

## SECTION 106 CONSULTATION

# INSTALLATION OF WATER BOTTLE FILLING STATIONS AT HAWAI'I STATE PARKS STATEWIDE



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Prepared for:



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## INTRODUCTION

The Department of Land and Natural Resources (DLNR), Division of State Parks (State Parks) proposes to install 19 water bottle filling stations in 15 parks on the islands of Hawai‘i, Kaua‘i, Maui and O‘ahu. These water bottle filling stations will encourage park users to use refillable water bottles rather than disposable plastic bottles. The project also involves educational outreach, including the installation of interpretive signs to teach both Hawai‘i residents and visitors about the harm that single-use plastic water bottles do if they become marine debris and ways that people can help reduce marine debris that is created in the Hawaiian Islands. These signs will be placed near the water bottle filling stations, either mounted on the walls of the comfort stations or in frames mounted on existing concrete slabs.

To implement the water bottle filling station project, DLNR applied for a grant from the Marine Debris Program of the National Oceanic and Atmospheric Administration (NOAA). The goal of this federal grant program is to identify, assess, reduce, and prevent the occurrence of marine debris in our waters and to protect and conserve the nation’s marine environment from the impacts of marine debris. There are over 11 million visitors to the Hawai‘i state park system annually with several parks experiencing over 1 million visitors a year. Approximately 70% of these visitors are from out-of-state while the other 30% are local Hawai‘i residents. The parks offer an excellent opportunity to educate visitors and residents about marine debris by offering facilities, such as the water bottle filling stations, that can change behavior and help protect our fragile island environment. The State will match these grant funds with staff support and Capital Improvement Project (CIP) funding.

To comply with the Section 106 of the National Historic Preservation Act (NHPA) and the requirements for this federal grant, information is provided for each of the 16 state parks encompassed in this undertaking. In 15 of the parks, the Area of Potential Effect (APE) corresponds to developed park sites where sufficient information exists to make a determination of “no adverse effect” on cultural resources within the APE with the understanding that DLNR, State Parks will take all measures necessary to avoid or mitigate impacts on cultural properties discovered during construction. In the event that archaeological or historic materials are discovered during NOAA-funded project activities, work in the immediate vicinity must stop, the area must be secured, and SHPD will be notified.

An overview of the parks included in this undertaking is provided in Figure 1 and Table 1. For each park location, information is provided about the park, the area of potential effect (APE), and the previous archaeological work and findings. An assessment of the historic properties in the vicinity of the APE is provided and a determination of effect is offered for concurrence by the State Historic Preservation Division. Maps and photographs of the APE and park setting are also included.

### Overview of Undertaking

Of the 19 proposed water bottle filling stations, 11 stations will replace existing water fountains while 8 stations will provide new water fountains in developed park areas. In all these instances, there has been previous park development and infrastructure for water hook-ups is already present.

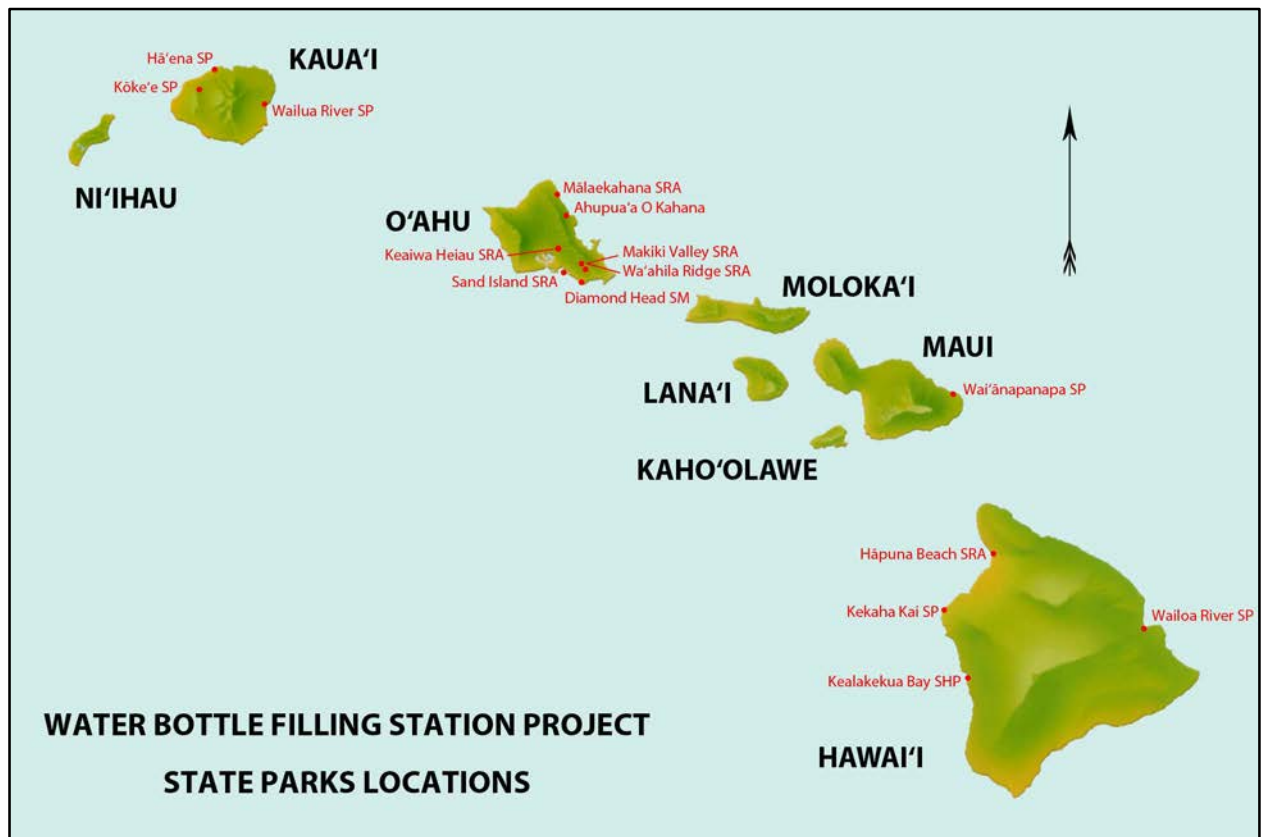


Fig. 1. Proposed park locations for the water bottle filling stations on Kaua'i, O'ahu, Maui and Hawai'i.

TABLE 1  
Locations Proposed for Water Bottle Filling Stations in State Parks Statewide

ISLAND	PARK	AHUPUA'A	MOKU	TAX MAP	COMMENTS
Hawai'i	Hāpuna Beach SRA	Lamamilo	South Kohala	(3) 6-6-002:035	2 new
		Waialea	South Kohala	(3) 6-6-002:007	1 new
	Kekaha Kai SP	Manini'ōwali	North Kona	(3) 7-2-004:009	1 new
	Kealakekua Bay SHP	Kealakekua	South Kona	(3) 8-2-004:009	1 replacement
	Wailoa River SRA	Pi'opi'ō	South Hilo	(3) 2-2-013:003	1 replacement
Kaua'i	Hā'ena SP	Hā'ena	Halele'a	(4) 5-9-008:001	1 replacement
	Kōke'e SP	Waimea	Waimea	(4) 1-4-001:013	1 new
	Wailua River SP	Wailua	Puna	(4) 3-9-004:010	1 replacement
Wailua		Puna	(4) 4-2-003:008	1 replacement	
Maui	Wai'anapanapa SP	Honokalani	Hāna	(2) 1-3-005:009	1 replacement
O'ahu	Ahupua'a o Kahana	Kahana	Ko'olauloa	(1) 5-2-002:001	1 new
	Mālaekahana SRA	Mālaekahana	Ko'olauloa	(1) 5-6-001:004	1 replacement
	Diamond Head SM	Waikīkī	Kona	(1) 3-1-042:006	1 new
		Waikīkī	Kona	(1) 3-1-042:010	1 replacement
	Makiki Valley SRA	Makiki	Kona	(1) 2-5-019:008	1 replacement
	Wa'ahila Ridge SRA	Wa'ahila	Kona	(1) 3-4-010:003	1 replacement
	Sand Island SRA	Kapalama	Kona	(1) 1-5-041:006	1 new
Keaīwa Heiau SRA	'Aiea	'Ewa	(1) 9-9-011:003	1 replacement	

The water bottle filling stations consist of 3 styles – wall mount (interior and exterior) and an outdoor mount on a concrete slab. The wall mount style will be used when replacing existing wall mounted water fountains. Some of these are on the exterior of comfort station walls while others are within buildings. The outdoor ground model will be used to replace existing water fountains located on concrete slabs adjacent to comfort stations or other park facilities. Most of the new stations will be mounted on existing concrete slabs but limited ground disturbance in previously disturbed areas may be needed for waterline hook-up. Table 2 indicates the style for each proposed location.



Outdoors ground mount.



Exterior wall mount.



Interior wall mount.

The Area of Potential Effect (APE) for the installation on concrete slabs involving replacement or new water bottle filling stations at developed areas and existing park facilities is estimated at 100 square feet (9 square meters). Some disturbance of the concrete slab is anticipated as the existing water fountain is removed and adjustments are made for mounting the new water bottle filling station. The wall mount style should not involve any ground disturbance and will not create any changes to the character of the building. Access to the sites will be on existing park roadways and no staging areas are anticipated except in the case of Sand Island SRA where the undertaking is part of a larger construction project.

Assessment of Historic Properties and Effect

Archaeological investigations and historical research have previously been conducted in most of the park sites selected for the installation of these water bottle filling stations. Because the undertaking will occur in areas previously disturbed for the construction of park facilities, the probably of adverse effects on historic properties is very low. In the case of installing stations within buildings over 50 years of age, water fountains already exist so this replacement will not adversely affect the architectural character of the structure.

The undertaking at all of the 19 proposed park locations is believed to have no adverse effect on historic properties within the APE and no further work is being recommended.

TABLE 2  
Water Bottle Filling Stations

ISLAND	PARK	LOCATION	NEW	REPLACE	STYLE
Hawai'i	Hāpuna Beach SRA	Hāpuna Beach	2		Ground on slab
		Waialea	1		Ground on slab
	Kekaha Kai SP	Manini'ōwali	1		Ground on slab
	Kealakekua Bay SHP	Nāpō'opo'o		1	Ground on slab
	Wailoa River SRA	Wailoa Center		1	Int. Wall mount
Kaua'i	Hā'ena SP	Comfort Station		1	Ground on slab
	Kōke'e SP	Kōke'e Lodge	1		Ground on slab
	Wailua River SP	Marina Building		1	Int. Wall mount
		'Ōpaeka'a Falls		1	Ext. Wall mount
Maui	Wai'ānapanapa SP	Comfort Station		1	Ground on slab
O'ahu	Ahupua'a o Kahana	Comfort Station	1		Ground on slab
	Mālaekahana SRA	Kalanai		1	Ext. Wall mount
	Diamond Head SM	Crater Interior	1		Ground on slab
		Ruger Pathway		1	Ground on slab
	Makiki Valley SRA	Comfort Station		1	Ground on slab
	Wa'ahila Ridge SRA	Comfort Station		1	Ground on slab
	Sand Island SRA	Comfort Station	1		Ground on slab
Keaīwa Heiau SRA	Comfort Station		1	Ground on slab	
<b>TOTAL</b>	<b>15 Parks</b>	<b>19 Locations</b>	<b>8</b>	<b>11</b>	

## **HĀPUNA BEACH STATE RECREATION AREA**

### **Lamamilo and Waialea, South Kohala, Island of Hawai‘i**

A total of 3 water bottle filling stations are proposed at Hāpuna Beach SRA – 2 in the Hāpuna Beach Section (TMK: 6-6-002:035) and 1 at the Waialea Section (TMK: 6-6-002:007) (Fig. 2). All three stations will be installed at existing comfort stations within developed park areas and access will be along existing paved roadways from Puakō Road and Queen Ka‘ahumanu Highway.

**Park Overview:** Hāpuna Beach SRA was established in 1967 and consisted of 62 acres surrounding Hāpuna Bay. Approximately 46 acres of the park were developed in the 1970s, including construction of the comfort stations at the northern and southern ends of the park between 1971 and 1972. Construction of the picnic pavilions, walkways, and A-frame camping shelters soon followed. The park was expanded in 1994 with the acquisition of several parcels at Waialea Beach. A comfort station, parking lot, and entry road from Puakō Road were constructed in 2006.

**Project Description:** The 3 new water bottle filling stations will be installed on existing concrete slabs around the comfort stations and utilize existing waterlines to the comfort stations and outdoor showers. Limited ground disturbance or excavation will be required for the installation.

**Area of Potential Effect (APE):** The APE for the water bottle filling stations corresponds to the footprint of the existing comfort stations and adjacent walkways. One station will be located at the northern end of Hāpuna Beach and one at the southern end (Fig. 3a). The third will be at the comfort station in the Waialea Section (Fig. 3b). The size of each APE is approximately 100 sq. feet (9 sq. meters).

**Previous Archaeology:** In 1978, State Parks archaeologists conducted a reconnaissance survey of a 175-acre area designated for park expansion (Yent and Griffin 1978). This survey identified 63 sites. A second more extensive survey was conducted between 1990 and 1994 by Paul H. Rosendahl, Inc. (PHRI) as part of a proposed park expansion (Burgett and Rosendahl 1990, Dunn and Rosendahl 1992, and Jensen 1994). The survey area encompassed a total of 750 acres, including the 1978 survey area. A total of 164 sites were identified and mapped and 138 test units were excavated in selected sites. Most sites identified were stone features such as walls, mounds, enclosures, platforms, terraces, modified outcrops, alignments or retaining walls typical of those found along the dry leeward coastal stretch of South Kohala. Both studies established a general understanding of archaeological site types in the area and their distribution despite much of the area having been heavily altered by development of park’s facilities and bulldozing and chain dragging of areas beyond the park’s developed area. Use of the area for military training exercises during and after World War II contributed to these disturbances.

Subsequent archaeological work conducted in the Hāpuna Section was primarily related to specific development projects. In 1991, a survey with 3 test units was carried out to the south of the southern comfort station prior to the construction of a new picnic area (Yent 1991). In 1995, State Parks archaeologists prepared preservation plans for projects involving two archaeological sites (Yent 1995a and 1995b, Carpenter and Yent 1995). The project that was monitored involved construction of a road and parking lot to the southern comfort station. In 2000, an archaeological inventory survey, with subsurface testing, was conducted for two parcels in the Waialea Section of the park (Carpenter and Major 2001). This survey identified 3 sites and excavations showed disturbance from the modern use of the area. However, several test units had evidence of traditional Hawaiian midden and artifacts (volcanic glass, bone fishhook fragments). Construction of these

facilities were then monitored by State Parks archaeologists (Carpenter 2001). The Hāpuna and Waialea portions of the park were subject to archaeological monitoring in 2011 and 2012 when the U.S. Army Corps of Engineers conducted an ordnance clearance and removal project within the developed and undeveloped park grounds, including those areas inland of the Puakō Road (Escott 2008). During this process, nothing was found within the developed areas of the park, including the subsurface samples taken.

Most recently, State Parks has been conducting various park improvement projects within the developed park areas of Hāpuna Beach and Waialea. In 2012, the work included repaving of roads and parking lots and expansion of parking areas at both sites. SHPD concurred with a determination of “no historic properties affected” for this work (Letter Vitousek to Quinn, Sept 21, 2012, Log No. 2012.2303, Doc. No. 1209MV05). In September 2017, State Parks requested a “no historic properties affected” determination per §6E-8 and 42 for additional park improvements in the developed park areas of both the Hāpuna Beach and Waialea Sections. These determinations have been based on historic accounts, previous archaeological surveys of park, the history of ground disturbance within the project areas, and fieldchecks by the State Parks Archaeologists.



Fig. 2. Location of 3 stations within Hāpuna Beach SRA with APE at existing comfort stations (USGS, Pu’u Hinai Quad. 1997).



Northern pavilion and comfort station at the Hāpuna Beach Section.



Southern comfort station with outdoor showers at the Hāpuna Beach Section.



Comfort station and walkway from parking lot at Waialea Section.



Paved entry road from Puakō Road and parking lot at Waialea Section.

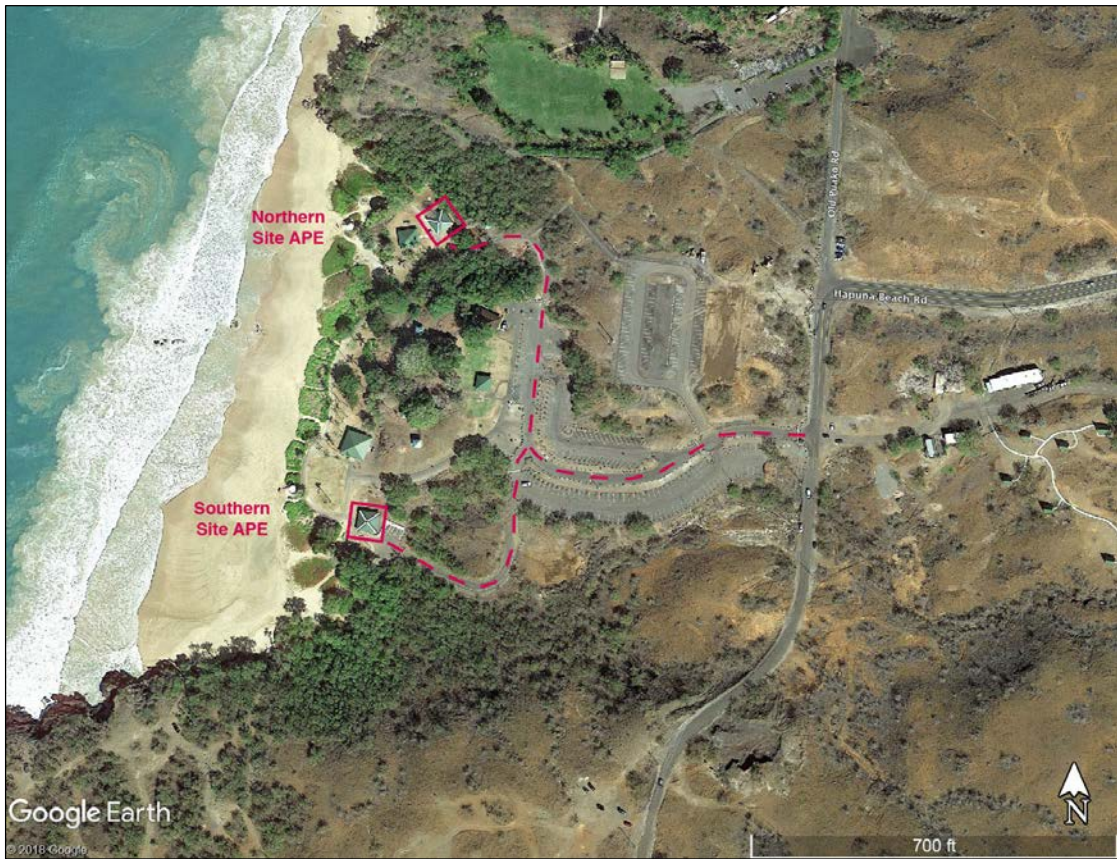


Fig. 3a. APE at the comfort stations located at the northern and southern ends of Hāpuna Beach. APE includes access routes using existing paved roadways.



Fig. 3b. APE at the comfort station in the Waialea Section with access on the paved entry road.

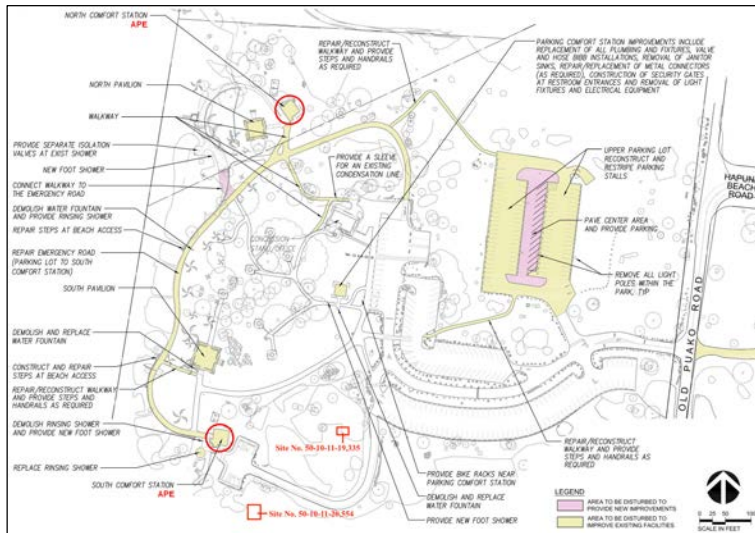


Fig. 4a. Historic sites in vicinity of southern Hāpuna Section APE.

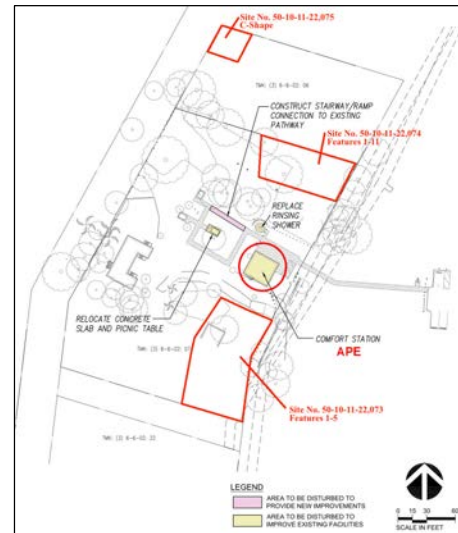


Fig. 4b. Historic sites at Waialea Section.

**Inventory of Historic Properties:** A total of five (5) archaeological sites have been identified within the vicinity of the APE (Fig. 4). None, however, are within the APE or areas that will be directly affected by the proposed undertaking and all are a sufficient distance from project activities to be easily avoided and protected.

LOCATION	SIHP #	SITE DESCRIPTION	SIGNIFICANCE	ASSESSMENT
Hāpuna - South	50-10-11-19,335	U-shape walled feature with shell scatter on knoll	D	APE is confined to roadway; construction and access will avoid the site
	50-10-11-20,554	Rock retaining wall at base of gully slope	D	60 meters south of APE; will be avoided
Waialea	50-10-11-22,073	Complex of rock features (4 walls and alignments) and midden scatter	D	12 meters south of the comfort station; construction will avoid the site
	50-10-11-22,074	Complex of 11 mound features	Modern	18 meters north of the comfort station; construction will avoid the site
	50-10-11-22,075	Rock C-shape feature with coral, shell, bone scatter	D	46 meters north of the comfort station; will be avoided

*Criterion D – potential to yield information important for research on prehistory or history*

**Potential Effects to Significant Historic Properties:** Installation of the water bottle filling stations will occur at existing buildings with infrastructure and any ground disturbance associated with the installation will be in areas that were heavily altered when these park elements were first constructed. All of the previously recorded archaeological sites are at sufficient distances from the APE and can be avoided during installation and project staging activities. The stations are consistent with the park’s general character and will not have a visual impact on the park or its setting. Given these factors and evidence to date, the likelihood of encountering any new archaeological surface or subsurface deposits within the project area is very low.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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- 1995b *Preservation Plan – Archaeological Site No. 50-10-11-19,310, Hapuna Beach State Recreation Area, Lalamilo, South Kohala, Hawaii (TMK: 6-6-2: 41).* Plan prepared for Special Management Area Use Permit Application No. 353 (94-4) by the Department of Land and Natural resources, Division of State Parks, Honolulu

## **KEKAHA KAI STATE PARK – MANINI‘ŌWALI SECTION**

### **Manini‘ōwali, North Kona, Island of Hawai‘i**

One water bottle filling station is proposed at the Manini‘ōwali Section of the park, also referred to as Kua Bay (TMK: 7-2-004:009) (Fig. 5). The station will be installed at the existing comfort station located adjacent to the entry road and parking lot within the developed park area. Access is along an existing paved roadway from Queen Ka‘ahumanu Highway.

**Park Overview:** Kekaha Kai State Park was established in 1995 and consists of 1,642 acres. The Manini‘ōwali Section is a shoreline strip at the northern end of the park with ocean recreation focused around Kua Bay. In 2005, an entry road, parking lot, comfort station, and walkway to the beach were constructed.

**Project Description:** The water bottle filling station will be installed on an existing concrete slab adjacent to the comfort station and utilize existing waterlines to the comfort stations. Limited ground disturbance or excavation will be required for the installation.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the footprint of the existing comfort station and adjacent concrete slab (Fig. 6), approximately 100 sq. feet (9 sq. meters). Access to the site is along the existing paved roadway and parking lot.

**Previous Archaeology:** An initial survey of the Kua Bay area was conducted by Reineke in 1930. This was followed by a limited survey and excavation by Cordy (1981), a cursory survey by Soehren (1982a,b), and a site inspection by Cordy (1986). An inventory survey of the private parcel mauka of the park area in Manini‘ōwali was conducted by the Bishop Museum (Pantaleo et al. 1992) as a follow-up to a large reconnaissance survey which encompassed the coastal area as well (Sinoto and Pantaleo 1990).

A comprehensive archaeological survey of Kekaha Kai was conducted in 2002 as part of the park master planning and Environmental Impact Assessment (Dye et al. 2002). An Archaeological Preservation Plan was prepared for the Kua Bay area in 2004, prior to park construction (Carpenter 2004).

In 2014, State Parks proposed several park improvements within the developed park area makai of the comfort station, including new outdoor showers and picnic tables (Fig. 7). State Parks archaeologists conducted a site inspection and determined that there was a low probability for historic properties in the project area. SHPD concurred with a determination of “no historic properties affected” with protection measures for this work (Letter Vitousek to Quinn, January 29, 2014, Log No. 2014.0214, Doc. No. 1401MV22).

**Inventory of Historic Properties:** SIHP Site Number 50-10-18-23,356 is located in the vicinity of the project area. This coastal habitation complex consists of nine feature clusters (A-I) as well as a number of outlying features behind the crescent of Manini‘ōwali (Kua Bay), including over 300 total features. Cluster E of Site 23,356 consists of 15 individual features, including features 92-105, along with newly discovered feature 335, all of which are located in the project vicinity (Fig. 7). Eight habitational features comprise of the majority of the features within Cluster E and are significant for their potential to yield information with further research (criterion D). The well along with five pit quarry features contained within cluster E are significant as well, as they possess an excellent example of a site type (criterion C).

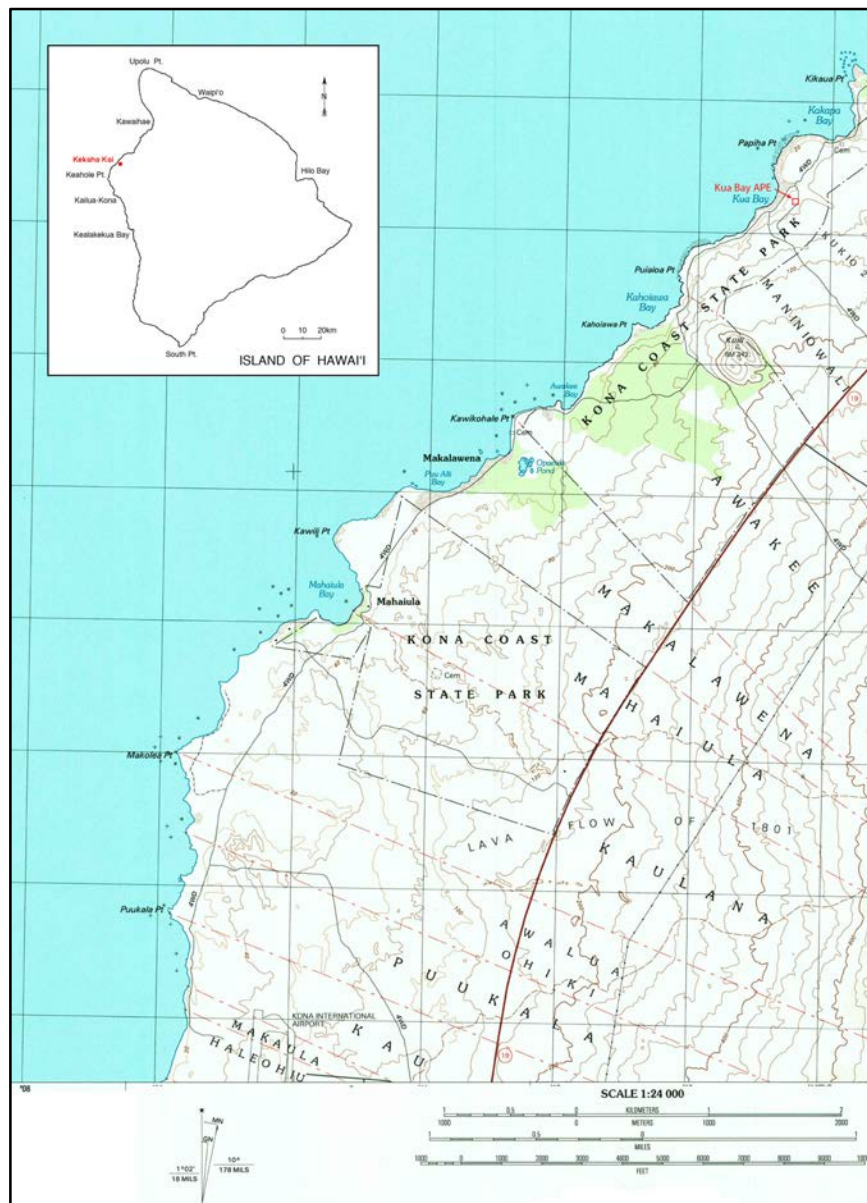


Fig. 5. Location of APE that corresponds to the comfort station at Kua Bay within Manini'owali Section of Kekaha Kai State Park (formerly Kona Coast State Park) (USGS, Makalawena Quad. 1996).



Comfort station (left), roadway, and parking lot (right) at Kua Bay, Manini'owali Section.



Fig. 6. APE encompasses the existing comfort station and the paved roadway from the Queen Ka'ahumanu Highway to the parking lot.

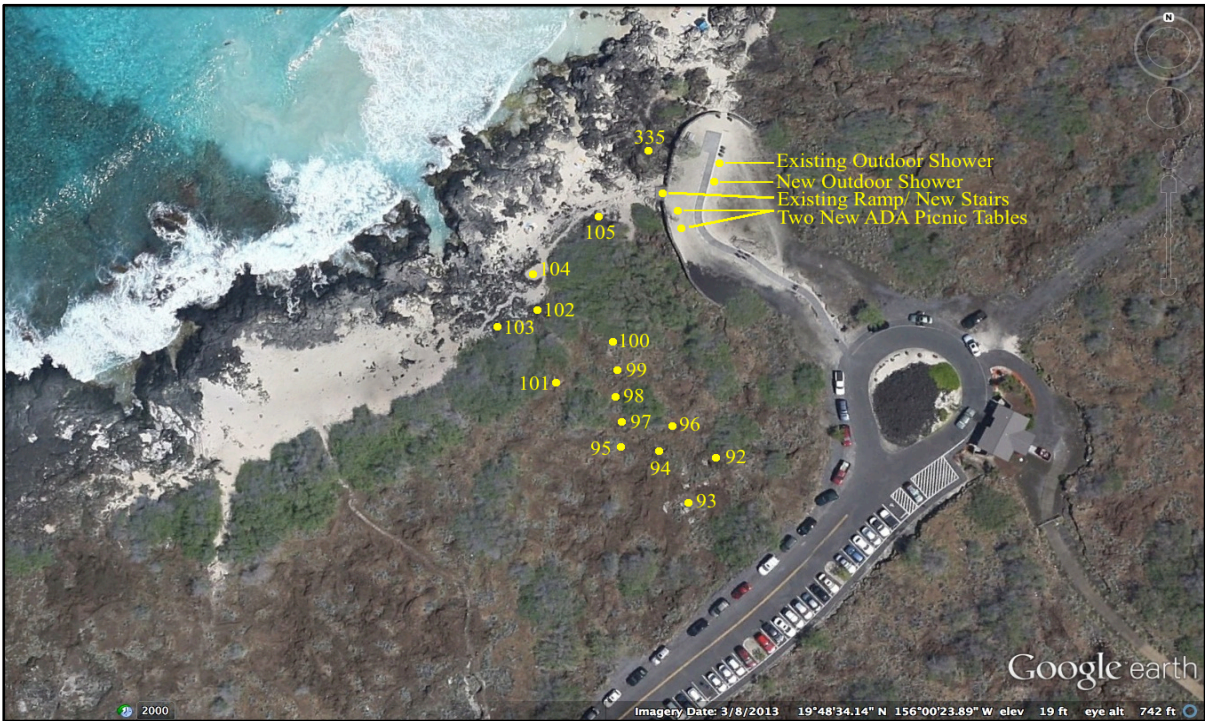


Fig. 7. Features associated with Cluster E of archaeological site 23,356 are recorded in the vicinity of the park facilities. The park improvements noted in yellow are currently under construction and previously approved by SHPD.

**Potential Effects to Significant Historic Properties:** Installation of the water bottle filling station will occur at an existing building with infrastructure and any ground disturbance associated with the installation will be in areas that were heavily altered when these park elements were first constructed. All of the previously recorded archaeological sites are at sufficient distances from the APE and can be avoided during installation and project staging activities. The stations are consistent with the park's general character and will not have a visual impact on the park or its setting. Given these factors and evidence to date, the likelihood of encountering any new archaeological surface or subsurface deposits within the project area is very low.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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## **KEALAKEKUA BAY STATE HISTORICAL PARK**

### **Kealakekua, South Kona, Island of Hawai‘i**

One replacement water bottle filling station is proposed in the Nāpō‘opo‘o Section of the park (TMK: 8-2-004:009) (Fig. 8). The station will be installed at the existing pavilion which includes a covered picnic area, restrooms, BBQ pit, water fountain, and outdoor shower. Access is along an existing paved roadway from Nāpō‘opo‘o Beach Road.

Kealakekua Bay is one of the most significant historical and cultural sites in Hawai‘i. It was one of the seven chiefly residences along the Kona coastline in the pre-contact period and an important social, religious, and political center. Kealakekua Bay is important in Hawai‘i’s history as the place where the first extended contact occurred between the Hawaiians and Europeans. Captain Cook landed at Kealakekua Bay in 1779 and during his one-month stay, crew members documented the Kealakekua area, the people, and Hawaiian culture in their journals and drawings. Kealakekua Bay SHP is encompassed within the Kealakekua Bay Historical District (Site 50-10-47-7000), which was listed on the National Register of Historic Places in 1973 (Fig. 10).

**Park Overview:** Kealakekua Bay Park was created as a County park in 1951 and the area to the south of Hikiau Heiau was bulldozed for construction of a restroom and a picnic pavilion. Kealakekua Bay State Historical Park (SHP) was established in 1967 to protect, preserve, and interpret one of the most important places in the history of Hawai‘i. Today, the park consists of 222 acres of land area around the bay and 315 acres of Kealakekua Bay. The park consists of 4 sections – Nāpō‘opo‘o at the southern end of the bay, Ka‘awaloa at the northern end, Pali Kapu o Keōua in the center, and the bay. Park development is limited to the Nāpō‘opo‘o Section, approximately 9 acres, where the original restroom was demolished in 2003 and a new picnic pavilion with restrooms and an outdoor shower was built on the site of the former pavilion.

**Project Description:** The water bottle filling station will be installed where there is an existing water fountain on a concrete slab adjacent to the pavilion and utilize existing waterlines. Limited ground disturbance or excavation will be required for the installation.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the footprint of the existing pavilion and concrete slab, approximately 100 sq. feet (9 sq. meters) (Fig. 9). Access to the site is along the existing paved roadway and partially paved “driveway”.

**Previous Archaeology:** The Hikiau Heiau Complex (SIHP No. 50-10-47-1963) was initially documented by Stokes in 1906 and designated during the statewide inventory of historic properties in the 1970s (Fig. 11). The complex includes Hikiau Heiau, Helehelekalani Heiau, the Great Wall, the pond, and the walls and platforms around the pond (Stokes 1991). The 1984 archaeological survey of the Nāpō‘opo‘o Section by State Parks archaeologists included the mapping of 61 surface features (Fig. 12) (Yent 1985). A total of 18 test units were excavated between 1977 and 1989 (Fig. 13). The most extensive excavations were conducted in 1988 in conjunction with the first restroom relocation project (Smith 1988). The testing indicated mixing and disturbance of the cultural deposits, probably in conjunction with the grading in 1951 for park development. Several units contain remnants of the intact cultural deposit that appears to be pre-contact in age. This deposit contains shell midden and adze artifacts (adze flakes, adze fragments, and reworked adzes). However, no features were encountered in association with this deposit and the charcoal was insufficient for a dating sample. Five additional units were excavated in 1999 prior to the final construction of the pavilion (Yent 2000). Findings were consistent with the prior testing.





Fig. 9. APE corresponds to pavilion structure with access along paved roadways.

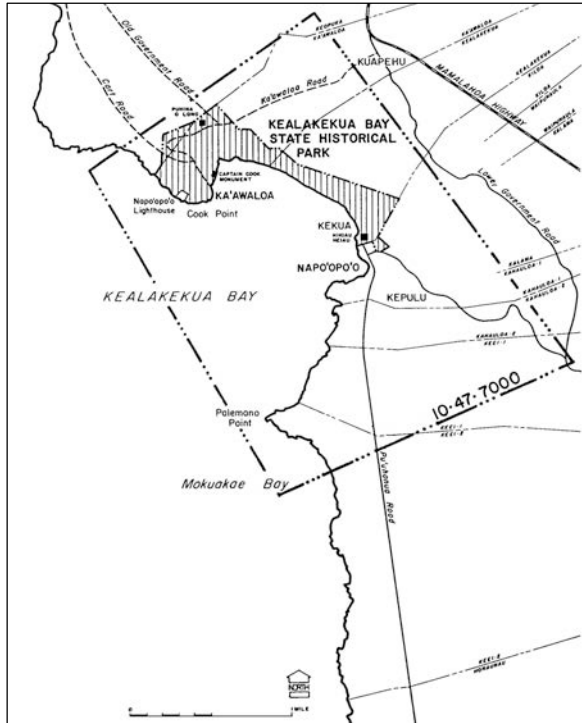


Fig. 10. Kealakekua Historic District on NRHP (Site No. 50-10-47-7000).

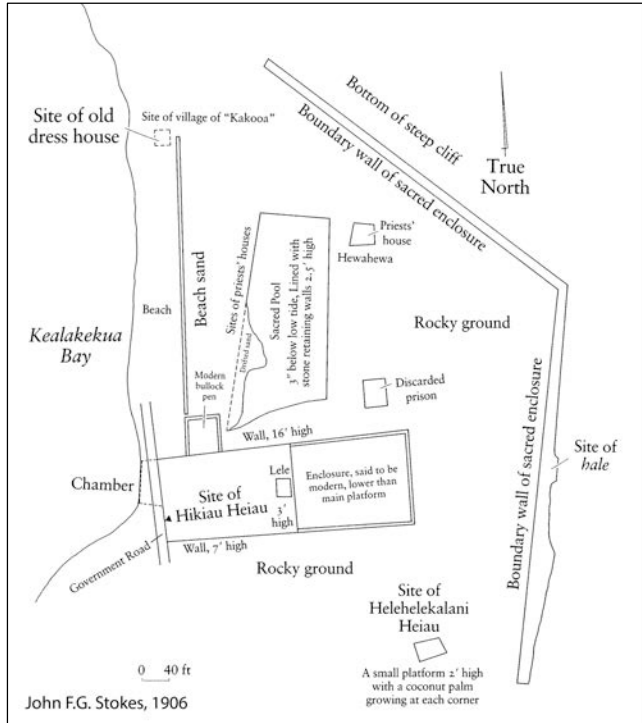


Fig. 11. Hikiau Heiau Complex recorded by Stokes (Site No. 50-10-47-1963).

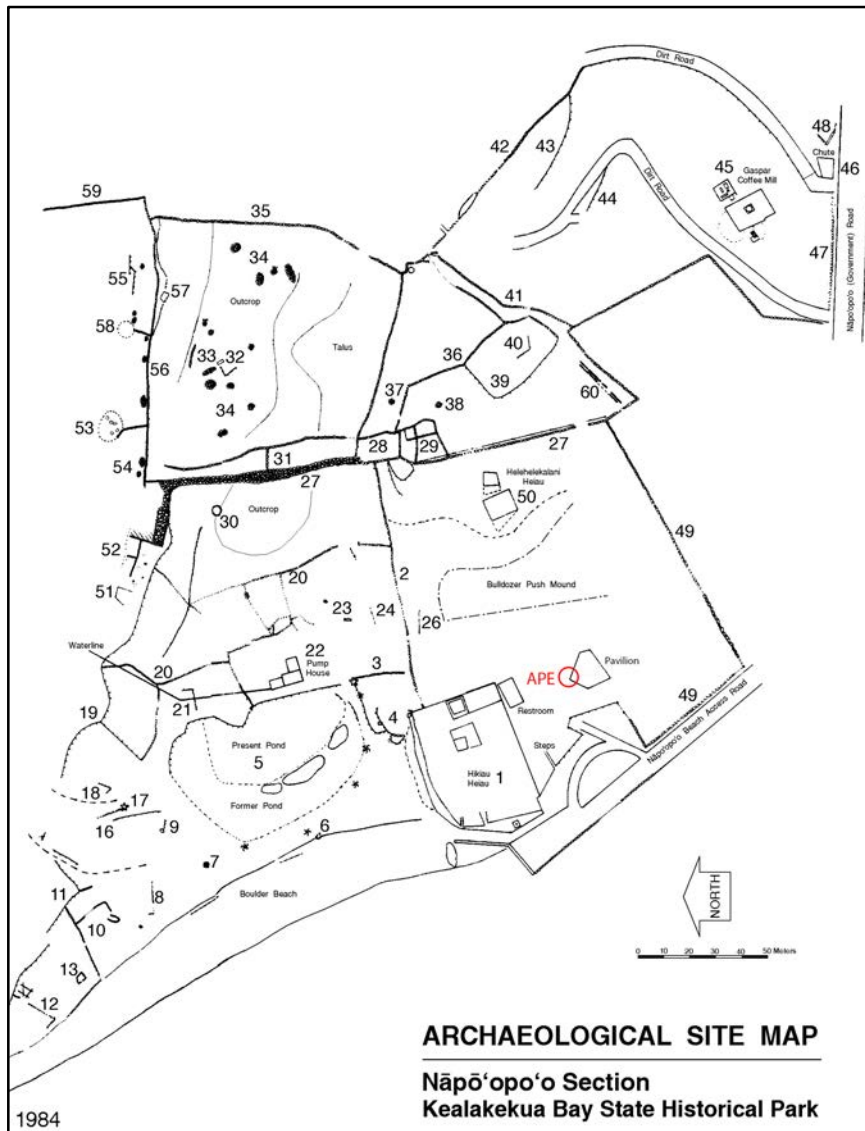


Fig. 12. Sites inventoried during 1984 archaeological survey of the Nāpō'opo'o Section (Yent 1985). APE encompasses the pavilion site. The restroom was demolished in 2003.

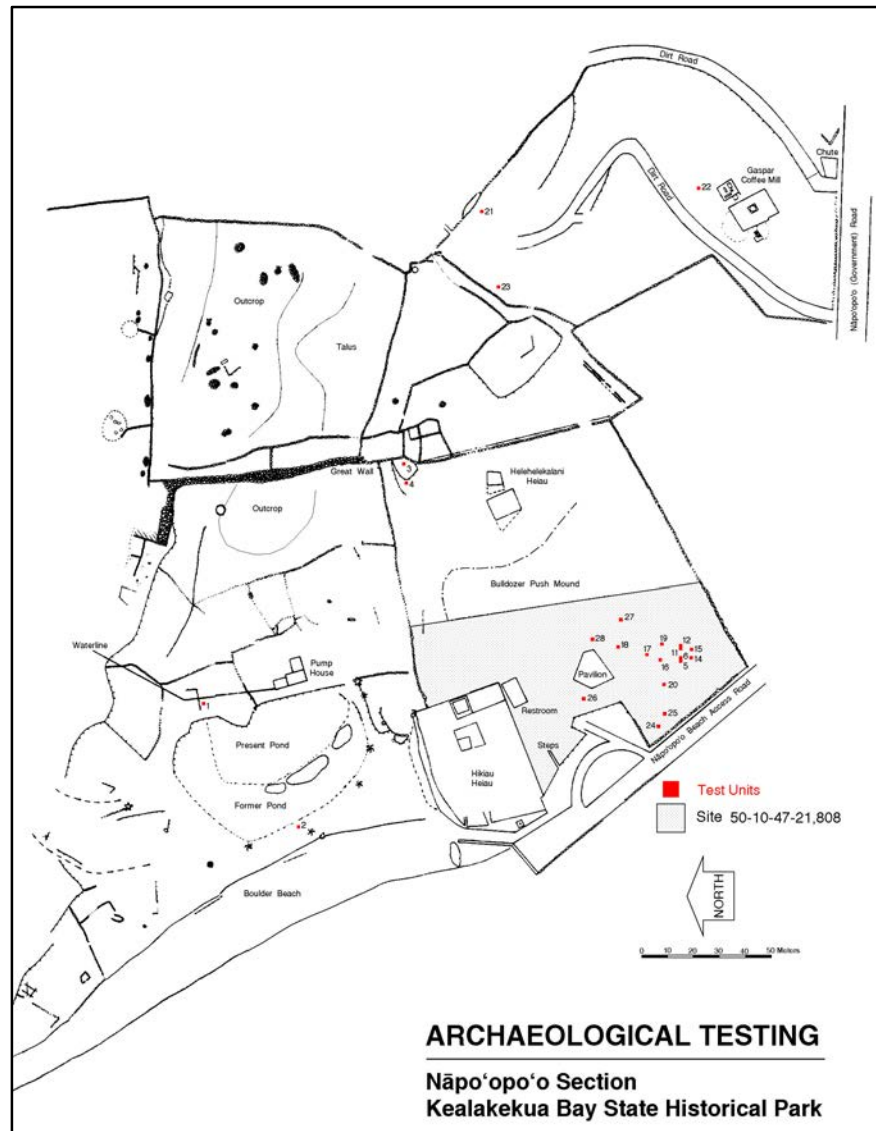


Fig. 13. Test units placed in the Nāpō'opo'o Section, especially in the area of the pavilion prior to its construction in 2000 (compiled from Smith 1988 and Yent 2000).

Most recently, an archaeological monitoring plan for restoration of the cultural landscape around Hikiau Heiau was prepared and submitted to the State Historic Preservation Division in compliance with HRS §6E-8 (June 2016). This plan was prepared because vegetation clearing was proposed within areas containing significant historic properties.

**Inventory of Historic Properties:** The two sites in closest proximity to the APE are Hikiau Heiau and Helehelekalani Heiau. Hikiau Heiau is located approximately 100 feet (30 meters) north of the APE while Helehelekalani Heiau is about 150 feet (45 meters) east. The area between both heiau and the pavilion has been previously disturbed by bulldozing and prior park construction.

These two heiau have been evaluated as significant based on all 5 criteria:

- A. Associated with events that made significant contributions to broad patterns of history. The significance of Kealakekua is related to its role as a chiefly center in the pre-contact period as evident by the heiau, the arrival and extended contact with Captain Cook's arrival in 1779, the arrival of the missionaries in 1820, and the transition of the community in the post-contact period from a fishing subsistence to a shipping port and a market economy that included ranching and coffee.
- B. Associated with lives of persons significant in our past. Kalani'ōpu'u and Kamehameha I are prominent chiefs associated with Kealakekua before and during the arrival of Captain Cook. Kamehameha and his kahuna Hewahewa had their residences within the Hikiau Heiau Complex. Captain Cook's arrival and death at Kealakekua was a critical turning point in Hawaiian history. The missionaries played an important role in the early post-contact period when the traditional religion and heiau were abandoned and young Hawaiians, such as 'Ōpūkaha'ia were influenced to leave Hawai'i and convert to Christianity.
- C. Distinctive characteristics of a type, period, or method of construction. Hikiau Heiau is representative of the large, massive stone platform heiau that illustrates the monumental architecture of pre-contact Hawai'i. Helehelekalani is less impressive as low-level platforms but illustrates the range of construction style and form of these heiau structures.
- D. Site has the potential to yield information important in prehistory or history. Archaeological testing has indicated that there is the potential for subsurface cultural deposits associated with many of the surface features and future excavations may provide information to learn more about the function of these sites and the lifestyle of the inhabitants.
- E. Traditional cultural value to the Hawaiian people with associations important to Hawaiian history and cultural identity. Kealakekua remains an important and cultural site to the Hawaiian community based on its history and significant cultural events, including Makahiki.

The 1988 and 1999 testing to the south of Hikiau Heiau indicated that the cultural deposits have been subject to disturbance. These deposits show a mixing of historic and possibly pre-contact artifacts as a result of this disturbance. Based on these initial findings, it was determined that sufficient data recovery had occurred prior to the demolition and reconstruction of the pavilion in 2003.

**Potential Effects to Significant Historic Properties:** Installation of the water bottle filling station will replace the existing water fountain by the pavilion where there is an existing concrete slab and waterlines. Any ground disturbance associated with the installation will be in areas that were previously tested and heavily altered when the pavilion and associated features were constructed. All of the previously recorded archaeological sites are at sufficient distances from the APE and can be avoided during installation and project staging activities. The station is consistent with the park's general character and will not have a visual impact on the park or its setting. Given these factors and evidence to date, the likelihood of encountering any new archaeological surface or subsurface deposits within the project area is very low.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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## **WAILOA CENTER, WAILOA RIVER STATE RECREATION AREA Pi‘opi‘o, South Hilo, Island of Hawai‘i**

One replacement water bottle filling station is proposed at the Wailoa Center within Wailoa River State Recreation Area (SRA) (TMK: 2-2-013:003) (Fig. 14). The wall-mounted station will be installed within the existing building where the existing water fountain is no longer working. Access to the site is along an existing paved roadway from Pauahi Street.

**Park Overview:** The 128-acre State Park was established in 1954 after the 1946 tsunami destroyed much of the shoreline area of Hilo. A subsequent tsunami in 1960 resulted in much of the land along the Hilo Bayfront and makai of Kilauea Avenue being designated open space. It was in the 1960s that many of the park facilities of Wailoa River SRA were constructed with landscaping consisting of open grass lawn and shade trees. Wailoa Center was built in 1968 on the west side of Waiākea Pond. The east side of Waiākea Pond is dedicated to passive recreation and includes picnic pavilions and shelters, comfort stations, and parking areas. Initially envisioned as a visitor’s information center, Wailoa Center now houses monthly art exhibits by local artists. Adjacent to either side of the Wailoa Center are the Tsunami Memorial (1975) and a Vietnam War Memorial, both consisting of low walls but no buildings.

**Project Description:** The water bottle filling station will be installed on the wall adjacent to the Men’s Restroom on the first floor where the existing water fountain is located. No excavation will be required for the installation.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the footprint of the existing Wailoa Center (Fig. 15). Access to the site is along the existing paved roadway.

**Previous Archaeology:** No archaeological investigations have been conducted within the APE or the vicinity of the Wailoa Center. Historic land use and the tsunami of 1946 and 1960 appear to have destroyed many of the cultural and historical properties that may have previously existed in the area. Subsurface archaeological investigations in the Hilo Bayfront area are limited but the work conducted appears to indicate a low potential for intact subsurface deposits and features. As part of a larger study to identify suitable locations for the construction of the Hilo Judiciary Complex, archaeological investigations were conducted at two locations near Wailoa Center (M. Rosendahl 1988). No intact cultural resources were found.

An archaeological assessment was conducted by Robert Rechtman in 2009 for the Hilo Bayfront Trails project that encompassed 3 County parks – Mo‘oheau Park, Hilo Bayfront Beach Park, and Hilo Bayfront Soccer Fields. As a result of that study, it was concluded that while no specific archaeological features were identified that would be impacted by the project, the potential; however remote, does exist for as of yet undiscovered buried features (in either a disturbed or pristine context) to be encountered during subsurface development activities. An archaeological walk-through of the Wailoa River SRA was conducted by State Parks archaeologists Martha Yent and Tracy Tam Sing in February 2014 in conjunction with proposed park improvements and a continuation of the Hilo Bayfront Trail into the State Park. NHPA Section 106 Consultation with SHPD in 2012 (LOG No. 2014:03124; DOC No. 1408SN18) resulted in the preparation of an Archaeological Monitoring Plan (AMP) that was submitted to SHPD in October 2016 (Yent and Rechtman 2016). The Section 106 consultation and AMP for the Hilo Bayfront Trails project did not overlap with the Wailoa Center and this current project.

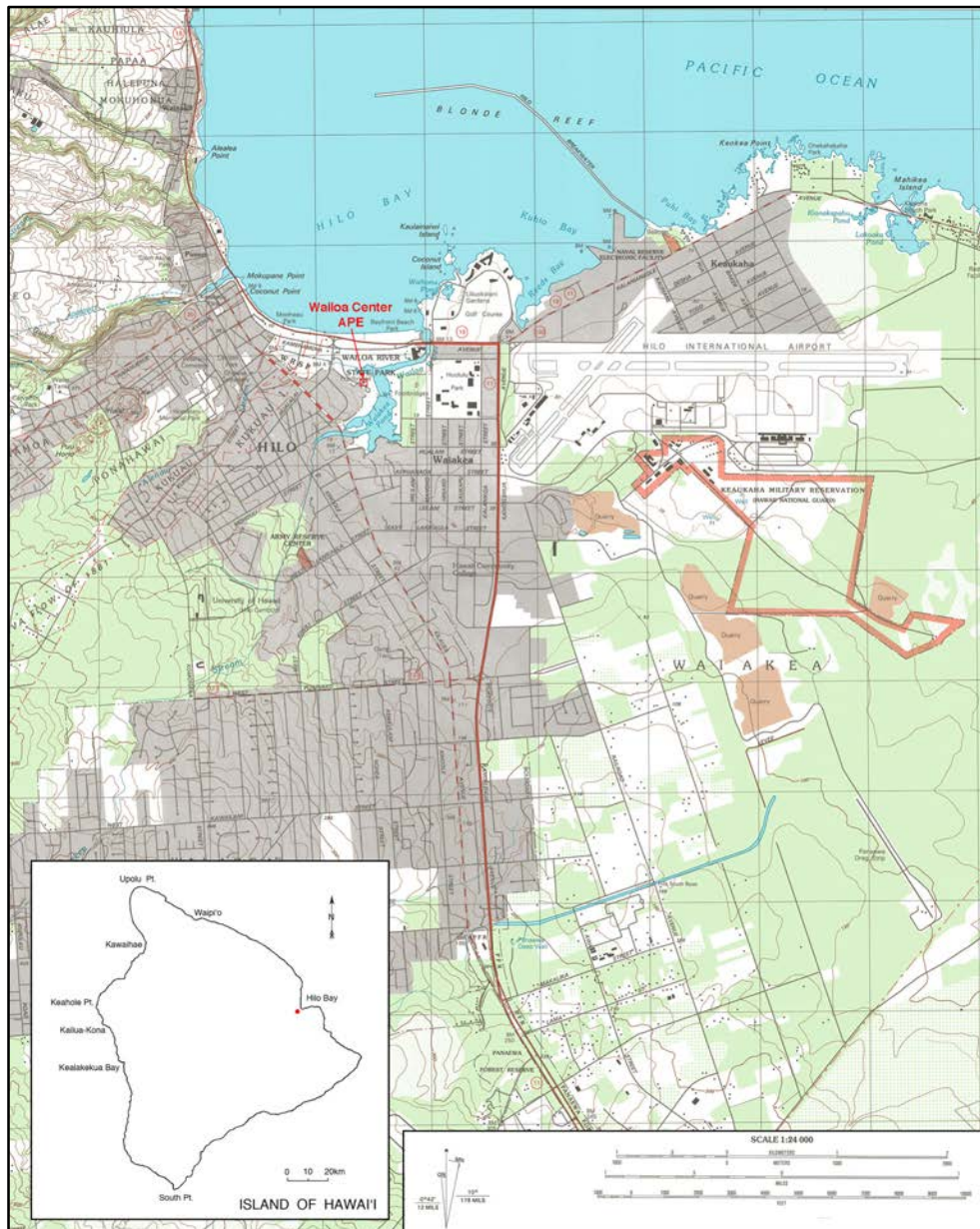


Fig. 14. Wailoa Center and APE are located on the west side of Waiākea Pond and south of Hilo Bay (USGS, Hilo Quad. 1995).



Front view of the Wailoa Center building.



Wall-mounted water fountain within the Center building.



Fig. 15. APE corresponds to the Wailoa Center with access on paved roadway from the Center to Pauahi Street.



Fig. 16. Wailoa Center and APE in relationship to historic properties.

**Inventory of Historic Properties:** Several historic properties have documented within Wailoa River SRA and in the vicinity of the APE (Fig. 16):

Waiolama Canal (50-10-35-30,106). The 650-foot long section of the canal in Wailoa River SRA is in poor condition with only small sections of the canal wall remaining intact. It is located to the north of Wailoa Center and east of the Pauahi Street bridge. There is a 200-foot (60m) section on the north (makai) side of the canal by the Kamehameha Statue, a 55-foot long remnant associated with the Pi‘opi‘o Street bridge that was rebuilt in 1988, and a 25-foot long section associated with the Pauahi Street bridge. The canal between Pauahi Street and Hō‘akimau and Waiākea Ponds has been altered such that only remnants of the rock wall remain and the earthen banks tend to curve rather than run straight. The Waiolama Canal is significant under Criterion C for its engineering and construction which allowed for the development of Hilo Bayfront in the 20<sup>th</sup> Century.

Waiākea Fishpond Complex (50-10-35-18,899). There are 4 ponds located within Wailoa River SRA: Waiākea Pond (25 acres), Hō‘akimau Pond, Mohouli Pond, and Waihole Pond. Hō‘akimau Pond links Waiolama Canal and Waiākea Pond but was altered by dredging and the deposition of fill in the 1960s. Hō‘akimau Pond is 250 feet north of Wailoa Center. The Waiākea Fishpond Complex is significant under Criterion A because of its importance in the traditional settlement-subsistence pattern of Hilo Bay and Criterion B because of the pond’s association with persons such as Kamehameha and Ka‘ahumanu. The spring-fed ponds have been degraded to various degrees by land uses and historic construction, tsunami, flooding, and infilling to the point that Criterion C does not apply.

Shinmachi (50-10-35-30107). In about 1900, Shinmachi, which means “New Town” in Japanese, was established along the mauka side of Kamehameha Avenue, from Pi‘opi‘o Street to where the Hilo Iron Works building now stands. What had been low-lying swampland was filled with sand from Hilo Bay, and became a close-knit, primarily Japanese community until 1946, when many of its buildings were destroyed by a tsunami and more than 100 people died (Lang 2007:36). It was not rebuilt and much of the area of Shinmachi is now part of Wailoa River SRA and on the Makai side of Hō‘akimau Pond.

Wailoa Center. This building becomes 50 years old in 2018 which triggers an assessment of its architectural significance. The structure is a round 2-story building measuring around 100 feet in diameter (Fig. 17). The building was designed to contain ten major and a number of minor exhibits pertaining to the natural and historical resources of Hawai‘i on the upper level. The ground floor contains the restrooms, administrative offices, storage, a lānai, and secondary exhibit space. A stairway leads up to the upper floor on the interior of the building while a concrete ramp with rock facing leads up to the 2<sup>nd</sup> floor entry on the exterior of the building. The entry to the upper floor is located on the west side of the building. A vertical rock waterfall structure in the center extends from the bottom floor through an opening into the 2<sup>nd</sup> floor.

The structure is architecturally unique with its dome-like roof and rock-faced ramp that are symbolic of a volcano. The exhibit areas protrude on the exterior wall of the upper floor. The internal concrete beams support the sloping roof and also create an open space in the center of the round structure that houses the 16-foot high lava rock waterfall. There have been few changes made to the building over the past 50 years. The most visual change was the addition of sliding door to enclose the lānai on the lower floor. This was done in 2017 to reduce problems with squatters and vandalism. The exterior of the walls contain artwork

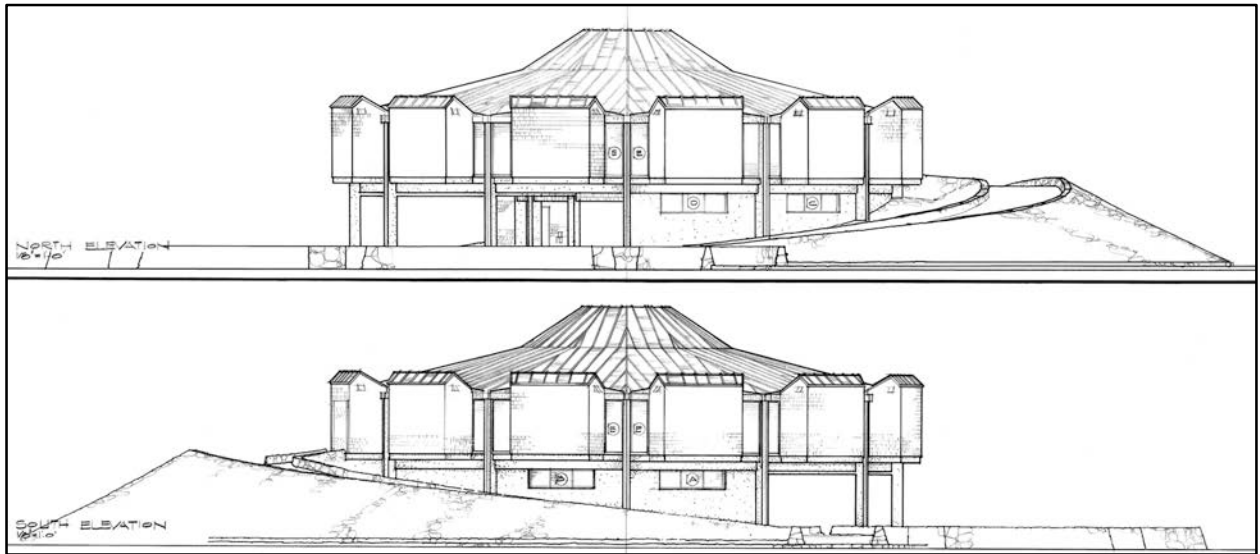


Fig. 17a. Side views of the building and the ramp with rock facing.

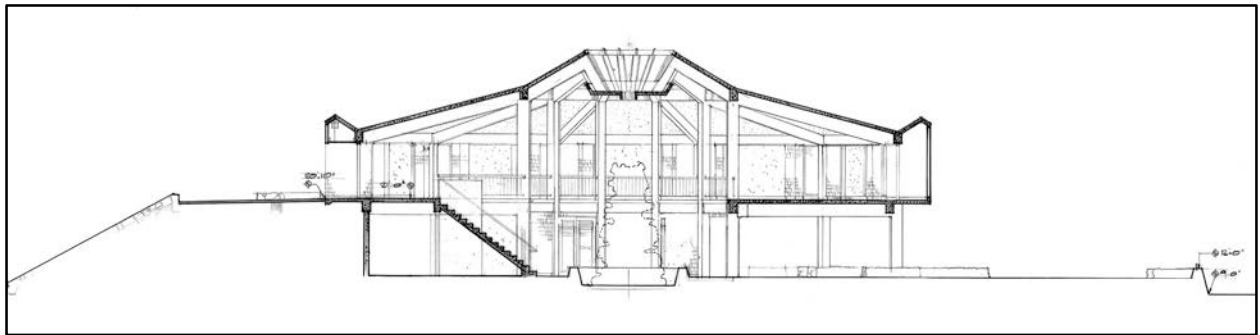


Fig. 17b. Cut-away side view showing interior with central rock waterfall.

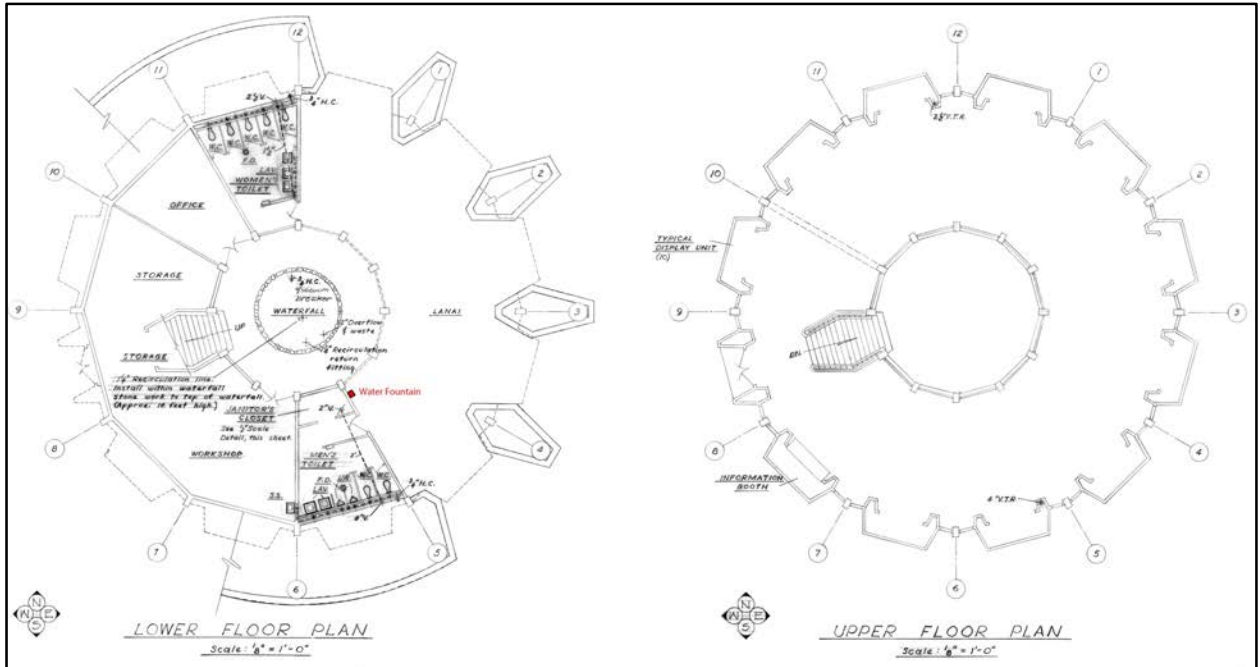
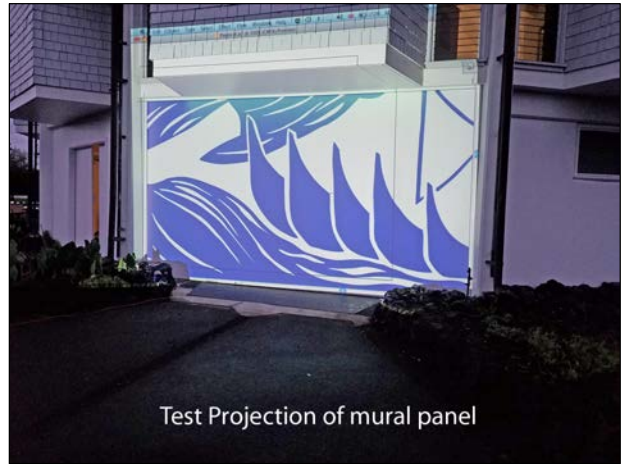


Fig. 17c. Floor plan of the 2-story building with lower floor (left) and upper floor (right). Existing water fountain is located on wall outside the Men's restroom on the lower floor.



Framing of lānai doors on lower floor.



Sample of artwork on the new doors.

**Potential Effects to Significant Historic Properties:** Installation of the wall mounted water bottle filling station will replace the existing water fountain within the Wailoa Center building where there is an existing concrete slab and waterlines. All of the previously recorded historic properties are at sufficient distances from the APE and can be avoided during installation and project staging. The station is consistent with the existing use of the Center and will not impact the architectural character of the building.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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## HĀ‘ENA STATE PARK

### Hā‘ena, Halele‘a, Kaua‘i

One water bottle filling station is proposed in the developed area of Hā‘ena State Park which corresponds to the end of Kūhiō Highway and the trailhead for the Kalalau Trail (TMK: 5-9-008:001) (Fig. 18). The station will replace an existing water fountain at the comfort station. Access to the site is along a park service road off Kūhiō Highway.

**Park Overview:** The 62-acre State park was established in 1977 for recreational purposes, including ocean recreation, picnicking, and hiking along the Nāpali Coast. However, the park also consists of an extension system of lo‘i kalo that was irrigated with water diverted by ‘auwai from Limahuli Stream. This fieldsystem was in operation into the 1960s but became overgrown with false kamani and Java plum trees upon abandonment. Within the park boundaries but on a parcel owned by the County of Kaua‘i is the hula complex that consists of Kauluapaoa Heiau, Keahualaka (hula platform). These cultural and archaeological sites have limited park development to a small area at the end of the road consisting of a comfort station, outdoor shower, picnic table, and paved walkway. A replacement comfort station was constructed in 2008. A recently completed master plan for the park calls for a new parking lot, new paths and walkways from the parking lot to various points along the shoreline, and a small orientation center.

**Project Description:** The water bottle filling station will replace the existing water fountain on the front side of the comfort station where there is an existing concrete slab. Limited ground disturbance or excavation will be required for the installation.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the footprint of the existing concrete slab fronting the comfort station and within an area of approximately 100 sq. feet (9 sq. meters) (Fig. 19). Access to the site is along the existing paved roadway.

**Previous Archaeology:** The complex of irrigated terraces and pond fields (lo‘i kalo) which cover a major portion of the park were mapped in 1971-1972 (Earle 1978). In 1977, Archeological Research Center Hawaii expanded the archaeological survey to identify additional archaeological resources and assist with defining areas for facility development. Newly identified surface features located during the survey were mapped and data were collected from 12 excavated trenches, 10 test pits, 26 cores, and 12 profiles selected along the wave-cut face of the sand dunes (Griffin et. al. 1977). In 1978, five sections of the dune face were excavated and recorded in detail. In addition, the area designated as the location for a comfort station and parking lot was tested with 47 one-meter units and four half-meter units (Hammatt et. al. 1978). The second study by the University of Hawaii and University of Illinois involved excavations along the back-slope of the coastal sand dunes near the outlet of Limahuli Stream (Riley and Clark 1979).

Subsequent archaeological work was conducted in conjunction with park improvement projects and resource management. A house platform was mapped and tested in 1980 after it was damaged during a waterline installation (Yent 1980). The 1988 installation of a second cesspool for the comfort station was monitored but no intact cultural deposits or features were exposed. In 1999, a 4.4 acre section of the irrigated field system was inventoried in preparation for restoration and cultivation of kalo within the lo‘i (Major and Carpenter 2001). A total of 42 pond fields and associated ‘auwai (ditch) were mapped and a series of test units, stratigraphic trenches, backhoe trenches and shovel probes were dug throughout the system to collect data to establish the age of the system and identify development sequences.



Fig. 18. Hā'ena State Park and APE at the end of Kūhiō Highway (USGS, Haena Quad. 1983).



Hā'ena comfort station built in 2008 with water fountain in the front and outdoor shower to the side.

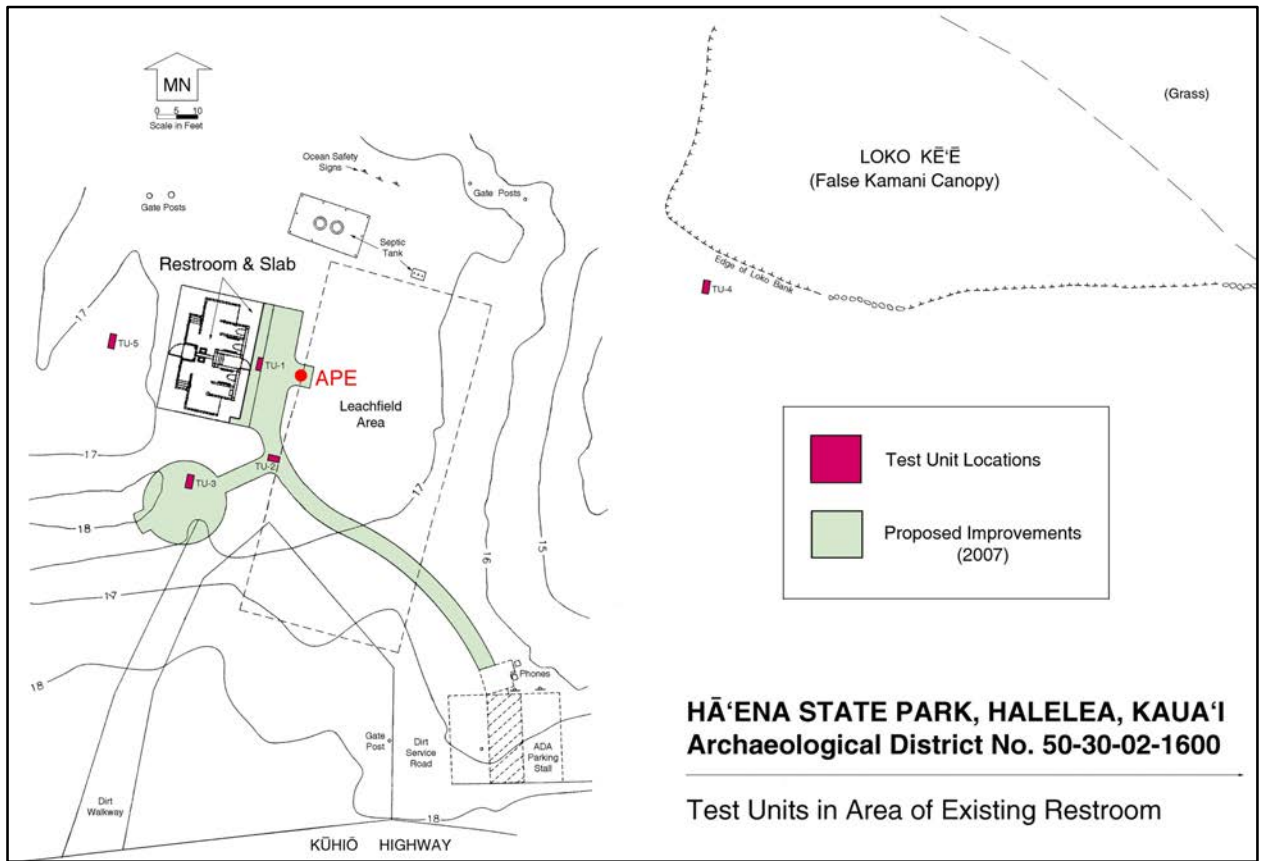


Fig. 19. APE corresponds to existing concrete slab of the comfort station where previous archaeological testing occurred in 2007 for the replacement restroom and other improvements.

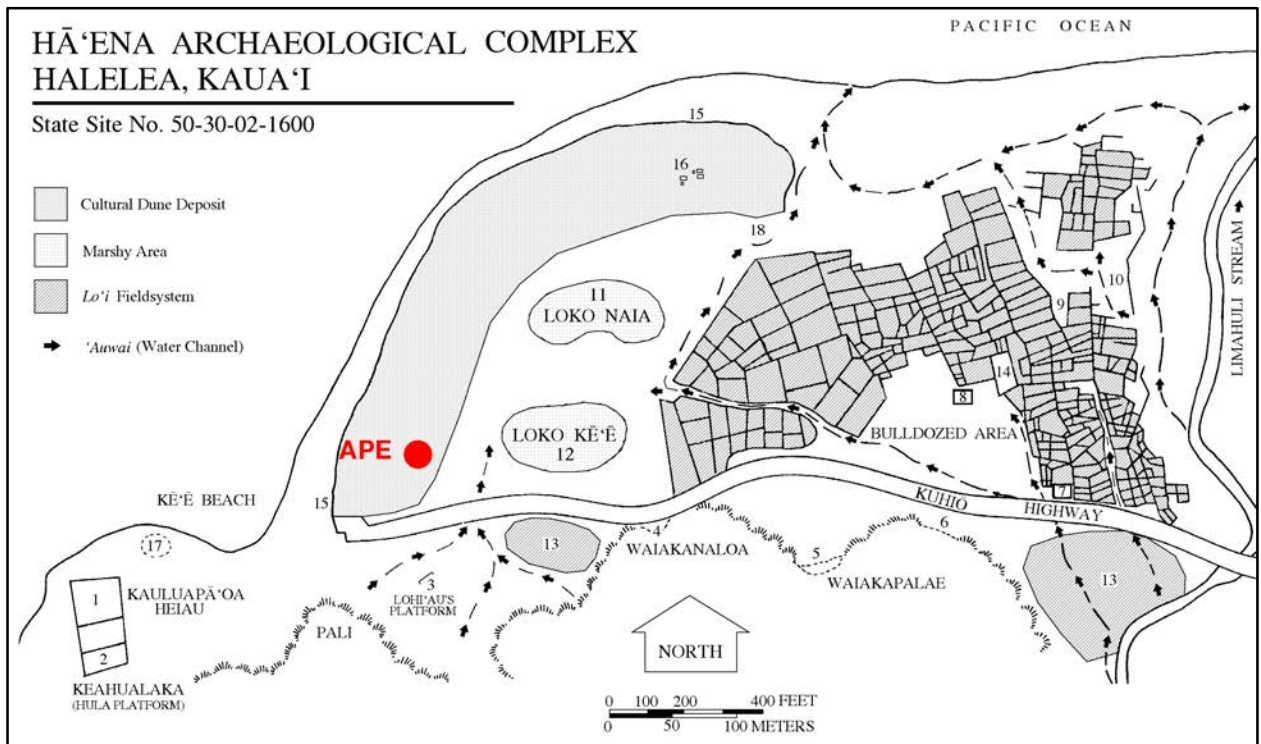


Fig. 20. APE is within Feature 15 of the Hā'ena Archaeological Complex (SIHP 50-30-02-1600).

In 2000, archaeological data recovery work was undertaken prior to installation of the new five-chamber leach field and septic tank located adjacent to the comfort station (Major and Carpenter, in prep.). Six trenches were excavated in the proposed footprint of the leach field and septic tank. The upper cultural layers had been badly disturbed by previous construction projects and vehicles but 75 features were identified at depths between 51cm and 100cm. A single pre-contact burial was uncovered 80-90cm below surface. Additional testing was conducted in 2007 for construction of a replacement comfort station with a wetland wastewater treatment system. A disturbed cultural deposit with shell midden and bird bone was found in the area where the water fountain was constructed. An archaeological monitoring plan was prepared for the project which described the testing (Fig. 19) (McEldowney and Yent 2007).

**Inventory of Historic Properties:** The Hā'ena Archaeological Complex (50-30-02-1600) corresponds to the park boundaries. The Complex consists of 18 features, including Kauluapaoa Heiau, Lohiau's hula platform (Keahualaka), Lohiau's house platform, two wet caves, housesites, an extensive agricultural fieldsystem, coastal dune deposits, and a historic cemetery (Fig. 20). The complex was listed on the Hawai'i and National Registers of Historic Places in 1984 and is significant for the diversity of cultural sites that reflect 1) a fishing and farming subsistence base, 2) important religious and legendary associations, and 3) a cultural sequence of occupation from the early pre-contact to post-contact periods.

The APE is within Feature 15, the coastal sand dune containing a series of cultural deposits. These subsurface cultural layers are marked by charcoal staining, shell and fish bone midden, fishing-related artifacts (fishhooks, sinkers), and features such as hearths, pits, pavements, and burials. In 1978 a single cultural deposit was found the area of the comfort station but subsequent testing in 2000 and 2007 indicated that this layer had been heavily disturbed by construction and vehicles.

**Potential Effects to Significant Historic Properties:** The probability of uncovering and disturbing any intact and significant cultural deposits or features, including burials or human skeletal remains, is extremely low. The area has been heavily disturbed by various construction related activities over the past 40 years, including construction of the comfort station in 1979, the installation of cesspools in 1979 and 1988, the installation of a septic tank and leachfield in 2002, and construction of the replacement comfort station and wetland in 2008.

Installation of the water bottle filling station will replace the existing water fountain where there is an existing concrete slab and waterlines. Any ground disturbance associated with the installation will be in areas that were previously tested and heavily altered when the comfort station was constructed.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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- 2007 *Archaeological Monitoring Plan for New Comfort Station and Other Improvements, Ha'ena State Park, Ha'ena, Hanalei (Halele'a), Kauai TMK: (4) 5-9-08: 001*. Prepared for DLNR, Division of State Parks.

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- 1980 *Preliminary Archaeological Testing of House 4, Ha'ena State Park, Halele'a, Kaua'i*. Prepared for and by DLNR, Division of State Parks.

- 1984 Haena Archaeological Complex (State Site No. 30-03-3201). National Register of Historic Places Register Form prepared by DLNR, Division of State Parks.

## **KŌKE‘E STATE PARK** **Waimea, Waimea, Kaua‘i**

One water bottle filling station is proposed in the developed area of Kōke‘e State Park between the Kōke‘e Lodge and the Kōke‘e Museum (TMK: 1-4-001:013) (Fig. 21). The station will be placed adjacent to an existing concrete slab or walkway for ADA compliance. The exact location will be determined relative to existing utilities and infrastructure in the area. Access to the site is along the park entry road and parking lot off Kōke‘e Road.

**Park Overview:** Kōke‘e State Park was established in 1952 and much of the park was built around Kanaloahuluhulu Meadow between 1947 and 1953 (Fig. 22a). The Kōke‘e Museum and the Kōke‘e Lodge were built as park facilities in the early 1950s with wood from the former Army Camp at Kōke‘e. The Park Headquarters building was constructed in 1954 for park purposes and is now used as office space and storage for State Parks staff. Also included within the developed park area is the Kōke‘e Civilian Conservation Corps (CCC) Camp that was constructed in 1935. Besides the central area, the park consists of hiking trails and the lookouts at Kalalau Valley and Pu‘u o Kila. Tent-camping, a picnic pavilion, and a comfort station are located along the north and eastern sides of Kanaloahuluhulu, a large grassed meadow. The ground surface of this meadow is water-logged and maintained as open space.

**Project Description:** The water bottle filling station will be installed where there is an existing concrete slab and near an existing waterline. Limited ground disturbance or excavation will be required for the installation.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the existing concrete slab between the Kōke‘e Lodge and the Kōke‘e Museum (Fig. 22b). The APE is approximately 100 sq. feet (9 sq. meters). Access to the site is along the existing paved roadway and parking lot.

**Previous Archaeology:** Prior archaeological recordation and monitoring have only occurred in the area of the CCC Camp. An archaeological inventory survey of the CCC Camp was conducted in 1995 (Yent 1995). This survey provided a historical overview of the camp at Kōke‘e and an inventory of the existing buildings and related features. Subsequent projects at the CCC Camp have involved an Archaeological Inventory Survey and Monitoring Plan for the new wastewater system for the CCC Camp (Monahan and Powell 2005), an archaeological monitoring plan for the removal of the Monterey Cypress trees (Yent 2009), and NHPA Section 106 when another Cypress tree fell on the garage building to the south of the quadrangle in 2007 (Letter from State Parks to Department of Civil Defense, July 25, 2008). A current project addresses road repaving within the park complex that includes the CCC Camp, Kōke‘e Lodge, and Kōke‘e Museum (§6E-8 Memo from State Parks to SHPD, April 27, 2018; LOG No. 2018.01041; review pending).

**Inventory of Historic Properties:** Several buildings in the vicinity of the APE are over 50 years old and considered historic properties in the park:

**CCC Camp.** This camp was built in 1935 and listed on the Hawai‘i and National Registers of Historic Places in 1996 (SIHP #50-30-06-9392) because it reflects the vernacular or “rustic” architecture of this period which influenced park architecture in Hawai‘i (significance criteria A and C). It consists of 11 buildings constructed with board and batten walls and corrugated metal roofs situated around a grassed quadrangle.

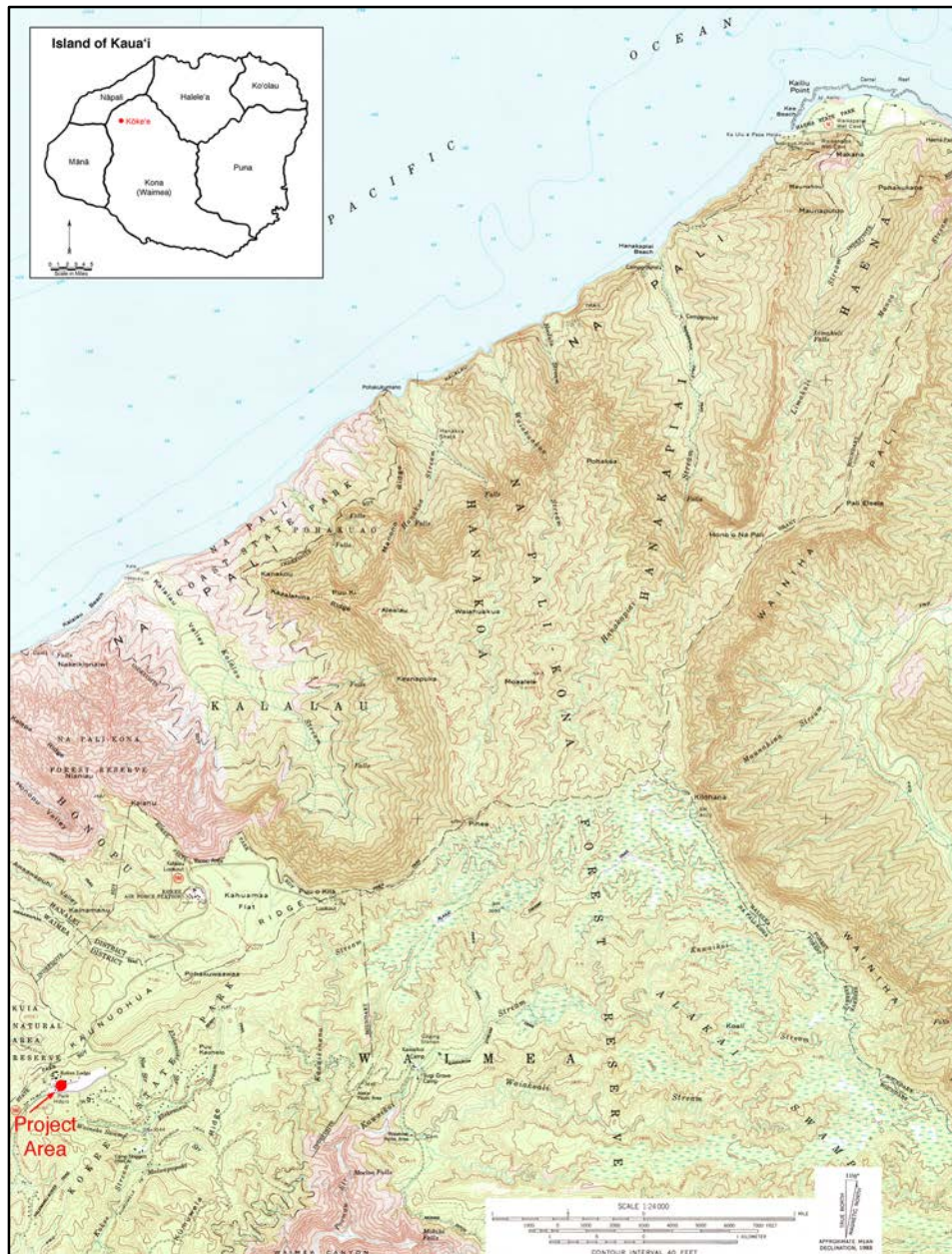


Fig. 21. APE denoted as the project area adjacent to Kōke'e Lodge (USGS, Haena Quad. 1983).



Kōke'e Lodge Building with entry ramp.



Asphalt pavement between Museum and Lodge.

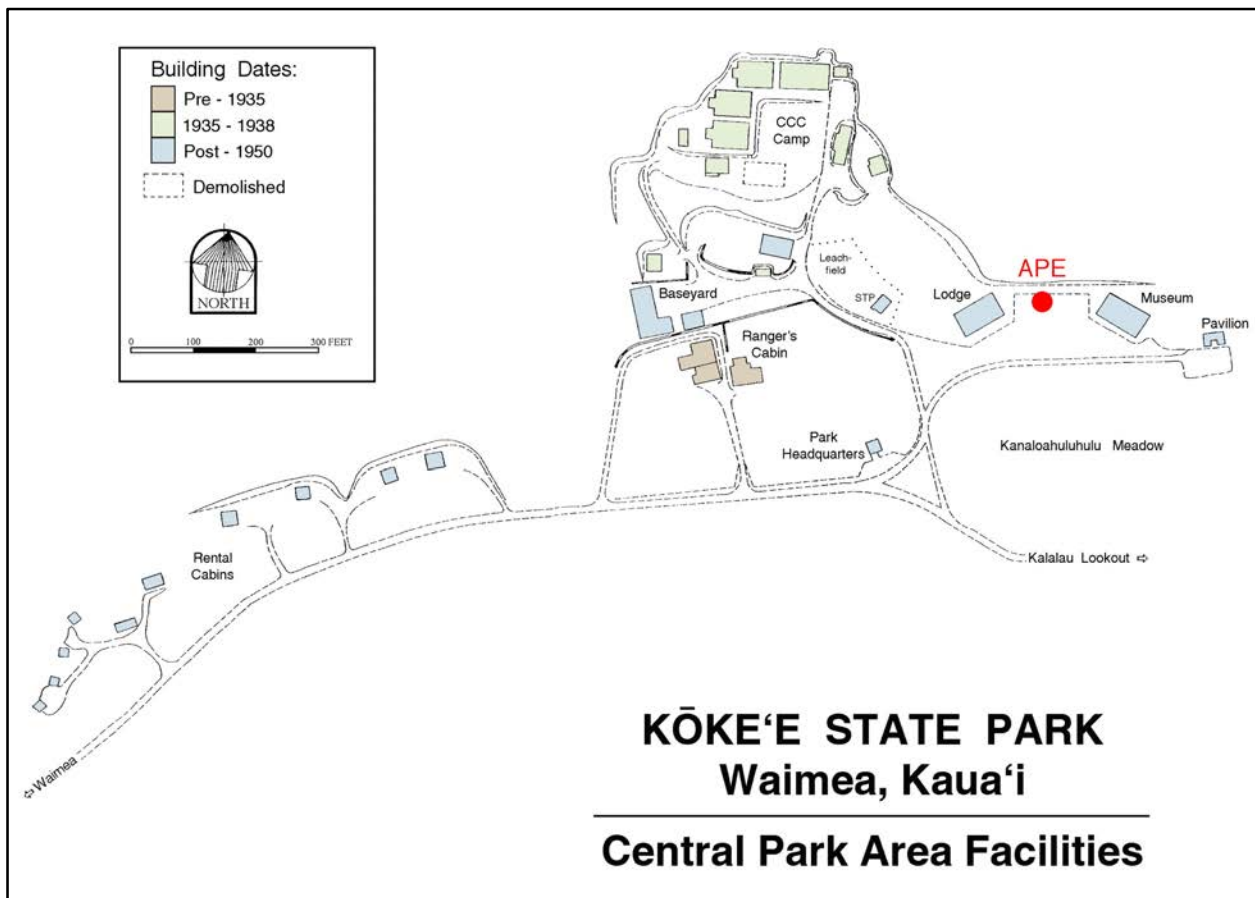


Fig. 22a. APE relative to existing park facilities within the central area of Kōke'e State Park.

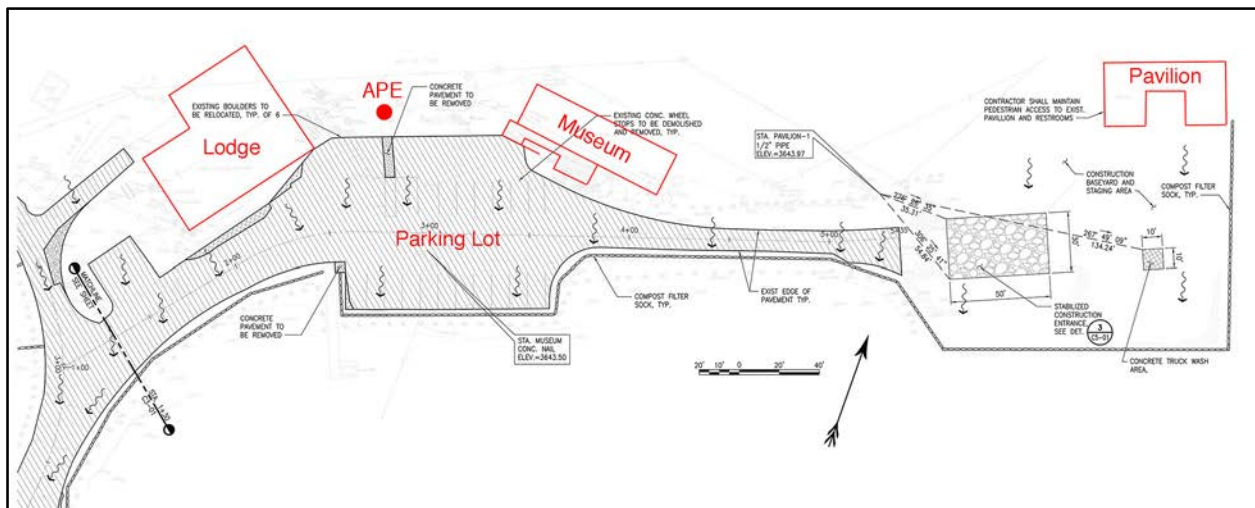


Fig. 22b. Detail of proposed location for new water bottle filling station on concrete surface between the Lodge and Museum. Location may need to be adjusted based on waterlines and other utilities.

Kōke'e Lodge. The wooden building on post and pier foundation included a rock and mortar chimney, a wooden porch with 'ōhi'a posts and railing along the front, and a pitched corrugated metal roof when constructed in the early 1950s. Changes were made to the Lodge in 1964 when the porch was enclosed and an extension was added onto the eastern end. Large picture windows were incorporated into the porch and the entry was moved to the new eastern end of the building. The significant changes to the building have impacted the architectural integrity of this structure.

Kōkeʻe Museum. The Museum building serves as the visitor center for the park and is located about 75 feet to the east of the Lodge. Also built in the early 1950s, the wooden building has post and pier foundation, board and batten walls, and a corrugated metal roof. The front porch covers about half of the front of the building and has an extended roof with ʻōhiʻa posts. The building was enlarged with an addition on the eastern end in 1990. At this time, the ramp was also built onto the front of the building. The building is significant under criterion A because it is representative of early park development in a forest setting and criterion C because it is a good example of park architecture from the 1950s.

**Potential Effects to Significant Historic Properties:** Installation of the water bottle filling station will occur where there is an existing asphalt/concrete surface and waterlines. Any ground disturbance associated with the installation will be in areas that were altered when Kōkeʻe Lodge and Museum were constructed and the underground utilities were installed. All of the previously recorded historic properties are at sufficient distances from the APE and can be avoided during installation and project staging activities. The station is consistent with the existing use of the developed park area and will not impact the architectural character of the buildings.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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## **WAILUA RIVER STATE PARK**

### **Wailua, Puna, Kaua‘i**

Water bottle filling stations are proposed at 2 locations within the park – Marina Building (TMK: 3-9-004:010) and ‘Ōpaeka‘a Falls Lookout (TMK: 4-2-003:008) (Fig. 23). The stations will replace existing water fountains. Access to both sites is from paved roads and parking lots.

**Park Overview:** Wailua River was designated a State Park in recognition of the scenic and wilderness character of the area that also includes historical, archaeological, and geological features of special significance to Kaua‘i and the State. Wailua River State Park was initially established in 1954 but included only the Fern Grotto. Shortly afterwards in 1956, the Wailua River Reserve Area was established. In 1962, the Lydate Area, the Kaumuali‘i Area, the Marina Area, and the Poliahu Area were added to the park. The park acreage now totals 1,092 acres. The Marina on the south side of the river was developed in 1962 with boat piers for tour boats, a boat ramp, restrooms, parking areas, a ticket office and shops building, and a restaurant building. ‘Ōpaeka‘a Falls Lookout is located about a mile up Kuamo‘o Road on the south side of the river.

**Project Description:** At both the Marina and ‘Ōpaeka‘a Falls Lookout, the water bottle filling station will replace an existing wall mounted drinking fountain. The installation will utilize existing waterlines with limited ground disturbance or excavation required for the installation.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the existing Marina Building that houses the ticket offices for the Fern Grotto boat tours, restrooms and several shops (Fig. 24). Access to the site is along the existing paved Marina Road and parking lot. The APE at ‘Ōpaeka‘a Falls Lookout corresponds to the existing comfort station building built in 2008.

**Previous Archaeology:** The archaeology of Wailua began when Thrum recorded five (5) heiau in Wailua - Malae, Poliahu, Holoholokū, Hikinaakalā, and Kukui (Thrum 1906a). Wendell Bennett’s survey in the late 1920s was more comprehensive but still focused on the heiau in the Wailua area (Bennett 1931). No archaeological sites were previously documented in the area of the Marina and no archaeology was conducted prior to the construction of the Marina between 1964 and 1967.

An archaeological survey of the Wailua River State Park area was conducted in 1968 by State Parks Archaeologist Francis Ching. He located a total of 58 sites, including agricultural terraces, ‘auwai, possible housesites, poi and rice mills, and legendary locations. State Parks archaeologists have conducted various surveys and excavations at the heiau sites in conjunction with resource management, parking planning, and interpretation. An archaeological survey was conducted along the North Fork of the Wailua River in 1997 (Carpenter and Yent 1997). No archaeology was conducted for the construction of facilities at ‘Ōpaeka‘a Falls Lookout in 1964 or 2008.

**Inventory of Historic Properties.** The Marina was completed and dedicated in 1967 making these structures over 50 years old. The moorage basin at the Marina provides space for 16 large tour boats with access piers for the loading of passengers. A launching ramp with smaller piers provides berthing space for up to 20 private recreational craft at the eastern end of the basin. The twin buildings adjacent to the piers and parking lots were designed to provide concession space for boat tickets, gift shops, and a large restaurant. These buildings are separated from the lower pier level with stone retaining walls. A review of photographs from the State Parks’ files suggests that modifications to the two buildings has been minimal and the original architectural elements are still evident on both the interior and exterior of the buildings.



Fig. 23. APE at Marina and 'Ōpaeka'a Falls Lookout, Wailua River State Park (USGS, Kapaa Quad. 1996).

The 'Ōpaeka'a Falls Lookout is approximately 700 feet from Poliahu Heiau and on the opposite side of Kuamo'o Road. Poliahu Heiau is one of 5 discontinuous properties comprising the Wailua Complex of Heiau that was recognized as a National Historic Landmark in 1962 and listed on the Hawai'i Register of Historic Places in 1981 (Site No. 50-30-08-509). The Wailua Complex of Heiau is significant under criteria A, B, C, and D based on its function as a residence for ali'i nui (paramount chiefs) and an administrative and religious center for these ali'i nui on Kaua'i (1988).

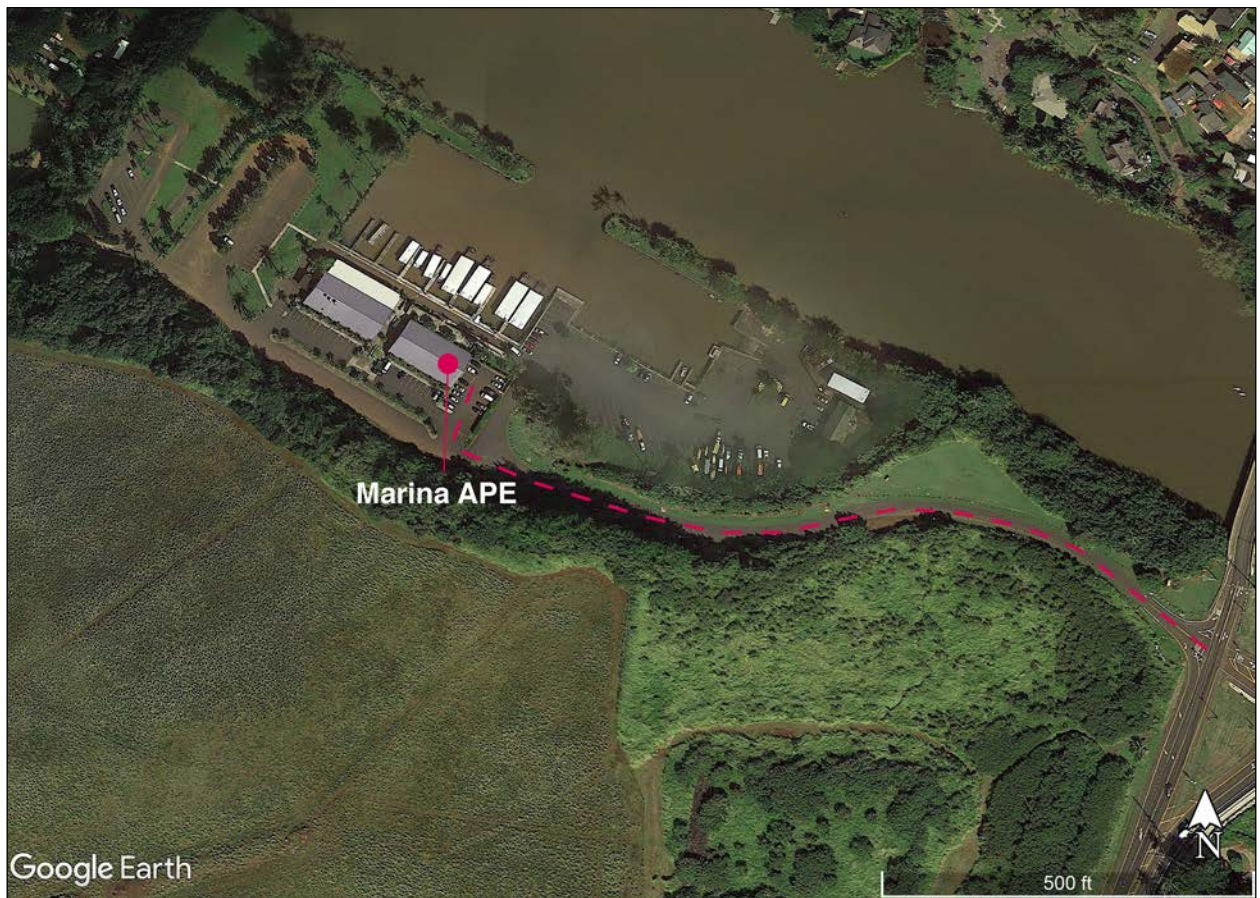


Fig. 24a. APE at the Marina Building with access along park entry road from Kūhiō Highway.



Fig. 24b. APE at the comfort station adjacent to parking area at 'Ōpaeka'a Falls Lookout.



Entry into the Marina Building with ticket offices, restrooms, and shops.



Location of existing water fountain by the ticket office and restrooms.



'Ōpaeka'a Falls Lookout area with parking lot and restroom.



Detail of comfort station built in 2008 with wall-mounted water fountain.



Marina exterior entry, 1970.



Marina interior with shops and waiting area, 1981.

**Potential Effects to Significant Historic Properties:** Installation of the water bottle filling station at the Marina will replace the existing water fountain adjacent to the restrooms. The station is consistent with the existing use of the Marina and will not impact the architectural character of the building. The station at the ‘Ōpaeka‘a Falls Lookout will also be a replacement on the building constructed in 2008. Poliahu Heiau is at a sufficient distance from the APE and can be avoided during installation and project staging activities.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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## **WAI‘ĀNAPANAPA STATE PARK**

### **Honokalani, Hāna, Maui**

One water bottle filling station is proposed at the existing comfort station located in the developed portion of Wai‘ānapanapa State Park (TMK: 1-3-005:009) (Fig. 27). Access to the site is along the park entry road.

**Park Overview:** Wai‘ānapanapa State Park consists of 105 acres along the Hāna shoreline of northeastern Maui. The park is about 0.6 mile east of the Hāna Airport and about 2 miles west of Hāna Town. The lands of Wai‘ānapanapa SP were acquired in 1968 from Hāna Ranch based on the scenic values of this coastline and the black sand beach of Pailoa Bay. The park site corresponds to the former Honokalani Village, which was a sizable settlement in the 1930s. The developed park encompasses about 18 acres and includes paved roadways and parking lots, a comfort station, resident caretaker’s cabin, 12 rental cabins, a campground, picnic areas, and paved walking paths. Within the park are 3 privately owned cemeteries (1920s to the present).

**Project Description:** The water bottle filling station will replace the existing free-standing water fountain located on a concrete slab adjacent to the comfort station and outdoor shower. The installation will utilize existing waterlines.

**Area of Potential Effect (APE):** The APE for the water bottle filling stations corresponds to the area of the existing comfort station and measures approximately 100 sq. feet (9 sq. meters). Access to the site is a paved park road and dirt service roads through the camper parking lot (Fig. 28).

**Previous Archaeology:** A total of 33 sites comprise the archaeological complex based on the 1969 archaeological survey conducted for the park (Pearson 1970) and the 1984 survey of the land between the park and the Hāna Airport (Kennedy 1984). In the central portion of the complex and within the developed park is Honokalani Village, which refers to the walled enclosures that are believed to be historic (post-contact) in age. A more comprehensive survey of the entire park area was conducted in 2002 when a total of 59 sites with 119 features were inventoried (Haun et al. 2003). Sites include enclosures (29), walls (14), cairns (10), terraces (10), pavements (8), platforms (6), trails (5), cemeteries (3), caves, mounds, alignments, uprights, and overhangs. This survey documented the impact to the sites and rock walls in the area of Honokalani Village around Pailoa Bay by park construction between 1970 and 2000.

In 2017, State Parks conducted a project to reconstruct the shoreline walkway in the park with some changes in the routing of the path to accommodate the private cemeteries. NHPA Section 106 consultation was conducted because the project included a federal grant from the Land and Water Conservation Fund program (Letter to SHPD from NPS dated July 26, 2016). The response from SHPD dated October 31, 2016 recommended an Archaeological Monitoring Plan be prepared for the undertaking (Log No. 2016.01845; Doc. No. 1608JA04). An Archaeological Monitoring and Preservation Plan was prepared and submitted to SHPD (March 1, 2017). A response from SHPD is still pending.

**Inventory of Historic Properties:** The APE is within the former Honokalani Village and specifically, Site 5395 at the western end of the developed park (Fig. 29). Site 5395 is a complex of interconnected stacked ‘a‘ā rock walls that form 4 enclosures of the former Honokalani Village (Features A-D). This complex is just west of Site 5392 and south (mauka) of Cemeteries A (5396) and B (5397). No intact cultural deposits have been identified in test units excavated in the area.



Fig. 27. Location of the APE within Wai'anapanapa State Park (USGS, Hana Quad. 1992).



Comfort Station with water fountain and shower.



Service road through Site 5395, Feature A wall.

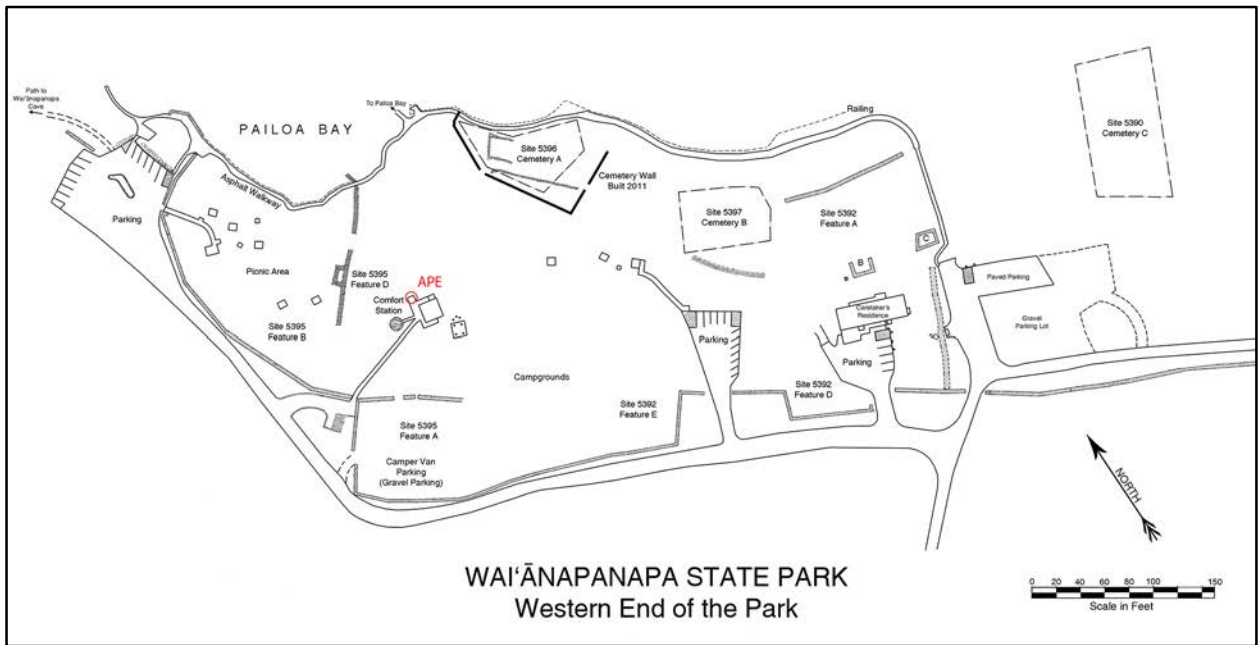


Fig. 28. APE at the comfort station within the developed western end of Wai'anapanapa State Park.

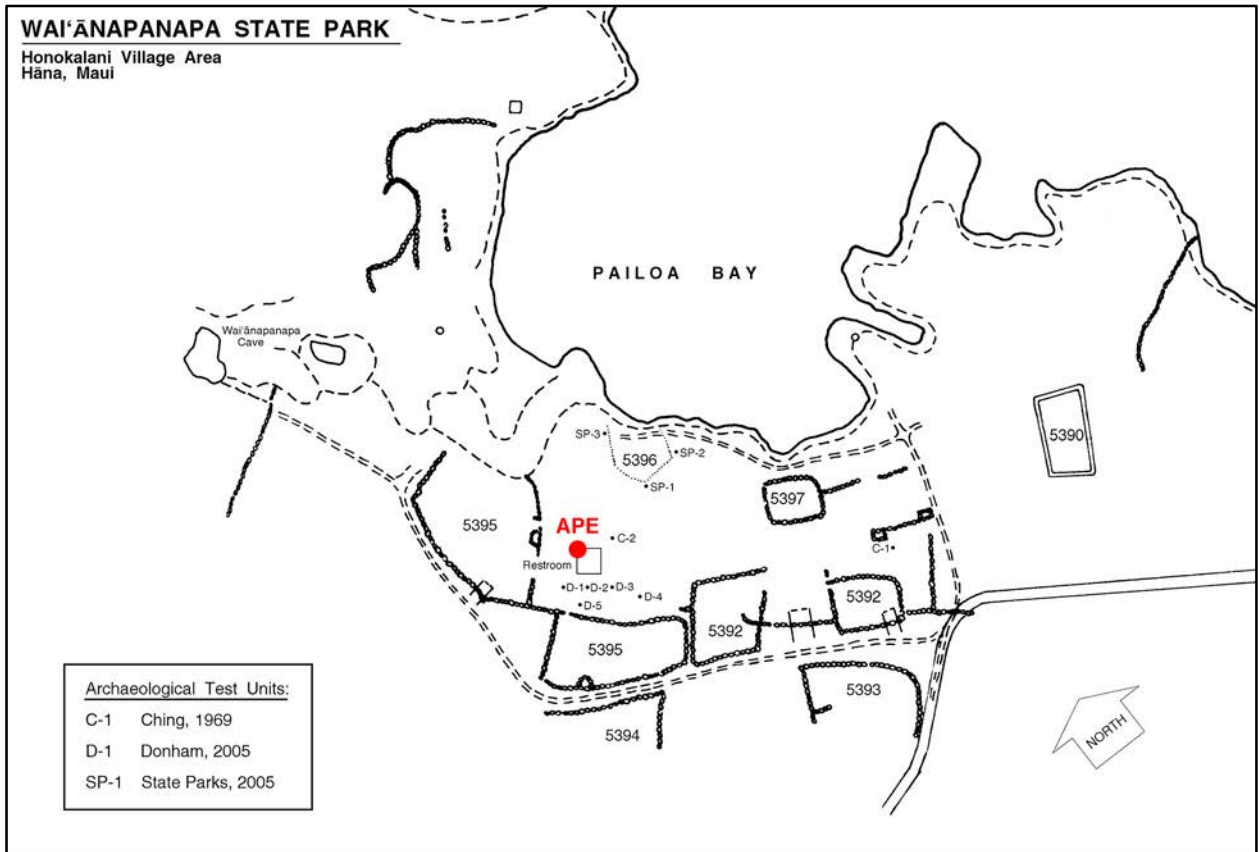


Fig. 29. APE relative to the archaeological sites and test units within western end of Wai'anapanapa SP.

**Potential Effect on Significant Historic Properties:** The Wai‘ānapanapa Archaeological Complex (SIHP #50-50-13-1230) was listed on the Hawai‘i and National Registers of Historic Places in 1985. The complex encompasses approximately 175 acres, including most of Wai‘ānapanapa SP and the State-owned land between the park and the Hāna Airport (Fig. 30). The cultural significance of this complex is related to the diversity of pre-contact archaeological sites, including heiau, cave shelters, trails, ahu, grave cairns, enclosures, pictographs, walled shelters, boundary walls, platforms, and terraces (Yent 1985). The Site 5395 complex has been determined to be significant under Criterion “D” because it is likely to yield information important to the history of Honokalani Village (Haun et al. 2003: 130).

Installation of the water bottle filling station will replace the existing water fountain where there is an existing concrete slab and waterlines. Any ground disturbance associated with the installation will be in areas that were previously tested and heavily altered when the comfort station was constructed. The features associated with Site 5395 are a sufficient distance from the comfort station so that they can be avoided during the installation.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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## AHUPUA‘A O KAHANA STATE PARK

### Kahana, Ko‘olauloa, O‘ahu

One water bottle filling station is proposed at the existing comfort station located in the developed portion of Ahupua‘a O Kahana State Park (TMK: 5-2-002:001) (Fig. 30). Access to the site is along the park entry road.

**Park Overview:** The State acquired the 5,228 acres encompassing Kahana Valley and the ahupua‘a of Kahana in 1969 for park purposes. Early park development focused on the makai portion where an orientation center, 2 comfort stations, parking lots, and a paved entry road were constructed. Campsites were expanded when Kahana beach was transferred to the State from the County. The park is unique as it includes two residential areas where 31 residential leases were issued in 1993 to families living in Kahana at the time of acquisition. Kahana is popular for hiking and hunting in the mauka portion of the valley.

**Project Description:** The water bottle filling station will be a free-standing water fountain located on a concrete slab adjacent to the comfort station. The installation will utilize existing waterlines. The mauka comfort station was selected because it is where most hikers stop to get information about the trails before their hike.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the area of the existing comfort station, Orientation Center, and paved walkways. The APE will measure approximately 100 sq. feet (9 sq. meters). Access to the site is a paved park road (Fig. 31).

**Previous Archaeology:** An archaeological study suggests that Kahana was a very early settlement on windward O‘ahu, perhaps as early as B.C. 30 (Beggerly, 1990). At the time of initial settlement, it is believed that the bay extended further inland and much of the occupation occurred along the edge of the bay and the lower slopes in the lower portion of the valley. It has been proposed that these early inhabitants practiced slash and burn agriculture that exposed the slopes to severe erosion and resulted in siltation of the embayment. This may have resulted in extreme environmental degradation that prompted these inhabitants to abandon Kahana. Inhabitants returned to Kahana circa A.D. 1400 and proceeded to clear the reforested valley and cultivate *kalo* along the streams and the base of the western slopes. In the post-contact period, the lower valley is often described as barren with limited areas of cultivation (Chamberlain, 1826). In the 1930s, Handy reported that the valley floor was in *kalo* cultivation (Handy, 1940: 93).

An archaeological survey of Kahana was conducted in 1971 (Fig. 33) (Hommon and Barrera 1971). This survey located 114 sites, including agricultural terraces, *‘auwai*, enclosures, fishponds, possible housesites, religious structures, and burials. Based on these findings, a population estimate of 1,000 has been proposed for Kahana at the time of Western contact. Huilua Fishpond (Site No. 50-80-06-301) is located on the east side of Kahana Bay (Fig. 32). Two other fishponds have been recorded along Kahana Stream and mauka of Kamehameha Highway. Kapa‘ele‘ele ko‘a (Site No. 50-80-06-302) and Keaniani Kilo are located on the west side of the bay. The closest site documented during the 1971 survey is Site No. 1687 (stone lined *‘auwai*). Historic housesites existed around the comfort station location until families moved into their subdivided lots within the residential areas.

**Inventory of Historic Properties:** Archaeological surveys have not indicated the presence of sites within the APE.



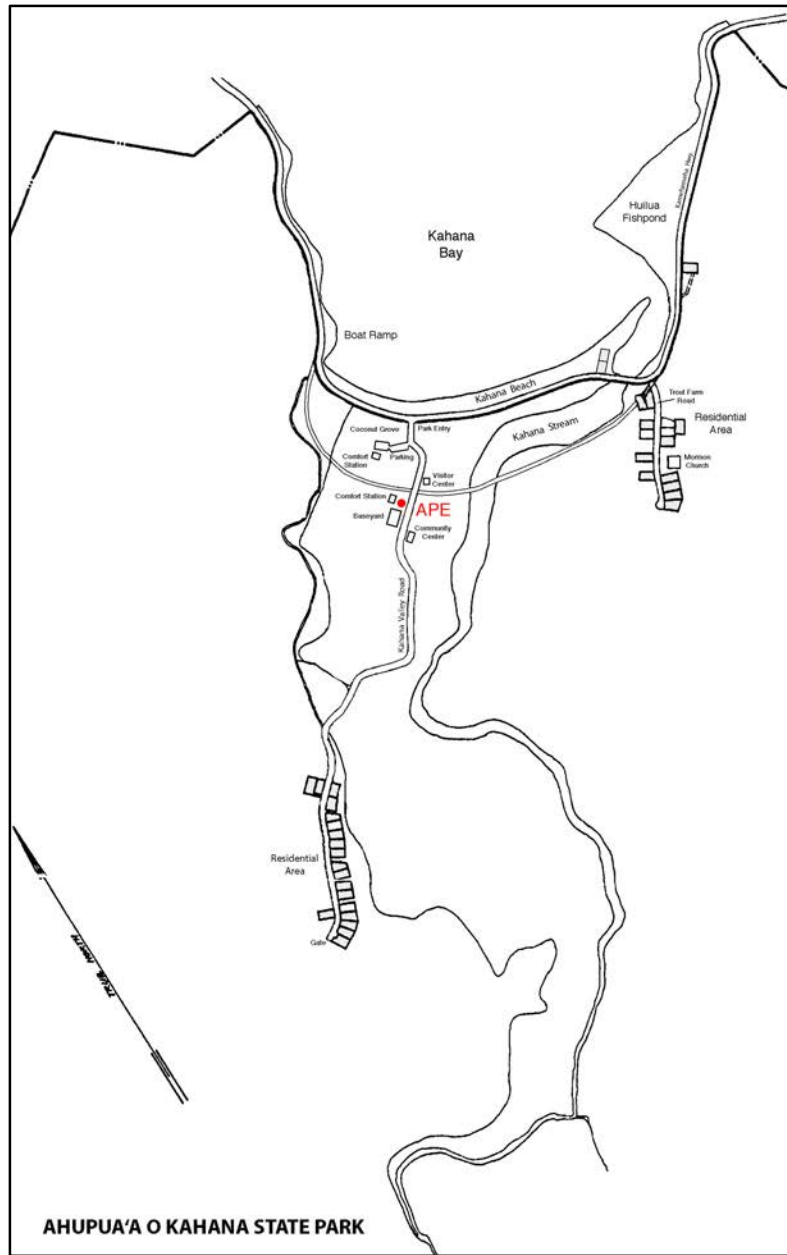


Fig. 31. APE relative to park facilities and residential areas.

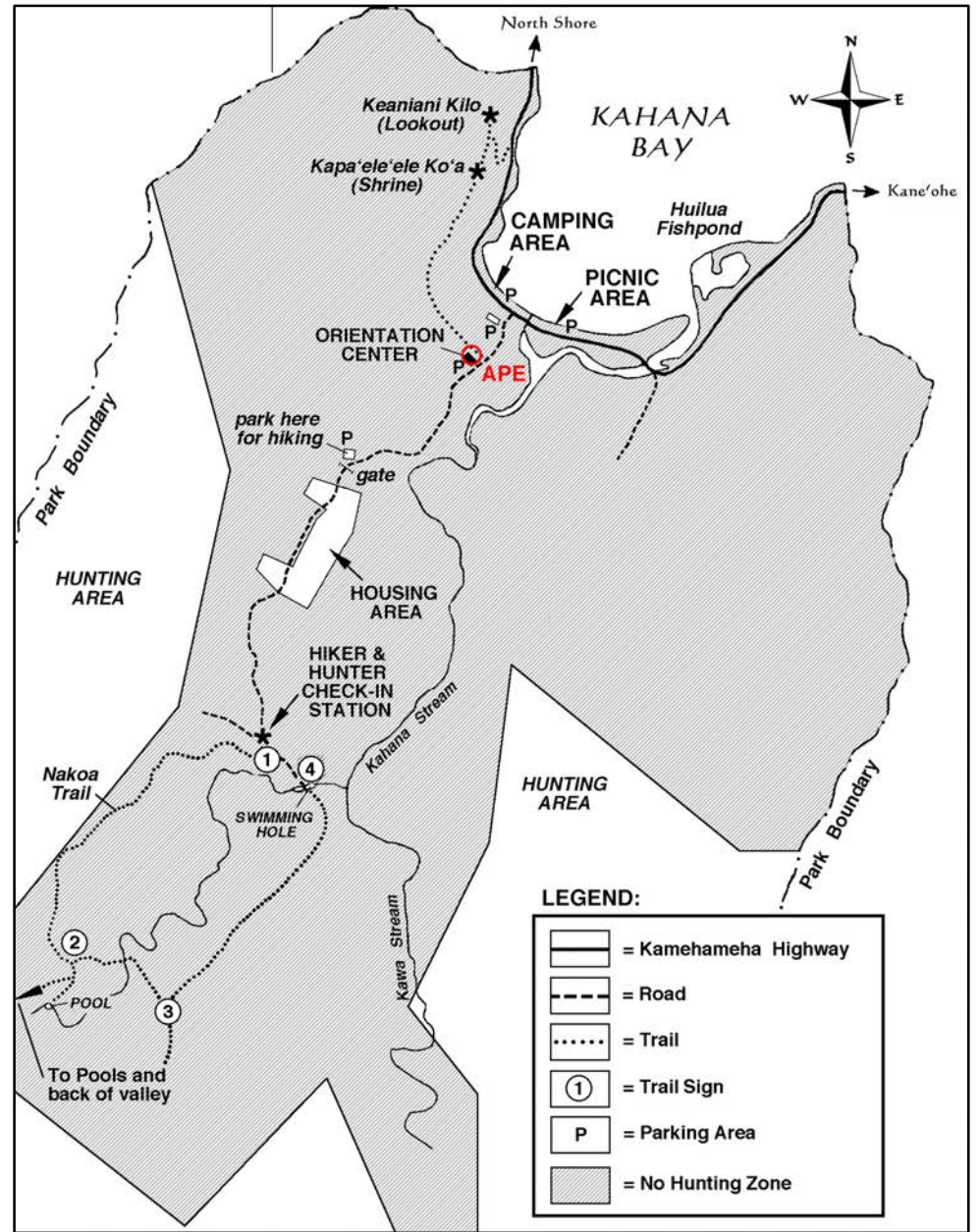


Fig. 32. APE in makai portion of the park with historic properties noted around the bay.

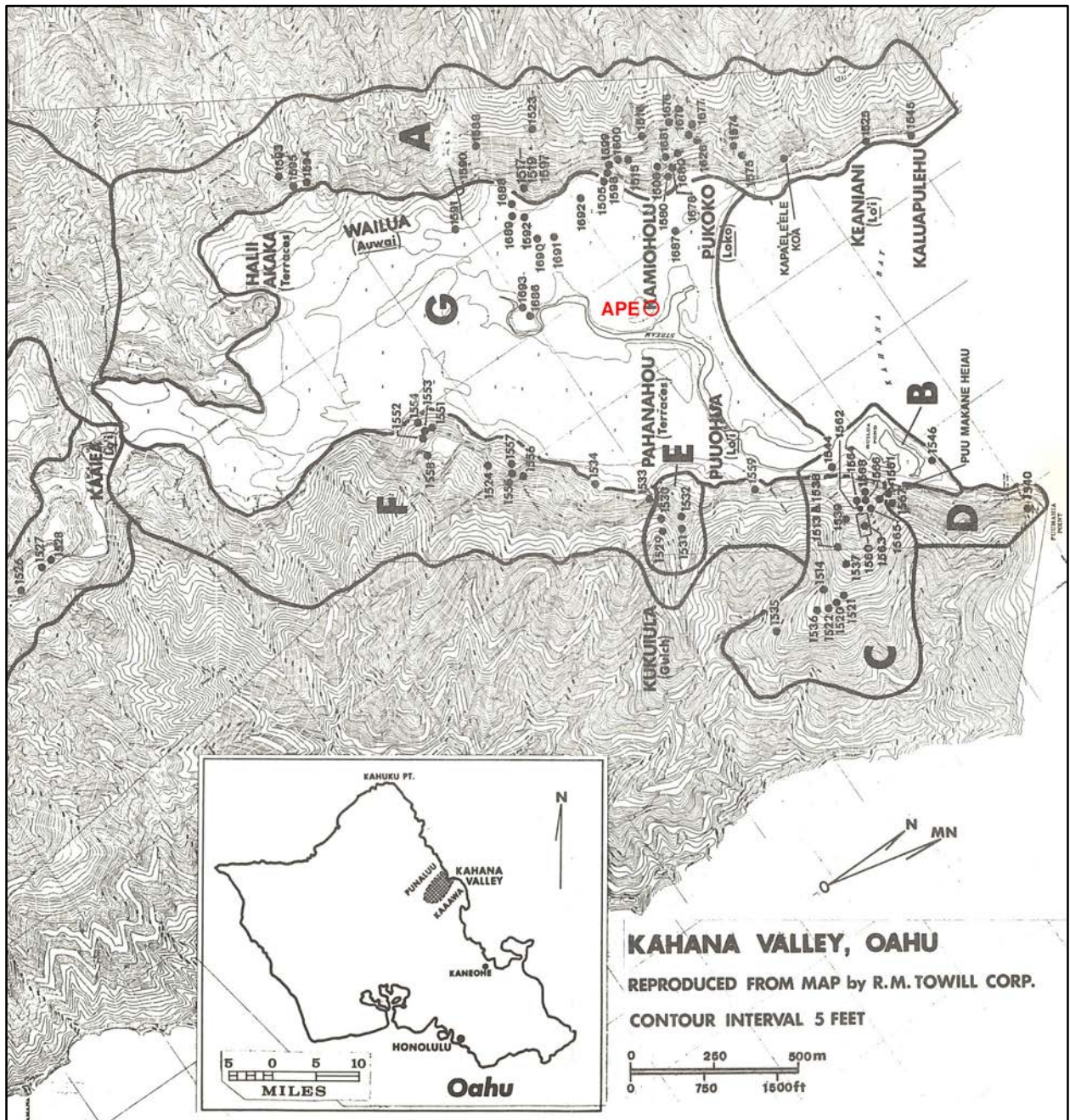


Fig. 33. Archaeological sites recorded during 1971 survey of Kahana (Hommon and Barrera 1971).

**Potential Effect on Significant Historic Properties:** Huilua Fishpond was designated a National Historic Landmark in 1966 and is listed on both the Hawai‘i and National Registers of Historic Places. This site, as well as the other sites around Kahana Bay are not in the vicinity of the APE.

Installation of the water bottle filling station will occur where there is an existing concrete slab and waterlines. Any ground disturbance associated with the installation will be in areas that were heavily altered when the comfort station was constructed. There are no known archaeological or cultural sites within the APE.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.



Fig. 34. Location of APE adjacent to the comfort station and Orientation Center along Kahana Valley Road.

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**MĀLAEKAHANA STATE RECREATION AREA**  
**KALANAI SECTION**  
**Mālaekahana, Ko‘olauloa, O‘ahu**

One water bottle filling station is proposed at the existing comfort station located in the developed Kalanai Section of Mālaekahana State Recreation Area (SRA) (TMK: 5-6-001:004) (Fig. 35). Access to the site is along the park entry road and service roads.

**Park Overview:** Mālaekahana SRA consists of 3 sections along Mālaekahana Bay on the northeastern shore of O‘ahu between Lā‘ie and Kahuku. The southern end at Kalanai Point was acquired in 1977 for beach and ocean recreation. Park development of the 74 acres in the early 1980s consisted of 2 comfort stations, a campground between the 2 comfort stations, an entry road and parking lots. The park consists of a coastal dune system and the park area between the dune and Kamehameha Highway has been altered for sugarcane cultivation in the 1890s and truck farming and residential construction in the 1950s.

**Project Description:** The existing water fountain is mounted on the wall of comfort station A located in the central portion of the park. The water bottle filling station may be a free-standing water fountain located on the concrete slab adjacent to the comfort station because of the rock façade on the wall of the comfort station. The installation will utilize existing waterlines. This comfort station was selected because it is more centrally located in the park.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the area of the existing comfort station and adjacent pavement, an area of approximately 100 sq. feet (9 sq. meters). Access to the site is on park roads (Fig. 36).

**Previous Archaeology:** McAllister identified a fishing shrine (Site 274) near Kalanai Point during his archaeological survey of O‘ahu in the early 1930s (McAllister 1933). Extensive archaeological testing of the sand dune was conducted by State Parks archaeologists in the late 1970s prior to park development (Yent and Griffin 1980). These excavations recorded 3 pre-contact cultural deposits marked by marine midden (shell and fish bone), fishing and domestic implements, and charcoal-stained living surfaces. The cultural complex associated with the dune system was designated SIHP #50-80-02-2801 (Fig. 37) and consists of 6 areas (A-F) along the length of the dune system. One burial was discovered in Area A during the testing in the 1970s. Subsequent testing mauka of the dune was conducted in 1990 and 1996 in conjunction with a sewer system project at the comfort stations (Smith 1990; Carpenter 1996). No cultural deposits were found.

**Inventory of Historic Properties:** The ko‘a (Site 274) and Area E of Site 2801 are in the vicinity of the comfort station but both are outside the APE. Area E was previously disturbed by the construction of the comfort station.

**Potential Effect on Significant Historic Properties:** Installation of the water bottle filling station will occur where there is an existing concrete slab and waterlines. Any ground disturbance associated with the installation will be in areas that were heavily altered when the comfort station was constructed. The archaeological sites are a sufficient distance from the APE so that they can be avoided during the installation.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.



Fig. 35. Location of APE in the Kalanani Section of Malaekahana SRA (USGS, Kahuku Quad. 1998).



Comfort station within campground area A.



Comfort station A with wall-mounted water fountain.



Fig. 36. Location of Comfort Stations A and B, and the APE at Kalanai Point.

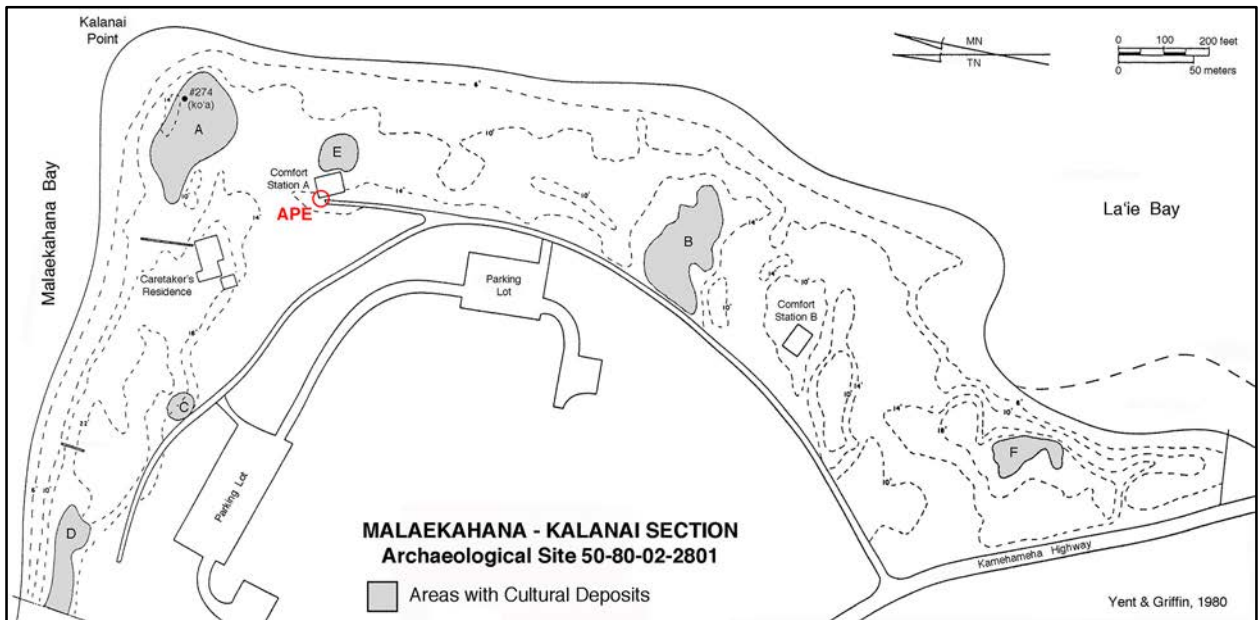


Fig. 37. Location of Site 274 (ko'a) and archaeologically sensitive areas A-F relative to the APE.

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## **DIAMOND HEAD STATE MONUMENT**

### **Waikīkī, Kona, O‘ahu**

Two water bottle filling stations are proposed at Diamond Head State Monument – one at the existing comfort station within the crater (TMK: 3-1-042:006) and the other will replace an existing water fountain along the Fort Ruger Pathway on the exterior of the crater (TMK: 3-1-042:010) (Fig. 38). Access to the sites are along the park roads.

**Park Overview:** Diamond Head State Monument consists of about 500 acres and encompasses both the interior of the crater and exterior slopes. Located along the southeastern shoreline of O‘ahu, this geological feature rises to 761 feet and is Hawai‘i’s most recognized natural landmark. The Monument was established in 1962 to protect the slopes and viewplanes of the crater which became important as urban and residential development expanded around the eastern and northern perimeter of the crater. The crater was open to the public in 1976 and park development included an entry road, parking lot, and comfort station. The historic 0.8-mile trail to the summit that was built between 1909-1911, is the main visitor attraction. Changes have been made to the trail for public safety with new trails added to provide alternative routes and reduce congestion at the summit. The Fort Ruger Pathway is an 0.8-mile linear path along the outer, northeastern slope of the crater that was completed in 2015. Picnic tables, benches, water fountains, and interpretive signs have been placed along the multi-purpose path.

**Project Description:** A second water bottle filling station will be installed at the comfort station within the crater utilizing existing water lines. The free-standing water fountain will be centrally located to accommodate park users at the picnic pavilion and trailhead. The station along the Fort Ruger Pathway will replace the existing water fountain at Millennium Peace Garden.

**Area of Potential Effect (APE):** The APE for the water bottle filling station in the crater corresponds to the area of the existing comfort station, picnic pavilion, and adjacent pavement (Fig. 36). The APE along the Fort Ruger Pathway corresponds to the existing slab for the water fountain that abuts the pathway. The APE for both locations is approximately 100 sq. feet (9 sq. meters).

**Previous Archaeology:** An archaeological field survey conducted in 1977 by State Park archaeologists inspected areas that could potentially be affected by the opening of the summit trail to the public and by construction of park improvements (Yent and Estioko-Griffin 1978). The sloping areas of the crater floor between the current parking lot and an elevation of approximately 400 feet were surveyed. No evidence of pre-contact uses of these areas was found. All of the features noted were associated with Fort Ruger and the coastal defense, circa 1906 and later.

An archaeological survey of the interior and exterior of Diamond Head Crater was conducted in 1998 as part of the master planning for Diamond Head State Monument (Tomonari-Tuggle and Blankfein 1998). A total of 35 sites were inventoried, including reservoirs, searchlights, firing berms, and other structures associated with Fort Ruger. Of these sites, 17 are located on the crater exterior. In summarizing their general findings, Tomonari-Tuggle and Blankfein note that tangible remains of human activity in the crater and along its rim are dominated, almost exclusively, by 20th century military uses related to Fort Ruger and that much of crater’s relatively level ground surfaces have been altered during this period and subsequently.

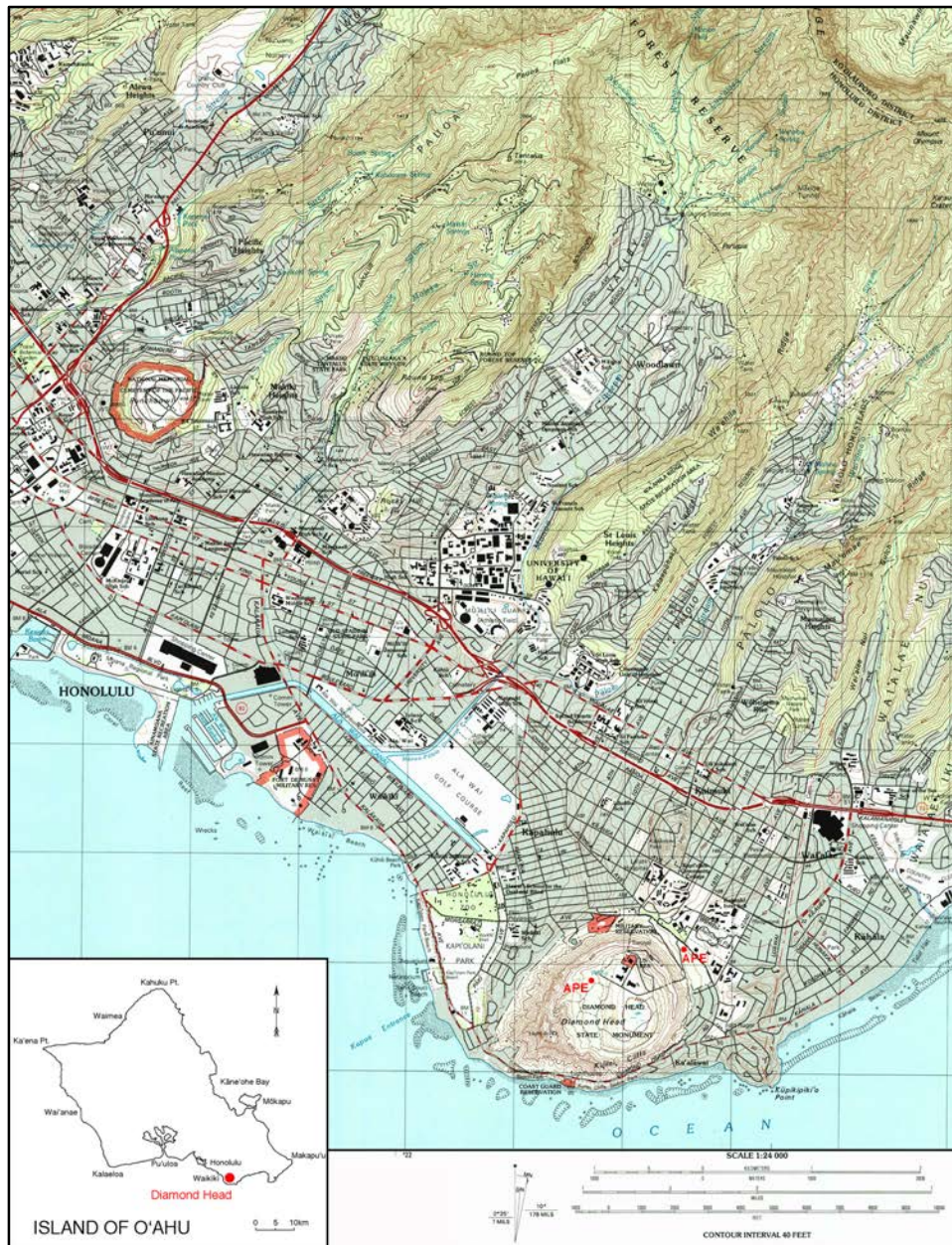


Fig. 38. Location of the 2 APE on interior and exterior of Diamond Head crater (USGS, Honolulu Quad. 1998).



Water fountain at comfort station inside the crater.



Water fountain along the Fort Ruger Pathway.



Fig. 39a. APE at the comfort station and picnic shelter within the crater.



Fig. 39b. APE along the Fort Ruger Pathway adjacent to the Millennium Peace Garden.

A survey was conducted in 2010-2011 in the area of the proposed Fort Ruger Pathway (Yent 2011). SIHP #50-80-14-7198 was assigned to the complex of sites within the 12-acre project area. A total of 22 buildings were inventoried where there is a structural remnant, such as a concrete floor or slab. Other sites include rock and mortar walls, drainage features, and roadways.

**Inventory of Historic Properties:** The Fort Ruger Historic District (SIHP #50-80-14-1350) was listed on the National Register of Historic Places in 1983. The sites within the district were largely fortifications dating from 1910 to 1940 and including 5 major batteries, 4 fire control stations, at least 12 gun emplacements, 2 tunnels through the crater walls, and a guardhouse. The inventory of extant military structures within Diamond Head and on its outer slopes was expanded when research was conducted for the development of an interpretive plan for Diamond Head State Monument (Yent 1998). The pistol range is the closest feature to the comfort station.

The water fountain along the Fort Ruger Pathway is located in a former residential area where there were duplex houses built in the 1920s for the non-commissioned officers. The housing was on a leveled terraced at the base of the outer crater slope defined by a rock and mortar retaining wall along Diamond Head Road (Wall D) and a lower wall at the back of the houses (Wall F). A set of concrete steps adjacent to the rock and mortar wall designated F-2 is near the fountain.



**Potential Effect on Significant Historic Properties:** Installation of the water bottle filling station will occur where there are existing concrete slabs and waterlines. Any ground disturbance associated with the installation will be in areas that were previously disturbed when the comfort station and pathway were constructed. Steps will be taken to protect the rock and mortar wall adjacent to the Ruger Pathway APE. Otherwise, there is sufficient distance from other features so that they can be avoided during the installation.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

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Yent, Martha

- 1998 *Interim Interpretive Plan for Diamond Head State Monument, Honolulu, O'ahu, Hawai'i.* Prepared for DLNR.
- 2011 *Archaeological Preservation and Monitoring Plan for Proposed Linear Path, Diamond Head State Monument, Ahupua'a of Waikiki, Honolulu (Kona) District, O'ahu TMK: (1) 3-1-42:06 and 10.* Prepared for DLNR, State Parks.

Yent, Martha and Agnes Estioko-Griffin

- 1978 *Results and Recommendations of the Walk-Through Reconnaissance in Diamond Head State Monument.* Memorandum prepared for Division of State Parks. January 3, 1978.

## **MAKIKI VALLEY STATE RECREATION AREA**

### **Makiki, Kona, O‘ahu**

One water bottle filling station is proposed at the existing comfort station located within Makiki State Recreation Area (SRA) (TMK: 2-5-019:008) (Fig. 40). Access to the site is along the park entry road.

**Park Overview:** Makiki SRA is a 10-acre area that was removed from the Forest Reserve in 1979 to promote passive recreation in a forest setting. Today the park area only consists of about an acre with a comfort station and picnic shelter. The remainder of the property has been leased to Hawai‘i Nature Center for educational programs and Hālau Kū Mana for a Charter School. Adjacent to the park area is the DOFAW Baseyard and the trailhead to the Makiki Trail System.

**Project Description:** The current water fountain is free-standing on a concrete slab in front of the comfort station. The installation will replace the water fountain and utilize existing waterlines. This location facilitates use by hikers and those participating in programs at the Nature Center.

**Area of Potential Effect (APE):** The APE for the water bottle filling station corresponds to the area of the existing comfort station and adjacent pavement, an area approximately 100 sq. feet (9 sq. meters) in size. Access to the site is a service road from the park entry road (Fig. 41).

**Previous Archaeology:** A 1980 archaeological survey by State Parks archaeologists encompassed the area of the park, as well as lands along Kanealole and Moleka Streams (Yent and Ota 1980). Agricultural terraces, ‘auwai, rock walls, and rockshelters were recorded along the streams with sites from both the pre-contact and post-contact periods. In 1993, more comprehensive investigations were undertaken in the Makiki SRA area between the DOFAW Baseyard and Makiki Heights Drive (Carpenter and Yent 1994). A complex of large agricultural terraces was mapped on both sides of the park entry road and designated SIHP #50-80-14-4866. Two trenches were excavated within the terraces to an average depth of 1 meter. The soils did not suggest that these terraces were irrigated pondfields despite the proximity to Makiki Stream. The DOFAW nursery marked by concrete slats previously occupied the area of the comfort station and shelter.

**Inventory of Historic Properties:** No historic properties are located within the APE.

**Potential Effect on Significant Historic Properties:** Installation of the water bottle filling station will occur where there is an existing water fountain, concrete slab, and waterlines. Any ground disturbance associated with the installation will be in areas that were previously disturbed when the comfort station and nursery were constructed. There is sufficient distance from the features of Site 4866 that they can be avoided during the installation.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.



Fig. 40. Location of the APE at Makiki SRA and Wa'ahila SRA (USGS, Honolulu Quad. 1998).



Makiki SRA with picnic shelter and restroom.



Detail of existing water fountain by the restroom.



Fig. 41. APE at the Makiki restroom located between the Hawai'i Nature Center and the DOFAW Baseyard.

References Cited:

Carpenter, Alan and Martha Yent  
1994 *Archaeological Survey of Proposed State Park Areas in Makiki Valley and Pu'u 'Ualaka 'a, Makiki, Honolulu District, Island of O'ahu TMK: 2-5-19: 3 (por.), 4, 8 (por.) & 2-5-20:4 (por.), 5.* Prepared for DLNR, Division of State Parks.

Yent, Martha and Jason Ota  
1980 *Archaeological Reconnaissance Survey: Kanealole and Moleka Stream Systems, Makiki State Recreation Area, Makiki Valley, Kona District, O'ahu.* Prepared for DLNR, Division of State Parks.

## WA‘AHILA RIDGE STATE RECREATION AREA Wa‘ahila, Kona, O‘ahu

One water bottle filling station is proposed at the existing picnic pavilion located within Wa‘ahila Ridge State Recreation Area (TMK: 3-4-010:003) (Fig. 40). Access to the site is along the park entry road and parking lot.

**Park Overview:** Wa‘ahila Ridge SRA was established in 1967 when 50 acres were withdrawn from the Forest Reserve for recreational purposes. The park serves as the trailhead for the Wa‘ahila Ridge Trail. Park development includes a paved entry road, parking lot, 2 picnic pavilions, picnic tables, walkways, and a restroom.

**Project Description:** The water bottle filling station will replace the existing water fountain on a concrete slab in front of the picnic pavilion. The installation will utilize existing waterlines. This location facilitates use by hikers and picnickers.

**Area of Potential Effect (APE):** The APE for the water filling station corresponds to the area of the existing pavement adjacent to the picnic pavilion and near the ADA parking stall. The APE consists of an area measuring approximately 100 sq. feet (9 sq. meters). Access to the site is from the park entry road and parking lot (Fig. 42).

**Previous Archaeology:** State Parks archaeologists have not conducted a formal survey of the park site. However, a reconnaissance of the developed park area has not indicated the presence of any surface features. The area was reforested with Norfolk Pine trees in the early 1900s suggesting alteration of this upland forest area.

**Inventory of Historic Properties:** No historic properties located within the APE.

**Potential Effect on Significant Historic Properties:** Installation of the water bottle filling station will replace the existing water fountain by the pavilion where there is an existing concrete slab and waterlines. Any ground disturbance associated with the installation will be in areas that were previously when the pavilion and associated features were constructed. The station is consistent with the park’s general character and will not have a visual impact on the park or its setting. Given these factors and evidence to date, the likelihood of encountering any new archaeological surface or subsurface deposits within the project area is very low.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.



Picnic pavilion adjacent to trailhead and ADA stall.



Location of existing water fountain at the pavilion.

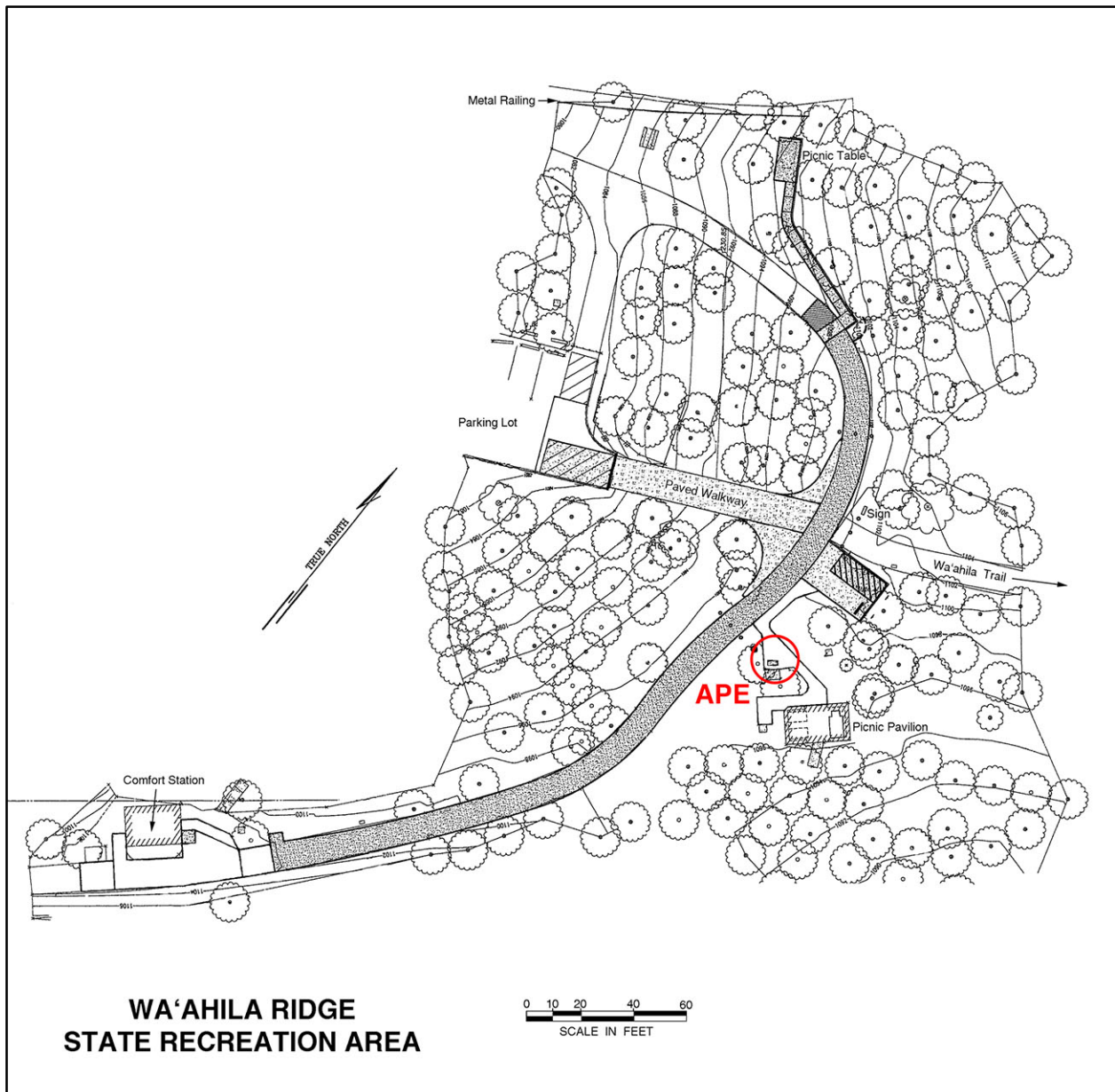


Fig. 42. APE in the developed portion of the park adjacent to the picnic pavilion and trailhead.

## SAND ISLAND STATE RECREATION AREA

### Kapalama, Kona, O‘ahu

One water bottle filling station is proposed at one of the six existing comfort stations in Sand Island State Recreation Area (TMK: 1-5-041:006) (Fig. 43). Access to the site is along the park entry road and parking lot.

**Park Overview:** Sand Island is a man-made island consisting of 520 acres adjacent to Honolulu Harbor and Ke‘ehi Lagoon. When initially established in 1970, Sand Island SRA consisted of 140 acres along the southern (makai) shoreline of Sand Island. The eastern 83 acres comprise the developed park, including picnic pavilions, campgrounds, 6 comfort stations, 5 parking areas, and the 2-ballfield complex. The park also includes a maintenance baseyard and caretaker’s residence.

**Project Description:** The water bottle filling station will add a new water fountain to the westernmost comfort station in the park (#6). The installation will utilize existing waterlines and be coordinated with a current State Parks project to renovate the comfort station that was originally constructed in 1987. NHPA Section 106 consultation was initiated for a LWCF federal grant that included the renovation of the comfort station in conjunction with reconstruction of the nearby 4-ballfield complex and expansion of the adjacent parking lot (Letter to SHPD from NPS dated Sept. 26, 2016). A response from SHPD to NPS is pending. State Parks followed up with a joint Section 106 and HRS §6E-8 Review and Compliance Memorandum (March 16, 2018; Log No. 2018.00701). This review by SHPD is also pending.

**Area of Potential Effect (APE):** The APE for the water bottle filling station corresponds to the area of the existing comfort station. Because the larger comfort station renovation project also involves a new outdoor shower, the APE will extend beyond the current footprint of the comfort station to encompass an area of approximately 200 sq. feet (20 sq. meters). The area around the comfort station has been previously disturbed by installation of the comfort station and utilities.

**Previous Archaeology:** In 2016, State Parks archaeologists conducted a walk-through survey of 83+ acres of the park and located 9 sites with multiple features associated with the Sand Island Military Reservation (Fig. 44) (Yent 2016). Most of these features are from the World War II era and have been preserved as part of the park landscape. Some of the wooden superstructures have been removed due to termites and natural deterioration but the reinforced concrete slabs, walls, and columns remain. Water and salt are seeping into these concrete structures, rusting the rebar and causing the concrete to spall, which threatens their stability and preservation.

**Inventory of Historic Properties:** A small arms range was built between 1944 and 1945 (Bennett 2002). Formerly consisting of 3 reinforced concrete walls covered by dirt, only the southern (makai) berm remains (Temporary Site 9). It is located on the southern (makai) edge of the 4-ballfield complex and about 400 feet north (mauka) of the shoreline. The berm is approximately 25’ high and consists of a vertical reinforced concrete wall with dirt pushed up on the mauka (north) side. The length of the wall is at least 165’ (E-W) based on what is exposed on the surface. The berm extends another 110’ to the west. Dirt fill on the makai (south) side of the wall creates a level platform that extends towards the shoreline and is at least 100’ wide (N-S). The dirt along the wall is settling and exposing rebar where the concrete has started to spall. It is uncertain if the construction of the ballfields in 1998 destroyed the other two berms. The dirt slope on the north side of the remaining berm was probably altered when the 4-ballfield complex was initially constructed in 1992. This is the only site in proximity to the APE.



Fig. 43. Location of APE on southern shoreline of Sand Island (USGS, Honolulu Quad. 1998).



Comfort Station #6 at the western end of the park.



Parking lot with comfort station at the makai end.



Fig. 44. APE in relationship to the 9 sites surveyed within the 83-acre developed park area.

The remains of at least four (4) concrete machine gun pillboxes built between 1934 and 1943 are located along the southern shoreline about 100 yards west of Comfort Station #6 (Temporary Site 6A). These square structures measure 8 feet on a side with a roof 18” thick. There is a viewing slot on each of the four sides. These remnants are now part of the breakwater. Within the above grouping of square pillboxes is a rounded concrete feature that measures 6’ in diameter and is at least 3’ high (thick). There is a metal rod in the center and the date May 29, 1943 inscribed on the top surface (Site 6B). Scattered remains of another five (5) or more concrete machine gun pillboxes on the shoreline about 100 yards to the east of Comfort Station #6 (Site 6C). Most of these appear to be square and 8’ on a side.



Site 9: Berm of small arms range ca. 1945.



Site 6A: Remains of concrete pillboxes (1934-1943).

**Potential Effect on Significant Historic Properties:** The pillboxes located along the shoreline to the east and west of Comfort Station #6 are considered outside the project area and will not be affected by this project. The berm of the small arms range is at least 200 feet west of the comfort station and also outside the APE for the water bottle filling station. As a man-made island consisting of coral and silty sand dredged from the Honolulu Harbor, Kapalama Basin, and Ke‘ehi Lagoon areas, the potential for any cultural deposits prior to 1900 is unlikely. The APE is in fill from the 1934 period and therefore, cultural and historical remains would be expected to post-date this time period. Any ground disturbance associated with the installation will be in areas that were previously disturbed when the comfort station was constructed.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.

#### References Cited:

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2002 *Sand Island's Military Past 1916-1945*. In The Coast Defense Journal, Vol. 16, Issue 3.

Yent, Martha

2016 *Section 106 Consultation: Proposed Park Improvements at Sand Island State Recreation Area, Ahupua‘a of Kapalama, District of Kona, O‘ahu*. TMK: (1) 1-5-41: 04, por. 06, and por. 22. Prepared for DLNR, Division of State Parks and National Park Service.

## KEAĪWA HEIAU STATE RECREATION AREA 'Aiea, 'Ewa, O'ahu

One water bottle filling station is proposed at the existing comfort station near the trailhead for the 'Aiea Loop Trail within Keaīwa Heiau State Recreation Area (TMK: 9-9-011:003) (Fig. 45). Access to the site is along the park entry road.

**Park Overview:** Keaīwa Heiau Park, consisting of a picnic shelter and landscaped grounds, was open to the public in 1951 in conjunction with the rededication of Keaīwa Heiau. The current park pavilion by the heiau was built around 1958 and most of the park development occurred in the 1960s. The park was expanded to 385 acres in 1967 to encompass the 4.8-mile long 'Aiea Loop Trail. The park contains Keaīwa Heiau, a significant medicinal or healing site (heiau ho'ola), and provides a range of upland outdoor recreation opportunities, including hiking, picnicking, and camping. Within the park are paved roadways, parking lots, campgrounds, 3 comfort stations, 3 picnic pavilions, and a caretaker's residence.

**Project Description:** This station will replace the existing water fountain on a concrete slab in front of the mauka comfort station adjacent to the mauka picnic pavilion and the trailhead for the 'Aiea Loop Trail. The installation will utilize existing waterlines. This location facilitates use by hikers and those using the pavilion.

**Area of Potential Effect (APE):** The APE for the water bottle filling station corresponds to the area of the existing comfort station and adjacent pavement. This area encompasses approximately 100 sq. feet (9 sq. meters). Access to the site is from the park entry road (Fig. 46).

**Previous Archaeology:** Keaīwa Heiau was initially mapped by J. Gilbert McAllister of Bishop Museum in 1930 but no other archaeological sites were noted in this upland area of 'Aiea (McAllister 1933:103-104). Subsequent mapping of the heiau was conducted by State Parks (Ota 1980; Smith 1988). State Parks archaeologists have conducted reconnaissance surveys in the developed park areas but no sites have been located. Trenching and borings in the vicinity of the heiau were monitored in 1994 and 2000 (Palermo 2000). No subsurface cultural remains were encountered. A HRS §6E-8 review and compliance memo was submitted to SHPD for concurrence with a "no historic properties affected" determination in regards to construction of a new wastewater system at the caretaker's residence. This memo provided background on the park and SHPD provided their concurrence (June 6, 2018; Log No. 2018.01385; Doc. No. 1805SH06).

**Inventory of Historic Properties:** Keaīwa Heiau (SIHP 50-80-09-107) was listed on the National Register of Historic Places in 1972 and the Hawai'i Register in 1979. This significant historic property is located across the park entry road from the caretaker's residence and over a mile away from the APE. There are no historic properties within the APE or surrounding area.

**Potential Effect on Significant Historic Properties:** Installation of the water bottle filling station will occur where there is an existing water fountain, concrete slab, and waterlines. Any ground disturbance associated with the installation will be in areas that were previously disturbed when the comfort station and wastewater system were constructed.

Based on the above, NOAA has determined that the proposed project presents no adverse effect on cultural resources within the APE.



Fig. 45. Location of the APE within Keaīwa Heiau SRA (USGS, Waipahu Quad. 2017).



Mauka comfort station with water fountain.



Trailhead for the 'Aiea Loop Trail.

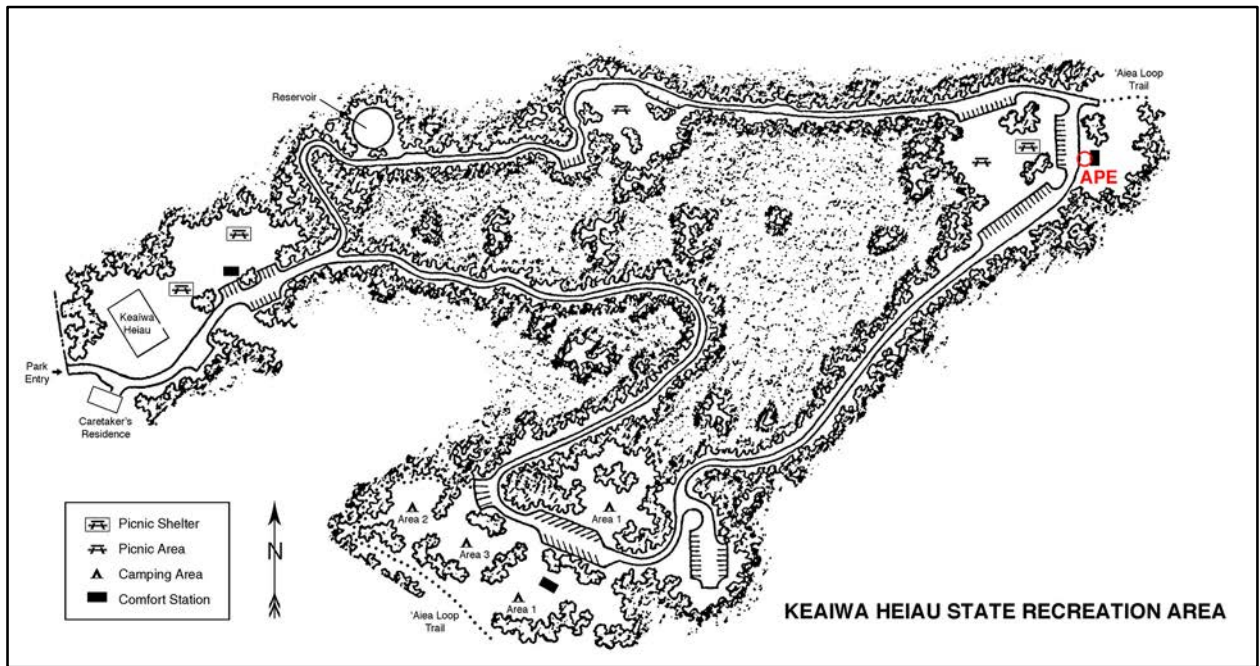


Fig. 46. APE adjacent to the mauka comfort station along the park loop road.

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Ota, Jason

1980 *Archaeological Monitoring at Keaiwa Heiau State Recreation Area*. Memorandum prepared for DLNR, Division of State Parks. July 8, 1980.

Palermo, Toni Han

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