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Section 106 Consultation  
Publication Form

APR 23 2016

**Project Name:** Waimea Wastewater Treatment Plant, R-1 Recycled Water Distribution System

**Island:** Kauai

**District:** Waimea District

**TMK:** (4) 1-2-006: 036, 009 (por.)

**Permits:** N/A

**Applicant or Proposing**

**Agency:**

State of Hawaii, Department of Health, Environmental Division, Wastewater Branch  
919 Ala Moana Boulevard, Room 309

Honolulu, Hawaii, 96814

Contact & Phone: Ms. Sue Liu, (808) 586-4294

**Approving**

**Agency:**

State of Hawaii, Department of Health, Environmental Division, Wastewater Branch

Contact & Phone: Ms. Sue Liu, (808) 586-4294

**Consultant:**

**Status:** Comments due no later than May 22, 2016 to:

919 Ala Moana Boulevard, Room 309

Honolulu, Hawaii, 96814

Attn: Ms. Sue Liu

Email: [wwb@doh.hawaii.gov](mailto:wwb@doh.hawaii.gov)

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QUALITY CONTROL

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**Summary:**

The Department of Health (DOH) initiated Section 106 of the NHPA consultation with the State Historic Preservation Division (SHPD) in accordance with 36 CFR Part 800. In 1990, the U.S. Environmental Protection Agency (EPA) designated the DOH to act on EPA's behalf, pursuant to 36 CFR §800.2 (c) (4), when initiating Section 106 of the NHPA process in connection with projects funded under the Hawaii Clean Water State Revolving Fund (CWSRF).

The DOH is providing funding under the CWSRF to the County of Kauai Department of Public Works (DPW) for the Waimea Wastewater Treatment Plant, R-1 Recycled Water Distribution System Project. The proposed project will utilize federal funding and is considered an undertaking, as defined by Section 106 of the NHPA, 54 U.S.C. §306101 et seq., and 36 CFR Part 800.

The County of Kaua'i DPW proposes to construct an above ground 400,000 gallon recycled water storage tank on the southeast corner of the Waimea WWTP property. In addition to the storage tank, on-site improvements will include a new recycled water pump station located adjacent to the tank and would be a maximum of 44 inches by 44 inches and 60 inches in height. The pump will regulate water pressure on the distribution system to a setpoint that is 10 pounds per square inch (psi) lower than the potable water distribution system.

Based on a review of previously conducted archaeological studies/surveys of the area it is not anticipated that any sites of historic importance are present in the vicinity of the project. However, the DOH has engaged SHPD to determine the presence of potential sites of historic importance within the vicinity of the project area as well as the potential impact of the project on such sites, if present.

DAVID Y. IGE  
GOVERNOR OF HAWAII



VIRGINIA PRESSLER, M.D.  
DIRECTOR OF HEALTH

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

In reply, please refer to:  
File:

47-09 S106 ltr

April 12, 2016

Mr. Alan Downer, Administrator  
Hawai'i State Historic Preservation Division  
Department of Land and Natural Resources  
Kakuhihewa Building  
601 Kamokila Blvd., Suite 555  
Honolulu, Hawai'i 96707

**Subject:** Initiation of Consultation under Section 106 of the  
National Historic Preservation Act  
Waimea Wastewater Treatment Plant  
R-1 Recycled Water Distribution System  
Waimea District, Island of Kaua'i  
Clean Water State Revolving Fund Project No. C150047-09

Dear Mr. Downer:

On behalf of the Environmental Protection Agency (EPA), the State of Hawai'i Department of Health (DOH) would like to invite you to participate in consultation for the proposed Waimea Wastewater Treatment Plant R-1 Recycled Water Distribution System project. The project is located within the Waimea District on the Island of Kaua'i. The proposed project will be funded by County funds, and possibly County grant funds through the EPA. State or Federal Water Pollution Control Revolving Fund monies under the jurisdiction of the DOH are also anticipated to be utilized for the project.

The proposed project will be utilizing federal funding and is considered a federal action and undertaking, as defined by Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (2006). Therefore, compliance with the National Environmental Policy Act (NEPA), NHPA, and other federal provisions are required. The EPA has authorized the DOH and the County of Kaua'i Department of Public Works (DPW) to act on behalf of the EPA regarding the NHPA Section 106 notification and consultation. This letter is to initiate Section 106 consultation with the State Historic Preservation Division (SHPD) in accordance with Title 36 of the Code of Federal Regulations (CFR), Section 800.3.

## Overview of the Undertaking

The Waimea Wastewater Treatment Plant (WWTP) was constructed in the 1970's with a treatment capacity of 300,000 gallons per day (gpd) average daily flow (ADF). The original WWTP provided R-2 recycled water to agricultural customers in the Waimea Town vicinity. In 2011, the County of Kaua'i DPW upgraded the WWTP's capacity to 750,000 gpd ADF as well as modified and upgraded the WWTP process which enabled the upgrade to R-1 recycled water. The R-1 recycled water produced at the Waimea WWTP is currently conveyed to the Kikiaola Irrigation Company open storage reservoir which is located approximately 2,700 feet to the east of the WWTP. The R-1 recycled water is conveyed using existing effluent pumps and 10-inch transmission piping within existing easements.

The County of Kaua'i DPW proposes to construct an above ground recycled water storage tank on the southeast corner of the Waimea WWTP property. The water tank site has been graded, grassed and mowed similar to other portions of the WWTP site. Since current average recycled water production is 180,000 gpd, a 400,000 gallon tank would provide approximately two days' worth of storage to account for varying recycled water production by the WWTP and usage by the customers. The dimensions of the water storage tank are approximately 55 feet in diameter and 25 feet in height. The tank would be of glass-fused-to-steel construction with a geodesic dome cover.

In addition to the storage tank, on-site improvements will include a new recycled water pump station located adjacent to the tank and would be a maximum of 44 inches by 44 inches and 60 inches in height. The pump will regulate water pressure on the distribution system to a setpoint that is 10 pounds per square inch (psi) lower than the potable water distribution system.

Distribution of the R-1 recycled water to the planned irrigation water users will be conveyed using the existing pipe alignment. A portion, approximately 1,700 feet, of the existing 10-inch transmission pipeline will be either replaced in the same pipeline trench with an 8-inch polyvinyl chloride (PVC) pipeline or relined using Cured in Place Pipe (CIPP) technology. This portion extends in an easterly direction approximately 1,100 feet from the WWTP, then turns in a northeasterly direction approximately 600 feet to provide a connection with the Waimea Canyon Middle School (WCMS). At the eastern end of the 1,100 foot segment adjacent to the WCMS, another portion of the distribution line extends southwesterly approximately 250 feet within an existing sanitary sewer easement adjacent to the Waimea Athletic Field.

Connections to WCMS and Waimea Athletic Field, which will allow recycled water to be used for irrigation at both facilities, will be provided by tapping into the new distribution line.

The recycled water user responsibilities will be driven by the County of Kaua'i DPW Rules and the DOH Water Reuse Guidelines. Key responsibilities include complete disconnect of recycled water system from customer potable water system, training of employees, maintenance of recycled water use logs, and annual reporting to the DOH.

The intent is to develop the recycled water distribution system by phases based on the available recycled water. The first phase of the recycled water distribution system would include the WCMS and the Waimea Athletic Field. These customers were selected based on the greatest benefit to the community and the close proximity to the recycled water distribution system. Potential Phase 2 customers include the Kaua'i Veterans Memorial Hospital and Waimea Plantation Cottages. The implementation of Phase 2 will be dependent on availability of additional recycled water which is tied to new wastewater connections to the Waimea WWTP. Since the specifics and timing of Phase 2 are uncertain at this juncture, it is subject to applicable permit regulations at the time it is proposed.

#### Area of Potential Effect

The area of potential effect (APE) of approximately 4.7 acres is depicted on the attached figure.

#### Historical, Cultural and Archaeological Background

##### A. Waimea Ahupua'a

Kikiaola is an 'ili and locality in the ahupua'a of Waimea on the southwest side of the island of Kaua'i. Part of the old district or moku of Kona, the Waimea ahupua'a is by far the largest on the island, comprising 92,646 acres, more than a quarter of the total land area of Kaua'i. It encompasses all of the Waimea River Canyon area, the uplands of Koke'e, the high swampy plateau of Alaka'i and the northwestern coastal valleys of Nu'alolo and Miloli'i (Boundary Commission 1875: 140-146).

On the southwestern leeward coast, a broad, flat plain stretches between the Waimea River delta and Polihale to the north. It is here that Kikiaola is located,

backed on the mauka side by steep low cliffs and a series of small valleys and gulches. Because of its size, the Waimea ahupua'a includes several regions which are very different in climate and terrain. These differences essentially dictated the kinds of resources that were available, and hence had much to do with the way the ahupua'a was settled by prehistoric Hawaiians. The well-watered valley and delta of the Waimea River were ingeniously developed and engineered for wetland agriculture, and represent the epitome of the typical Hawaiian and Kaua'i-type valley settlement (Handy 1972:393-397). In contrast, Kikiaola and other settlements on the Mana plain suffered from a definite lack of fresh surface water. The mauka gulches had only intermittent stream flows and water sources were primarily springs along the base of the cliffs.

#### B. Kikiaola 'Ili

Martha Beckwith (1970:329-330) associates the name "Kikiaola" with three versions of the legend of Ola, a chief of Waimea. In one version, Ola, "desiring to bring water to the taro patches of the Waimea flats ... summon[s] the Menehune people [who] each bring a stone and the watercourse (Kiki-a-Ola) is laid in a single night." In another version, Kiki-a-ola is not the name of the watercourse itself: "Pi is the chief of Waimea who gets the Menehune to construct for him a dam across the Waimea river and a watercourse leading from it to a place above Kiki-a-ola." In the third version, "Kiki-a-ola is the chief of Waimea" who "seems to be the sacrifice to be offered" at the completion of the dam and watercourse of Waimea by the Menehune.

#### 1797 to 1850

The first western description of Kikiaola comes only nine years into the post-contact era. William Beresford was the supercargo on board the British ship Queen Charlotte under Captain George Dixon which, along with the King George, captained by Nathaniel Portlock, sailed on an exploratory voyage to the northwest coast of America. In 1798 both ships wintered in Hawai'i, spending much time off Waimea, Kaua'i. On one of the several shore outings, Beresford visited nearby Kekaha, which he called "A Tappa" (Dixon 1968:124-126). Beresford describes Kekaha itself and the Kikiaola land he traversed between Waimea and Kekaha:

Having frequently heard our people who had been on shore speak of a village, called by the natives A Tappa, where a great number of people were commonly employed in manufacturing cloth, curiosity prompted me to walk to that place first, as I found it was not more than three miles distant, so that I

could easily get back by Tyheira's dinner time. The country, from the place where we landed to A Tappa is tolerably level, and for the space of two miles, very dry. The soil here is a light red earth, and with proper cultivation, would produce excellent potatoes, or any thing that suits a dry soil; but at present, it is entirely covered with long coarse grass: the inhabitants, I suppose, finding plenty of ground near their habitations, more conveniently situated for their various purposes. So far, the space from the beach to the foot of the mountains, is about two miles in breadth; but from hence to A Tappa, it grows gradually narrower, till it terminates in a long sandy point, which I have already observed, is the West extreme of Wymea Bay.

A Tappa is a pretty large village, situated behind a long row of cocoa-nut trees, which afford the inhabitants a most excellent shelter from the scorching heat of the noon-day sun. Amongst these cocoa-trees is a good deal of wet swampy ground, which is well laid out in plantations of taro and sugar-cane. I had laid my account in seeing their method of manufacturing cloth; but here I was mistaken. A number of our people, prompted by the same curiosity as myself, were got to A Tappa before, where "Labour stood suspended as we passed." The people flocked eagerly about us; some asking us to repose ourselves under the shady branches of trees planted about their doors; other running to the trees for cocoa-nuts and presenting them to us with every mark of kindness and good nature; in short, every inhabitant of the village was fully employed, either in relieving our wants, or gratifying their curiosity in looking at us.

The day being very sultry, we walked leisurely back, and I returned by a different path from that I had taken, in going to A Tappa. On examining the grass, which in most places is higher than the knee, I found it no altogether of a rough coarse sort, but intermixed with various sorts of flowers, together with different grasses, of the meadow kind; so that I have no doubt, with proper management, it would make excellent hay.

Beresford's remark that the dry soil conditions in the area would be most suitable for potatoes is in line with the Handys' (1972:410) assertion that the sweet potato was probably the prime staple of Kekaha village, and not taro because of the limited water resources. The Handys further describe Kekaha and Waimea as two distinct settlement areas with no major settlement between them at Kikiaola:

The two settlements must from earliest days have had close contact, both by land and along the fishing grounds. Probably there was exchange of staples

between the two, as their planting conditions were quite different. Kekaha had swampy shore land, but no flowing streams and the upland behind it consists of rocky ridges and dry gulches. Its taro resources, including the subsidiaries of wet planting areas such as bananas and sugar cane, would have been limited; but the drier ground suitable for sweet potatoes and gourds was ample; they also had coconuts in plenty .. (Handy and Handy 1972:410)

Native claims for land made to the Board of Commissioners to Quiet Land titles in 1848 also shed some light as to land settlement and use in the area during the early historic period. An historic map of the 'ili of Kikiaola surveyed by M.D. Monsarrat in 1885 shows locations of five Land Commission Award (LCA) claims made at the eastern, toward Waimea, end of Kikiaola (Figure 3). LCA 387 is the claim of the American Board of Commissioners for Foreign Missions for the Protestant Mission Station in Waimea. LCA 3111 is the claim of the ali'i Deborah Ka pule, wife of Kaumualii. LCA 2960 is the claim of Daniela Oleloa, husband of Deborah Ka pule after Kaumualii's death. Records associated Oleloa's claim describe his parcel as a "pahale [house lot] in Kulanakauhale [cluster of houses] of Noni[,] ili Kikiaola, Waimea" (Foreign Testimony, vol.11 supp.: 232-233). LCA 3353 (approximately the present site of the Waimea sugar mill) is the claim of Nawaalaa and is described as a "house lot ...in the district called 'Luhi' in the ili of Peekauai" (Foreign Testimony, vol.11 supp.). LCA 5362 is the claim of Naumu. Documents associated with this claim are somewhat ambiguous, but it appears that Section 2 of Naumu's claim shown on the map may be a "salt patch called 'Huluhulunui'" (Foreign Testimony, vol.11 supp.:157-158). The LCA documents suggest that this portion of Kikiaola may have represented the western edge of the pre-contact Hawaiian settlement at Waimea.

#### 1850 to 1900

A 566.56 acre parcel within the 'ili of Kikiaola was obtained by G.B. Rowell in Grant 532. That Rowell is Rev. George B. Rowell who in 1846 had taken over the Protestant mission in Waimea. The Rowell house is also shown on the map, within the Protestant Mission parcel. Rowell's son William, who was born in 1845, describes this portion of Kikiaola during the second half of the nineteenth century:

It was all Kula, open country, from our house down to the sea, with no cultivation and no trees, but with an adobe wall fencing in a mission tract. Just west a little way there was a neke pond, where there were ducks. I think it is

all dried up now and planted to cane. No, there was no irrigation, and we had to depend on the river for our drinking water; a man brought two buckets a day (Rowell 1991:90)

Rowell mentions the planting of sugar cane, which was the major agricultural development within the area during the latter 1800s. The Reciprocity Treaty of 1876 between the United States and Hawai'i gave impetus for the expansion of the sugar industry throughout the islands. The first commercial cane in this portion of Kauai was planted in 1878 at Kekaha near Poki'i by Valdemar Knudsen and a partner, Christian L'Orange. Knudsen had come to Hawai'i from Norway via the mainland where he had business dealings. He settled at Wai'awa in 1854 where he worked as a rancher, agriculturalist and, finally, sugar planter. Eventually Knudsen would control the entire district, excluding kuleana lands, from Nu'alolo to Waimea, including all the mauka area (Knudsen and Noble 1945:35). Valdemar's son Eric, who was born at Waiawa in 1872, described Kekaha and its environs (including Kikiaola) as he knew them in the second half of the nineteenth century:

A row of grass houses extended all the way along the foothills from Waimea to Mana. Every house site had a name. To find a man you had to find his house name. The natives seemed to know every name and would keep sending you along until you finally came to the spot you were looking for. At certain hours all the women sat in their houses and beat tapa cloth and as they beat they talked to one another in a tapa beater's code. They could send a message with great speed from Waimea to Mana. When the men returned from the mountains with fire wood or canoes, the woman that saw them at once tapped out the news and it flew from house to house with the result that every man, when he came home, found his house in order and no surprised visitors hanging around. The men tried to learn this secret code but never did, though an old man at Mana told my father that the men had tried for years to learn the secrets of the ta pa code but were never able to do so. The grass houses were all built in one general design - one big living room and two doors - one on each side and opposite to one another. One day my father noticed that all were built with their gable-ends east and west and the doors facing the ocean and the hills. He asked one of the men why that was so and he replied, "Why you know that Po, the abode of the dead, lies under the ocean just outside Polihale, where the cliffs and the ocean meet, and the spirits of the dead must go there. As the spirits wander along their way to Po, they will go around the gable-end of a house but if the house stood facing the other way, the spirits

would walk straight through and it would be very disagreeable to have a spirit walk past you as you were eating your meal. "In fact," he continued, "we can always tell when a battle has been fought by the number of spirits passing at the same time." (Knudsen 1991:101, 102)

Sugar cultivation would reach the 'ili of Kikiaola during the 1880s:

In 1884 the Waimea Sugar Company was organized with stockholders in Honolulu. The land was acquired from the Rowell family, who had attempted dairying there, and under various changes of ownership the little company struggled through years of discouragement. (Damon 1931:777)

Apparently Kikiaola comprised pasture land prior to the introduction of sugar cane.

#### 1900 to Present

The development of the Kikiaola lands through most of the twentieth century focused on the growing sugar industry. Plantation railroad lines were constructed across the 'ili, connecting Waimea and Kekaha. The Kekaha Sugar Company saw expansion after 1907 when the construction of the plantation's major irrigation ditch was completed. The engineering feat brought water to the area from eight miles up the Waimea River via a series of ditches, flumes, tunnels and siphons (Thrum 1908:158-159).

#### Summary of Previous Archaeological Research Within the Kikiaola Study Area

Only one previously completed archaeological report concerning a portion of the present Kikiaola study area is presently on file at the State Historic Preservation Division. A letter report (Sinoto 1993) summarizes results of monitoring, surface survey, and backhoe testing completed within a parcel adjacent to the grounds of the present Waimea Plantation Cottages. No surface or subsurface remains were noted. However, indicated on the plan map accompanying the report are the locations of two burial sites on the grounds of the Waimea Plantation Cottages. These sites are identified as "graves" 2 feet and 6+ feet deep located on the west side of the administration building, and have been recorded as State sites 50-30-05-1853 and 50-30-05-1854. The treatment and disposition of the burials are not indicated in the report.

A review of the archaeological and historic site inventory map of Waimea at SHPD indicates that the only recorded sites in the vicinity of the present study area are one heiau (identified by Wendell Bennett as "Keaalii on the west side of Waimea River"), Cook Landing (the purported site of Captain James Cook's first land fall in Waimea), Fort Elizabeth (the 19th-century Russian military emplacement), and seven historic buildings. Only one of these buildings - the Gulick-Rowell house - is directly adjacent to the study area on its east side.

An archaeological assessment survey conducted by Aki Sinoto Consulting in 2008 for the proposed expansion of the Waimea Wastewater Treatment Facility. The scope of the study included the grounds of the 4 acre area within the grounds of the existing WWTP as well as another 0.12 acre site immediately north of the Kaumuali'i Highway at the junction of the access road to the existing facility.

The assessment noted that no significant archaeological or historic remains nor other evidence of past human activities were encountered within the boundaries of the subject project area during the field procedure. The archival search also revealed no records of any previous significant findings as well. Mass grading and other ground surface alteration activities associated with the construction of the existing facility during the 1970's were preceded by commercial sugar cane cultivation, which would have extensively impacted the immediate project area.

#### Public Involvement/Public Participation

A Section 106 notice/advertisement will be included in the Honolulu Star Advertiser, The Garden Island and Ka Wai Ola. Native Hawaiian organizations and Native Hawaiian descendants with ancestral lineal or cultural ties to, cultural knowledge or concerns for, and cultural or religious attachment to the proposed project area are asked to provide a response within 30 days of notification.

Section 106 Consultation letters have also been sent to other organizations or individuals that might attach significance to this area and invite them to participate in the process.

We welcome any comments you have on this project's proposed improvements. We are particularly interested in any information you may have on the historic and cultural sites that have been recorded in the area or any other historic or cultural sites about which you may have knowledge. In addition, if you are acquainted with any persons or organization that is knowledgeable about the proposed project area, or

Mr. Alan Downer, Administrator  
Hawai'i State Historic Preservation Division  
April 12, 2016  
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any descendants with ancestral lineal or cultural ties to or cultural knowledge or concerns for, and cultural or religious attachment to the proposed project area, we would appreciate receiving their names and contact information.

We would appreciate a written response within 30 days from date of receipt, to Ms. Sue Liu, Environmental Engineer, Department of Health, Wastewater Branch via email to: [sue.liu@doh.hawaii.gov](mailto:sue.liu@doh.hawaii.gov) or by U.S. Postal Service to Wastewater Branch, 919 Ala Moana Blvd., Room 309, Honolulu, Hawai'i 96814.

Should you have any questions, please contact Ms. Sue Liu of our office at (808) 586-4294. We look forward to working with you and the SHPD on these needed improvements.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Sina Pruder', is written over a light blue horizontal line.

SINA PRUDER, P.E., CHIEF  
Wastewater Branch

SL:lmj

Enclosure: Area of Potential Effect

cc: Eassie Miller, Kennedy/Jenks Consultants, Inc.  
Milton Arakawa, Wilson Okamoto Corporation

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## AREA OF POTENTIAL EFFECT

*Waimea Wastewater Treatment Facility  
R-1 Recycled Water Distribution System*