAR Section 11-54-3(c)(1), Class AA waters shall encounter "an absolute minimum of pollution or alteration of water quality from any human-caused source or actions."

Water Quality and Marine Environment

The Clean Water Act (CWA), Section 303(d), requires states to submit a list of waters that do not attain or maintain applicable water quality numeric criteria, in addition to a priority ranking of impaired waters for Total Maximum Daily Loads (TMDL) development based on the severity of pollution and the uses of the waters. After the identification of water quality-limited waters is completed, states develop TMDLs at a level necessary to achieve the applicable state water quality standards. The State's water quality report lists the Miloli'i Beach marine waters for turbidity during the dry season, and is categorized as a "low" priority for initiating TMDL development for the next cycle of monitoring and assessment (DOH CWB 2018).

SOURCE: U.S. Fish and Wildlife Service, National Wetlands Inventory, Surface Waters and Wetlands Mapper, 2019

Figure 4

National Wetlands Inventory Map

IMPACTS AND MITIGATION MEASURES

The proposed project would have minimal effect on groundwater recharge because improvements would consist of the replacement of existing park facilities. Existing drainage patterns with respect to adjacent properties would be maintained. Proposed drainage improvements would follow existing drainage patterns. The proposed site is currently divided into two drainage basins. One basin conveys the majority of runoff generated from the project site to the ocean. The second basin conveys runoff from the northeastern portion of the site towards Miloli‘i Road. Precipitation falling on the site would discharge into the ground or flow to these drainage basins as it does under existing conditions, and off-site runoff would not increase as a result of the proposed project.

Construction activities disturbing one or more acres are regulated under the National Discharge Elimination System (NPDES) stormwater program and are required by the State to obtain a NPDES permit. Because the project would disturb approximately 0.44 acres (less than one acre), a construction NPDES permit would not be required. However, construction activities could result in adverse impacts to water quality, including erosion and increased sedimentation in storm water runoff.

The proposed action includes site-specific BMPs to be implemented during construction in order to prevent any stormwater, sediment, soil, and debris resulting from the proposed construction from adversely impacting the coastal ecosystem or adjacent properties. Compliance with BMPs for construction would minimize impacts to water quality. Further, all earthwork grading operations would be conducted in compliance with dust and erosion control requirements of Hawai‘i County Code Chapter 10, *Erosion and Sedimentation Control*.

There would be no work within coastal waters with implementation of the proposed accessibility improvements. The replacement pavilion would be approximately 22 feet set back from the existing sea wall, and the end of the new path at the BBQ area is approximately 20 feet from the shoreline. A Shoreline Certification was approved for the project to verify setback distances on October 31, 2019 (see Appendix C). Because no work would occur in the water, a Department of the Army permit from the U.S. Army Corps would not be required. No long-term or cumulative adverse effects to hydrology or water quality are anticipated with implementation of the proposed action. For a discussion of impacts due to soil erosion and off-site sediment transport, see Section 3.1, *Geology, Topography, and Soils*. For a discussion of impacts due to flooding, see Section 3.3, *Natural Hazards*.

3.3 NATURAL HAZARDS

Natural hazards in the project region include earthquakes, volcanic activity, waves and storms, flooding from hurricanes and tropical storms, and tsunamis. Climate change and the related sea level rise will also impact the Hawaiian Islands. According to USGS hazard ratings, the Overall Hazard Assessment (OHA) for the Miloli‘i region is moderate (4).

Earthquake and Volcanic Hazards

Most of the earthquakes in Hawai‘i are directly related to volcanic activity and are caused by magma moving beneath the earth’s surface. Numerous small earthquakes are reported each year, mostly on Hawai‘i Island. For the most part, earthquakes on Hawaii are concentrated beneath Kilauea and Mauna Loa, particularly beneath the south flanks of both volcanoes. As stated in Section 3.2, Geology, Topography, and Soils, the project area is located on the flat coastal plain off of the

southwest slope of Mauna Loa. According to FEMA earthquake hazard maps, the project area is located within Seismic Design Category D, which means it could experience strong shaking with sustained damage to poorly designed or built structures (FEMA 2019). Strong earthquakes in Hawai'i's past have destroyed buildings, water tanks, and bridges, and have disrupted water, sewer, and utility lines. Miloli'i lies in lava flow hazard Zone 22. The volcanic/seismic hazard is high along the Miloli'i coast due to recent volcanism and significant seismicity associated with eruptions of Kilauea Volcano (USGS undated).

Tsunami and Flood Hazards

The Federal Emergency Management Agency (FEMA) maps the project site as predominantly Zone X[3] with a very small portion within floodway areas designated as Zones AE and VE (see Figure 5). Flood Zone AE as defined for the project area applies to lands within the 100-year flood zone with a Base Flood Elevation of 7 feet (FEMA 2017). Flood Zone VE as defined for the project area applies to lands within the coastal flood zone with velocity hazard (wave action) with a Base Flood Elevation of 10 feet (HNFIP 2019).

The project site is located within the tsunami inundation zone (HNFIP 2019). High waves are only a moderately low threat where annual wave heights from south swell are generally only 1 to 4 feet. Storms are ranked moderately high hazard because Miloli'i faces west toward approaching Kona Storms and the typical track of passing tropical cyclones. The rocky coast of the project area is relatively effective at withstanding denudation, so erosion is moderately low (USGS undated).

Climate Change and Sea Level Rise

Global Warming is a public health and environmental concern around the world. As global concentrations of atmospheric greenhouse gases increase, global temperatures increase, weather extremes increase, and air pollution concentrations increase. Global warming and climate change has been observed to contribute to poor air quality, rising sea levels, melting glaciers, stronger storms, more intense and longer droughts, more frequent heat waves, increases in the number of wildfires and their intensity, and other threats to human health (IPCC 2013). The five warmest years in the 1880–2019 record have all occurred since 2015, while nine of the 10 warmest years have occurred since 2005; the year 2019 was the second warmest year in the 140-year record (NOAA 2020).

The influences of climate change on global and local ecosystems are varied and often detrimental. Some of the changes likely to impact Hawai'i's ecosystems include accelerated sea-level rise, ocean and atmospheric warming, increased flooding, ocean acidification, changing distributions of terrestrial and marine biota, and changing intensity and frequency of storms, among others. Projected sea-level rise will undoubtedly increase erosion and flooding statewide and expose coastal communities to greater hazards (University of Hawai'i 2014).

Sea-level rise has had dramatic impacts on the beaches along this coast. Between 1940 and 1980, the shoreline at Honomalino beach, located approximately one mile south of Miloli'i, moved 200-300 feet landward (USGS undated). Sea-level rise hazard is ranked high in the low-lying segments south of Ho'opuloa, including the project area (USGS undated). According to a recent report by the

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2 Zone 1 represents the areas that are most hazardous and Zone 9 the least hazardous.

3 Zone X includes areas of minimal flood hazards, which area areas determined to be outside the 0.2 percent annual chance of flood.

Hawai‘i Climate Change Mitigation and Adaptation Commission (2017), potential sea level rise could result in low-lying coastal areas around the island to become chronically flooded within the mid- to latter-half of this century. This land will become submerged by coastal erosion, direct marine flooding from tides and waves, or become new wetlands behind the shoreline from rising water tables and reduced drainage. Based on modeling predictions, areas of Miloli‘i Beach Park would be vulnerable to chronic flooding with 3.2 feet of sea level rise (Hawai‘i Climate Change 2017).

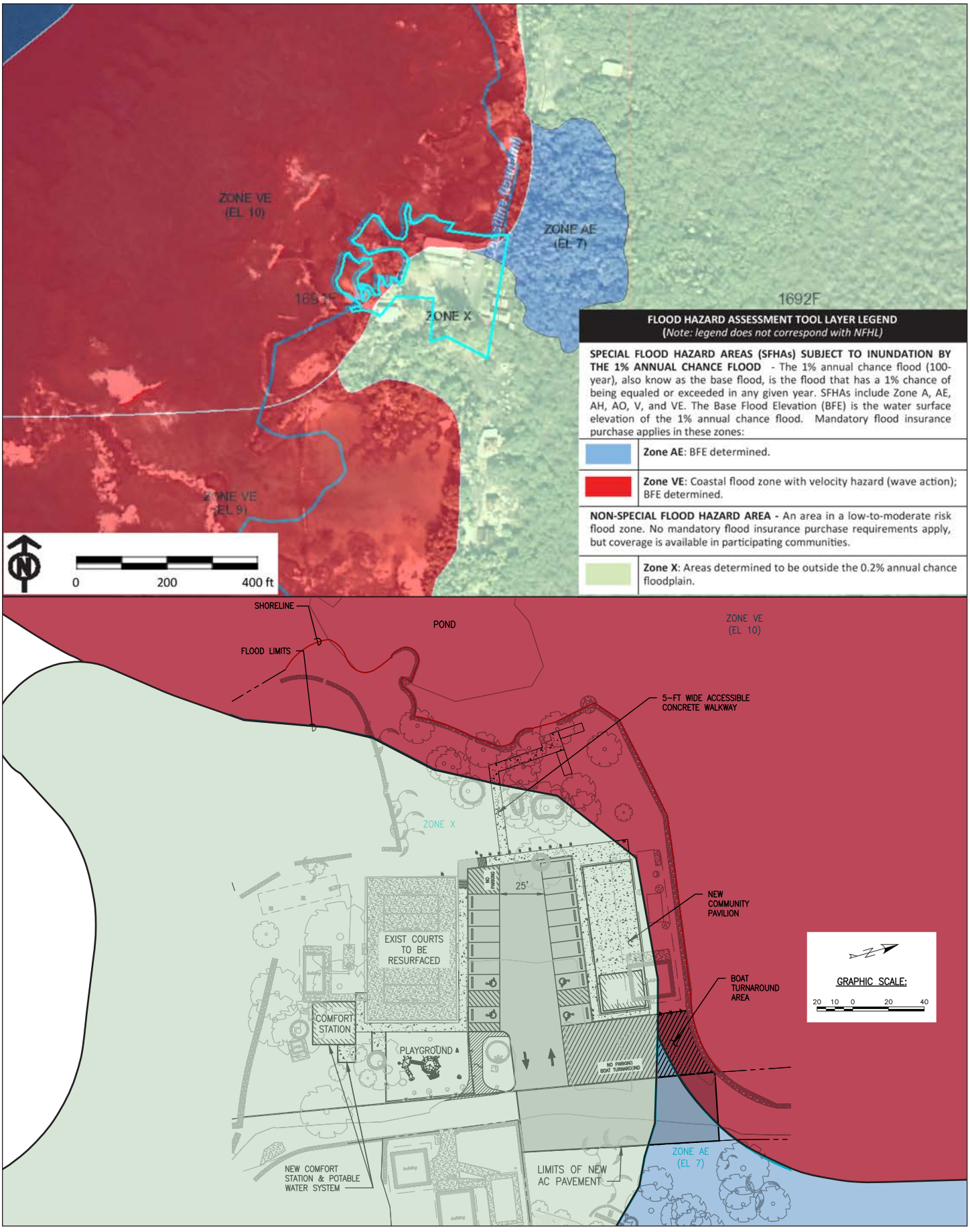
IMPACTS AND MITIGATION MEASURES

Construction of the proposed park accessibility improvement project would not result in increased flooding or hazards from flooding in surrounding areas. The proposed pavilion location would be shifted south of the existing location and away from the shoreline. The new pavilion would be relocated outside of Flood Zone VE, a coastal flood zone (see Figure 5).

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). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards. The proposed improvements would be designed and constructed in conformance with the standards and requirements of the Hawai‘i County Code, Chapter 27, *Floodplain Management*. In accordance with Section 27-23(1), all new construction in a coastal high hazard area must be constructed with materials and utility equipment resistant to flood damage and using methods and practices that minimize flood damage. All development permits would be reviewed for consistency with the requirements of the Hawai‘i County Code prior to approval.

Greenhouse gas emissions would be generated from the proposed accessibility improvement project during construction and operation. Temporary greenhouse gas emissions would occur during construction activities, predominantly from vehicle and equipment exhaust. No increase in operational greenhouse gas emissions are anticipated – limited emissions would continue from maintenance/work vehicles accessing the site and from beach park visitor vehicle trips. Greenhouse gas emissions would not be expected to be significant, and the project would not be expected to make a substantial contribution to the cumulatively significant impact of global warming and climate change.

The proposed facilities would be designed in accordance with County requirements and good engineering practice, which would minimize damage during tropical storm, hurricane, or strong wind events, and earthquake events. No significant environmental effects would result, and no mitigation would be necessary. No significant long-term or cumulative adverse environmental effects would result from natural hazards, and no mitigation would be necessary.



Miloli'i Beach Park Accessibility Improvement

SOURCE: Hawai'i National Flood Insurance Program 2019

Figure 5

Flood Hazard Map

3.4 BIOLOGICAL RESOURCES

The project parcel consists of a 1.41-acre area that has been highly modified and developed with park facilities and parking areas. Vegetation at the beach park project area includes Ironwood trees, milo trees, coconut palms, noni plants, and night-blooming cereus. There are several Ironwood trees and ornamental plants surrounded by rock rings throughout the site. This area provides habitat for common animals, including, but not limited to, birds, mongoose, feral cats and dogs, and mice and rats. Due to the previously disturbed nature of the project site, the project site has limited potential for sensitive biological resources to occur.

Based on an USFWS comment letter submitted on a previous project in Miloli‘i (Farber & Associates 2012), native seabird species may frequent the area.

IMPACTS AND MITIGATION MEASURES

Because the project site is highly modified and developed with park facilities, implementation of the proposed accessibility improvements would not result in significant adverse effects to wildlife. Construction activities would result in short-term disturbances to wildlife in the project vicinity, including potentially endangered and threatened species. However, because there is similar available habitat in the surrounding area, and the project site provides only marginal habitat, potential adverse effects would be minimal. During construction, site-specific BMPs developed as part of the permitting process would minimize erosion and sedimentation and potential adverse effects to water quality and aquatic biota in the vicinity of the project site.

The proposed project includes minimal additional nighttime lighting for the restrooms, security lighting for the pavilion, and area lighting along the accessible paths. As set forth by USFWS, listed and non-listed seabirds, protected under the Migratory Bird Treaty Act, can be attracted to artificial lights, and they end up circling the light source until they collide with nearby structures or fall to the ground in exhaustion (Farber & Associates 2012). Project design would reduce nighttime glare effects with low level footpath lighting and timered lights. All lighting would be properly shaded to eliminate light trespass. Therefore, adverse effects to seabirds due to nighttime lighting would be minimized with project features. No adverse long-term effects to wildlife would occur, and no mitigation would be necessary.

3.5 HISTORIC, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

An Archaeological Inventory Survey was completed for the project site (Haun & Associates 2019). The objective of the AIS is to satisfy current historic preservation regulatory review inventory requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD), as contained within Hawai‘i Administrative Rules, Title 13, DLNR, Subtitle 13, Chapters 275 and 276, State Historic Preservation Rules.

In order to assess the potential for encountering archaeological or historic resources, the archaeological survey included the following:

- Relevant archaeological and historical documents were reviewed (including examination of Land Commission Awards, ahupua‘a records, historic maps, archival materials, archaeological reports, and a high-intensity pedestrian survey of the project area was completed.

- A detailed recording of all potentially significant sites was completed.
- Limited subsurface testing was conducted to assess the potential for cultural materials.
- Background research and field data were analyzed to determine significance

Much of the information in the archaeological survey was obtained from *Pa'a Pono Miloli'i*. The following sections are summarized from the survey.

Historical Background

The project area is located in the ahupua'a of Miloli'i in the district of South Kona. Miloli'i is translated as a "fine twist" (Wehewehe.org), in reference to an expert sennit twister from the area who created cordage from *olana* bark that was used to make fishing nets. There is an alternative translation for Miloli'i, or "small swirling," which is in probable reference to ocean currents in the area. Established as a settlement dating back to the early Polynesian seafarers from the South Pacific, Miloli'i families have been fishing the offshore and nearshore waters for generations.

The project area is located in a traditional sub-district of South Kona called Kapalilua. There are several early historic references to the remote area. According to Fornander in "An Account of the Polynesian Race" (1885), Kapalilua was given to Napunanahunui-a-Umi, daughter of Umi, and these lands were held by her descendants until the arrival of Kamehameha I. It is noted that Kamehameha I apparently visited the Kapalilua area due to his love of *'ahi* fishing. The lands of Kapalilua were later given to a displaced Maui chief, Keaweaheulu, for his assistance to Kalani'opu'u during battles with Kahekili between 1777 and 1779.

In the 1840s, the Great Māhele redistributed land as proposed by King Kamehameha III. A third of the land was relocated to the monarch as Hawaiian crown lands. Another third was allocated among the *ali'i* and *konohiki* (chiefs and managers of the *ahupua'a*). The remaining third was given to the *maka'āinana* (common people). However, the law required land claims to be filed within two years under the Kuleana Act of 1850, and many Hawaiians made no claim. The Kuleana Act also allowed foreigners to purchase fee simple lands. During the Māhele, four Land Commission Award (LCA) claims were made for parcels within Miloli'i Ahupua'a. There are no records of LCAs within the project area.

The project area has been historically affected by tsunamis. According to records, 22 tsunamis impacted the Hawaiian Islands between 1819 and 1975. The Miloli'i area was impacted by tsunamis in 1868, 1946, 1957, and 1960. The 1868 tsunami destroyed the entire village of Miloli'i, though no lives were lost.

Project Site Features

The Hau'oli Kamana'o Congregational Church is located adjacent to the project site on the inland side of the Miloli'i Road. According to the *Pa'a Pono Miloli'i* website, the church was constructed in 1865 under the direction of Reverend Paris. The current Miloli'i Road, that extends along the inland side of the project area, existed as early as 1914.

The project site is the former location of the Miloli'i School, which closed in 1966; the land was conveyed to the County of Hawai'i in 1969. According to Jeff Ochi, Project Parks Manager for the County of Hawai'i, Department of Parks and Recreation, the school structures were removed when it was closed; however, the basketball court was in existence when the school was in operation. The restroom facility was constructed in late 1986/early 1987, and the covered pavilion was built before 2006.

Previous Archaeological Research

A search of the DLNR archives indicates that at least 15 archaeological studies have been conducted in the general vicinity of the project area. Two sites were identified in the Miloli‘i area consisting of several graves and a pool and the district of Miloli‘i.

According to information presented in an environmental assessment for the Miloli‘i Community Enrichment and Historical Center (Farber & Associates 2012), the project area and surrounding vicinity were surveyed between 1973 and 1974 during the Statewide Inventory of Historic Places Survey. However, there was little information availabe from SHPD on sites identified in the area.

Consultation

As part of the environmental analysis completed for a previous project in Miloli‘i, a series of oral history interviews were conducted with seven *kūpuna* (elder) raised in Kapalilua with the primary aim of examining changes in the traditional fishing practices of the region (Maly and Maly 2003). Nearly all of the interviewees commented on changes they had observed in the quality of the fisheries, and the declining abundance of fish—noting that there were significant declines in almost all areas of the fisheries, from near-shore to the deep sea. No specific information regarding the Miloli‘i School or project site in particular was included.

IMPACTS AND MITIGATION MEASURES

The archaeological inventory survey identified three historic single feature sites. These project site features consist of an erosion control retaining wall, a discontinuous boundary wall, and an historic basketball court. The retaining wall functions to prevent coastal erosion, while the boundary wall separates the project area from an adjacent house lot. The basketball court represents the only surviving remnant of the actual school facility, and based on County records, the court is at least 50 years old, making it an historic property. The mapping, written description and photography of the three sites provide adequate documentation, and no further work or preservation is required. SHPD consultation has been initiated by the Department of Parks and Recreation.

Based on the preceding information, limited remnants of the historic Miloli‘i School, excluding the basketball court, remain within the project area. The effects of multiple tsunamis and the historic impacts to the property by the construction and use of the school suggests that no pre-contact archaeological sites or features are likely to be encountered. While there is low probability of encountering archaeological sites in this area, in the event that historic resources, including human skeletal remains, are identified during the construction activities, all work would cease in the immediate vicinity of the find, the find would be protected from additional disturbance, and the State Historic Preservation Division would be contacted immediately.

With documentation of these sites, no adverse effect to cultural, historic, or archaeological resources would occur. Because the proposed project represents a continuation of existing uses and would not negatively impact access to the shoreline, it is reasonable to conclude that, pursuant to Act 50, the exercise of Native Hawaiian rights, or any ethnic group, related to gathering, access, or other customary activities within the project area would not be affected, and there would be no direct adverse effect upon cultural practices or beliefs.

3.6 AIR QUALITY AND CLIMATE

Hawai'i receives most of its precipitation during the winter months (October to April). Flooding is more likely during this wet period, and stream flows decrease during drier conditions from May to September. The temperature in the general area ranges from 65 to 80 degrees Fahrenheit (F), with a mean annual average of approximately 72.5 degrees F (U.S. Climate Data 2019). Mean annual rainfall in the project area is about 30 inches (Giambelluca et. al. 2013).

The Department of Health, Clean Air Branch (CAB), monitors the ambient air in the State of Hawai'i for various gaseous and particulate air pollutants. The U. S. Environmental Protection Agency (EPA) has set national ambient air quality standards (NAAQS) for six criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, ozone, and particulate matter (PM_{10} and $PM_{2.5}$). Hawai'i has established state ambient air standards for all of these pollutants (except for $PM_{2.5}$) in addition to hydrogen sulfide, a product of volcanic emissions (CAB 2016). The primary purpose of the statewide monitoring network is to measure ambient air concentrations of these pollutants and ensure that these air quality standards are met.

In 2016, there were six air monitoring stations on the island of Hawai'i. The majority of stations are located on the island of Hawaii to measure air quality impacts from the volcano and geothermal energy production. One of the monitoring stations is located in Kona, in the general vicinity of the project site. According to the State of Hawai'i Department of Health Annual Summary 2016 Air Quality Data, criteria and pollutant levels in the State remained below all federal and state ambient air quality standards (excluding exceedances due to volcanic activity) (CAB 2016).

IMPACTS AND MITIGATION MEASURES

Construction of the proposed project could result in temporary air quality effects, including exhaust emissions from construction vehicles and dust generated by short-term construction related activities. Components of construction emissions include employee trips, exhaust emissions from construction equipment, and fugitive dust emissions. Earthwork and grading within the project area could generate airborne dust particulates.

Dust control measures such as watering and sprinkling will be implemented as needed to minimize wind-blown dust. To minimize construction-related exhaust emissions, project contractors will ensure that all internal combustion engines are maintained in proper working order. All construction work will be in conformance with the air pollution control standards contained in HAR, Title 11, Chapter 59, "Ambient Air Quality Standards," and Chapter 60, "Air Pollution Control," which would minimize air quality emissions.

Once completed, the proposed accessibility improvements are not anticipated to result in increased beach park visitation and associated vehicle trips. The proposed project would not result in any increased air emissions, and there would be no long-term adverse air quality impacts associated with the proposed action. Other than vehicles visiting the project site, there are no air contaminant sources in the immediate project area.

3.7 NOISE

The project site is located in the coastal community of Miloli‘i, with the church to the east, a residence to the south, and tidal pools of the Pacific Ocean to the west and north. Surrounding noise levels in the vicinity of the project site are considered relatively low. Existing noise sources include the sound of the wind and ocean, occasional vehicular traffic on Miloli‘i Road, and church events.

IMPACTS AND MITIGATION MEASURES

Noise impacts from a project can be categorized as those resulting from construction and those from operational activities. Construction noise would have a short-term effect; operational noise would continue throughout the lifetime of the project. Implementation of the proposed accessibility improvements could temporarily increase noise levels during construction. Noise from construction activities is regulated under Title 11, Chapter 46, Community Noise Control, of the State DOH's Administrative Rules. The zoning district classification and maximum permissible sound levels are outlined in HAR Section 11-46-4. The project falls under the Class A zoning district category that applies to properties zoned for public space, open space, and conservation types of land uses. The maximum permissible noise level for this site under Class A is 55 dBA at the property line during daytime and 45 dBA during nighttime. Typical ranges of construction equipment noise vary between 70 and 95 dBA. Therefore, earthmoving activities could temporarily increase noise levels during construction above maximum allowable limits that would impact nearby existing uses.

A Community Noise Permit for construction activities may be required by the Department of Health. Prior to construction, consultation with the state Department of Health will occur to determine permitting requirements. Should the permit be required, allowable construction conditions will be specified. Construction will be confined to 7 a.m. to 6 p.m., Monday through Friday, and 9 a.m. to 6 p.m. on Saturday. No construction activities exceeding maximum allowable noise levels will occur on Sundays and holidays without prior notice. Construction activities will comply with HAR Chapter 11-46, Community Noise Control.

There would be no long-term increase in noise during project operations since the project accessibility improvements would not generate additional traffic and associated noise.

3.8 VISUAL RESOURCES

The project area includes basic recreational facilities located along the coast. The project site consists of a covered pavilion, a basketball/volleyball court, parking areas, a restroom, and firepits. From the project site, there are views of tidal pools and Miloli‘i Bay in the short and long range.

IMPACTS AND MITIGATION MEASURES

During construction, workers, materials, and equipment would be visible from the church to the east and the residence to the south, and from motorists on Miloli‘i Road. Visual impacts during construction would be temporary and intermittent.

The proposed project would introduce minimal additional lighting to the project site for the restrooms and area lighting along accessible paths. Because of the isolated nature of the project site and unlit night sky ideal for nighttime star visibility, these lights could produce nighttime glare

effects. Project design would reduce nighttime glare effects with low level footpath lighting and timered lights. All lighting would be properly shaded to eliminate light trespass and preserve the isolated and dark environmental of the project area. Therefore, potential light and glare impacts from project lighting would be less than significant.

Since the proposed project consists of accessibility improvements and replacement of existing uses at the Miloli‘i Beach Park, the proposed project would not significantly change the scenic and visual character of the surrounding area.

3.9 SOCIAL AND ECONOMIC CHARACTERISTICS

In both urban and rural areas, the County of Hawai‘i has relatively low population density, though there has been a marked growth in population. In 2017, the population in the South Kona District included an estimated 11,193 persons, with 3,949 persons in the Captain Cook area (DBEDT 2019). From 2010 to 2017, there was a 12 percent increase in population for the district, which is the second most of all the places in the area (Captain Cook showed a 15.2 percent increase in population, while the state of Hawai‘i only experienced a 4.5 percent increase in population).The *Pa‘a Pono Miloli‘i* website estimates that the village of Miloli‘i has about 200 residents (Pa‘a Pono Miloli‘i 2017).

The major economic activity for the South Kona district is agricultural, with its most important industries being coffee growing and processing, macadamia nuts, citrus fruits and cattle ranching (Hawaii County 2005). Other commodities include bananas, citrus crops, avocados, and vegetables and other truck crops.

The Miloli‘i Beach Park is an important recreational facility for residents and visitors to the area. According to the County of Hawai‘i General Plan, the South Kona District, compared to other districts, has fewer County facilities-based parks and beach parks in relation to the population (Hawaii County 2005). There are four developed beach parks and two beach park reserves in the district. Miloli‘i Landing, north of the Beach Park, is on state lands and contains a rocky shoreline and a boat ramp.

IMPACTS AND MITIGATION MEASURES

The proposed project is not anticipated to have significant, adverse impacts on the social and economic characteristics of the area. The proposed improvements would enhance the existing recreational facilities and provide handicap accessible features. The proposed project improvements would not generate any new permanent full-time jobs. Therefore, the primary economic effects would be associated with short-term construction jobs that would generate a small minor positive economic impact.

Implementation of the proposed action would not displace any residents or businesses since construction would occur within the existing footprint of the park facilities. Improvements planned under the proposed accessibility improvements project would not impact the number of housing units in the surrounding area and surrounding community of Miloli‘i because no housing units are included under this project.

3.10 UTILITIES AND PUBLIC SERVICES

The Miloli‘i Beach Park is not served by any utility services. Electricity is provided by solar panels with battery storage on the existing pavilion. Water for the comfort station is provided by privately operated water supply trucks. This water is non-potable and is only used to flush toilets and hand sinks. The project site is served by an on-site septic system. The park pavilion is the only public facility in the Miloli‘i community that is covered and can accommodate large groups for gatherings and events (Farber and Associates 2012).

The nearest fire 24-hour fire/EMS operations are located at Keauhou and Captain Cook. There is a volunter fire station located in Miloli‘i Village. There is a Hawai‘i County Police Department station in Kailua-Kona, approximately 40 miles north of the project site, and a Nā‘ālehu Station, approximately 30 miles south of the project site. The Kona Community Hospital is a full-service hospital located in Kealakehe, approximately 30 miles from the project site.

IMPACTS AND MITIGATION MEASURES

The proposed project includes the replacement of existing facilities and accessibility improvements at the Miloli‘i Beach Park. The proposed project includes provision of a new potable water storage system, including a water tank and booster pump(s), for the new comfort station. Potable water would be delivered by truck. No feature of the project would result in the need for new or altered services for fire or police protection, schools, libraries, parks, or health services. Because no new residences would be constructed on site, and no new employees would be drawn from the local labor pool, no increase in population would result from the proposed project. Therefore, no increases in the demands for public services such as schools, libraries, parks, health services, police, or fire protection would be expected, and no additional public facilities would need to be constructed. Further, activities at the proposed beach park accessibility improvements project site would not affect the provision of utilities and public services to adjacent land uses. Replacement of existing facilities and accessibility improvements planned are expected to have no negative long-term impact on utilities and public services.

For information regarding storm drainage, see Section IX, *Hydrology and Water Quality*.

3.11 TRAFFIC AND PARKING

Miloli‘i is a small, isolated village located approximately 45 miles from the Kona International Airport. Vehicle access to the project area is via Miloli‘i Road, a steep road that descends roughly 3,400 feet in elevation off of Mamalahoa Highway (Highway 11). Miloli‘i Road is a winding, two-lane country road, and Miloli‘i Beach Park is located approximately 5 miles along this roadway.

IMPACTS AND MITIGATION MEASURES

Construction of the proposed project could result in short-term increases in traffic. During construction of the proposed park accessibility improvements, there would be work vehicles using Miloli‘i Road. There is limited traffic on Miloli‘i Road, consisting of local traffic or beach visitor traffic. However, the County aims to provide ongoing beach parking and access during construction of the proposed improvements. Temporary parking during construction would likely be onsite or along Miloli‘i Road. During construction, the construction contractor would be required to provide for boat turn-around and ensure access to the residential property in the back of the park.

The proposed project includes a parking area with 12 standard parking spaces and four handicapped spaces, in addition to a paved area for boat turnaround. The project also includes installation of vehicular barriers to prevent unauthorized vehicles from accessing the shoreline and the pavilion.

There would be no direct increase in operational traffic due to implementation of the proposed project, and no long-term adverse effects to circulation and parking would occur.

3.12 CONFORMANCE WITH STATE AND LOCAL PLANS, POLICIES, AND LAND USE CONTROLS

State and County policy, and land use and community plans and controls are established to address the long-term physical, social, economic, and environmental needs in Hawai‘i. Pertinent land use controls for the Miloli‘i Beach Park Accessibility Improvement project are described below.

State of Hawai‘i

State of Hawai‘i, Land Use Commission – State Land Use Districts
HRS, Chapter 205, establishes four major land use districts in which all lands in the State are placed. These districts include: urban, rural, agricultural, and conservation. The Conservation District has five subzones: Protective, Limited, Resource, General, and Special. Excluding the Special subzone, the four subzones are arranged in a hierarchy of environmental sensitivity, ranging from the most environmentally sensitive (Protective) to the least sensitive (General). These subzones define a set of identified land uses that may be allowed by discretionary permit as regulated by HAR, Chapter 13-5, "Conservation District" and HRS, Chapter 183C. The project site is located within the "Conservation" (C) District with a subzone designation of "Special" (see Figure 6). The objective of the special subzone is to provide for sustainable use of areas possessing unique developmental qualities that complement the natural resources of the area (HAR, Section 13-5-15). The project site is located in the Miloli‘i-Hoopuloa special subzone (Chapter 13-5, Exhibit 2, Special Subzones (5)). The purposes of this subzone designation include fishing activities, residential, educational, and cultural and recreational uses pursuant to Act 86, SLH 1991.

The proposed project would not expand the park or its facilities beyond what currently exists. Besides the demolition and relocation of the restrooms, pavilion, and water storage structures, most of the proposed improvements involves minor alterations or cosmetic work to existing structures. Based on consultation with DLNR, Office of Conservation and Coastal Lands (OCCL), the proposed project is an identified land use pursuant to HAR, Section 13-5-22 P-8 Structures and Land Uses, Existing (B-1):

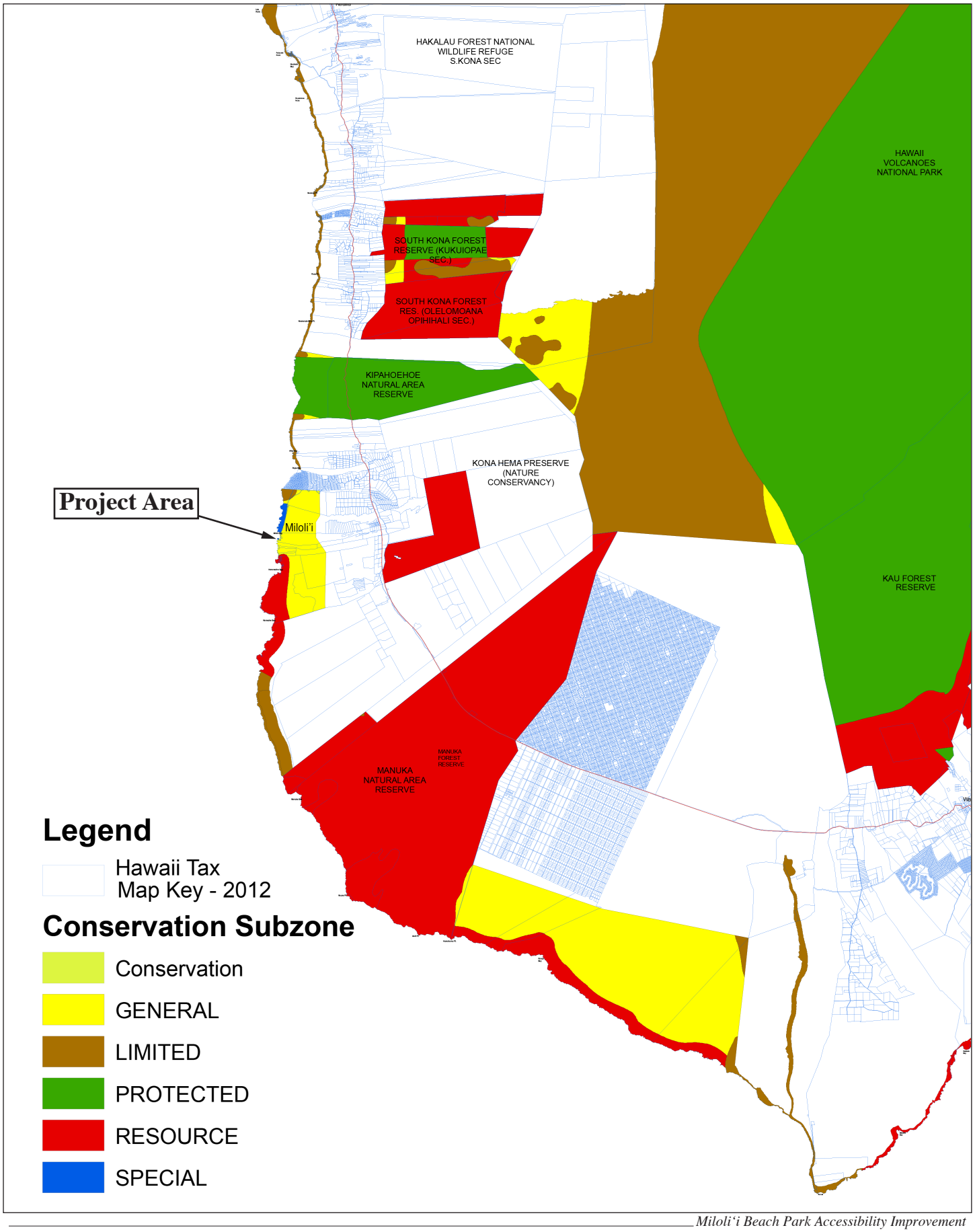
> *Demolition, removal, or minor alteration of existing structures, facilities, land, and equipment. Any historic property shall be evaluated by the department for historical significance.*

As noted by OCCL, construction of the proposed accessibility improvements would require filing a Site Plan Approval application, including proof of SHPD consultation (see Appendix A). SHPD consultation has been initiated by the Department of Parks and Recreation.

Background Information on Land Use Controls in the Miloli‘i Area

Miloli‘i has been established as a settlement dating back to the early Polynesian seafarers from the South Pacific. In 1931, the territorial governor set aside the area as a public park under the control of the County government (Executive Order (EO) 473). With EO 473, the governor gave the County full authority to create a "Hawaiian Village" at Miloli‘i (Pa‘a Pono Miloli‘i 2017). In 1982, the state legislature approved Act 62 which authorized DLNR to, "negotiate and enter into long-term residential leases," with residents living at Miloli‘i and others who were displaced by the 1926 lava flow. Act 83, passed in 1984, granted a time extension to Act 62. On June 22, 1984, the Board of Land and Natural Resources approved the establishment of the Miloli‘i-Ho‘opūloa Special Subzone within Conservation District lands under Conservation District Use Permit (CDUP) HA-1653, dated January 12, 1984. The Miloli‘i-Ho‘opūloa Community Development Plan Master Plan was created by *Pa‘a Pono Miloli‘i* and approved by the Land Board in 1984. The Master Plan included two phases of residential development in addition to areas for cultural, recreational, or educational purposes, located north of the Miloli'i Beach Park. In line with the Master Plan's vision, the Final Environmental Assessment and Finding of No Significant Impact for the Miloli‘i Community Enrichment and Historical Center was issued by the County of Hawai‘i Planning Department in July 2012 for the development of a multi-purpose community center within the Miloli‘i Village (Farber & Associates 2012).

Separate from these actions, the Miloli‘i Beach Park was created by Executive Order 2435 and has been under the management of the County of Hawai‘i since 1985 (see OCCL consultation letter, Appendix A).



Miloli'i Beach Park Accessibility Improvement

SOURCE: State of Hawai'i Department of Land and Natural Resources, Office of Conservation and Coastal Lands, 2012

Figure 6

State Land Use District Map
Conservation District, Special Subzone

Hawaii State Planning Act, HRS Chapter 226

The Hawaii State Planning Act (HRS Chapter 226) is a broad policy document that forms a basis for all activities, programs, and decisions made by local and state agencies. The Act sets forth the Hawaii State Plan, which is a long-range comprehensive plan that identifies the goals, objectives, policies, and priorities for the state, and provides a basis for determining priorities and allocating limited resources. The objectives and policies focus on general topic areas, including population, economy, physical environment, facility systems, and socio-cultural advancement. The proposed accessibility improvements project is compatible with applicable objectives and policies, and priority guidelines listed in HRS Chapter 226, as discussed below.

Hawaii State Planning Act, HRS Chapter 226		
Objective or Policy	**Consistency**	**Discussion**
§226-11(a). 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 Hawaii's land-based, shoreline, and marine resources. (2) Effective protection of Hawaii's unique and fragile environmental resources. §226-11(b). To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to: (1) Exercise an overall conservation ethic in the use of Hawaii's natural resources. (4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage. (6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii. (8) Pursue compatible relationships among activities, facilities, and natural resources. (9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.	Yes	The proposed Miloli'i Beach Park Accessibility Improvement project would reconstruct existing recreation facilities and provide ADA accessible walkways and parking. The proposed project BMPs and mitigation measures would minimize impacts to shoreline and marine resources.
§226-12(b). To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to: (1) Promote the preservation and restoration of significant natural and historic resources.	Yes	As set forth in Section 3.5, *Historic, Archaeological, and Cultural Resources*, an Archaeological Inventory Survey was completed for the project site. The archaeological inventory survey identified three historic single feature sites. The mapping, written description, and photography of these sites adequately document them and no further work or preservation is required.

Hawaii State Planning Act, HRS Chapter 226		
Objective or Policy	**Consistency**	**Discussion**
§226-13(a). 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 Hawaii's land, air, and water resources. (2) Greater public awareness and appreciation of Hawaii's environmental resources.	Yes	As set forth in Section 5, *Findings and Determinations*, of this EA, no significant adverse effects to air quality or water quality would occur with implementation of the proposed accessibility improvements project.
(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to: (2) Promote the proper management of Hawaii's land and water resources. (3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters. (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.	Yes	As described in Section 3.3, *Natural Hazards*, of this EA, the entire shoreline is subject to inundation due to high seas and swells caused by hurricanes and distant storms and tsunami activity. While most of the facilities are not located within the flood zone, the proposed improvements would be designed and constructed in conformance with the standards and requirements of the Hawai'i County Code, Chapter 27, *Floodplain Management*, as applicable. In addition, the project includes BMPs to be implemented during project construction to minimize erosion and potential impacts to water quality.
§226-23 (a). 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) To achieve the leisure objective, it shall be the policy of this State to: (3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance. (5) Ensure opportunities for everyone to use and enjoy Hawaii's recreational resources. (6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs. (10) Assure adequate access to significant natural and cultural resources in public ownership.	Yes	The proposed project includes accessibility improvements to meet ADA requirements and provide equitable access to the beach park amenities.

Coastal Zone Management Program

In October 1972, Congress passed the Coastal Zone Management Act for the purpose of establishing a national program for the management, beneficial use, protection, and development of land and water resources of the coastal areas of the United States. The Hawai'i Coastal Zone Management (CZM) Program (HRS, Chapter 205A) was promulgated in 1977 in response to the Federal Coastal Zone Management Act of 1972. The objectives and policies of the CZM Program are to provide recreational resources; protect historic, scenic, and coastal ecosystem resources; provide economic uses; reduce coastal hazards; and manage development in the coastal zone.

Special Management Area Designation and Shoreline Setback Rules

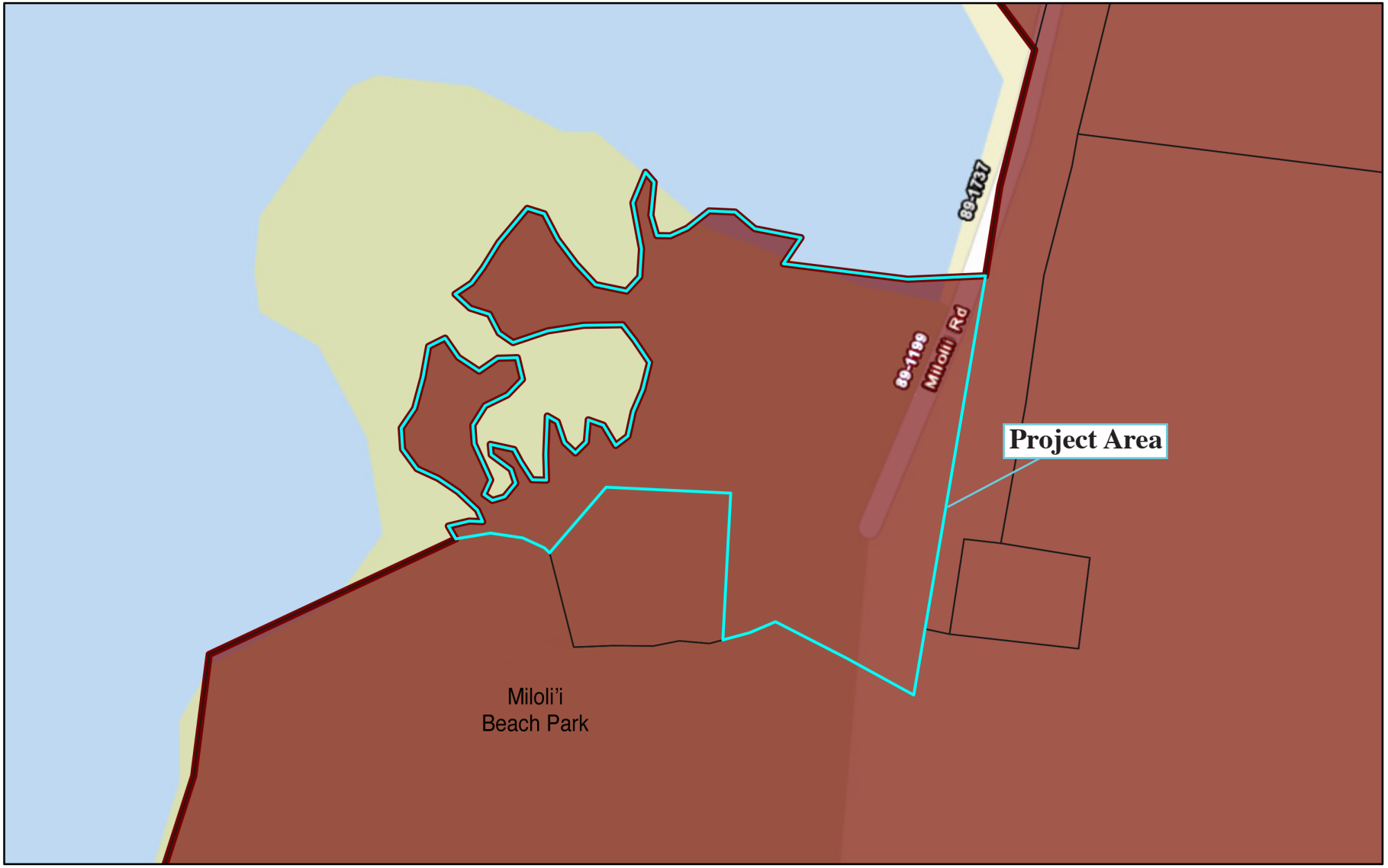
The CZM Program outlines controls and policies within an area along the shoreline called the Special Management Area (SMA). The objectives of the SMA are "the maintenance, restoration, and enhancement of the overall quality of the coastal zone environment, including, but not limited to, its amenities and aesthetic values, and to provide adequate public access to publicly owned or used beaches, recreation areas and national reserves." The purpose of the SMA Permit is to regulate any use, activity or operation that qualifies as a "development" and is administered at the County level – the permit is a management tool to ensure activities within the SMA are carried out in compliance with the CZM objectives and policies, and SMA guidelines.

The project site is located within the SMA boundary (see Figure 7). Consultation with the County of Hawai'i Planning Department was initiated at the time of early consultation and EA preparation. It is anticipated that an SMA Major permit would be necessary, based on the project valuation and preliminary understanding of the project scope.

The proposed action requires compliance with the Shoreline Setback Rules of the County of Hawai'i Planning Department (Planning Department Rule 11-5). The shoreline at the project site generally follows the edge of the seawall or the high wash of waves at the beach area (a Shoreline Certification application was approved October 31, 2019, see Appendix C). The Shoreline Setback area is the area between the shoreline and the shoreline setback line established by the County. Structures or portions of a structure are not permitted in the shoreline setback area without a variance, and conditions must be imposed to maintain safe lateral access to and along the shoreline or adequately compensate for its loss; to minimize risk of adverse impacts on beach processes, to minimize risk of structures failing and becoming loose rocks or rubble on public property; and to minimize adverse impacts on public views to, from, and along the shoreline. The replacement pavilion would be approximately 22 feet set back from the existing sea wall, and the end of the new path at the BBQ area is approximately 20 feet from the shoreline. A portion of the concrete walkway to the campground and additional paving would be located within the shoreline setback area (see Figure 8). A Shoreline Setback Variance would be required for activities in the shoreline setback area.

The following discussion evaluates the consistency of the proposed Miloli'i Beach Park Accessibility Improvement project with the applicable objectives and policies of Chapter 205A, HRS. The policies of Chapter 205A, HRS, the consistency of the proposed accessibility improvements with those policies, and the reasoning for the conclusion are set forth in the table below.

Policy compliance is often a matter of interpretation. The County Council is the ultimate arbiter of public policy for the project, and their judgment regarding the project and a specific policy may be different from that set forth in this report. Therefore, the following policy evaluation should be viewed as preliminary, with the ultimate decision to be made by the appropriate appointed and elected officials.



September 2, 2019

Special Management Area (SMA)

1:1,128

0 0.01 0.01 0.03 mi

0 0.01 0.03 0.05 km

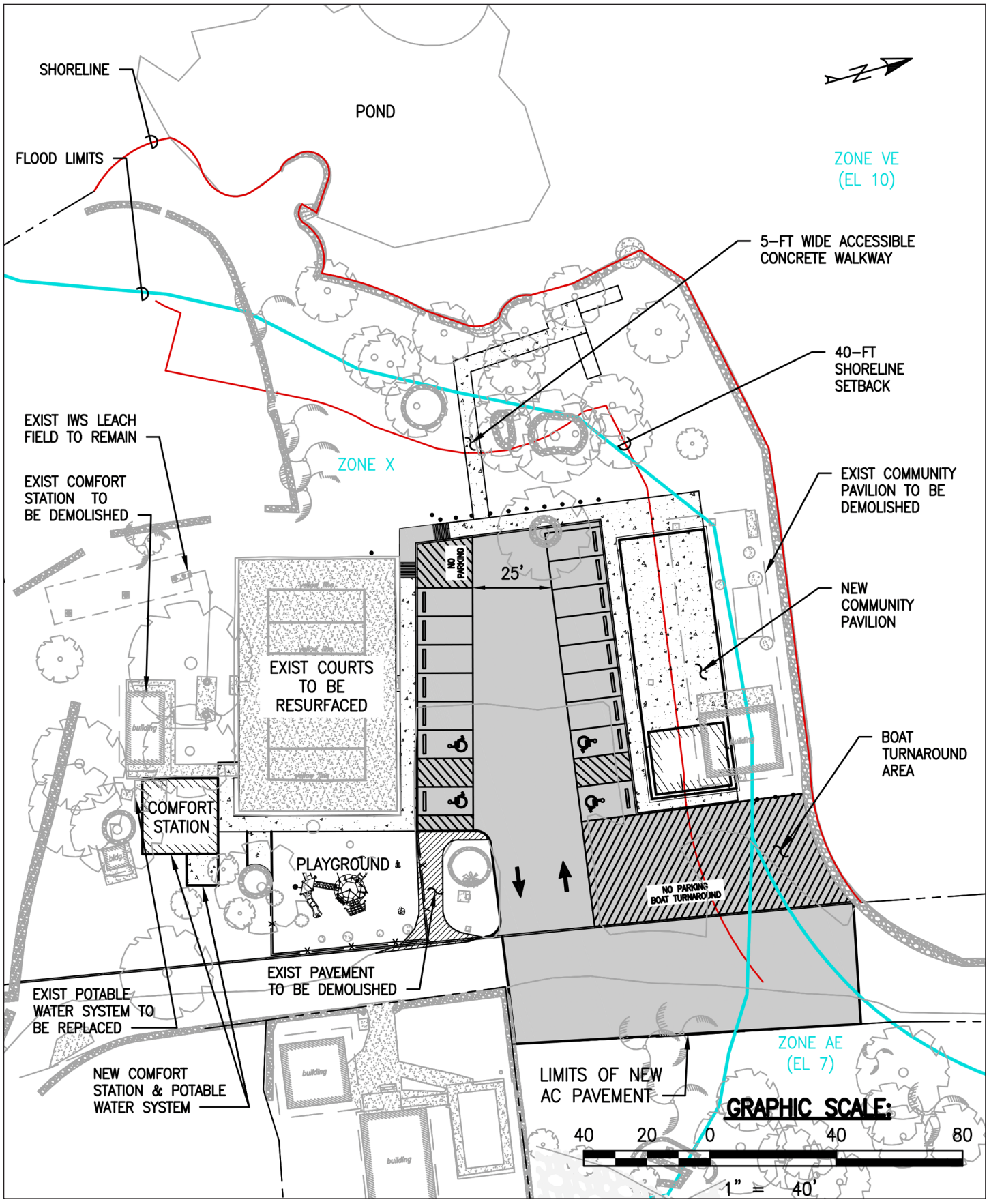
Esri, HERE, Garmin, NGA, USGS, Esri, HERE, iPC

SOURCE: State of Hawai'i, SMA Locater Online Map, 2019

Miloli'i Beach Park Accessibility Improvement

Figure 7

Special Management Area Map



Miloli'i Beach Park Accessibility Improvement

SOURCE: Bow Engineering & Development, Inc. 2020

Figure 8

Shoreline Setback Area

HRS Chapter 205A-2, Objective or Policy	Consistency	Discussion
(1) Recreational resources; (A) Provide coastal recreational opportunities accessible to the public. Policy: (B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by: (iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value; (iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation; (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;	Yes	The Miloli'i Beach Park is an important recreational facility for residents and visitors to the area. The proposed project would have a beneficial impact to park and recreation resources since it would provide accessibility improvements that would broaden equitable public access to the beach park facilities.
(2) Historic resources; (A) Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture. Policy: (A) Identify and analyze significant archaeological resources; (B) Maximize information retention through preservation of remains and artifacts or salvage operations; and (C) Support state goals for protection, restoration, interpretation, and display of historic resources.	Yes	As set forth in Section 3.5, *Historic, Archaeological, and Cultural Resources*, an Archaeological Inventory Survey was completed for the project site. The archaeological inventory survey identified three historic single feature sites. The mapping, written description, and photography of these sites adequately document them and no further work or preservation is required.
(3) Scenic and open space resources; (A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources. Policy: (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. (C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources.	Yes	As set forth in Section 3.8, *Visual Resources*, the proposed project includes the reconstruction of existing facilities in addition to accessibility improvements. The proposed project would not significantly change the scenic and visual character of the surrounding area.
(4) Coastal ecosystems; (A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.	Yes	Adverse effects to water quality and the coastal ecosystem would be minimized by site-specific BMPs (see Section 3.2 above).

HRS Chapter 205A-2, Objective or Policy	Consistency	Discussion
Policy: (A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources; (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.		
(5) Economic uses; (A) Provide public or private facilities and improvements important to the State's economy in suitable locations. Policy: (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.	Yes	The Miloli'i Beach Park is an important public beach park for both residents and visitors. As evaluated in this EA, adverse environmental impacts from implementation of the proposed action would be minimized through project design and mitigation measures contained in this document.
(6) Coastal hazards; (A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution. Policy: (B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards. (C) Ensure that developments comply with requirements of the Federal Flood Insurance Program.	Yes	As described in Section 3.3, *Natural Hazards*, of this EA, the entire shoreline is subject to inundation due to high seas and swells caused by hurricanes and distant storms and tsunami activity. The proposed improvements would be designed and constructed in conformance with the standards and requirements of the Hawai'i County Code, Chapter 27, *Floodplain Management*, as applicable. In addition, the project includes BMPs to be implemented during project construction to minimize erosion and potential impacts to water quality.
(7) Managing development; (A) Improve the development review process, communication, and public participation in the management of coastal resources and hazards.	Yes	Early consultation with agencies, organizations, and individuals was conducted during preparation of the Draft EA for the proposed project. Additional public review will occur during the public comment period for the EA, and during the public hearing before the County of Hawai'i Planning Commission during the SMA permit process.
(8) Public participation; (A) Stimulate public awareness, education, and participation in coastal management. Policy: (A) Promote public involvement in coastal zone management processes.	Yes	See above.

HRS Chapter 205A-2, Objective or Policy	Consistency	Discussion
(9) Beach protection; (A) Protect beaches for public use and recreation.	Yes	The proposed project includes reconstruction of park facilities and accessibility improvements at an existing beach park.
(10) Marine resources; (A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability. Policy: (A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial.	Yes	As evaluated in this EA, adverse environmental impacts from implementation of the proposed action would be minimized through project design and mitigation measures contained in this document.

County Land Use Plans and Policies

County of Hawaii General Plan

The *County of Hawaii General Plan* (2005) is a long range, generalized planning policy document to guide development of the County. It serves as a basis for an implementation program to effectuate desired changes and improvements in the social, economic, and environmental atmosphere of the County. Topics addressed in the General Plan include goals and policies regarding population, land use, the environment, cultural resources, economic activity, housing and urban design, transportation, social infrastructure, and government. As set forth by the General Plan 2005: "Through the Zoning and Subdivision codes, and the Special Management Area and shoreline setback regulations, the County of Hawaii has the means to protect the island's natural and scenic beauty as an integral part of the living environment of the island." These land use regulations and how they apply to the proposed project are described throughout this section of the EA.

A Draft General Plan 2040 was released in August 2019, with public review and comment period through October 31st, 2019. This update of the General Plan incorporates emerging issues that were not addressed in the 2005 General Plan, such as climate change, healthy communities, integrated water resource management, renewable energy, food security, equitable housing and a place-based economy. Following completion of the public comment period, planners will incorporate comments and provide another public review period prior to moving the draft General Plan 2040 forward through the legislative process. The Windward and Leeward Planning Commission review hearings are expected to begin some time in spring of 2021, prior to final review and adoption by County Council. Since the County of Hawai'i has not yet adopted this document, the 2005 General Plan is the current adopted policy of the County.

The following discussion evaluates the consistency of the proposed project with applicable objectives and policies of the current General Plan.

Hawai'i County 2005 General Plan, Goals and Polices		
Goal or Policy	**Consistency**	**Discussion**
Flooding and Other Natural Hazards		
5.2 Goals (a) Protect human life. (b) Prevent damage to man-made improvements. (c) Control pollution. (d) Prevent damage from inundation. (e) Reduce surface water and sediment runoff. (f) Maximize soil and water conservation. 5.3 Policies (d) Any development within the Federal Emergency Management Agency designated flood plain must be in compliance with Chapter 27. (g) Development-generated runoff shall be disposed of in a manner acceptable to the Department of Public Works and in compliance with all State and Federal laws. (q) Consider natural hazards in all land use planning and permitting.	Yes	As described in Section 3.3, *Natural Hazards*, of this EA, the entire shoreline is subject to inundation due to high seas and swells caused by hurricanes and distant storms. The shoreline areas are also subject to tsunami activity. The proposed improvements would be designed and constructed in conformance with the standards and requirements of the Hawai'i County Code, Chapter 27, *Floodplain Management*, as applicable. The proposed action includes site-specific BMPs to be implemented during construction in order to prevent any wastewater, sediment, soil, and debris resulting from the proposed construction from adversely impacting the coastal ecosystem. Compliance with BMPs for construction would minimize impacts to water quality. Further, all earthwork grading operations would be conducted in compliance with dust and erosion control requirements of Hawaii County Code Chapter 10, *Erosion and Sedimentation Control.*
Historic Sites		
6.2 Goals (a) Protect, restore, and enhance the sites, buildings, and objects of significant historical and cultural importance to Hawaii. 6.3 Policies (c) Require both public and private developers of land to provide historical and archaeological surveys and cultural assessments, where appropriate, prior to the clearing or development of land when there are indications that the land under consideration has historical significance.	Yes	As set forth in Section 3.5, *Historic, Archaeological, and Cultural Resources*, an Archaeological Inventory Survey was completed for the project site. The archaeological inventory survey identified three historic single feature sites. The mapping, written description, and photography of these sites adequately document them and no further work or preservation is required.
Natural Beauty		
7.2 Goals (a) Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources. h) Protect the views of areas endowed with natural beauty by carefully considering the effects of proposed construction during all land use reviews.	Yes	The Miloli'i area is identified as a "Natural Beauty Site" in the District of South Kona (General Plan 2005 Table 7-12). The proposed project would reconstruct existing recreation facilities and provide ADA accessible walkways and parking. There would be no permanent changes to the natural beauty or views of the area with project implementation.

Hawai'i County 2005 General Plan, Goals and Polices		
Goal or Policy	**Consistency**	**Discussion**
Natural Resources and Shoreline		
8.2 Goals (e) Protect and effectively manage Hawaii's open space, watersheds, shoreline, and natural areas. (f) Ensure that alterations to existing land forms, vegetation, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of an earthquake. 8.3 Policies (c) Maintain the shoreline for recreational, cultural, educational, and/or scientific uses in a manner that is protective of resources and is of the maximum benefit to the general public. (r) Ensure public access is provided to the shoreline, public trails and hunting areas, including free public parking where appropriate.	Yes	The proposed project includes reconstruction of park facilities and accessibility improvements at an existing beach park. The proposed project accessibility improvements would broaden equitable public access to the beach park facilities and shoreline.
Recreation		
12.2 Goals (b) Maintain the natural beauty of recreation areas. 12.3 Policies (b) Improve existing public facilities for optimum usage. (h) Provide facilities and a broad recreational program for all age groups, with special considerations for the handicapped, the elderly, and young children.	Yes	See above.

County of Hawai'i Zoning Designation

The County of Hawai'i land use ordinance, or zoning code (Hawai'i County Code Chapter 25), regulates land use and overall future development on Hawai'i Island within the framework of the Hawai'i General Plan (Hawai'i County Code, Section 25-1-2(a)). The Miloli'i Beach Park site is zoned Open District. The purpose of the Open District is to buffer and preserve open land types of use, such as a beach park, which may be characterized by scenic beauty. Public parks are a permitted use in the Open District (Hawai'i County Code, Section 25-5-161(a)(11)). No feature of the proposed accessibility improvements project would conflict with existing zoning.

Kona Community Development Plan

Community Development Plans (CDPs) translate broad goals, policies and standards from the Hawai'i County General Plan into implementation actions as they apply to specific geographical regions around Hawai'i Island. The CDPs serve as the forum for community input into establishing County policy at the regional level and coordinating the delivery of County services to the community. The CDPs direct physical development and public improvements and may contain detailed land use and zoning guide maps, plans for roadways, parks, other infrastructure and public facilities, planning for watersheds and natural resources, and any other land use matters relating to the planning area (Hawai'i County Planning Department 2019). The Kona CDP covers the

geographic districts of North Kona, reaching nearly to Waikoloa Village, and South Kona, including the Community of Miloli‘i.

The Kona CDP sets forth a standard of excellence in design, operation, and maintenance, and specifically prioritizes upgrading and maintenance of Miloli‘i Beach Park:

> Policy PUB–7.2: Excellence in Maintenance. If the community and responsible public workers cannot stand next to the public facility with pride, then that is a call to action for both the community and the responsible public agency.
>
> Action PUB–7.2c: Provide for upgrading and maintenance to the public facilities in critical need of attention:
>
> ii. Maintain parks and public facilities in remote areas, such as Miloli‘i.

The proposed project would replace the existing pavilion to meet permitting standards and provide accessibility improvements to the park, among other improvements. These upgrades are essential to meet ADA requirements and provide equitable access to the park amenities.

4 ALTERNATIVES TO THE PROPOSED ACTION

This chapter considers alternatives to the proposed action, including the No Action Alternative.

4.1 PROPOSED ALTERNATIVES

No Action Alternative

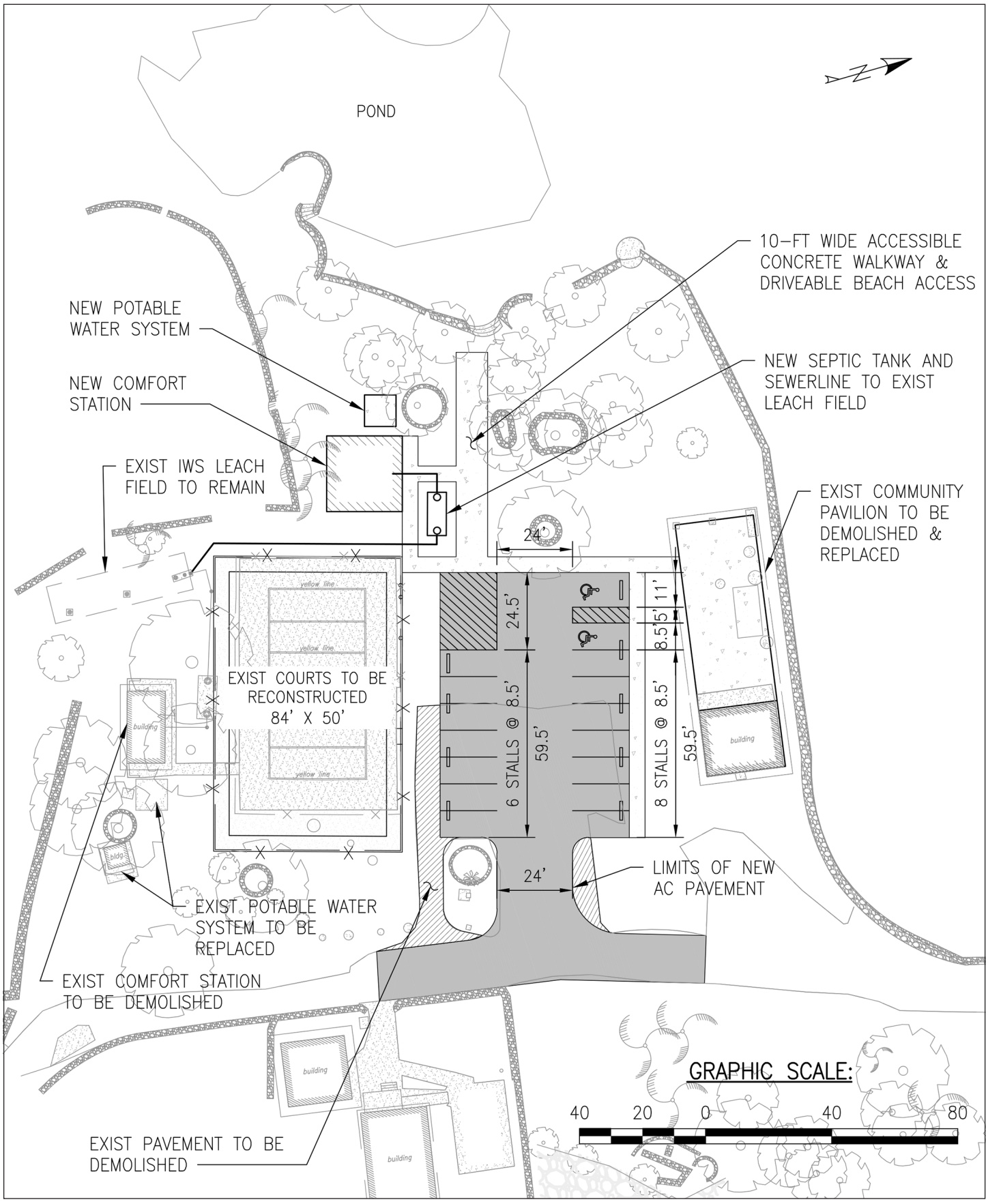
The No Action Alternative identifies the expected environmental impacts in the future if existing conditions were left as is with no action taken by the approving agency. Under the No Action Alternative, the proposed accessibility improvements would not be constructed and existing park features would not be reconstructed. As a result, the present conditions within the project area would predominantly continue into the future, with some members of the community experiencing limited or difficult access to park facilities. Also, the basketball court and pavilion would remain in disrepair and would not meet County permit requirements. This alternative would not meet any of the identified project objectives.

Preferred Alternative 1: Proposed Action

Under this alternative, the restoration improvements described in Section 2.2 would be implemented as the Proposed Project. The beneficial impacts of the proposed project include the increased accessibility to the park offered by improved parking lot including ADA spaces, connecting ADA accessible walks and ramps to park facilities for greater accibility from feature to feature, improvement and replacement of existing facilities to meet ADA guidelines and County permit requirements, and the addition of a new children's play apparatus.

Alternative 2: Alternate Comfort Station Location

Alternative 2 would include a new comfort station and new potable water system sited closer to the camp sites (see Figure 9). The new comfort station location would require the installation of new septic tank(s) and associated sewer piping, though the existing leach field would be reused. The septic tank and sewer piping would be designed in accordance with the State Department of Health requirements. Under the proposed Alternative 2, the new potable water system and replacement pavilion would be located within the Shoreline Setback Area, and the pavilion would remain in the flood zone. This alternative was eliminated based on community feedback that the comfort station location closer to the campsites is not desired, and the original location is preferred.



Miloli'i Beach Park Accessibility Improvement

SOURCE: Bow Engineering & Development, Inc. 2019

Figure 9

Alternative 2 Conceptual Site Plan

5 FINDINGS AND DETERMINATION

As set forth in HAR, Section 11-200.1-13, in considering the significance of potential environmental effects, an agency must "consider every phase of a proposed action, the expected impacts, and the proposed mitigation measures." The proposed action is not expected to have a significant effect on the environment. The recommended preliminary determination for the Miloli'i Beach Park Accessibility Improvement is a Finding of No Significant Impact (FONSI). The findings supporting this determination are discussed below.

(1) Does the project irrevocably commit a natural, cultural, or historic resource?

The effects of multiple tsunamis and the historic impacts to the property by the construction and use of the school suggests that no pre-contact archaeological sites or features are likely to be encountered. While there is low probability of encountering archaeological sites in this area, in the event that historic resources, including human skeletal remains, are identified during the construction activities, all work would cease in the immediate vicinity of the find, the find would be protected from additional disturbance, and the State Historic Preservation Division would be contacted immediately. The proposed project is not anticipated to involve an irrevocable commitment, or loss and destruction of any natural or cultural resource.

(2) Does the project curtail the range of beneficial uses of the environment?

The proposed improvements would not curtail the range of beneficial uses at the project site. The project would increase the range of beneficial uses of the environment by improving existing beach park facilities and accessibility to these recreational resources. With implementation of accessibility improvements, recreational access for disabled visitors to the park would increase.

(3) Does the project conflict with the State's environmental policies or long-term environmental goals established by the law?

The proposed project is consistent with the environmental policies and long-term environmental goals established in HRS, Chapter 344. The guiding policies as set forth in HRS, Chapter 344-3, include:

(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.

(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;

(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;

(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
(D) Establishing a commitment on the part of each person to protect and enhance Hawaii's environment and reduce the drain on nonrenewable resources.

The proposed project would both conserve and enhance the natural resources of the park, and enhance the recreational experience for both visitors and the local populace.

(4) Does the project have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State?

The proposed action would have a short-term positive effect on the economic welfare of the island resulting from hiring construction workers. This project is not expected to significantly affect traditional native Hawaiian cultural practices or other traditional cultural practices occurring in the surrounding area. The proposed action would not have a substantial long-term effect on the economic and social welfare of the community or the state. The proposed project is in accordance with land use plans and regulations as set forth in Section 3.12, *Conformance with State and County plans, Policies, and Land Use Controls.*

(5) Does the project have a substantial adverse effect on public health?

The project would not substantially affect public health as discussed in various sections of this document. Construction activities may temporarily increase fugitive dust and noise levels in the project vicinity. Short-term construction-related effects would be minimized by complying with pertinent State or City regulations and conditions of permits required. Further, these impacts would cease upon completion of construction. The proposed improvements would repair facilities in a current state of disrepair, and therefore protect the health and safety of the public. No long-term negative impact on public health is anticipated with implementation of the proposed action.

(6) Does the project involve adverse secondary impacts, such as population changes or effects on public facilities?

The proposed action would not generate population or create secondary demands and impacts on public facilities and services. The project would not alter the present use of the park.

(7) Does the project involve a substantial degradation of environmental quality?

There would be no long-term, adverse environmental impacts associated with the proposed action. Construction activities may temporarily increase dust and noise in the project vicinity. However, these impacts would cease upon completion of construction. The proposed project will also include site-specific BMPs to minimize erosion and sedimentation effects to water quality. Additional mitigation measures included in Chapter 3 would minimize potential construction-related impacts.

(8) May the project be individually limited but cumulatively have substantial adverse effect upon the environment or involve a commitment for larger actions?

The proposed Miloli‘i Beach Park Accessibility Improvement project is limited to the existing park. In a regional context, the project would not have cumulatively significant impacts.

(9) Does the project have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat?

With implementation of mitigation and BMPs described in Section 2.2 of this document, no substantial adverse effects would occur to rare, threatened, or endangered species, or their habitats.

(10) Does the project have a substantial adverse effect on air or water quality or ambient noise levels?

Construction activities would have a short-term effect on air quality, water quality, and ambient noise levels. Mitigation included in Chapter 3 would minimize these potential impacts. Construction activities would also be subject to applicable State and City regulations and permit conditions. No additional long-term impacts would occur.

(11) Does the project 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?

Construction of the proposed park accessibility improvement project would not result in increased flooding or hazards from flooding in surrounding areas. The proposed pavilion location would be shifted south of the existing location and away from the shoreline. The new pavilion would be relocated outside of Flood Zone VE, a coastal flood zone. The proposed improvements would be designed and constructed in conformance with the standards and requirements of the Hawai‘i County Code, Chapter 27, *Floodplain Management*, as applicable.

(12) Would the project have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies?

Since the proposed project consists of accessibility improvements and replacement of existing uses at the Miloli‘i Beach Park, the proposed project would not significantly change the scenic and visual character of the surrounding area. The proposed improvements would not obstruct views from any recognized view corridor or scenic roadway.

(13) Would the project require substantial energy consumption or emit substantial greenhouse gases?

There would be energy consumption associated with construction of the proposed project. The amount of energy that would be consumed with project implementation is not considered substantial.

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6 INDIVIDUALS, COMMUNITY GROUPS, AND AGENCIES CONSULTED

6.1 EARLY CONSULTATION

Early consultation was conducted from July 2019 to December 2019, prior to preparation of the Draft EA for the proposed project. This is part of the scoping process for the Draft EA, and is intended to identify environmental issues and concerns to be addressed in the Draft EA. The following agencies, organizations, and individuals were sent a preliminary project description for comments or questions. Those that provided written comments (either by hard copy or electronically) are highlighted in italics. Copies of the written comments are included in Appendix A.

FEDERAL AGENCIES
U.S. Fish and Wildlife Service
Department of Army Corps of Engineers
Department of the Navy
Environmental Protection Agency
U.S. National Oceanic Atmospheric Administration, National Marine Fisheries Service

STATE AGENCIES
Department of Health, Environmental Health Administration
Department of Transportation
Department of Accounting and General Services
Office of Planning
University of Hawai‘i Environmental Center
University of Hawai‘i Water Resources Research Center
Office of Hawaiian Affairs
Department of Hawaiian Home Lands
Department of Land and Natural Resources
Department of Land and Natural Resources - Historic Preservation Division

COUNTY OF HAWAI‘I
Department of Environmental Management
Planning Department
Department of Public Works
Department of Water Supply

ELECTED OFFICIALS
County Council Representative – District 6

COMMUNITY
Pa‘a Pono Miloli‘i
Neighboring land owners

MILOLI'I COMMUNITY MEETINGS

The Department of Parks and Recreation also scheduled two community meetings at the park to better understand the needs and concerns regarding the proposed improvements. The meeting were held on October 18, 2019, and November 3, 2019 at the Hālau pavilion. Approximately 9 community members and 32 community members attended the meetings on October 18, 2019 and November 3, 2019, respectively, in addition to Department of Parks and Recreation staff.

Concerns and questions highlighted in the early consultation meeting included (though all topics discussed may not be listed):

- Some commentors wanted more parking, some wanted less
- Turn around area for truck/boat trailer, water truck, and school bus.
- Hibachi/Grill pits
- Area/secturity lighting, pole mounted, solar powered.
- Imporovements to the comfort station – may need larger water tank capacity for shower
- Pavilion/Halau – concerns with existing solar/PV system
- Retain community events
- Access during construction
- Septic system and water quality
- Increase in tourist visitors?
- Cultural and historical resources being protected?

There was overall positive feedback from the community. The majority sentiment regarding park improvements is to retain the park amenities and features that currently exist while minimizing the amount of changes and improvements to the park as possible. Concerns identified in the community meetings were considered during the site design process and resulted in some modifications to project plans.

Parks and Recreation representatives also attended a meeting with the Planning Department on November 7, 2019 regarding permitting and approval requirements for the proposed project.

6.2 ENVIRONMENTAL ASSESSMENT PREPARATION

This Draft Environmental Assessment (EA) was prepared for the County of Hawai'i Department of Parks and Recreation by Environmental Planning Partners, Inc. and Bow Engineering & Development, Inc. The following consultants were involved in the preparation of this document:

William F. Bow, Executive Project Manager / Chemist, Bow Engineering & Development, Inc.

Emi Tanitomi, P.E., Project Manager, Bow Engineering & Development, Inc.

Robert D. Klousner, President, Principal in Charge, Environmental Planning Partners, Inc.

Raadha M. B. Jacobstein, Professional Planner, Environmental Planning Partners, Inc.

Dale Nutley, Graphic Artist, Environmental Planning Partners, Inc.

7 REFERENCES

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DAR. See Hawai‘i, State of, Division of Aquatic Resources.

DBEDT. See Hawai‘i, State of, Department of Business, Economic Development & Tourism.

DLNR. See Department of Land and Natural Resources.

DOH. See Hawai‘i, State of, Department of Health.

DOH CWB. See Hawai‘i, State of, Department of Health, Clean Water Branch.

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Haun & Associates, 2019. Draft Archaeological Inventory Survey: TMK: (3) 8-9-004:001. Miloli‘i Ahupua‘a, South Kona District, Island of Hawai‘i. Prepared by: Alan E. Haun, Ph.D. and Dave Henry, B.S. Prepared for: County of Hawai‘i, Department of Parks and Recreation. July 2019.

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APPENDIX A

EARLY CONSULTATION COMMENT LETTERS

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEER, HONOLULU DISTRICT
FORT SHAFTER, HAWAII 96858-5440

July 31, 2019

SUBJECT: U.S. Army Corps of Engineers Regulatory Program Information for Miloli'i Beach Park Improvement, South Kona, Island of Hawai'i; Corps Reference Number: POH-2019-00149

Mr. William Bow
Bow Engineering & Development, Inc.
1953 South Beretania Street, PH-A
Honolulu, Hawaii 96826

Dear Mr. Bow:

The Honolulu District, U.S. Army Corps of Engineers (Corps), Regulatory Office is in receipt of the County of Hawai'i, Department of Parks and Recreation's proposal to improve Miloli'i Beach Park buildings and amenities to comply with the Americans with Disabilities Act. The project is located in the coastal village of Miloli'i in the South Kona District on the Island of Hawai'i. You submitted a description of the preliminary project design and requested comments regarding permitting requirements. The Corps reference number for this project is POH-2019-00149; please include it in any future correspondence regarding this project.

We have reviewed your submittal pursuant to our authorities under Section 404 of the Clean Water Act (33 U.S.C. 1344; "Section 404") and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403; "Section 10"). Section 404 requires Department of the Army (DA) authorization for the discharge (placement) of dredged and/or fill material into waters of the U.S., including marine waters, streams, drainages, and wetlands. Under Section 404, our line of jurisdiction is the high tide line. Section 10 requires DA authorization for the placement of structures in, under or over navigable waters of the U.S. and/or other work affecting the course, location, condition or capacity of such waters. Under Section 10, our line of jurisdiction is the mean high water mark.

Based on the preliminary project description and associated figures, it is unclear whether the project would require a DA permit. It appears that a majority, if not all, of the work will occur in uplands, landward of our line of jurisdiction. There is a new 10-foot wide concrete walkway and vehicular beach access road proposed. If this will extend into the Pacific Ocean, or if work associated with it will occur within the water, then a DA permit will be required.

Please be aware that before the Corps can issue a permit, we need to ensure your project is compliant with the following federal laws.

1. Section 7 of the Endangered Species Act.
2. Magnuson-Stevens Fishery Conservation and Management Act, Essential Fish Habitat.
3. Section 106 of the National Historic Preservation Act.
4. Coastal Zone Management Act, Federal Consistency.
5. Section 401 of the Clean Water Act.

At the design stage, we strongly encourage project proponents to avoid all impacts to waters of the U.S. If you are not working within a water of the U.S., a DA permit from the Corps is not required. If you cannot avoid work in waters of the U.S., we ask that you minimize impacts to the greatest extent feasible. If you cannot design the project to avoid work in waters of the U.S. or if you do not know if the proposed work is in waters of the U.S., we recommend you submit a request for a jurisdictional determination on the project site. Information pertaining to our permitting program and the link to the Corps' jurisdictional determination request form can be found at:

https://www.poh.usace.army.mil/Missions/Regulatory/Permits.aspx

Thank you for your coordination with the Honolulu District Regulatory Program. If you have any questions regarding the permitting process or our regulatory program please contact me at Frank.J.Winter@usace.army.mil or (808) 835-4107.

Sincerely,

Frank Winter
Project Manager, Regulatory Branch

AUG 13 2019

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

MARY ALICE EVANS
DIRECTOR
OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

DTS201908080842NA

August 9, 2019

Mr. William Bow
Bow Engineering & Development, Inc.
1953 South Beretania Street, PH-A
Honolulu, HI 96826

Dear Mr. Bow:

Subject: Milolii Beach Park Accessibility Improvement Project Scoping and Early Consultation, Milolii, South Kona, Hawaii; Tax Map Key: (3) 8-9-004: 001

The Office of Planning (OP) is in receipt of your early consultation request, received July 9, 2019, for the proposed Milolii Beach Accessibility Improvement Project, South Kona.

According to your early consultation request, the Department of Parks and Recreation, County of Hawaii, proposes to improve Milolii Beach Park buildings and amenities to comply with Americans with Disabilities Act (ADA) guidelines. The following actions are proposed by the subject project:

- Demolish the existing comfort station, and construct a new comfort station
- Demolish the existing pavilion, and construct a new pavilion
- Provide new portable water storage and booster pump station for new comfort station
- Improve parking lot to be ADA accessible
- Improve walkways to be ADA accessible
- Reconstruct basketball and volleyball courts

For use of state lands and state funds, and use of conservation district lands, an environmental assessment (EA) will be prepared pursuant to Hawaii Revised Statutes (HRS) Chapter 343.

The construction cost for completion of the proposed beach park improvements is estimated at $1.75 million. The project will be constructed in one phase.

The OP has reviewed your EA consultation request and has the following comments to offer:

1. The Hawaii State Planning Act, HRS Chapter 226, provides goals, objectives, policies, and priority guidelines for growth, development, and the allocation of resources throughout the state in areas of state interest. The EA should discuss the compatibility of the proposed action with the applicable objectives and policies, and priority guidelines listed in HRS Chapter 226.

2. The Hawaii Coastal Zone Management (CZM) Law, HRS Chapter 205A, requires all state and county agencies to enforce the CZM objectives and policies. The EA should include an assessment as to how the proposed project conforms to CZM objectives and supporting policies set forth in HRS § 205A-2, as amended. These objectives and policies include: recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection and marine resources.

3. The project site is located within the special management area (SMA) as designated by the County of Hawaii under HRS Chapter 205A. The OP recommends that the EA specifically discuss the compliance with the requirements of SMA use by consulting with the County of Hawaii Planning Department for the proposed project.

4. Sea level rise increases the risk of inundation, flooding, storm surges, and coastal erosion. The OP suggests that the subject EA refer to the findings of the Hawaii Sea Level Rise Vulnerability and Adaptation Report 2017, accepted by the Hawaii Climate Change Mitigation and Adaptation Commission. The Report, and Hawaii Sea Level Rise Viewer at http://climateadaptation.hawaii.gov/ particularly identifies 3.2-foot sea level rise exposure areas across the main Hawaiian Islands including Oahu, which is anticipated to occur in the mid to latter half of the 21st century. If applicable, the EA should consider specific mitigation measures including locations of new facilities to respond to the potential impacts of sea level rise on the proposed improvements and facilities.

5. OP's document entitled *Stormwater Impact Assessments* provides a framework for integrating stormwater impact assessment with Hawaii's environmental review process, and guidance on assessing stormwater impacts in the planning phase of project development. The OP suggests the EA consider all applicable information provided by this document and discuss site-specific mitigation measures to mitigate the potential impacts from the proposed accessibility improvement project on the surface waters and the coastal ecosystem.

   This document is available at
   http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_imapct/final_stormwater_impact_assessments_guidance.pdf

If you have any questions regarding this comment letter, please contact Shichao Li of our office at (808) 587-2841.

Sincerely,

Mary Alice Evans

Mary Alice Evans
Director

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 2, 2019

Bow Engineering & Development, Inc.
Attn: Mr. William Bow
1953 S. Beretania Street, PH-A
Honolulu, Hawaii 96826

via email: wbow@bowengineering.com

Dear Mr. Bow:

SUBJECT: Scoping and Early Consultation for the Proposed **Miloli'i Beach Park Accessibility Improvement Project** locate at Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001 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) Division of Boating & Ocean Recreation, (b) Engineering Division 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 Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
LAND DIVISION
2019 JUL 19 AM 10:56
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

July 12, 2019

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Scoping and Early Consultation for the Proposed **Miloli'i Beach Park Accessibility Improvement Project**
LOCATION: Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001
APPLICANT: Bow Engineering & Development, 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 **August 1, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

(X) We have no objections.
( ) We have no comments.
( ) Comments are attached.

Signed: Rich Howard

Print Name: Richard Howard

Date: 7/18/19

Attachments
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION
19 JUL 24 AM 11:58
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

19 JUL 12 PM 12:23 ENGINEERING

July 12, 2019

MEMORANDUM

FROM

TO

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Scoping and Early Consultation for the Proposed **Miloli'i Beach Park Accessibility Improvement Project**
LOCATION: Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001
APPLICANT: Bow Engineering & Development, 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 **August 1, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

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

Signed: _____

Print Name: Carty S. Chang, Chief Engineer

Date: 7/22/19

Attachments
cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
Ref: Scoping and Early Consultation for the Proposed Miloli'i Beach Park Accessibility Improvement Project
TMK(s): (3) 8-9-004:001
Location: Hoopuloa-Miloli'i, South Kona, Island of Hawaii
Applicant: Bow Engineering & Development, 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). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR 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 Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

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) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 1/22/09

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
LAND DIVISION
2019 JUL 24 AM 8:22
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

July 12, 2019

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Scoping and Early Consultation for the Proposed **Miloli'i Beach Park Accessibility Improvement Project**
LOCATION: Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001
APPLICANT: Bow Engineering & Development, 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 **August 1, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

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

Signed: _____

Print Name: GORDON C. HEIT

Date: 7/23/19

Attachments
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 19, 2019

Bow Engineering & Development, Inc.
Attn: Mr. William Bow
1953 S. Beretania Street, PH-A
Honolulu, Hawaii 96826

via email: wbow@bowengineering.com

Dear Mr. Bow:

SUBJECT: Scoping and Early Consultation for the Proposed **Miloli'i Beach Park Accessibility Improvement Project** locate at Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001 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 August 2, 2019, enclosed are comments from the (a) Division of Aquatic Resources, (b) Division of Forestry & Wildlife, and (c) Office of Conservation & Coastal Lands 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 Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
JUL 12 2019
Division of Aquatic Resources
DAR 5973

RECEIVED
LAND DIVISION
2019 AUG -5 AM 10:55
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

July 12, 2019

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Scoping and Early Consultation for the Proposed **Miloli'i Beach Park Accessibility Improvement Project**
LOCATION: Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001
APPLICANT: Bow Engineering & Development, 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 **August 1, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

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

Signed: _____

Print Name: Brian Neilson

Date: 8/2/19

Attachments
cc: Central Files

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: 8/1/2019
DAR # 5973

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Nicole Sanderlin NS, Aquatic Biologist

SUBJECT: Scoping and Early Consultation for the Proposed Miloli'i Beach Park Accessibility Improvement Project

Request Submitted by: Russell Y. Tsuji, Land Administrator

Location of Project: Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001

Brief Description of Project:

The Department of Parks and Recreation proposes to improve Miloli'i Beach Park buildings and amenities to comply with current Americans with Disabilities Act (ADA) guidelines. Restrooms, pavilion, parking lot, and walkways will be demolished and re-constructed or refurbished to meet current ADA standards.

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: [signature] Date: 8/2/19
Brian J. Neilson
DAR Administrator

DAR# 5973

Comments

The DAR West Hawaii requests that these issues be addressed in the environmental assessment:

-Environmental impacts of construction including sedimentation from dust and dirt during demolition of current facilities and construction of new buildings and features to the near shore ecosystem and ponds and tidepools in the area.

-Environmental impacts of the new septic tank and the proposed leach field on the near shore ecosystem.

2014

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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LAND DIVISION
2019 AUG -8 AM 11:07
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 12, 2019

MEMORANDUM

FRM
TO:

DLNR Agencies:
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

To
FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Scoping and Early Consultation for the Proposed **Miloli'i Beach Park Accessibility Improvement Project**
LOCATION: Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001
APPLICANT: Bow Engineering & Development, 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 **August 1, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

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

Signed: _____

Print Name: **DAVID G. SMITH, Administrator**

Date: 8/7/19

Attachments
cc: Central Files

mc. HA-20-8

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RECEIVED
OFFICE OF CONSERVATION AND COASTAL LANDS
2019 JUL 12 P 1:26

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

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HONOLULU, HAWAII 96809

July 12, 2019

RECEIVED
LAND DIVISION
2019 AUG -2 AM 11:06
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__ Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Scoping and Early Consultation for the Proposed **Miloli'i Beach Park Accessibility Improvement Project**
LOCATION: Hoopuloa-Miloli'i, South Kona, Island of Hawaii; TMK: (3) 8-9-004:001
APPLICANT: Bow Engineering & Development, 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 **August 1, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

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

Signed: Michael Cain
Print Name: Michael Cain
Date: 1 Aug 19

Project might trigger need for Conservation District Use permit. Please consult with office of Cons. and Coastal Lands

Attachments
cc: Central Files

Harry Kim
Mayor

Wil Okabe
Managing Director

Roxcie L. Waltjen
Director

Maurice C. Messina
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/

November 25, 2019

State of Hawai'i
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
1151 Punchbowl Street Room 131
Honolulu, Hawai'i 96813

[Advanced copy w/ attachment via email: Samuel.J.Lemmo@hawaii.gov]

Attn: Mr. Samuel J. Lemmo, Administrator

Subject: **Miloli'i Beach Park Accessibility Improvements Project; Job No. PR-4469 TMK (3)8-9-004:001 [State Land Use Conservation District, General Subzone]**

The County of Hawai'i is under federal court order to implement accessibility improvements at the subject park in an expedited timeframe. In the course of our project planning process, we are informed that the site is located in the General Subzone of the State Land Use Conservation District. As such, we understand that the project's scope and the park's redevelopment potential are predominantly influenced and controlled by your agency and its interpretation, application and enforcement of Hawai'i Revised Statutes §183C and Hawai'i Administrative Rules §13-5. Therefore, we respectfully request your guidance in the development of this park's architectural barrier removal scope, which is considerably broad and involved.

Miloli'i Village, in which the park is located, is quite isolated geographically, located at the extreme end of an approximately five mile drive off of Highway 11 in which one descends roughly 3,400 feet in elevation, in the southeastern portion of the island. The park is a vitally important resource for the community in that all manners of parties and community gatherings are held at the park's hālau structure, the pavilion is used as a community library and education center, the sports court is the main venue for recreation, and camping in the park is a cherished pastime for countless families in the village.

We've held two community meetings at the park in the past two months in an attempt to understand the needs and concerns of the community relative to how they use park and to obtain feedback on the proposed scope of the project in order to guide us in delivering an end product that would be of greatest benefit to the park's most frequent users. So far, it seems that the majority sentiment regarding park improvements is to retain the park amenities and features that currently exist while minimizing the amount of changes and improvements to the park as possible. However, we are of the position that both the restroom and hālau/pavilion structures must be replaced in their entirety due to their age and current conditions and extensive need for

repair and modifications. The attached site plan is provided with extensive annotation in an attempt to accurately convey the existing conditions and to propose to the community the preferred scope of the proposed project. This is where we are in need of guidance from your agency to determine what your rules dictate and how they influence what is possibly in the redevelopment of this site. We have consulted with the Planning Department on their rules and regulations and were advised by Mr. Alex Roy, Planner to contact your office for assistance immediately. We have also consulted with the Department of Public Works Engineering Division on how their rules and regulations influence the decisions made on our project's scope.

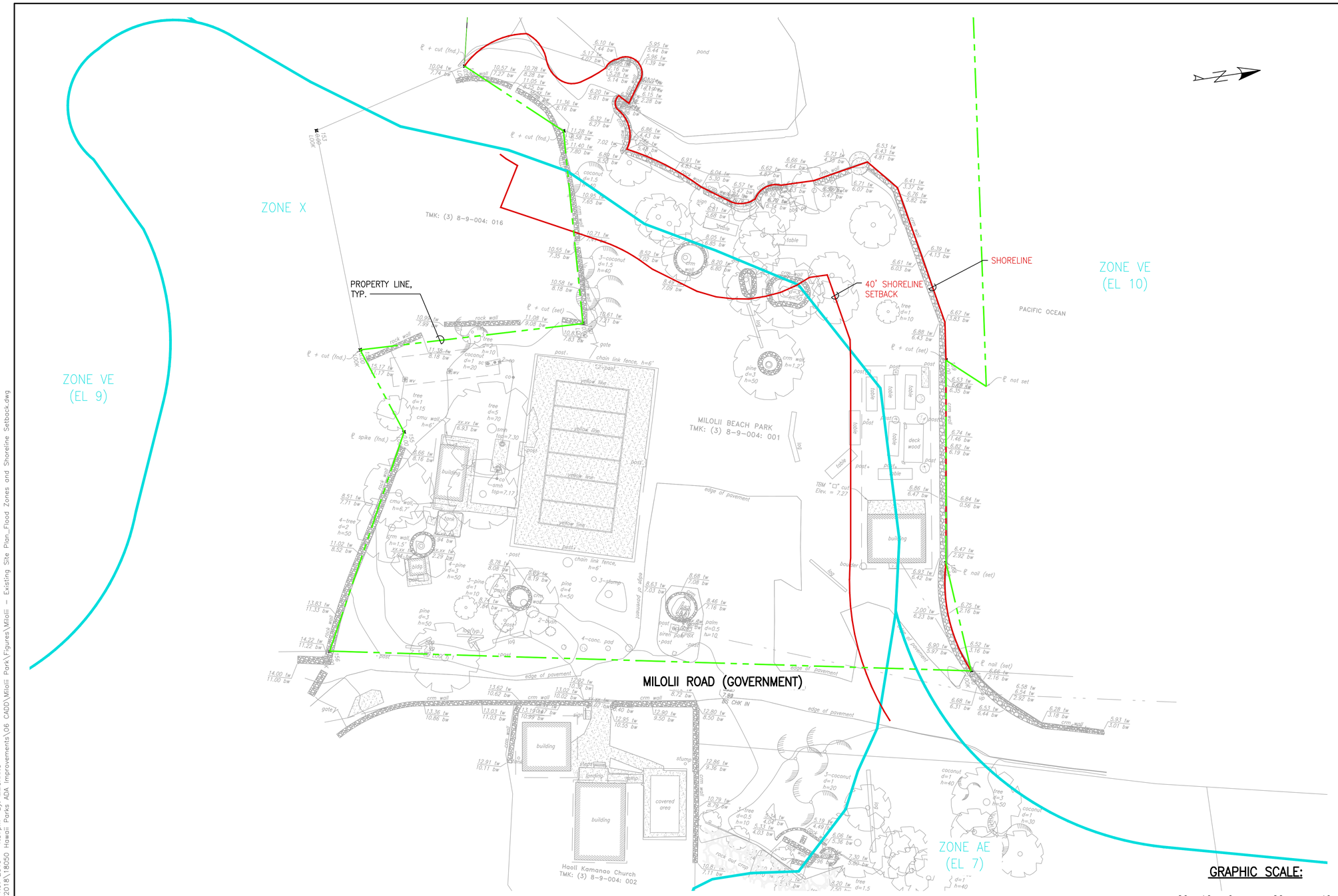
Upon your review of this correspondence, we would be extremely appreciative if you would contact our Park Planner, Mr. James Komata (961-8531 or James.Komata@hawaiicounty.gov) at your earliest convenience to discuss this matter in greater detail. We have a team of design professionals awaiting further guidance on this project and the Miloli'i Village residents are anxiously awaiting further information from us on what the park's improvement project's scope will entail.

Very Truly Yours,

Roxcie Waltjen
Director

Attachment: 20191125L_DLNR-OCCL.SL.rw_SLU-CD.Consultation.MapExhibit

cc: Mr. James Komata, Park Planner (via email)
Mr. Jeffrey Ochi, Park Projects Manager (via email)
Mr. Alex Roy, Planner, Planning Department (via email)



EXISTING SITE PLAN

SCALE: 1" = 20'

GRAPHIC SCALE:

20 10 0 20 40

1" = 20'

MARK	DATE	DESCRIPTION

REVIEWED:

DEPARTMENT OF PARKS AND RECREATION DATE

COUNTY OF HAWAI'I
DEPARTMENT OF PARKS & RECREATION
101 PAUAHI STREET, SUITE 6 | HILO, HAWAII 96720 | PHONE: 808.961.8311 | FAX: 808.961.8411

ACCESSIBILITY IMPROVEMENTS PROJECT - MILOLI'I BEACH PARK

JOB NO.: XX-XXXX MILOLI'I, SOUTH KONA, HAWAI'I TMK: (3) 8-9-004: 001

PLAN, SHEET DESCRIPTION:

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SHEET NO.
FIG 1

___ OF __XX__ SHEETS

DATE:
NOVEMBER 2019

Plotted: Wed, 13 Nov 2019 – 1:57pm By: MMCHANG
File Name: H:\P2018\18050 Hawaii Parks ADA Improvements\06 CADD\Milolii Park\Figures\Milolii – Existing Site Plan_Flood Zones and Shoreline Setback.dwg

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

COR: HA-20-90

DEC - 3 2019

Roxcie Waltjen
Director
County of Hawaii, Department of Parks and Recreation
101 Pauahi Street, Suite 6
Hilo, Hawaii 96720

SUBJECT: Milolii Beach Park Accessibility Improvements Project; Job No. PR-4469.
Hoopuloa-Milolii, South Kona, Hawaii
TMK: (3) 8-9-004:001

Dear Ms. Waltjen:

The Office of Conservation and Coastal Lands (OCCL) is in receipt of your correspondence and attached Site Plan regarding the subject matter. According to the information you provided, the County of Hawaii and its Department of Parks and Recreation are under federal court order to implement accessibility improvements for the Milolii Beach Park.

The proposed project involves improving the facilities to make them compliant with the Americans with Disabilities Act (ADA). The attached Site Plan offered more annotation and details regarding the existing conditions and preferred scope of the project. The proposed ADA improvements to the Milolii Beach Park will include the relocation and replacement of both the restroom and halau/pavilion structures due to their age, current conditions, and extensive need for repair and modifications. Additionally, the existing outdoor basketball and volleyball courts as well as the existing asphalt parking area will need to be replaced and repaved according to ADA standards. The community has also expressed the desire to have a portion of the park paved as a turnaround for trucks with boat trailers as well as to address safety concerns related to the uneven surfaces that currently exist in the area. Other community supported improvements that will also need to be ADA compliant include the provision for a new childrens playground to replace the playground elements that were removed in the past as well as the provision of picnic/camping amenities to serve those with disabilities. The Department of Parks and Recreation would also like to demolish and replace a water storage tank and shed to meet the Department of Health requirements for these types of structures.

The Department of Parks and Recreation has scoped the proposed improvements to the Milolii Beach Park and held two community meetings at the park to better understand the needs and concerns regarding the subject matter and proposed improvements. Your letter states that the Department of

Parks and Recreation would like to retain the park amenities and features that currently exist while minimizing the amount of changes and improvements to the park as possible. The Department of Parks and Recreation is seeking OCCL's guidance regarding the Conservation District's Rules and Regulations and their potential impact to the redevelopment of the site as well as the appropriate level of permitting for the proposed improvements.

OCCL notes that the proposed project will occur on the parcel with the TMK: (3) 8-9-004:001 and lies within the General and Special Subzones of the Conservation District. The Milolii Beach Park was created by Executive Order (EO) 2435 and has been under the County of Hawaii's management since 1985. Based on the information you have provided, it appears that the proposed projects will not expand the park or its facilities beyond what currently exists. Besides the demolition and relocation of the restrooms, halau/pavilion, and water storage structures, most of the proposed projects involves minor alterations or cosmetic work to existing structures. OCCL has therefore determined that the proposed Accessibility Improvements Project at Milolii Beach Park is an identified land use pursuant to Hawaii Administrative Rules (HAR), §13-5-22 P-8 STRUCTURES AND LAND USES, EXISTING (B-1) *Demolition, removal, or minor alteration of existing structures, facilities, land, and equipment. Any historic properties shall be evaluated by the department for historical significance* and this would require filing a Site Plan Approval application. Applications can be found at https://dlnr.hawaii.gov/occl/forms-2/. Please provide evidence that the Department of Parks and Recreation has consulted with the State Historic Preservation Division (SHPD) and initiated historical significance review of the proposed project by submitting the Hawaii Revised Statures (HRS) 6E Submittal Form. OCCL also suggests that the Department of Parks and Recreation declare the project exempt from the preparation of an environmental assessment (EA) under the authority of HRS Chapter 343 and HAR Chapter 11-200.1 or provide evidence that an EA has been published and reviewed.

Should you have any questions, please feel free to contact Trevor Fitzpatrick of the Office of Conservation and Coastal Lands at 587-0373.

Sincerely,

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

CC: Hawaii District Land Division Office
State Historic Preservation Division
County of Hawaii, Planning Department

Harry Kim
Mayor

Wil Okabe
Managing Director

David Yamamoto, P.E.
Director

Allan G. Simeon, P.E.
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

July 26, 2019

William Bow
Bow Engineering & Development, Inc.
1953 South Beretania Street, PH-A
Honolulu, HI 96826
(via email to: wbow@bowengineering.com)

Subject: Miloli'i Beach Park Accessibility Improvements Project
Scoping and Early Consultation
Tax Map Key: (3) 8-9-004:001

We have reviewed the request for early consultation for an Environmental Assessment and our comments are as follows:

1. All development generated runoff shall be disposed of on-site and shall not be directed toward adjacent properties.

2. Flood zones VE and AE affect the subject parcel as designated by the Flood Insurance Rate Map (FIRM). New construction and substantial improvements shall comply with Chapter 27 – Floodplain Management – of the Hawaii County Code. Existing drainage patterns with respect to adjacent properties shall be maintained. Please identify the flood zone boundaries on the site plan exhibits.

3. All earthwork and grading shall conform to Chapter 10 – Erosion and Sedimentation Control – of the Hawaii County Code.

Should there be any questions concerning this matter, please feel free to contact Natalie Whitworth of our Kona Engineering Division office at 323-4853.

Natalie Whitworth

for Ben Ishii, Division Chief
Engineering Division

NW

Copy: William Bow (hard copy)
Engineering-HILO/KONA
Planning Department- Hilo

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

August 12, 2019

Mr. William Bow
Bow Engineering & Development, Inc.
1953 South Beretania Street, PH-A
Honolulu, HI 96826

Dear Mr. Bow:

Subject: Miloli'i Beach Park Accessibility Improvement Project
Applicant – Jeff Ochi, Project Manager
Tax Map Key 8-9-004:001

We have reviewed the subject application and have the following comments and conditions.

Please be informed that the subject property is not within the service limits of the Department's existing water system facilities.

Therefore, the Department's existing water system facilities cannot support the proposed subdivision at this time. Extensive improvements and additions, which may include, but not be limited to, source, storage, booster pumps, transmission, and distribution facilities, would be required.

Should there be any questions, please contact Mr. Troy Samura of our Water Resources and Planning Branch at 961-8070, extension 255.

Sincerely yours,

Keith K. Okamoto, P.E.
Manager–Chief Engineer

TS:dfg

copy – County of Hawai'i, Planning Department
County of Hawai'i, Department of Parks and Recreation

APPENDIX B
ARCHAEOLOGICAL SURVEY

1231-071519

DRAFT

ARCHAEOLOGICAL INVENTORY SURVEY

TMK: (3) 8-9-004: 001

MILOLIʻI AHUPUAʻA

SOUTH KONA DISTRICT

ISLAND OF HAWAIʻI

Haun & Associates

Archaeological, Cultural, and Historical Resource Management Services

73-4161 Kaao Road, Kailua-Kona HI 96740

Phone: 808-325-2402 Fax: 808-325-1520

1231-071519

DRAFT

ARCHAEOLOGICAL INVENTORY SURVEY

TMK: (3) 8-9-004: 001

MILOLIʻI AHUPUAʻA

SOUTH KONA DISTRICT

ISLAND OF HAWAIʻI

Prepared by:

Alan E. Haun, Ph.D.
and
Dave Henry, B.S.

Prepared for:

County of Hawaiʻi
Department of Parks and Recreation
c/o
Bow Engineering & Development, Inc.
1953 S. Beretania Street, PH-A
Honolulu, HI 96826

July 2019

HAUN & ASSOCIATES
ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL RESOURCE MANAGEMENT SERVICES
73-4161 KAAO ROAD, KAILUA-KONA HI 96740
PHONE: 808-325-2402 FAX: 808-325-1520

MANAGEMENT SUMMARY

Haun & Associates conducted an archaeological inventory survey (AIS) of TMK: (3) 8-9-004:001 located in Miloli‘i Ahupua‘a, South Kona District, Island of Hawai‘i. The objective of the AIS is to satisfy current historic preservation regulatory review inventory requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD), as contained within Hawai‘i Administrative Rules, Title 13, DLNR, Subtitle 13, Chapters 275 and 276, State Historic Preservation Rules.

The project area comprises the current Miloli‘i Beach Park; a 1.41 acre recreational facility located along the shoreline that contains a covered pavilion, a basketball/volleyball court, parking areas, a restroom, a catchment tank, a pump house, and firepits. The parcel is the former location of the Miloli‘i School which closed in 1966 and was conveyed to the County of Hawai‘i in 1969.

The archaeological inventory survey identified three historic single feature sites. These consist of an erosion control retaining wall (Site 50-10-65-31097[1].), a discontinuous boundary wall (Site 31098), and an historic basketball court (Site 31099). The Site 31097 retaining wall functions to prevent coastal erosion, while the Site 31098 wall separates the project area from an adjacent house lot. The Site 31099 basketball court represents the only surviving remnant of the actual school facility.

The mapping, written description and photography of Sites 31097, 31098, and 31099 adequately document them and no further work or preservation is recommended. The current project was done in conjunction with the preparation of an Environment Assessment for improvements to the existing Miloli’i Beach Park.

Cover photo: Site 31097 retaining wall and Miloli‘i Halau (view to west)

[1] All sites listed on the State Inventory of Historic Places (SIHP). Site numbers are 5 digit sequential numbers by island : 50 = State of Hawai‘i, 10= Island of Hawai‘i, 65=Miloli‘i quadrangle, 31097 = Site number

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INTRODUCTION

At the request of Bow Engineering, Inc., on behalf of the County of Hawai'I, Department of Parks and Recreation, Haun & Associates conducted an archaeological inventory survey (AIS) of the 1.41 acre Miloli'i Beach Park (TMK:[3] 8-9-004:001) located in Miloli'i Ahupua'a, South Kona District, Island of Hawai'i (**Figure 1** and **Figure 2**). The objective of the AIS is to satisfy current historic preservation regulatory review inventory requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD), as contained within Hawai'i Administrative Rules, Title 13, DLNR, Subtitle 13, Chapters 275 and 276, State Historic Preservation Rules (DLNR 2003).

The survey fieldwork was conducted on May 14, 2019 by Haun & Associates Project Supervisor Solomon Kailihiwa, M.S and field archaeologist Ben Seay B.A., under the direction of Dr. Alan Haun. Approximately two person days of labor were required to complete the fieldwork portion of the project. Described in this final report are the project scope of work, field methods, background information, survey findings, and significance assessments of the identified site with recommended treatments.

The current project was done in conjunction with the preparation of an Environment Assessment for improvements to the Miloli'i Beach Park facilities (

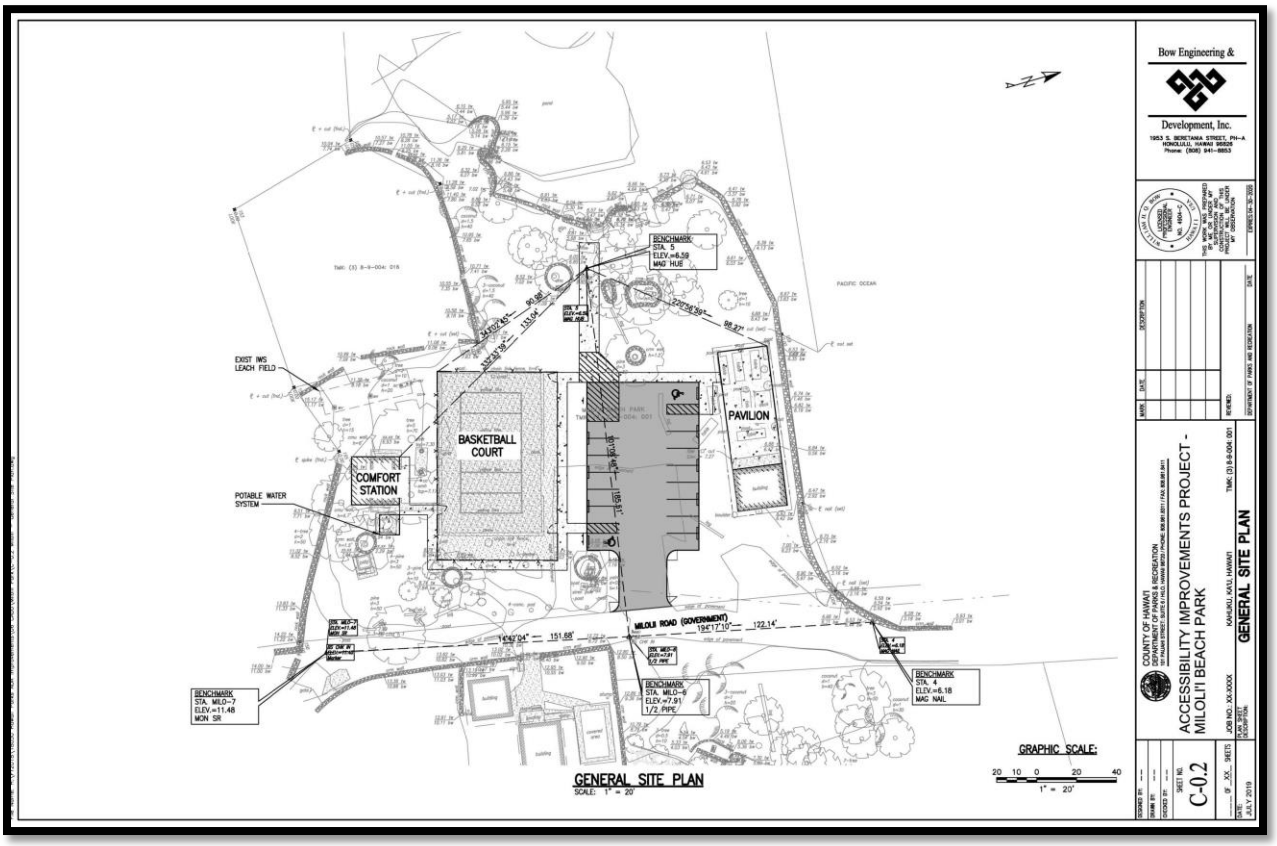


Figure 3). These improvements consist of removing the existing comfort station and its reconstruction in a more accessible location, installing a new storage and supply system for the comfort station, creating a new accessible route connecting the comfort station with the parking area and park facilities, resurfacing and retrofitting the basketball court, and installing vehicular barriers to prevent unauthorized vehicles from accessing the shoreline and the pavilion.

Scope of Work

Based on DLNR-SHPD rules for inventory surveys the following specific tasks were determined to constitute an appropriate scope of work for the project:

1. Conduct background review and research of existing archaeological and historical documentary literature relating to the project area and its immediate vicinity--including examination of Land Commission Awards, *ahupuaʻa* records, historic maps, archival materials, archaeological reports, and other historical sources;
2. Conduct a high intensity, 100% pedestrian survey coverage of the project area;
3. Conduct detailed recording of all potentially significant sites including scale plan drawings, written descriptions, and photographs, as appropriate;
4. Conduct limited subsurface testing (manual excavation) at selected sites to determine feature function;
5. Analyze background research and field data; and
6. Prepare and submit Final Report.

Project Area Description

The project area comprises the Miloliʻi Beach Park, a 1.41 acre recreational facility operated by the County of Hawaiʻi. The park contains a covered pavilion, a basketball/volleyball court, parking areas, a restroom, a catchment tank, a pump house, and firepits. The extent of the park is depicted in **Figure 4** and in **Figure 25** in the Findings section of this report. The coastal portion of the park consists of a rocky coastal escarpment and a large tidal pool. According to Farber and Associates (2011:53), the pavilion is an open air building known as the Miloli'i Hālau; an 80 ft by 40 ft structure that, "...is the only public facility in the community that is covered and can accommodate large groups for meetings, gatherings, and events." The pavilion is depicted on the cover of this report.

Figure 1. **Portion of 7.5' 1998 USGS Miloli'i Quadrangle showing project area**

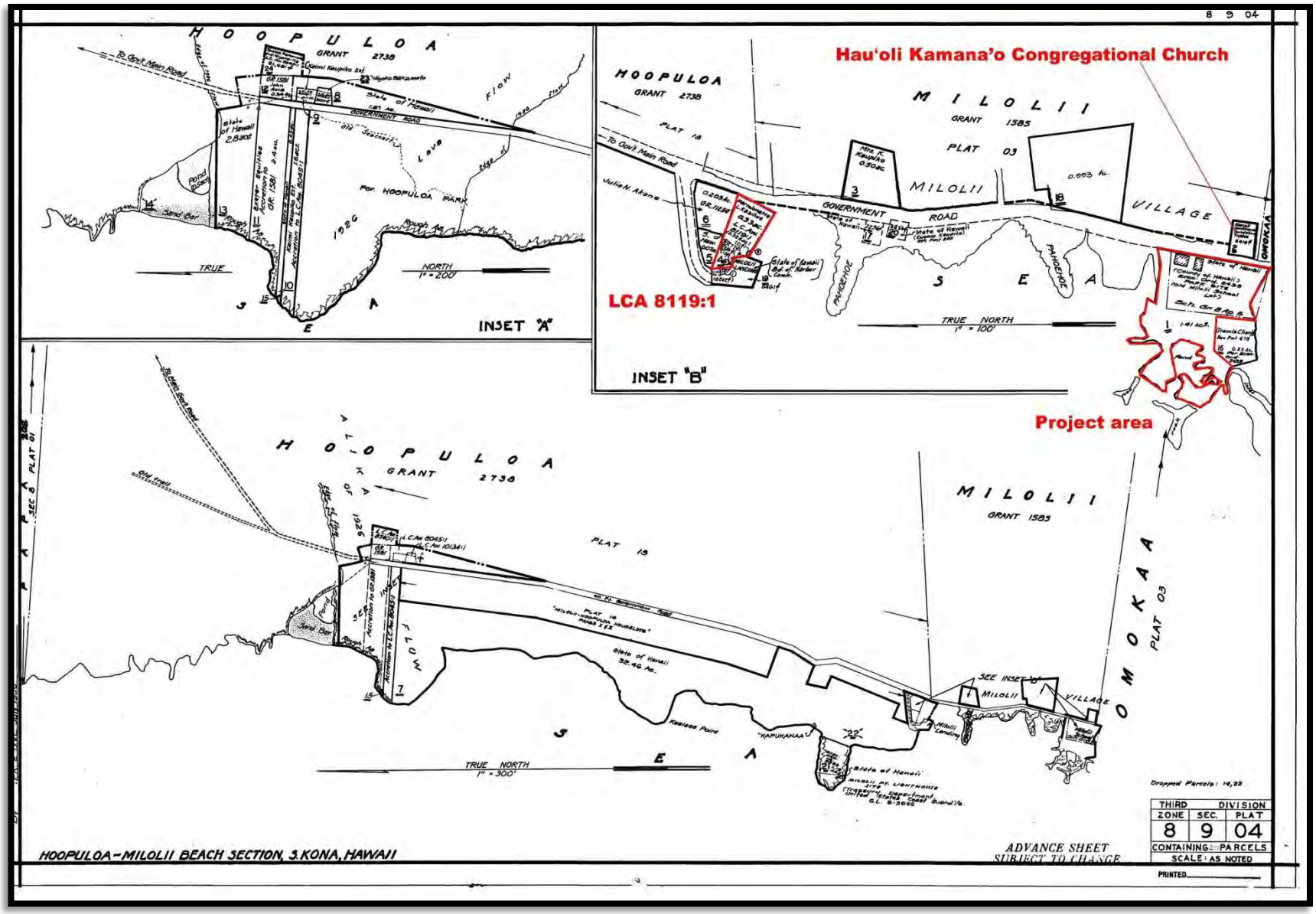


Figure 2. Tax Map Key 8-9-004 showing project area

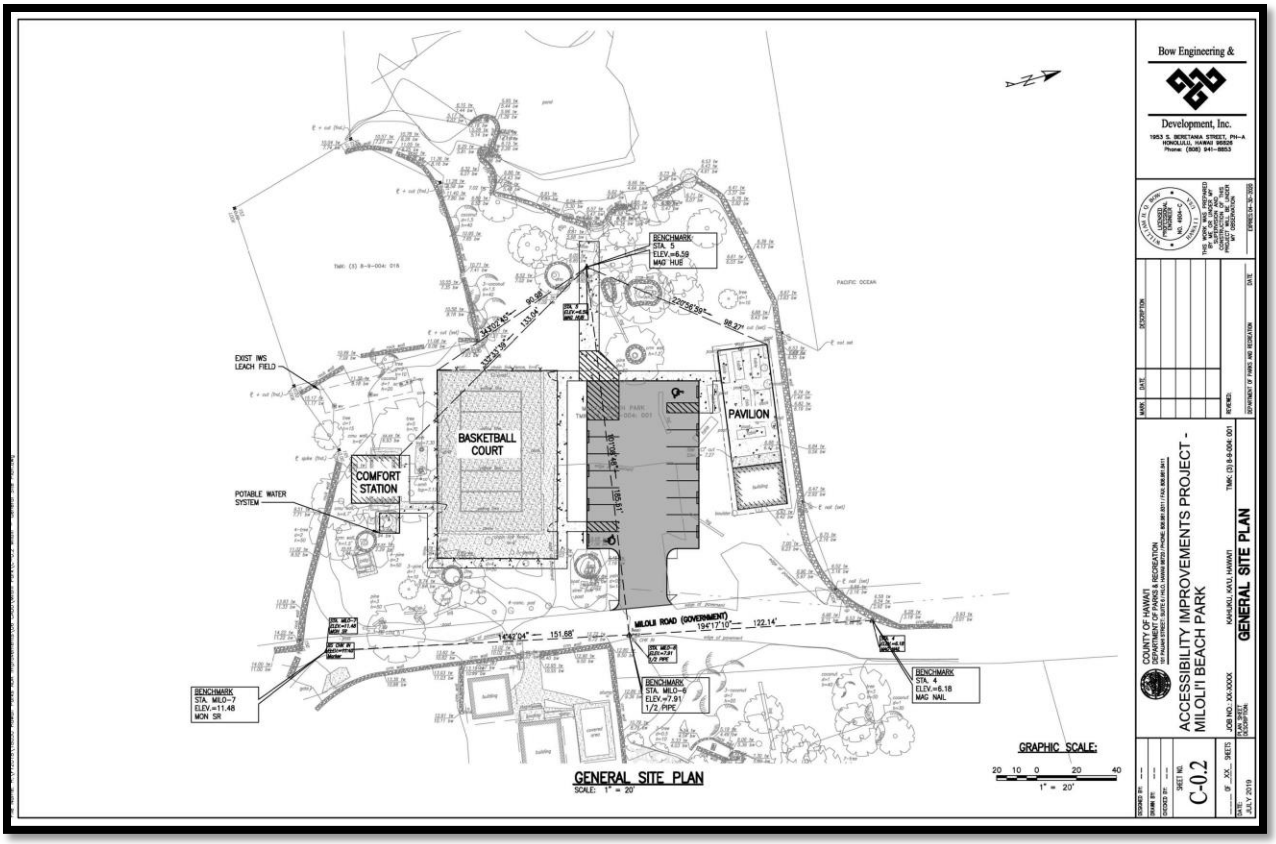


Figure 3. Proposed developments in the Miloli'i Beach Park

Figure 4. January 2013 aerial view of project area (from Google Earth)

Park vegetation consists of Ironwood (C*asuarina equisetifolia*) *and milo* (*Thespesia populnea*) trees, coconut palms (cocos nucifera), *noni* (*Morinda citrifolia*), and night-blooming cereus (*Hylocereus undatus*). There are a series of modern stone rings scattered throughout the project area. These rings are constructed of stacked and mortared boulders and cobbles, labeled as "A" through "H" on **Figure 25**.

The rock rings are summarized in **Table 1** and range in length from 3.1 to 5.75 meters, in width from 2.1 to 4.3 meters and in height from 0.3 to 0.5 meters. The majority of these features (Features A-D, G and H) are built around the bases of ironwood trees, likely to protect them from erosion (**Figure 5** through **Figure 8**). Feature E contains a wooden sign reading "Miloliʻi Last Fishing Village in Hawaiʻi Nei" (**Figure 9**) and ornamental plants including "Moses in the cradle" (*Tradescantia spathacea*) and a foxtail palm (*Wodyetia bifurcate*). Feature F is a collapsed planter surrounding a stump (**Figure 10**).

Table 1. Modern Stone rings

Feature	Type	Shape	Length (meters)	Width (meters)	Height (meters)	GPS Coordinates		Haun & Associates field no.
						Easting	Northing	
A	Planter around ironwood	Circular	4.3	4.3	0.45	194188	2123537	1231.11
B	Planter around ironwood	Oval	3.85	2.1	0.45	194192	2123544	1231.12
C	Planter around ironwood	Oval	5.75	4.15	0.45	194194	2123549	1231.13
D	Planter around ironwood	Circular	3.1	3.1	0.45	194203	2123545	1231.14
E	Planter with sign and ornamental plants	Oval	4.15	3.8	0.45	194231	2123528	1231.8
F	Collapsed planter around stump	Oval	3.2	2.9	0.5	194227	2123517	1231.5
G	Planter around ironwood	Circular	3.2	3.2	0.3	194226	2123508	1231.6
H	Planter around ironwood	Circular	3.3	3.3	0.45	194217	2123497	1231.3

The physical characteristics of the general project area vicinity are described by Farber and Associates (2011) as follows:

> The present coastal village of Miloli'i is located on the relatively flat Kapalilua coastal plain. The three bays in the immediate area, Hoʻopūloa Bay, Miloli'i Bay, and Omokaʻa Bay, offer little or no protection from ocean waves and surge. Shoreline features in the community include a black sand beach at Hoʻopūloa Bay; the broad, gently sloping lava flows extending into the sea between Hoʻopūloa Bay and Miloli'i Bay; and the shallow and exposed lava platform reefs extending from Miloli'i Bay to Omokaʻa Bay. The 1926 lava flow dominates the coastline on the Hoʻopūloa side of the community. The other flows date from prehistoric times. (Farber and Associates 2011:15)

The soil in the project area is comprised of rough broken land. This soil type is characterized by Sato et al. (1973:119) as being, "...located in very steep areas often broken by intermittent drainage channels. It is characterized by 20 to 60+ inches of undefined soils over soft weathered rock." It has a rapid runoff and an active erosion. It is classified as suitable for watershed and wildlife habitat. The underlying lava was deposited from 1,500 to 3,000 years ago from Mauna Loa Volcano (Wolfe and Morris 2001:11 and Sheet 3).

Annual rainfall in the vicinity of the project area ranges from 750 to 1,350 mm (29 to 53 inches; Giambelluca et al. 2013). The mean average temperature in this general area is approximately 72.5 degrees F (usclimatedata.com). There are no natural water sources present in the project area; although a catchment tank is situated in the southeastern corner of the park.

Figure 5. Feature A modern planter (view to west)

Figure 6. Feature B and C modern planters (view to west)

Figure 7. Feature D modern planter (view to north)

Figure 8. Feature G modern planter (view to east)

Figure 9. Wooden sign in Feature E planter (from Watson and Farber 2012)

Figure 10. Feature F collapsed modern planter (view to west)

Much of the information in this report was obtained from the *Pa'a Pono Miloli'i;* an organization formed by a number of the families with ties to Miloli'i Village. *Pa'a Pono Miloli'i* maintains a website (paaponomilolii.org) which provides a wealth of information on the current project area and surrounding village. According to Maly and Maly:

> Many of the native families of the Kapalilua region continue to practice fishing and working the land as their *kūpuna* did before them. The *kūpuna* in the community today, see that many changes in the health and well being of the land, ocean, and their families have occurred. This concerns the *kūpuna* and some of their family members. One area in which change is most notable is in the handing down of knowledge of the fisheries, native techniques of stewardship for them, and the practices of sustaining one's family through a healthy relationship with the ocean and land. (Maly and Maly 2004:41)

Methods

Archival research was conducted at the Hamilton Library Hawai'i and Pacific Collection at the University of Hawai'i at Manoa, the University of Hawai'i at Hilo Hawaiian Collection, the Land Survey Office and the Archives Division of the Hawai'i Department of Accounting and General Services, the Bishop Museum Archives, the State Historic Preservation Division library in Hilo, the State Survey Division, and the Hawai'i State Public Libraries in Honolulu and Hilo.

The project area was surveyed with crew members spaced at 5.0 meter intervals. The ground surface visibility was excellent. The identified features were flagged with pink and blue flagging tape and a detailed plan map of the park, obtained from Bow Engineering & Development, Inc. was annotated with descriptive information (**Figure 25** in Findings section). The features were photographed and standardized site and feature forms were prepared. No subsurface testing was conducted and no cultural material was recovered for analysis.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Historical Documentary Research

The project area is located in the *ahupua'a* of Miloliʻi in the district of South Kona. This *ahupua'a* extends from the shoreline at Miloliʻi Bay inland more than 3.5 miles to approximately 2,050 ft elevation (**Figure 11**). It is bordered on the north, east and a portion of the south side by Hoʻōpūloa and by Omokaʻa Ahupuaʻa on the remainder of the south side. According to Pukui et al. (1974) cited on the *Nā Puke Wehewehe ʻŌlelo Hawaiʻi* website (Wehewehe.org) Miloliʻi is literally translated as a "fine twist" in reference to an expert sennit twister from the area who created cordage from olanā bark that was used to make fishing nets. An alternative translation for Miloliʻi is "small swirling" in probable reference to ocean currents in the area.

The community of Miloliʻi represents one of the more traditional fishing villages in Hawaiʻi. Miloliʻi Village is described by Farber and Associates (2011) as follows:

> Established as a settlement dating back to the early Polynesian seafarers from the South Pacific, Miloliʻi families have been fishing the offshore and nearshore waters for generations. The village has about 200 residents and 50 single-family homes. The majority of the residents are Native Hawaiian...The Miloli'i community lies in the shadow of its most dominant geologic feature, the vast southwest slope of the 13,000-foot Mauna Loa volcano. Eruptive lava flows from Mauna Loa have continually influenced the area. Since 1832, the volcano has erupted forty times. Eight flows have traversed the slopes into North and South Kona, and four reached the ocean (1859, 1919, 1926, and 1950). The 1926 flow destroyed the fishing village of Hoʻopūloa adjacent to Miloli'i and covered that settlement with 'a'a lava..
>
> The present coastal village of Miloli'i is located on the relatively flat Kapalilua coastal plain. The three bays in the immediate area, Hoʻopūloa Bay, Miloli'i Bay, and Omokaʻa Bay, offer little or no protection from ocean waves and surge. Shoreline features in the community include a black sand beach at Hoʻopūloa Bay; the broad, gently sloping lava flows extending into the sea between Hoʻopūloa Bay and Miloli'i Bay; and the shallow and exposed lava platform reefs extending from Miloli'i Bay to Omokaʻa Bay. The 1926 lava flow dominates the coastline on the Hoʻopūloa side of the community. The other flows date from prehistoric times. (Farber and Associates 2011:15)

Groza et al. (2010) provide a comprehensive discussion of historical background research conducted for the general project area vicinity. Much of the following is summarized from their report. The project area is located in a traditional sub-district of South Kona called Kapalilua. According to Maly and Maly, this sub-district, "extends from the Keālia-Hoʻokena section of Kona to Kaulanamauna, situated on the Kona boundary of Kaʻū, and includes the lands of Pāpā, Hoʻōpūloa and Miloliʻi (2003:1). According to Clark, Kapalilua translates as "the double cliff" and references a two-sided cliff that has one cliff facing seaward and one facing to the north (2001:164). The extent of Kapalilua is presented in **Figure 12**.

The Kapalilua area is cited in a mythological reference to preparations for an invasion of Hawaiʻi by Chief Kamalalawalu of Maui. According to Fornander, Kamalalawalu's son Kauhiokalani (or Kauhiakama) was sent to Hawaiʻi to determine the population of the island. "Kauhiakama thence traveled on from there to Kona Kapalilua, at the boundary of Kaʻu and Kona, not meeting many people" (cited in Groza et al. 2010:24).

Fornander also states that Kapalilua was given to Napunanahunui-a-Umi, daughter of Umi, and that these lands were held by her descendants until the arrival of Kamehameha I (1885:300). Kamehameha's love of ʻ*ahi* fishing

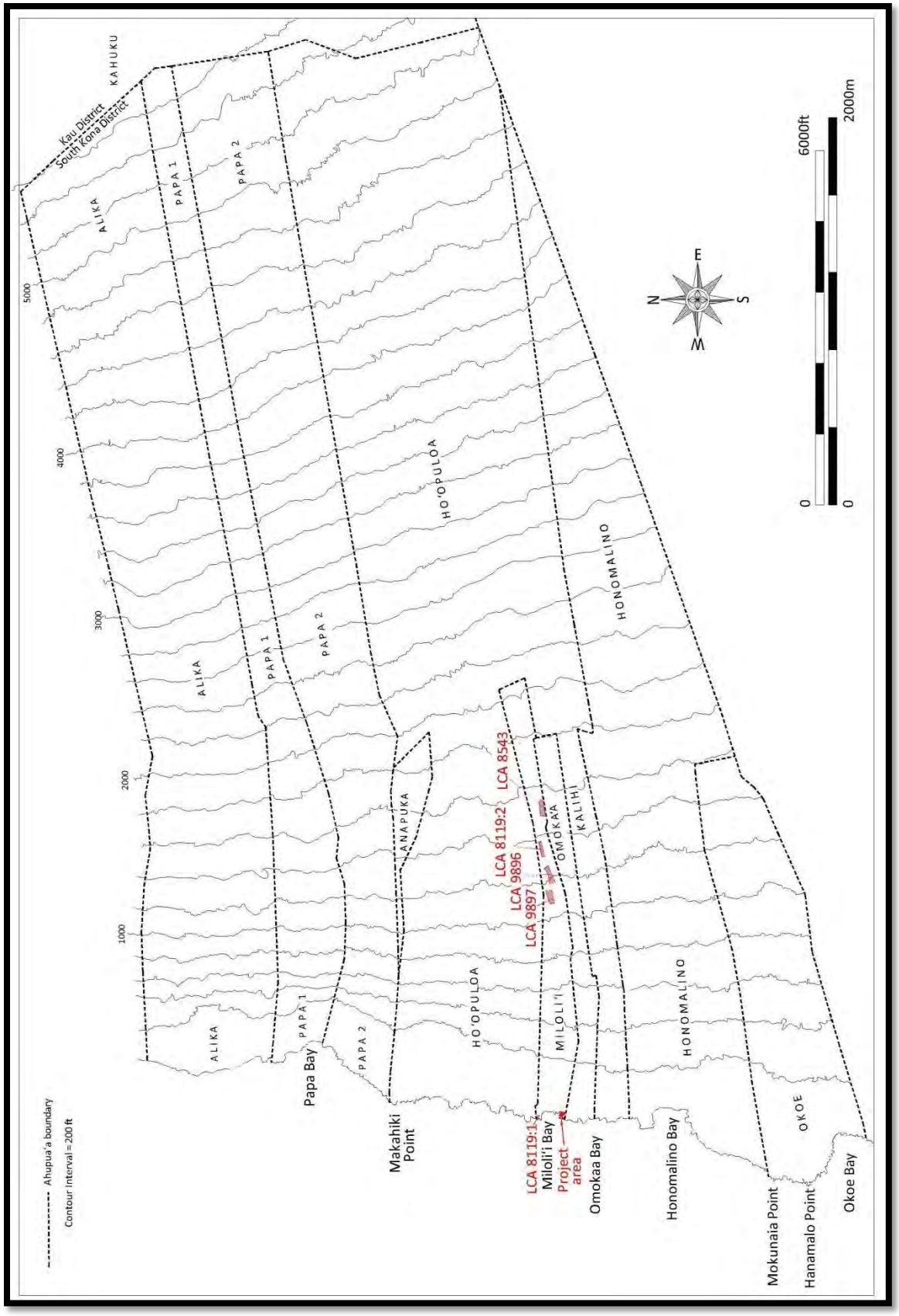


Figure 11. Ahupua'a boundaries and Land Commission Awards in Miloli'i Ahupua'a

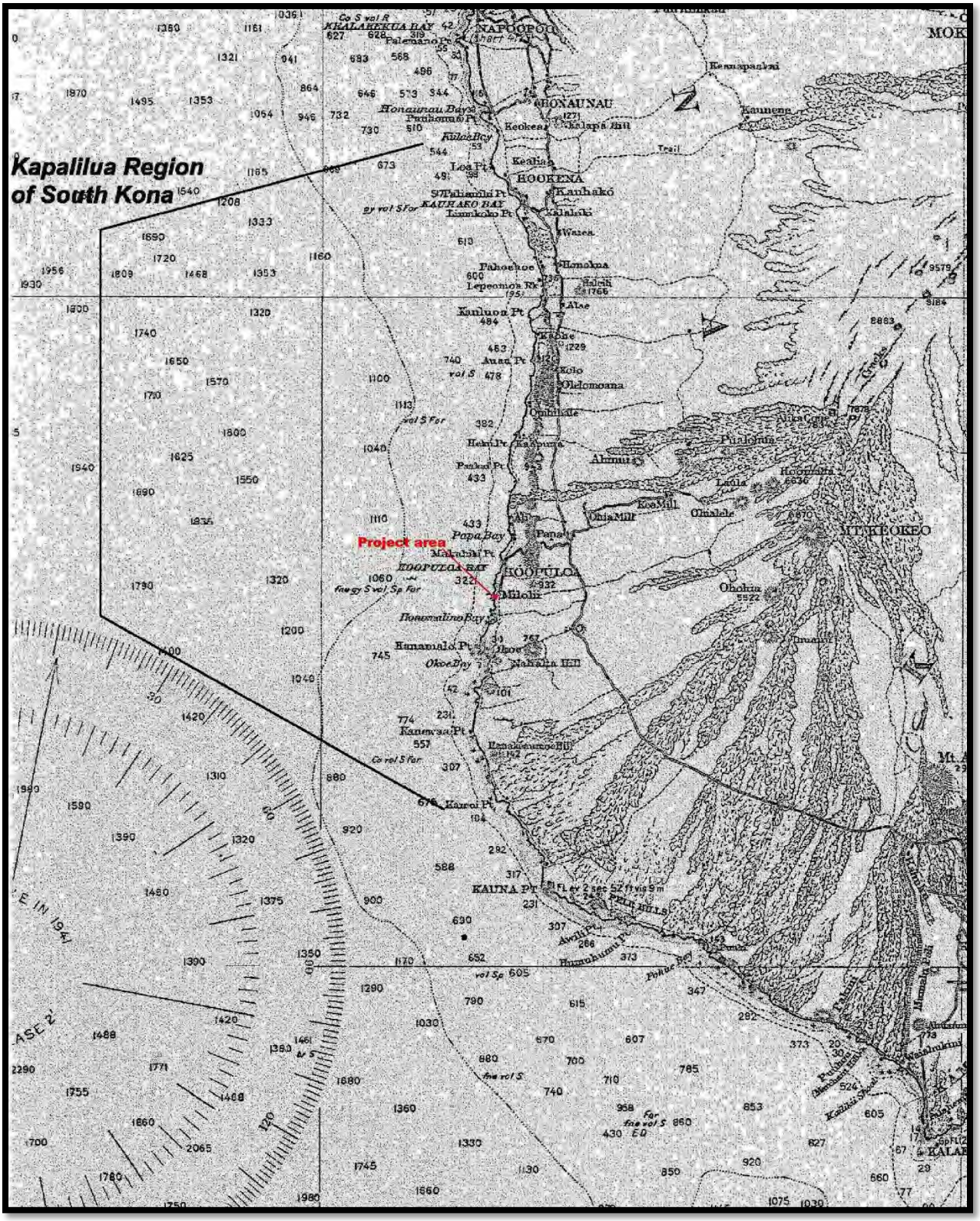


Figure 12. Map of Kapalilua Region (from modified from Maly and Maly 2003:2)

apparently brought him to the Kapalilua area. According to Kamakau, "If word was brought that '*ahi* were plentiful at Kalae [South Point], off went the chief [Kamehameha] to the '*ahi* fishing grounds, and he fished also at Kaulana, Ka'iliki, Pohue, Na-pu'u-o-Pele, Kapalilua, and at other places along the coast" (Kamakau 1961:203). During the late prehistoric/early historic period, Kapalilua was controlled by Keawe-a-Heulu, "his estates were the lands of Kapalilua, Kaawaloa and Kealakekua" (*ibid*.310).

Kamakau reports that the lands of Kapalilua were given to a displaced Maui chief, Keawe-a-heulu, for his assistance to Ka-lani-'opu'u during battles with Ka-hekili between 1777 and 1779 (1961:310). During this period, "…Ka-lani-'opu'u returned to Hawai'i to see Captian Cook, called Lono, all the chiefs returned with him to Hawai'i, and Ke'e-au-moku also left Hana to live at Honokua in Kapalilua, and later moved westward with his wife and children to Honomalino and Miloli'i" (*ibid*.:385).

In 1782, Kau chiefs bearing the corpse of Ka-lani-'opu'u changed their plans to bury him in Kailua when they reached Kapalilua and learned that Kamehameha had arrived at Ke'ei (I'ī 1959:13). I'ī traveled to Kau in 1843 to solve a dispute between Catholics and Protestants on behalf of the government. He was assisted by residents of Kapalilua on his trip from Kahuku to Kainaliu (1959:169). In 1853, I'ī, traveling with Chiefess Victoria Kamamalu stopped at Pāpā in Kapalilua where they learned of the outbreak of a small pox epidemic "about 10 ahupua'a away from Pāpā" (I'ī 1959:171).

In the 1840s, political acts of the Hawaiian Kingdom government would change the land tenure system in Hawai'i. All lands were segregated into one of three categories: "Crown Lands" owned by the occupant of the throne, "Government Lands" controlled by the state, and "*Konohiki* Lands" controlled by the chiefs; and "were all subject to the rights of native tenants" (Chinen 1958:29, Beamer 2014:143). In 1846, King Kamehameha III appointed a Board of Commissioners commonly known as the Land Commissioners, to "confirm or reject all claims to land arising previously to the 10th day of December, AD 1845." Notices were frequently posted in *The Polynesian* (Moffat and Kirkpatrick 1995); however, the legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and Kirkpatrick 1995:48-49) and the act is known today as *The Great Māhele*. In 1850, the Kingdom government passed laws allowing foreigners to purchase fee simple lands (Speakman 2001:91). The Kuleana Act of 1850 allowed for fee simple land ownership by commoners.

During the *Māhele,* four Land Commission Award (LCA) claims were made for parcels within Miloli'i Ahupua'a (LCA 8119, 8543, 9896, and 9897; see). There are no LCA's within the project area. The Waihona 'Aina (2000) *Māhele* Database; which is a compilation of data from the Indices of Awards (Indices 1929), Native Register (NR n.d.), Native Testimony (NT n.d.), Foreign Register (FR n.d.) and Foreign Testimony (FT n.d.) provides information on the LCAs.

LCA 8119, awarded to Hu, is comprised of a parcel located along the shoreline at Miloli'i Landing to the north of the project area (Parcel 1; see **Figure 2**), and a parcel in the inland portion of the *ahupua'a* at approximately 1,300 to 1,375 feet elevation. This pattern of a coastal house lot and an associated upland agricultural parcel is seen throughout the Kona region. This coastal/upland relationship is described by Borthwick et al. (1997:10) below:

> This Mahele induced pattern reflects the traditional Hawaiian settlement pattern where permanent habitation was concentrated at the coast and subsistence oriented agricultural pursuits extend up slope in a zonal pattern based on the correlation between rainfall and elevation. Traditionally there was a continuum of utilization through the zones (Kula, Kalu'ulu, Apa'a, and Ama'u). However, because of restrictions of the Kuleana Act itself, claimants were only awarded certain specific lots. Thus, the mid-1800's settlement pattern, as evidenced by the LCA data, included permanent habitation coastal house lots with upland agricultural lots. The upland lots, however, were separated by a considerable expanse of land that had formerly

> (traditionally) been an integral part of the agricultural system which provided the necessary mix of subsistence oriented crops. (Borthwick et al. 1997:10)

The remaining three LCA's are located in the inland portion of the *ahupuaʻa* between 1,100 and 1,500 ft elevation. These consist of LCA 8543 to Kahoohanohano, LCA 9896 to Nahina, and LCA 9897 to Kahoa.

Groza et al. (2010) summarize information collected by Maly and Maly (2002) from a cultural study they conducted in Kapalilua lands. The historic primary residences were clustered along the coast or inland, adjacent to the highway (2002:119). Gardens associated with the inland residences were present near the highway with more extensively cultivated fields located further inland. One crop cultivated in these inland fields between the 1870s and 1920 was the narcotic drink *ʻawa* (*Piper methysticum*). The residential gardens were often walled to prevent grazing cattle from damaging the crops.

Historic land travel through this area was via one of two *alaloa (*road). One road followed the coastline and the other, known as Kealaʻehu (the path of ʻEhu), was in the vicinity of today's Mamalahoa Highway (Maly and Maly 2004:37). According to Maly and Maly, the Kealaʻehu Trail "was modified by the 1850s, with improvements continuing until the *makai* route was all but abandoned by the 1860s (*ibid*.).

In 1846, Chester Lyman, a professor from Yale University visited Hawaiʻi Island. Maly and Maly (2004:7) presents Lyman's account of his journey throughout the Kapalilua area, traveling along a coastal foot path between Kapuʻa and Kīpāhoehoe where he hired a canoe to continue his trip to Kealakekua. The following entry describes his visit to the village of Miloliʻi:

> September 3rd, 1846. …The road most of the way was no road at all, but an exceedingly blind foot path, winding in various directions among the grass and lava, and utterly impossible to follow by any but a native eye. It seemed to grow rougher and rougher, and the path was very little if any "worked" or improved by leveling and laying flat stones to step on. The country generally seemed to be formed of flows of the roughest kind of clinkery lava, the irregularities being of all sizes from pebbles to up to hillocks. The way seemed long and weary, and when the sun had disappeared behind the ocean, and the shades of night were thickening around, we had but just attained a rough eminence from which Kapua was visible still some 3 or 4 miles distant…The great advantage of traveling over clinkery lava by night is that the darkness makes the path all appear smoothe and even, and you are saved the trouble of selecting places for your feet… At 8 o'clock I reached Kapua, which is rather pleasantly situated on a cove of the sea. It is on one of the clinkery flows, and the region around is very rough. I proceeded at once to the beach, and enjoyed the luxury of a bath, after which I went to the house where I was to stop near the beach, and took my supper and made preparations for sleeping... I here for a real (12 ½ cents) bought a fine watermelon, which was delicious and refreshing…
>
> September 4th. …A mile from Kapua we passed the little village of Koa and mile or two further on, passing Honomalino, we came to Milolii, where there is an extensive and beautiful sand beach covered by a fine grove of cocoanuts. Here I took breakfast under their shade. Maly and Maly 2007:7).

Maly and Maly (2004) citing the Report of the Mission Station at Kealakekua, describe the location and condition of the churches in the project area vicinity in 1855, including one in Miloliʻi Village. The churches of the South Kona Mission Station at this time were under the direction of Reverend John D. Paris.

> Since our last Annual Report our Church in S. Kona has been reorganized or divided into six branches… This arrangement while it greatly augments the labors of the Pastor or Miss. Is

> nevertheless we think, as this people are scattered over a large extent of country, & can never all meet together, greatly beneficial to them.
>
> The first of these Churches extends Geographically from Hokukano on the North to Onouli on the South… …The other two Churches one at Kaohe & the other at Milolii. The former has 101 members the latter 140. Both these Chhs [Churches] have comfortable houses to worship in. The one at Kaohe is of thatch, the one [at] Milolii is stone.
>
> These Chhs are made up of the poor of this world & of the poor of Hawaii. Most of [the] people get a lively hood principally by fishing – their villages are mostly near the sea shore on the barren lava. Their food is cultivated back from the sea shore, the distance of from three to five miles, where the land is generally fertile & with proper culture would produce abundantly…
>
> At Milolii. We have some good people & some of whom we stand in doubt. A few living epistles known & read of all men – some whose light shines more dimly & through manyclouds & others whose light is darkness… The No. of Births in this District has been greater than in the two preceding (!) years & No. of deaths. Births 81 — Deaths 57…

The Hauʻoli Kamanaʼo Congregational Church is located adjacent to the project area on the inland side of the Miloliʻi Road (see **Figure 2**). According to Paʻa Pono Miloliʻi website (http://paaponomilolii.org/the-village), the church was constructed in 1865 under the direction of Reverend Paris. An undated photograph of the church is presented in **Figure 13**.

The Paʻa Pono Miloliʻi website also describes a powerful earthquake that struck Hawaiʻi Island on February 5, 1868, producing a tsunami that hit Miloliʼi Village. The following account from Aunty Mona Kahele describes the incident:

> On February 5, 1868, there was a great tidal wave that destroyed the entire village of Miloliʼi. Although homes, canoes, fishing equipment, and other things belonging to the people were all lost, they were thankful that not one life was lost, human or animal. The people never lost hope and began living by their same patterns again. The land had extended farther out but now there was deep water there and the sea had moved inland.
>
> The little Kalawina church used to be where the pine trees are today. The church was lifted up by the waves and set down many feet from where it had stood before. (Where it stands now is only a few feet away.) Not one board was broken by the wave and everything was just the same except the foundation. The church bell rang and rang until the building settled down and everything was quiet. Only the regular sound of the waves could be heard then. Everything on the beaches was neatly cleaned.
>
> It seemed to the people like it was the end of the world for them. They were cold and hungry. To keep warm that night they all gathered closed together near where the little church was set down by the wave. They gave their most heart felt prayers of thanksgiving to God Almighty for saving their lives. Even though they were hungry, they praised the one Maker of all mankind.
>
> During their prayers, they heard voices calling and torched lights coming from ma uka. At first the people were frightened because they thought maybe it was the dead coming to claim them. They huddled together more closely to protect the women and children. But as the lights came nearer and the voices kept calling out to the people, some of them recognized the voices of their ʻohana who lived up mauka.

Figure 13. Undated photograph of Hauʻoli Kamanaʼo Congregational Church (from Paʻa Pono Miloliʻi website)

> The ʻohana brought much-needed food and clothing. There was much crying, hugging, rejoicing, prayers, and thanksgiving.
>
> The eldest in the village gathered all the people before the little church with all the food and clothing which had been brought to them. He told the people to kneel down with heads bowed, then he called out to the Father Almighty to bless the things which had been brought to them, and to bless the ʻohana who had brought these gifts. He thanked Him for saving them and giving them another chance to live and flourish.
>
> From that day on, a rule was made to keep Sunday a sacred day and February 5, 1868, a day that must never be forgotten. The day must be respected and be a memorial for all to remember what water can do, and that God Almighty is much stronger. So from that day on, Sunday and the Hauʻoli Kamanaʻo church became a symbol or a shrine for the people who were there during that great tidal. (http://paaponomilolii.org/wp-content/uploads/LaElimaProgram.pdf)

The tragic events of February 5, 1868, are memorialized in a *mele* written by Aunty Elizabeth Kuahuia. The Hawaiian and English versions of this song are presented in **Figure 14**.

Table 2, obtained from Harold Loomis' (1976) *Tsunami Wave Runup Heights in Hawaii* indicates that 22 tsunamis impacted the Hawaiian Islands between 1819 and 1975. According to this table, the 1868 tsunami was generated by seismic activity in Chile, and produced large waves throughout Hawaiʻi Island, with 15 ft waves noted in Hilo. Loomis

Mele Lā ʻElima

ʻŌlelo Hawaiʻi

Lā ʻElima o Pepeluali
Waimaka heleleʻi *(heʻe nei)* i ke alanui

Paiki puʻolo paʻa i ka lima
(Maika pu olo aʻa ika lima)
Waimaka heleleʻi i ke alanui
(Ae maka hele heʻe nui i ke alanui)

HUI:
Penei pepe ʻalala nei
(He nei pepe alaʻa nei)
He huʻi maʻe ʻele kou nui kino
(Eʻu ima e hele kou nui kino)

Haʻina ʻia mai ana ka puana
He mele he inoa no Miloliʻi
(E mele he inoa no Miloliʻi)

ʻŌlelo Haʻole

The fifth day of February
Tears fell along the roadway
(Tears scattered in the street)

Bags and bundles held tightly
Tears fell along the roadway

Chorus:
The babies cry
(You there, baby crying here)
Numbing to the body
(Your whole body will ache with chills)

Tell the refrain
(The refrain is told)
A name song for Miloliʻi
(A song, a name song for Miloliʻi)

Source: www.huapala.org

Figure 14. La ʻElima (from http://paaponomilolii.org/wp-content/uploads/LaElimaProgram.pdf)

Table 2. Significant Tsunamis in Hawai'i listed by location of source (from Loomis 1976:5)

Origin of tsunami	Year	Size of waves and area affected
Chile	1819	Waves of 6 feet reported on Kona coast (probably moderate waves island-wide)
	1837	Large waves on all islands; 20 feet at Hilo
	1868	Large waves island-wide; 15 feet at Hilo
	1877	Large waves island-wide; 16 feet at Hilo
	1906	Moderate waves, 12 feet at Maalaea
	1922	Minor damage, 7 feet at Hilo
	1960	Large waves island-wide, 35 feet at Hilo
Ecuador	1906	Moderate waves on Hawaii and Maui, 12 feet at Maalaea
Japan	1896	Large 30-foot waves at Napoopoo, Keauhou, and Kanaloa, on west coast of Hawaii
	1901	Small to moderate waves west coasts, 4 feet at Hilo, house swept away at Keauhou
	1918	Small to moderate waves, 5 feet at Hilo
	1933	Moderate waves, 10 feet on Kona coast
Kamchatka	1841	Moderate waves island-wide, 15 feet at Hilo
	1923	Large waves island-wide, 20 feet at Hilo
	1952	Considerable damage to north coasts, 20-foot waves near Waimea Bay, Oahu
Aleutians	1946	Large waves island-wide, 55 feet at northeast coast of Hawaii, 53 feet north coast of Molokai, 45 feet north coast of Kauai
	1957	Heavy damage to northwest coasts, 53 feet at Haena
Alaska	1964	Moderate waves on north coasts, 16 feet at Haleiwa
Tonga	1919	Small waves except at Punaluu where 15-foot waves were reported
Local	1868	Very large waves southeast coast of Hawaii, 60 feet at Kamoamoa, 45 feet at Keauhou, 10 feet at Hilo, 5 feet at Honolulu
	1975	Southeast coast of Hawaii, 26 feet at Halape, 12 feet at Napoopoo, 8.5 feet at Hilo, <1 foot at other islands
Unknown	1869	Waves of possibly 30 feet on Puna coast

(1976:71) indicates that the Miloli'i area was impacted by tsunamis in 1946, 1957 and 1960. **Figure 15** depicts the run-up heights of these destructive waves, ranging from 2 feet in 1946, to five feet in 1957. According to Loomis (1976:4), "After the 1946 tsunami, the Tsunami Warning System was established and a group of tsunami specialists was developed who were motivated to find and record tsunami heights as well as other pertinent data on tsunamis."

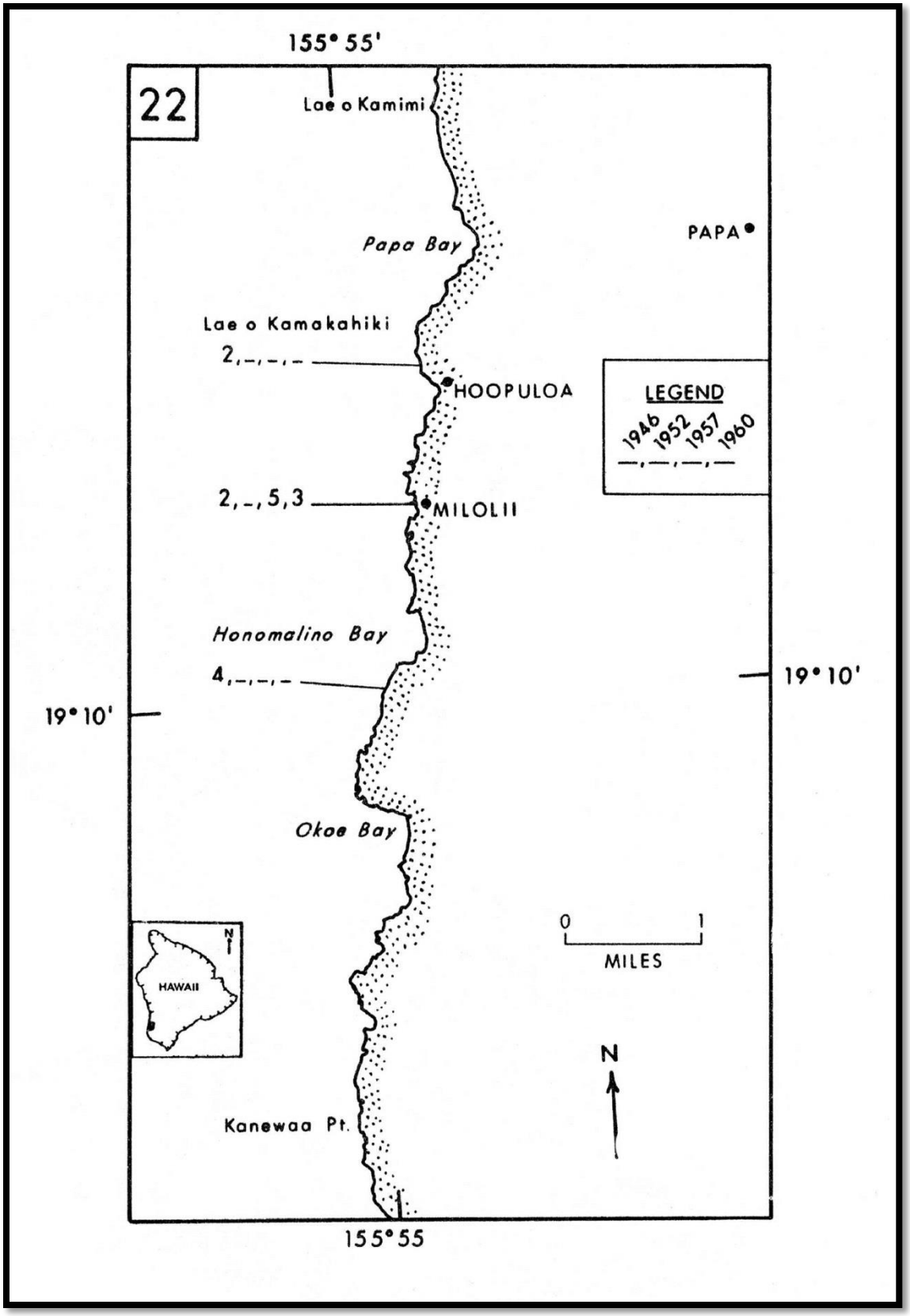


Figure 15. Tsunami run-up heights in project area vicinity (from Loomis 1976:71).

H.W. Kinney (1913) published a guide to Hawaiʻi Island. His following account describes the coastal settlements in the vicinity of the project area:

> There are a few, very small fishing villages, Alae, Alika and Papa, which are reached by poor trails from the mauka road. It is necessary to travel from Hookena mauka to the main road to Papa, and thence by either road or trail to Hoopuloa, the last steamship landing in Kona. This is another village which is dwindling in population, only a few Hawaiians and a couple of Chinese storekeepers remaining. A fair road leads across a barren a-a flow to Miloliʻi, the largest and best specimen of an exclusively Hawaiian village on the Island, which is seldom visited. It is splendidly situated by a sand beach, the sea coming right up to the yard wall, and is inhabited by a rather large population of Hawaiians, who prosper through the fishing which is almost phenomenally good...
>
> This region is seldom visited. Its chief points of interest are the remains of a *heiau*, *mauka* of the Catholic church at Milolii, some fine *papa konane* at the south end of the same village, a well preserved *kuula* (still used) where fishermen offer offerings of fruit to insure a good catch, by the beach south of Milolii, where the Honomalino Ranch fence crosses the trail; while all along the trail are smaller kuulas, and at many points the foundations of villages, where old implements may still be found. (Kinney 1913:65]

The current Miloliʻi Road, that extends along the inland side of the project area, existed as early as 1914 as depicted in Wall's Hawaiʻi Territory Survey map of the area (**Figure 16**), also obtained from the Manoa online library (http://magis.manoa.hawaii.edu). This road originates at the upper Government Road (current path of Hawaiʻi Belt Road) and extends seaward to the coast, then turning south, providing access to the villages of Hoʻōpūloa and Miloliʻi. According to Groza et al., Miloliʻi Road was paved in the 1960s during the filming of "Girls, Girls, Girls", an Elvis Presley film shot in Miloliʻi Village (2010:36). **Figure 16** also indicates that the seaward portion of Miloliʻi Ahupuaʻa was awarded to Kaleohano as Grant 1585, and that the interior portions were awarded to Kekepano as Grant 3023.

The village of Hoʻōpūloa, located to the north of the project area was destroyed by a 1926 lava flow from Mauna Loa. A series of Bishop Museum photographs, presented in a Paʻa Pono Miloliʻi (1984) assessment for the development of the Miloliʻi community depict the destruction of the village. These photographs are included as **Figure 17** through **Figure** 21 below. Apple (1987) describes the destruction as follows:

> At about 0300 H.s.t. April 18, the flow rode over the stone walls behind the village and started burning outhouses. Pigs heard squealing in a pen were released. Destruction of the village was gradual and complete. As soon as lava began falling into the sea, steam shot up in jets. Hundreds of dead fish floated along the edge of the turbulent water that spread out from the contact area of hot rock and cold ocean. Hawaiians from Miloliʻi came in their canoes and gathered the dead fish for salting and preserving. (Apple 1987 cited in Groza et al. 2010:32).

Handy and Handy (1972) describe traditional agriculture in South Kona based on historic documentary research and informant interviews in the 1920s to 1940s as follows:

> …South Kona was planted in zones determined by rainfall and moisture. Near the dry seacoast potatoes were grown in quantity, and coconuts where sand or soil among the lava near the shore favored their growth. Up to 1,000 feet grew small bananas which rarely fruited, and poor cane; from 1,000 to 3,000 feet, they prospered increasingly. From approximately 1,000 to 2,000 feet, breadfruit flourished.

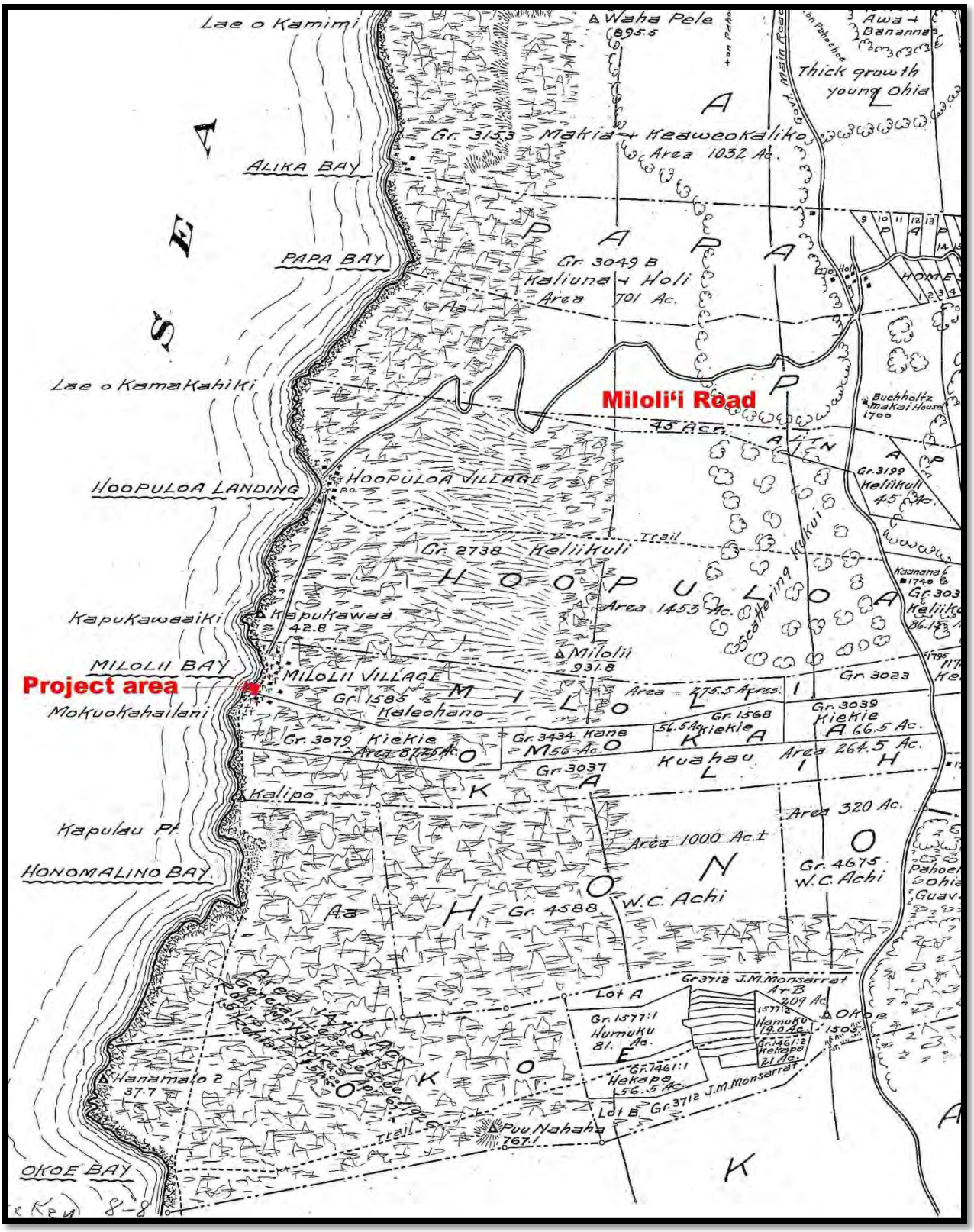


Figure 16. Portion of Wall's 1914 Map of Okoe, Honomalino, and Kipahoehoe Government Tracts

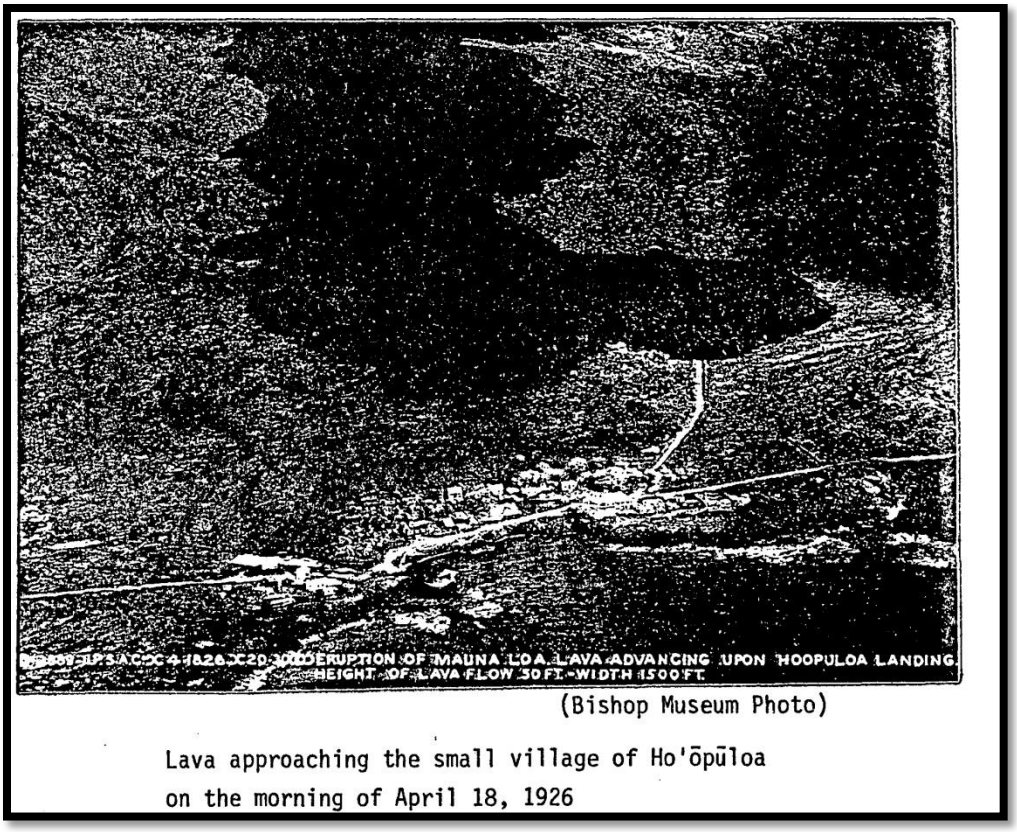
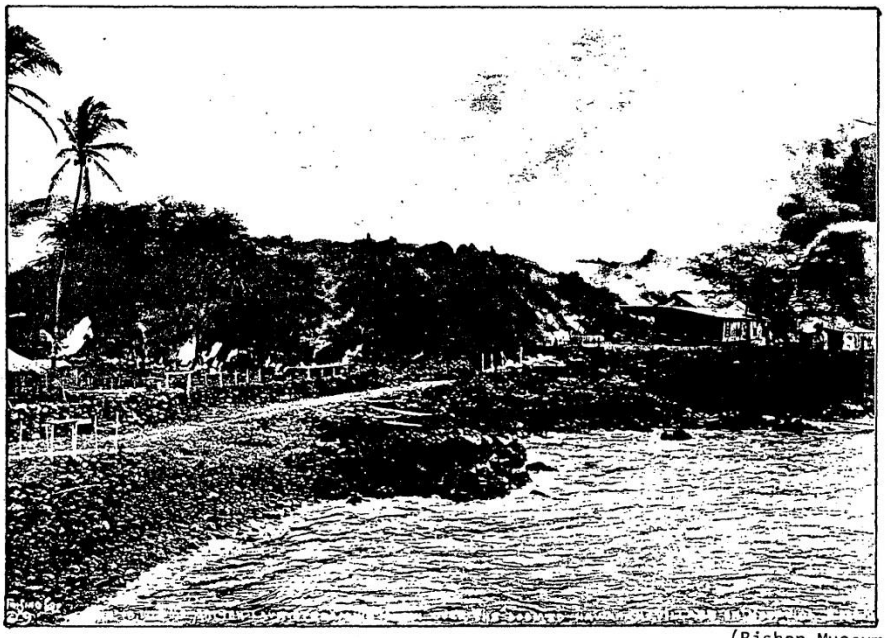


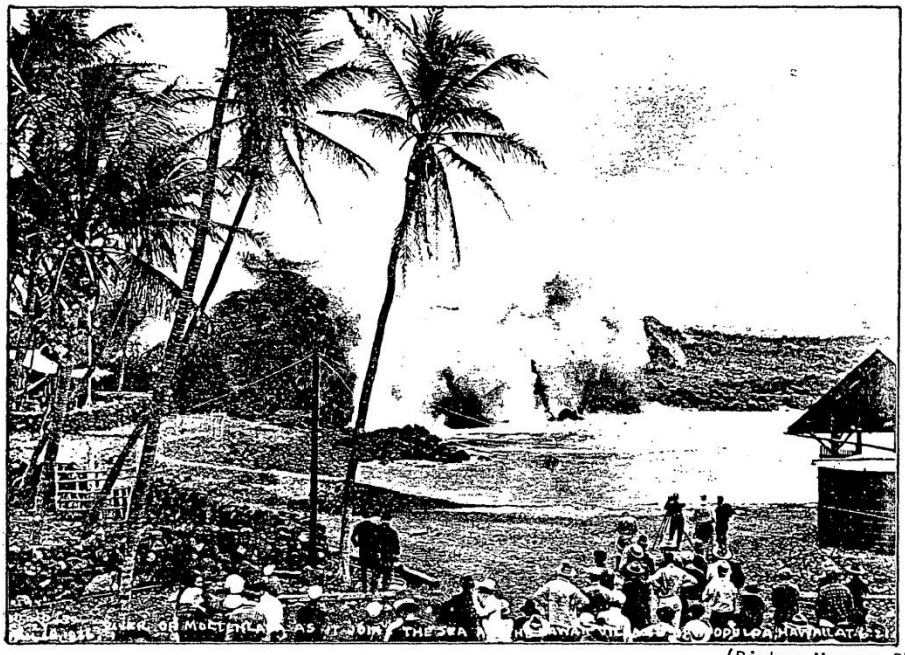
Figure 17. Lava flow approaching Ho'ōpūloa Village (from Pa'a Pono Miloli'i 1984:2)

Figure 18. Lava flow entering village at 5:15 am (from Pa'a Pono Miloli'i 1984:3)



By 5:30 am homes had been destroyed and the lava was heading towards the sea (Bishop Museum Photo)

Figure 19. Houses destroyed by 5:30 am (Pa‘a Pono Miloli‘i 1984:3)



At 6:21 am the lava joins the sea and continues to destroy the village (Bishop Museum Photo)

Figure 20. 6:21 am photograph of lava entering ocean (from Pa‘a Pono Miloli‘i 1984:4)

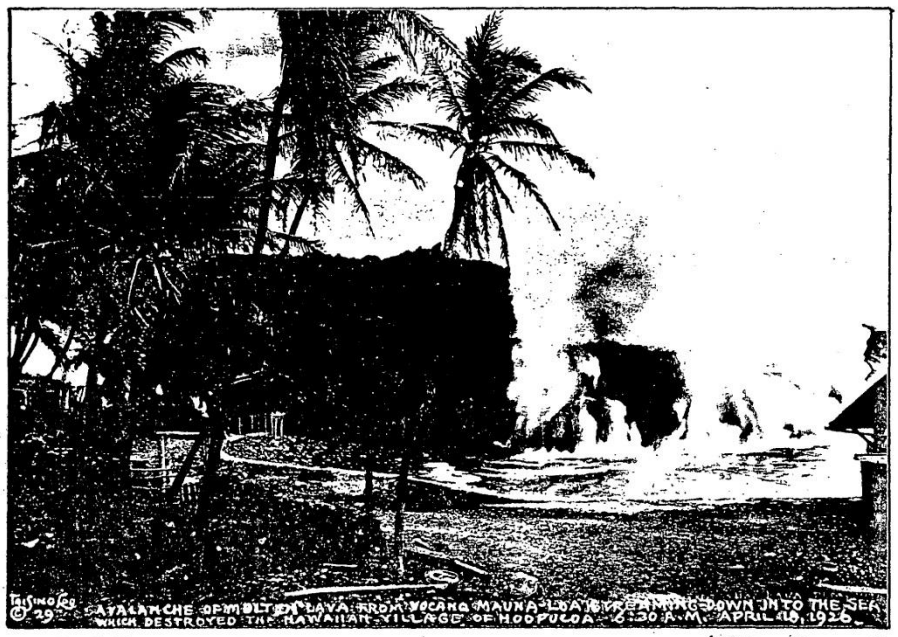


Figure 21. 6:30 am photograph of half of Hoʻopūloa Village covered in lava (from Paʻa Pono Miloliʻi 1984:4)

> Taro was planted dry from an altitude of 1,000 to approximately 3,000 feet. An old method of planting taro in Kona, described as Lakalo at Hoʻokena, was to plant the cuttings in the lower, warmer zone where they would start to grow quickly and then transplant them to the higher forest zone where the soil was rich and deep and where moisture was ample for their second period of growth, in which their corms are said to have developed to an average of 25 pounds each.
>
> At an altitude of about 2,300 feet in Kealia there was in 1931 an old-style upland taro plantation corresponding exactly to descriptions by the early voyagers, with the flourishing taro planted in twos and threes in holes in even lines, spaced about 4 feet apart, the surface covered with a mulch of dried amaʻu fern. The borders of the patches were marked by zones of rock thrown up through the field, on top of and along the sides of which were clumps of native sugar cane. Hawaiian bananas where planted here and there between the taro fields. (Handy and Handy 1972:524-525)

Handy and Handy (1972) also indicate that there were two methods of dry taro cultivation. The first is *puʻepuʻe*, which entails planting taro in stone mounds in areas with little or no soil (1972:525). Once the taro was planted in the mounds, it was covered with imported soil. The second *is kanu paʻeli*, a method utilized in areas that did contain soil. Holes to plant the soil were dug in the soil, then were covered with soil and rocks.

Figure 22 is a portion of the 1925 USGS Miloliʻi quadrangle (obtained from the University of Hawaiʻi at Manoa online library). This map depicts the Miloliʻi Road extending seaward through the area and turning to the south near the shoreline. A trail or minor road continues to the south from the end of the Miloliʻi Road. This trail continues south to where it ends in Kapua Ahupuaʻa at the Niuou Coconut Grove. A series of perpendicular trails

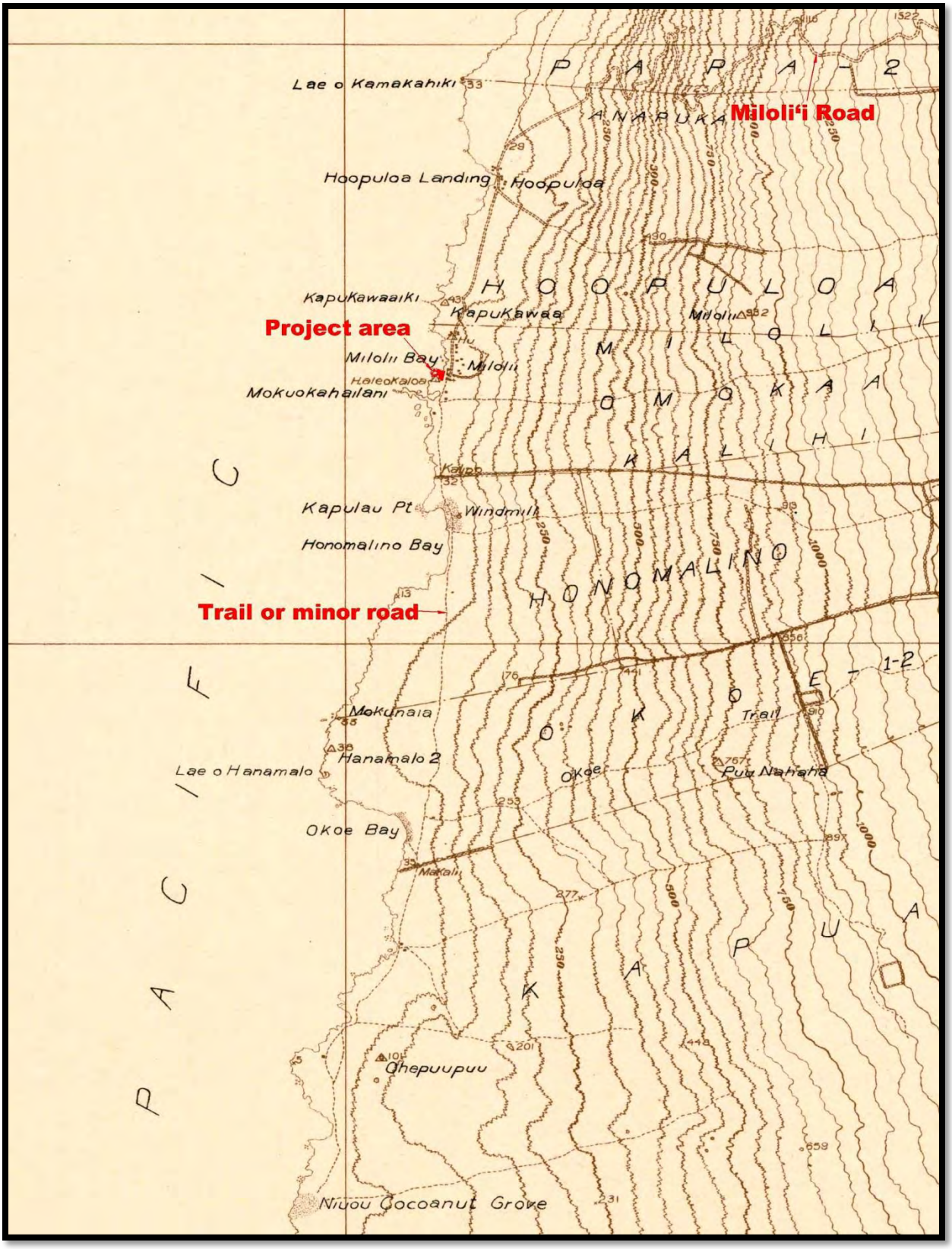


Figure 22. Portion of 1925 USGS Miloli'i Quadrangle

extend inland from this coastal trail in Omokaʻa and Honomalino Ahupuaʻa, with multiple inland/seaward trails in Kapua Ahupuaʻa. **Figure 22** also depicts a curved stone wall extending inland from the southern end of the Miloliʻi Road.

The project area comprises the Miloliʻi Beach Park. The park contains a covered pavilion (Miloli'i Halau – see cover of this report), a basketball/volleyball court, parking areas, a restroom, a catchment tank, a pump house, and firepits (see **Figure 25** in Findings section). The park is the former location of the Miloliʻi School which closed in 1966 and the land conveyed to the County of Hawaiʻi in 1969. According to Eric Ochi, Project Parks Manager for the County of Hawaiʻi, Department of Parks and Recreation, the structures from the school were removed; however the basketball court was in existence when the school was in operation. The restroom facility was constructed in late 1986/early 1987, and the halau was built before 2006.

Figure 23 is an aerial view of the project area vicinity taken on January 17, 1965 by the U.S. Geological Survey and obtained from the University of Hawaiʻi at Manoa online library (http://magis.manoa.hawaii.edu). This map depicts the outline of the school within the project area, along with the 1926 lava flow to the north, and the Miloliʻi Road.

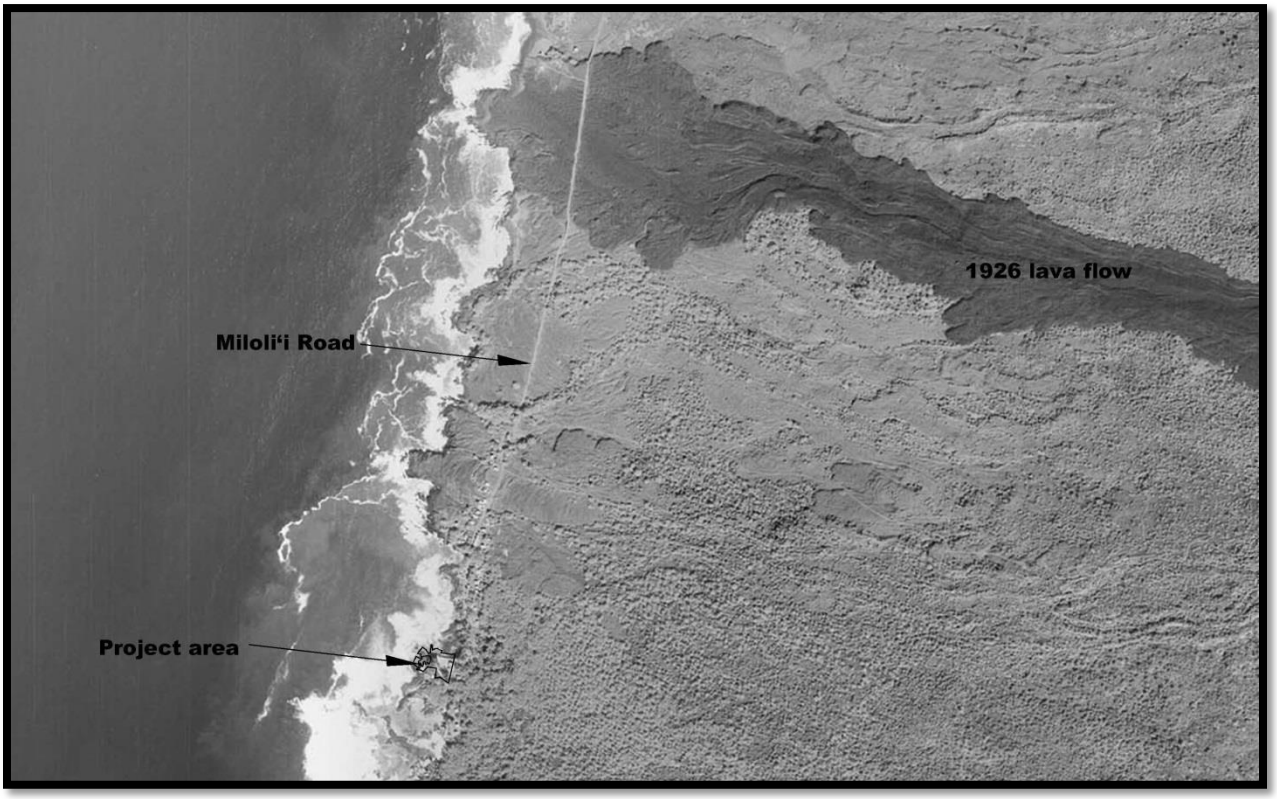


Figure 23. January 17, 1965 aerial view of project area

Previous Archaeological Work

A search of the DLNR archives indicates that at least 15 archaeological studies have been conducted in the general vicinity of the project area. The location of these studies is presented in **Figure 13.** Not included in this figure are the general studies by Thrum (1907) and Stokes (reported in Stokes and Dye 1991) which focused on major sites throughout Hawaiʻi Island, and a survey along the west coast of Hawaiʻi by Reinecke (1930). No sites were noted by Thrum in Miloliʻi; however, Reinecke (1930) made several observations about the area.

Reinecke indicates that the 1.25 miles between Papa and Hoʻōpūloa were not examined as it is rough aʻa lava, which according to locals contained no sites. At the destroyed village of Hoʻōpūloa, Reinecke states that," ...nothing is left of the original village except two walls (1930:169). Two sites were identified in the Miloliʻi area consisting of several graves and a pool (Site 63) and the district of Miloliʻi (Site 64.) These sites are described as follows:

> Site 63.
>
> The area from the Hoopuloa Flow to Milolii is old a-a flow with only a few graves at the north end and a cleft in the middle, with vegetation and perhaps a little seepage. At the north border of Milolii is a very brackish pool. (Reinecke 1930:169).
>
> Site 64.
>
> Milolii: The district of Milolii is divided, according to natives, into four divisions, Waikini, Kalaninali, Umokaʻa, and Kulini. The first two do not show up on the topographic sheet. It would be a safe estimate to allow one house site for every house now standing in Milolii. There are graves at the south end of the village, and back of the mauka houses at the northern end.
>
> There is a boulder lying on the shore of Milolii Bay in the waikini section of the village, of ordinary appearance, also called Waikini. It is credited with supernatural powers in protecting canoeists in time of storm, when they are guided back to shore by a radiance proceeding from the stone. There is the usual story of a group of sacrilegious natives carrying the stone from its place: it was found in the morning to have returned to its usual place, from which it cannot be budged by the worse storm; while the four men who carried it away each suffered some great misfortune.
>
> There is a heiau by the schoolhouse, HALEOKALOA, which I did not see, being told about it after I had left the village. A large platform in the north graveyard was also pointed out as a heiau, but no name is attached to it, the opinions of the natives are divided, and it is plainly a mere puoa.
>
> The shallow bay at the north side of Mokuokahailani Pt. was a fishpond, the breakwater now being submerged. At the head of the pond is a recently erected round platform. On the base of Mokuokahailani is an old, badly damaged platform c. 75x35, which looks like a typical old ruined heiau, but it is not. (Reinecke 1930:170)

The majority of modern archaeological investigations in the vicinity are summarized in **Table 3.** Excluded from this table is a study by Robins et al. (1994) that was not available for review. This study is summarized in Groza et al. (2010:38) and consists of an approximately 1,250-acre portion of Kapuʻa in which 108 sites including *heiau,* temporary and permanent habitations, a burial, and complexes of agricultural features and historic ranching features were identified.

The remaining projects examined more than 7,067 acres at elevations ranging from the shoreline inland to approximately 2,800 ft elevation. These projects identified 319 sites with 920 features. To aid in reconstructing settlement patterns, features were quantified by probable age and function, and the studies are ordered by

elevation. Traditional Hawaiian features were categorized as habitation, agricultural, burial (including possible burials), ritual, refuge, *ahu* and trails. Features not assignable to these categories were categorized as miscellaneous/indeterminate. Habitation sites are further subdivided into temporary and permanent for studies making this distinction.

Density values are given for sites, features, and habitation and agricultural features. The studies have identified 384 habitation features, 376 agricultural features, 39 burials, 14 refuge features, 16 ritual features, 29 trails and 82 *ahu.* The historic features were not segregated by function; although the majority of these are historic ranch walls. Overall feature density values range from 0.04 to 33.33 features per acre with an average of 6.58 features per acre.

One of the first modern archaeological investigations in the area was a reconnaissance survey of a 0.25-acre parcel located in coastal Kapuʻa conducted by Hammatt in 1980. This survey identified a paved coral surface surrounded by a stone wall. Soehren (1988) and Barrera (1989) conducted additional work at the site. Soehren's (1988) work correlated the parcel to LCA 10527:1, indicating that it had been occupied prior to the Mahele. Barrera (1989) excavated a test unit in the pavement and extensively photographed the site. A variety of midden and historic artifacts were recovered from the excavation.

Between 1982 and 1988, Paul H. Rosendahl, Ph.D. Inc. (PHRI) conducted a series of archaeological investigations of the 6,700–acre Farms of Kapuʻa project. This parcel extended across the width of the Kapuʻa Ahupuaʻa from the coast to 1,100 ft elevation. A reconnaissance of the area was conducted by Rosendahl (1983), with a subsequent addendum study undertaken the following year (Rosendahl 1984). The survey covered 100% of the coastal zone and a 15% sample of the inland portion, intended to examine areas of variable environment and topography. Forty-six sites were identified during this project.

In 1987 and 1988 Haun and Walker (1988) conducted a more intensive study of the Farms of Kapuʻa area, utilizing aerial surveys and more extensive ground survey. An additional 251 sites were identified during this study. The combined projects conducted by Rosendahl (1983, 1984) and Haun and Walker (1988) identified a total of 297 sites with 951 component features. The 951 features consisted of 331 agricultural features, 278 temporary habitations, 69 habitations, 14 refuge features, 16 religious features, 39 burials or possible burials, 25 trails, 82 cairns, 59 quarries, 6 livestock control features, 23 indeterminate features and 9 miscellaneous features comprised of tool preparation (2, recreation (1), water source (4), rock art (1) and storage (1). The majority of the features are pre-contact in origin, although the livestock control and storage features are historic. Testing at an inland cave site yielded charcoal and volcanic glass that was dated between AD 800 to AD 1,100.

In 1995, Barrera (1995) conducted an inventory survey of a 0.18 acre parcel in Honomalino Ahupuaʻa at approximately 100 ft elevation. The survey identified one site with two features consisting of a midden deposit (Feature A) and a stone wall (Feature B). The midden deposit was interpreted as a pre-contact habitation loci and the wall as a portion of an historic LCA enclosure.

In 2005, PHRI undertook an archaeological assessment survey and cultural impact assessment of the c. 15,000-acre South Kona Watershed Irrigation System Project (Rosendahl 2006). This area extends from Pāpā 1 in the north to Kapuʻa in the south and varied in elevation from 800 to 3,000 ft. The 15,000-acres were sample surveyed using a series of fourteen 100 ft wide water pipeline transects that extended through the area. The survey identified eight sites with 22 features including livestock control walls, permanent habitations, a road and agricultural features. According to Rosendahl, the area has been, "extensively modified and developed during historic times, as evidenced by the extensive current agricultural use of the land and the findings of the archaeological assessment field work" (2006:ii).

Table 3. Summary of previous archaeological work

Author	Ahupuaʻa	Study type*	Elevation (ft)	Acreage	No. of sites	Sites per acres	No of features	Features per acre	Habitation features	Habitation features per acre	Permanent habitations	Temporary habitations	Agricultural features	Agricultural features per acre	Refuge	Ritual	Burial/ possible burial features	Trails	Ahu	Misc. / Indeter.	Historic features
Hibbard (1993), Haun and Henry (2015, 2018)	Pāpā 2	RN, AIS, SPP	5-80	5.97	4	0.67	24	4.02	19	3.18	19							4			1
Rosendahl (1983, 1984), Haun and Walker (1988)	Kapuʻa	RN	10-1100	6700	286	0.04	792	0.12	347	0.05		278	331	0.05	14	16	39	25	82	90	7
Hammatt (1980), Soehren (1988), Barerra (1989)	Kapuʻa	RN	20	0.25	1	4.00	2	8.00													2
Barrera (1995)	Honomalino	AIS	100	0.18	1	5.56	2	11.11	1	5.56											1
Rosendahl (2006), Grozer et al. (2010)	Papa 1-2, Anapuka, Hoʻopuloa, Miloliʻi, Omokaʻa, Kalihi, Honomalino, Kapuʻa	AIS	1080-2800	212	15	0.07	46	0.22	3	0.01	2	1	15	0.07							28
Scheffler (2012)	Papa 1-2	AIS/SPP	2340-2320	1.75	1	0.57	1	0.57													1
Scheffler et al. (2012)	Papa 1-2	AIS	2400-2600	122	3	0.02	5	0.04													5
Haun and Henry (2013)	Papa 2	AIS	1280-1385	25.62	7	0.27	47	1.83	14	0.55	14		30	1.17							3
Rechtman (2000)	Kapuʻa	AIS	1200	0.03	1	33.33	1	33.33													1
			Total/average	**7067.8**	**319**	**4.95**	**920**	**6.58**	**384**	**1.87**	**35**	**279**	**376**	**0.43**	**14**	**16**	**39**	**29**	**82**	**90**	**49**

** - RN = Reconnaissance Survey , AIS - Archaeological Inventory Survey, SPP- Site Preservation Plan*

The South Kona Watershed Irrigation System project area was subsequently subjected to an archaeological inventory survey by CSH in 2008 (Groza et al. 2010). This project included the same transect corridors previously examined by Rosendahl (2006) and additional sections of the proposed irrigation water distribution system, totaling approximately 212 acres. This survey documented the 8 previously identified sites and 7 newly identified sites with 24 features. The features consisted of 28 historic and 18 pre-contact/early post contact features. The historic features consist of four sections of the Old Mamalahoa Road and 24 historic livestock control walls. The remainder are comprised of 15 agricultural features, one temporary habitation and two permanent habitation features. Three non-cultural lava tubes and a cave were also identified.

Rechtman (2000) undertook an inventory survey of a small (40 ft by 40 ft) area for a cell tower in Kapuʻa Ahupuaʻa at approximately 1,200 ft elevation. The parcel was located in an active macadamia nut orchard. No sites were present in the parcel although an historic stone wall situated on the boundary between Kapuʻa and Okoe Ahupuaʻa was noted.

In 2012, Scheffler et al. (2012) conducted an inventory survey of 122 acres in Pāpā 1 and 2 at elevations ranging from approximately 2,390 to 2,640 ft. This survey identified an historic ranch wall, a complex of three historic agricultural features and an historic enclosure interpreted as a possible camp or agricultural exclosure. Scheffler (2012) also documented an historic *ahupuaʻa* boundary wall (Site 28991) located on the land division between Pāpā 1 and 2 at approximately 2,250 to 2,420 ft. This project also included a preservation plan for the wall.

Haun & Associates conducted an inventory survey of a 25.62 acre parcel in Pāpā 2 (Haun and Henry 2013). The parcel is located on the south side of Miloliʻi Road at elevations ranging from approximately 1,280 ft to 1,385 ft. Archaeological Consultants of the Pacific, Inc. (ACP) had conducted a survey of the same parcel in 2012; however the work was never reported because of the death of the firm's owner and principal archaeologist, Joseph Kennedy. The survey identified five single feature sites and two site complexes. The feature functions consist of pre-contact agriculture (n=30), permanent habitation (14) and historic livestock control (3).

A 5.97 acre parcel in coastal Pāpā 2 was examined in 1993 during a field inspection by the DLNR-SHPD (Hibbard 1993). The inspection was conducted in response to permit violations incurred during the April 1993 construction of a concrete boat ramp along the coastline. This project documented 13 features interpreted as elements of the Site 4185 Pāpā Bay Complex, consisting of enclosures (Features 1, 9, 10), a mound and platform (Feature 2), a terraced platform (Feature 3), terraces (Features 4 and 6), a lava blister (Feature 5), a boulder alignment (Feature 7), a wall (Feature 8), two pavements (Features 11 and 12) and a steppingstone trail (Feature 13). This parcel was subsequently subjected to an AIS by Haun and Henry (2015), who relocated the 13 features of Site 4185, along with a stone wall along the boundary between Pāpā 1 and 2 Ahupuaʻa, a pre-contact habitation platform with evidence of historic use, and a road or trail. A Site Preservation Plan was subsequently prepared for the parcel by Haun and Henry (2018).

Previous Archaeological Work in Project Area Vicinity

According to information presented by Farber & Associates (2011) in an environmental assessment for the Miloli'i Community Enrichment and Historical Center, the project area and surrounding vicinity were surveyed between 1973 and 1974 during the Statewide Inventory of Historic Places Survey. Five sites were reportedly identified in the area, consisting of the following:

- Magoon House – a unique example of a small wooden "Kona House" built in the late nineteenth century of the area.
- St. Peter's Catholic Church - a fine example of this architectural style. The Church was built in 1932 by Father Steffen to replace an earlier St. Peterʻs destroyed by the 1926 lava flow.

- Apo House - an example of typical architecture of older houses in the Miloli'i District.
- Miloli'i School - an example of this architectural style.
- Hau'oli Kamaha'o Congregational Church - an example of architectural style with historical significance. The church was built about 1887 and is an excellent example of early missionary wood construction.

Haun & Associates contacted SHPD regarding these sites; however, little information is available. SHPD GIS Specialist Michael Wahl consulted the State's GIS database, DocuShare, the Historic Hawai'i Foundation website, the Bishop Museum website, and old State Register files. No corresponding SIHP site numbers were found for the five sites.

Mr. Wahl did provide an annotated portion of the 1962 USGS Miloli'i quadrangle that depicts a large area designated as Site 4183 (**Figure 24**). This site potentially corresponds to the Site 64 Miloli'i District identified by Reinecke (1930:170). This map also shows Site 7352 which is in the location of the Hau'oli Kamaha'o Congregational Church.

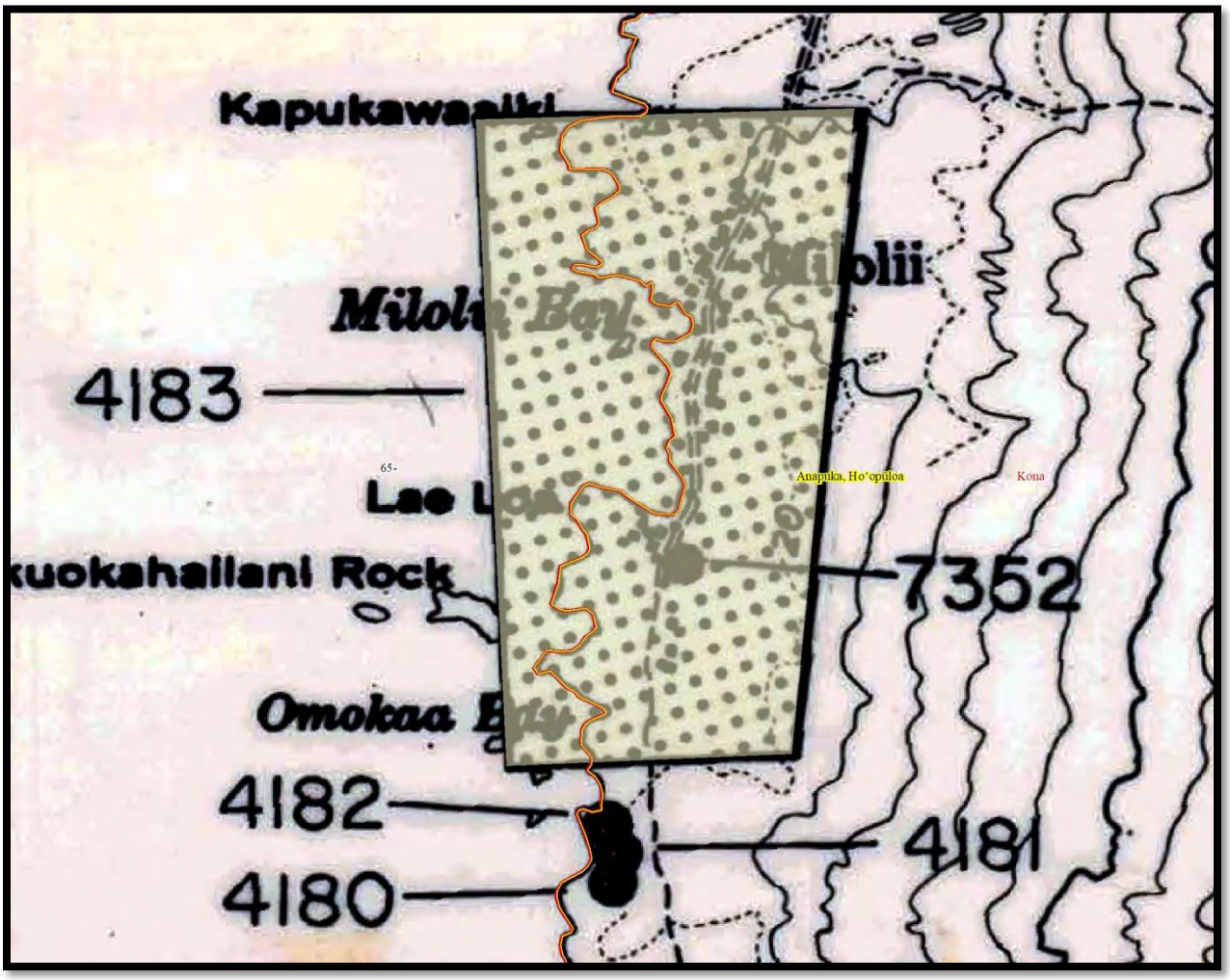


Figure 24. Portion of 1962 USGS Miloli'i quadrangle showing sites near Miloli'i

Mr. Wahl also provided an application form for the construction of a house on the Hau'oli Kamaha'o Congregational Church property across the Miloli'i Road from the present project area. This form contains an entry by landowners Shirley and Amoe Casuga regarding historic sites in the area which mentions the former Miloli'i School. This entry states the following:

> The historic site I can think of is where the Milolii School used to be and is now the Milolii Park. It closed down in the year 1966, and all of the children had to go to Hookena School and Konawaena High School.

Mr. Jeff Ochi, Project Parks Manager for the County of Hawaiʻi, Department of Parks and Recreation, in an e-mail correspondence Emi Tanitomi, of Bow Engineering & Development, Inc., describes the origins of the current structures within the Miloliʻi Park. According to the following description, no remnants of the school structures exist except the basketball court.

> To the best of my knowledge, all the old structures from the when the parcel was the school grounds have been removed (out houses, wooden water tank). The comfort station that is there now was constructed in late 1986–early 1987. The community center structure was built probably early to mid 2000's (prior to 2006). Not sure if the basketball court (surface and backboards) are of concern but they were already there from when the parcel was the former school grounds. I believe that the parcel was EO'd (Executive Ordered) to the County of Hawaii in 1969. There are CRM type walls built around the bases of some of the ironwood trees, not sure when they were built, and most times it was built by the community volunteers.

PROJECT EXPECTATIONS

Based on the preceding information, limited remnants of the historic Miloliʻi School, excluding the basketball court, remain within the project area. The effects of multiple tsunamis and the historic impacts to the property by the construction and use of the school, suggests that no pre-contact archaeological sites or features will be encountered.

CONSULTATION

Kepa Maly (Maly and Maly 2003) conducted a series of oral history interviews with seven *kūpuna* raised in Kapalilua with the primary aim of examining changes in the traditional fishing practices of the region. The interviewees consisted of *Louis Kānoa Hao,* Sr. (born in 1907 at Kaʻohe, South Kona), Mrs. Mary Tom-Ahuna (born in 1899 at Kaʻalaea, Oʻahu), Hannah Waha Pōhaku Grace Kawaʻauhau-Acia (born in 1917 at Kaʻohe), Walter Keliʻiokekai Paulo (born in 1917 at Nāpoʻopoʻo in South Kona), Edward T. Kaʻanāʻanā (born in 1925, in Honolulu), Eugene Keawaiki Kaupiko (born in 1931 at Miloliʻi), and Samuel Kamuela Waha Pōhaku Grace (born in 1927 at Kaʻohe). His general findings are summarized as follows:

> Interestingly, nearly all of the interviewees commented on changes they had observed in the quality of the fisheries, and the declining abundance of fish—noting that there were significant declines in almost all areas of the fisheries, from near-shore to the deep sea. The interviewees attribute the changes to many factors, among the most notable are:
>
> • Loss of the old Hawaiian system of *konohiki* fisheries; adherence to seasons of *kapu* fisheries (managed by *ahupuaʻa* and island regions); and lack of respect for *ahupuaʻa* management systems and tenant rights.
>
> • Too many people do not respect the ocean and land—they over harvest fish and other aquatic resources, with no thought of tomorrow or future generations. It was observed that taking more than one needs, only to freeze it for later, removes viable breeding stock from the fisheries, and as a result, leads to depletion of the resources.
>
> • Sites traditionally visited by families, having been developed and/or traditional accesses blocked.

• Changes in the environment—near shore fisheries destroyed by declining water flow and increasing pollution.

• Use of modern technology—including depth gauges, GPS, and fish aggregation devises to maximize harvests—makes it too easy for fishermen to locate fish. Fishermen no longer need to have in-depth knowledge of the ocean and habits of fish, as was necessary in earlier times.

Failure of the state system to enforce existing laws, rules and/or regulations. Interviewee recommendations included, but are not limited to:

• Return to a system patterned after the old Hawaiian *ahupuaʻa*, *kapu* and *konohiki* management practices.

• Designate one day a week—historically, it was Lāpule (Sunday)—when no fishing would occur, to allow the fish to rest and regenerate. Many of the Miloliʻi vicinity fisher-people (particularly those associated with Paʻa Pono Miloliʻi), are working to have the state designate the primary *koʻa ʻōpelu* (*ʻōpelu* fishing stations) at Kaʻakuli Miloliʻi and Hoʻopuloa (all fronting the extended community of Miloliʻi), set aside as subsistence fishery management units (*koʻa*). These *koʻa* are based on the traditional fishing grounds of the native families of the land, and tied to generations of care and fishing by the same families who would manage them.

• A significant problem for the native fishermen of these *koʻa* is that outsiders, and some local residents who have focused on economic fishing, use foreign baits, which change the character of the *koʻa*; and fish in a manner that leads to depletion of the fishery.

• Enforce existing laws and *kapu*; ensure that penalties for infractions are paid. Take only what is needed, leaving the rest for tomorrow and the future. (Maly and Maly 2003:42-43)

No specific information concerning the Miloliʻi School is presented in Maly and Maly (2003); however Walter Keliʻiokekai Paulo, a master fisherman descended from a line of canoe makers mentions a teacher who taught at the school. "She has this *ʻupena* for *akule.* So we would use this *ʻupena*. The one that was in charge of this operation was the papa of Abby Paulo, her who was a school teacher I think, in Miloliʻi one time (2003:188).

FINDINGS

The archaeological inventory survey of the Miloliʻi Beach Park identified three historic single feature sites. These consist of an erosion control retaining wall (Site 31097), a discontinuous boundary wall (Site 31098), and an historic basketball court (Site 31099). The location of the three sites is presented in **Figure 25** and the sites are described below.

Site 31097 is a mortared stone retaining wall that extends along the north and west side of the Miloliʻi Beach Park. This retaining wall is depicted in an undated historic photograph of the park, obtained from the Paʻa Pono Miloliʻi website (http://paaponomilolii.org/the-village; **Figure 26**). The retaining wall extends along the north and western sides of the park property, and is constructed of stacked, faced and mortared boulders and cobbles. The surface of the wall is capped with cement mortar that is 0.85 to 0.9 meters wide. The wall originates outside the parcel to the northeast, extending along the western side of the Miloliʻi Road. It enters the project area at the northeastern corner of the park, and extends 65.0 meters to the west, where it angles to the south for an additional 7.0 meters. These portions of the site appear to represent the original retaining wall that bordered the park, based on their appearance. Overviews of the original retaining wall are presented on the cover of this report and in **Figure 27** and **Figure 28**.

There is a broken concrete pier block located seaward of the retaining wall on the coastal escarpment. The pier measures 0.5 meters square at the base, 0.42 meters square at the top and 0.3 meters in height. A broken section of the pier is located to the northeast (**Figure 29**).

There are additional portions of the retaining wall located along the western side of the park, 4.5 meters south of the original section. These portions extend an additional 26.0 meters to the southwest, following the edge of the coastal escarpment. The appearance and condition of these sections of the retaining wall suggest they are modern additions to the site.

Site 31097 is interpreted as an historic erosion control feature likely built to prevent coastal erosion of the park and the adjacent Miloliʻi Road. The site is altered and in fair condition. It is assessed as significant per HAR §13-284-6 under Criterion d (information content) and is recommended for no further work.

Site 31098 is a discontinuous stone wall that extends along portions of the southern boundary of the Miloliʻi Beach Park. There are three segments of intact wall (Segments 1-3) separated by gaps. **Segment 1** originates at the southeastern corner of the parcel and extends 29.3 meters to the northwest where it terminates. A perpendicular section of the wall extends to the south from the eastern end outside the project area. This portion is 0.9 meters in width and ranges in height from 0.25 to 0.9 meters. The eastern is in relatively good condition; however the western portion is collapsed. No cultural material is present in association with the wall.

Segment 2 is located 12.0 meters to the west of the seaward end of Segment 1. It is 7.8 meters long (north-south), 0.9 meters wide and 1.0 meters in height. **Segment 3** is located 2.9 meters north of Segment 2. This portion of the wall is 9.9 meters long, 0.75 to 0.8 meters wide and 0.6 to 0.9 meters in height. The Site 31098 wall is constructed of stacked and faced boulders and cobbles with no cultural material present. Overviews of the wall are presented in Figure 30 and **Figure 31**.

A modern wall is located 5.0 meters to the north of Segment 3. This wall is also located on the project boundary between the park and the adjacent house lot. This wall extends 3.2 meters to the north, then angles to the west and southwest for 38.0 meters. The appearance and condition of this wall indicates it is a modern addition to the park.

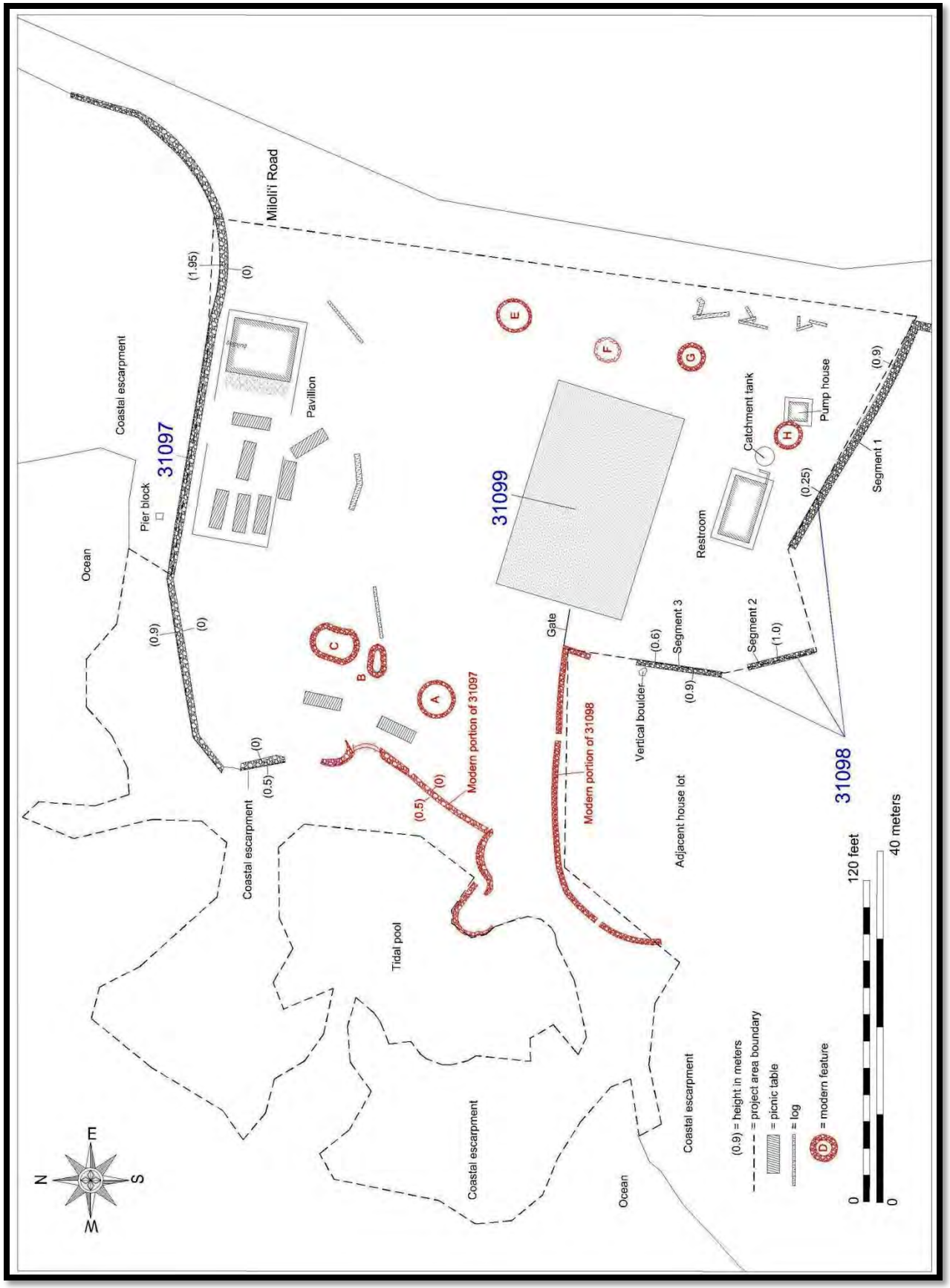


Figure 25. Site location map

Figure 26. Undated map of Miloli‘i Beach Park showing Site 31097 retaining wall (from Pa‘a Pono Miloli‘i website)

Figure 27. Site 31097 retaining wall (view to east)

Figure 28. Site 31097 retaining wall (view to northeast)

Figure 29. Concrete pier block (view to west)

Figure 30. Site 31098, Segment 2 wall (view to southwest)

Figure 31. Site 31098, Segment 3 wall (view to south)

Site 31098 is interpreted as an historic boundary wall that separates the park from an adjacent house lot. This is based on its location on the project area boundary and its formal type and appearance. The wall is altered and in fair condition. It is assessed as significant per HAR §13-284-6 under Criterion d (information content) and is recommended for no further work.

Site 31099 is a basketball/volleyball court located in the southeastern portion of the project area. It is rectangular in shape and is 24.2 meters (79 feet) long (northwest by southeast) and 15.0 meters (49 feet) wide, surrounded by a 6 ft high chain-link fence. There are basketball hoops with backboards at each end and there are two posts for the volleyball in the middle of the court (**Figure 32**).

Figure 32. Site 31099 basketball/volleyball court (view to west)

According to Jeff Ochi of the County of Hawaiʻi, the court existed when the parcel was used as the former school grounds. The County of Hawaiʻi obtained the land in 1969, indicating that the court is at least 50 years old, making it an historic property. The basketball hoops, volleyball posts and chain-link fence are however modern additions to the site, and the surface of the court has likely been reconditioned. The site is altered and in good condition. It is assessed as significant per HAR §13-284-6 under Criterion d (information content) and is recommended for no further work.

CONCLUSION

Discussion

The survey documented remnants of the Miloli‘i School. These consist of an erosion control retaining wall (Site 31097), a discontinuous boundary wall (Site 31098), and a basketball court (Site 31099). The Site 31097 retaining wall functions to prevent coastal erosion, while the Site 31098 wall separates the project area from an adjacent house lot. The Site 31099 basketball court represents the only surviving remnant of the actual school facility.

No pre-contact archaeological sites or features are present in the parcel. This is likely due to the extensive historic and modern use of the project area, and potentially by the multiple tsunamis that have inundated the Milioli’i area.

Significance Assessments

The sites identified during the survey are assessed for significance based on Hawai‘i Administrative Rules (HAR) §13-284-6. According to (HAR) §13-284-6 (b), a site must possess integrity of location, design, setting, materials, workmanship, feeling, and/or association and shall meet one or more of the following criteria:

1. **Criterion "a"**: Be associated with events that have made an important contribution to the broad patterns of our history;
2. **Criterion "b"**: Be associated with the lives of persons important in our past;
3. **Criterion "c"**: Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;
4. **Criterion "d"**: Have yielded, or is likely to yield, information important for research on prehistory or history; and
5. **Criterion "e":** Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity.

Sites 31097, 31098, and 31099 possess integrity of location and materials. The sites are assessed as significant under Criterion “d”. The sites have yielded information important for understanding the historic use of the project area.

Treatment Recommendations

The mapping, written description and photography of Sites 31097, 31098, and 31099 adequately document them and no further work or preservation is recommended. The current project was done in conjunction with the

preparation of an Environment Assessment for improvements to the existing Miloli'i Beach Park (see

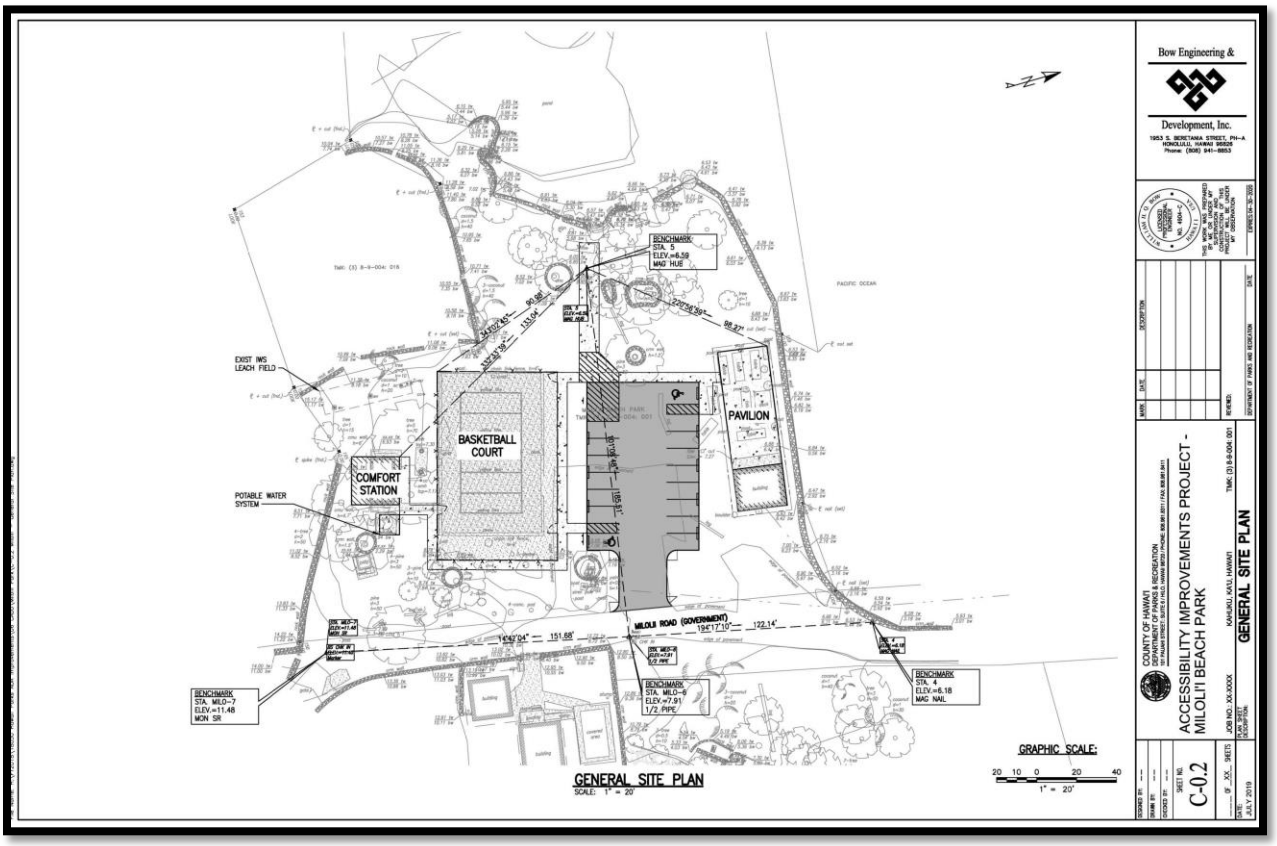


Figure 3).

TRANSLATION OF HAWAIIAN WORDS[1]

ahupuaʻa – traditional Hawaiian land unit usually extending from the uplands to the sea

akule - Big-eyed or goggle-eyed scad fish (*Trachurops crumenophthalmus*)

heiau – pre-Christian place of worship, shrine

kapu – taboo, forbidden

koʻa - fishing grounds

konohiki – headman of an *ahupuaʻa* land division under the chief

kuleana – small piece of property, as within an *ahupuaʻa*

kuula - any stone god used to attract fish

Māhele – land division of 1848

makai - seaward

mauka – inland

mele - Song, anthem, or chant of any kind

ʻohana - family, relative, kin group

ʻōpelu - *Decapterus* spp

puoa - house for depositing a corpse

ʻupena – fishing net

[1] - from wehewehe.org

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APPENDIX C

SHORELINE CERTIFICATION MAP

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
NOV 04 2019
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
Honolulu, Hawaii 96817-5031

October 31, 2019

File No.: HA-578

Austin, Tsutsumi & Associates, Inc.
501 Sumner Street, Suite 521
Honolulu, Hawaii 96817

Dear Applicant:

Subject: Transmittal of Signed Shoreline Certification Maps
Owner(s): State of Hawaii
Tax Map Key: (3) 8-9-004:001

Enclosed please find two (2) copies of the certified shoreline survey map for the subject property.

If you have any questions, please feel free to call us at (808) 587-0424. Thank you.

Sincerely,

Cal Miyahara
Shoreline Disposition Specialist

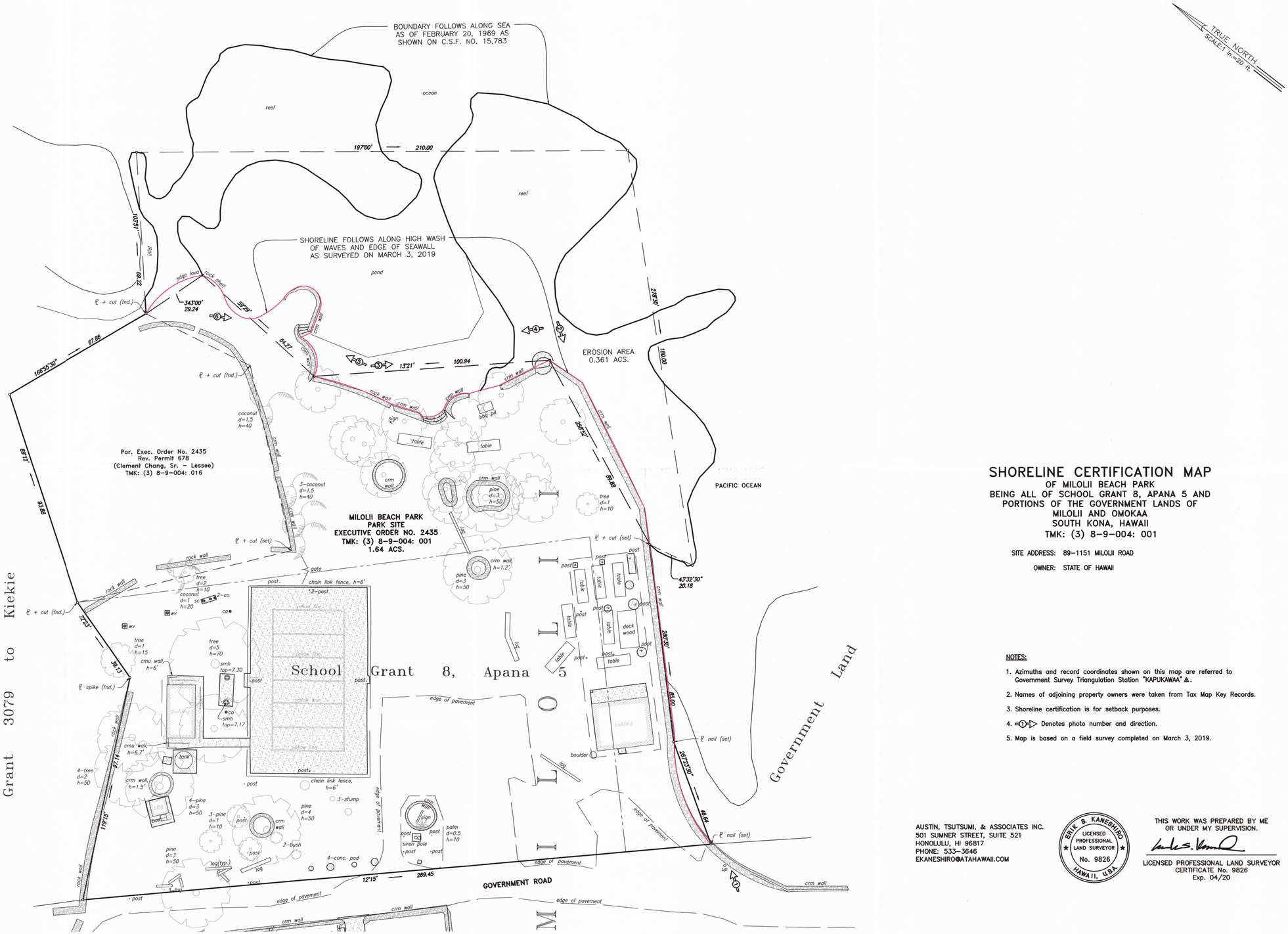
Enclosures

cc: DAGS
HDLO

The shoreline as delineated in red is hereby certified as the shoreline as of

OCT 3 1 2019

Chairperson, Board of Land and Natural Resources



SHORELINE CERTIFICATION MAP

OF MILOLII BEACH PARK
BEING ALL OF SCHOOL GRANT 8, APANA 5 AND PORTIONS OF THE GOVERNMENT LANDS OF MILOLII AND OMOKAA
SOUTH KONA, HAWAII
TMK: (3) 8-9-004: 001

SITE ADDRESS: 89-1151 MILOLII ROAD

OWNER: STATE OF HAWAII

NOTES:

1. Azimuths and record coordinates shown on this map are referred to Government Survey Triangulation Station "KAPUKAWAA" △.
2. Names of adjoining property owners were taken from Tax Map Key Records.
3. Shoreline certification is for setback purposes.
4. =①=▷ Denotes photo number and direction.
5. Map is based on a field survey completed on March 3, 2019.

Abbreviations:

bldg	building
bw	bottom wall
cmu	concrete masonry unit
co	clean out
conc.	concrete
crm	concrete rock masonry
d	diameter
fnd.	found
h	height
pbx	panel box
sc	sewer chimney
tw	top wall
up	utility pole
wv	water valve

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

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Exp. 04/20

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