

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form

For NPS use only
received OCT 3 1984
date entered NOV 16 1984

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Kiki-a-toa

and/or common Menehune Ditch, Peekauai Ditch

2. Location

street & number Waimea Road, not for publication

city, town Waimea vicinity of congressional district

state Hawaii code 15 county Kauai code 07

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input type="checkbox"/> occupied	<input checked="" type="checkbox"/> agriculture
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input checked="" type="checkbox"/> unoccupied	<input type="checkbox"/> commercial
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
	<input type="checkbox"/> NA	<input type="checkbox"/> no	<input type="checkbox"/> military
			<input type="checkbox"/> museum
			<input type="checkbox"/> park
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name State of Hawaii - Department of Land and Natural Resources

street & number 1151 Punchbowl Street

city, town Honolulu vicinity of state Hawaii

5. Location of Legal Description

courthouse, registry of deeds, etc. Bureau of Conveyances

street & number 1151 Punchbowl Street

city, town Honolulu state Hawaii

6. Representation in Existing Surveys

Statewide Inventory of Historic
 title Places has this property been determined eligible? yes no
~~Hawaii Historic Sites Inventory~~
 #30-09-26
 date April 1973 April 1974 federal state county local
 depository for survey records State Historic Preservation Office
 city, town Honolulu state Hawaii

7. Description

Condition		Check one	Check one
<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input type="checkbox"/> moved date _____
<input checked="" type="checkbox"/> fair	<input type="checkbox"/> unexposed		

Describe the present and original (if known) physical appearance

Kiki-a-'ola, also known as Menehune Ditch and Peekauai Ditch, is located on the west side of Waimea River of the island of Kauai. The ditch is found at the junction of the Waimea and Makaweli rivers and the intact, walled remnant is located about 1800 feet upstream of the Makaweli River confluence and where the first western cliff (pali) meets the Waimea River. The ditch runs along the base of the pali which forms the west wall of the Waimea River valley. The site is nearly 7000 feet inland from Kaumualii Highway (Route 50) and north of Waimea town. A county road built in 1920 runs alongside the ditch. During road construction, the roadbed was built up adjacent to the ditch wall and the tunnel was excavated through the cliff.

The ditch was built prehistorically to irrigate the taro (Colocasia esculenta) patches in lower Waimea Valley. Legends and chants tell of Ola, King of Waimea, who, through Pi, his kahuna or priest, caused the great water-lead to be built which is still called Kiki-a-'ola. Pi then chose the location and contacted the Menehunes (legendary race of small people reknown for their overnight construction activities) to construct the ditch features in one night (Bennett, 1931 and Damon, 1931:235). The popular name Menehune Ditch is historic and probably after Fornander, 1880.

The earliest written account of the ditch is by Captain George Vancouver in 1792 when he visited Waimea Valley. Vancouver recorded the site at this time as follows:

"As we proceeded our attention was arrested by an object that greatly excited our admiration, and at once put an end to all conjecture on the means to which the natives resorted for the watering of their plantations. A lofty perpendicular cliff now presented itself, which, by rising immediately from the river, would effectually have stopped our further progress into the country, had it not been for an exceedingly well constructed wall of stones and clay about twenty-four feet high, raised from the bottom by the side of the cliff, which not only served as a pass into the country, but also as an aqueduct, to convey the water brought thither by great labour from a considerable distance; the place where the river descends from the mountains affording the planters an abundant stream, for the purpose to which it is so advantageously applied. This wall, did not less credit to the mind of the projector than to the skill of the builder, terminated the extent of our walk."

8. Significance

Period	Areas of Significance—Check and justify below			
<input checked="" type="checkbox"/> prehistoric	<input checked="" type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400–1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500–1599	<input checked="" type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600–1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/ humanitarian
<input type="checkbox"/> 1700–1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> theater
<input type="checkbox"/> 1800–1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> transportation
<input type="checkbox"/> 1900–	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> other (specify)
		<input type="checkbox"/> invention		

Specific dates N/A **Builder/Architect** N/A

Statement of Significance (In one paragraph)

Kiki-a-'ola represents a prehistoric irrigation feature used to transport water to the taro fields on the western side of Waimea River in lower Waimea Valley. The water was being used to irrigate cultivated lands located considerably above the level of the river. Because of this fact, there are several engineering factors that make this irrigation channel significant. First is the problem of carrying the water at a high level above the water level of the river. The base of the causeway was then placed in the river by necessity which meant it was in constant threat of being eroded or washed away during periods of flooding. Another engineering factor was that the ditch had to transport water around the corner of a jutting cliff at river's edge. The construction of the causeway is unique in the use of dressed and jointed stones. The other examples of cut stone construction are limited to Kukuipahu Heiau (temple) in North Kohala and several out-of-context stones in Kailua-Kona, both on Hawaii Island. However, Kiki-a-'ola is the only example of jointed stonework and offers a unique example of this type of causeway construction. Additionally, there are three types of joints represented, including double joint, square joint, and notched joint. The prehistoric appearance of the ditch wall would have been impressive with a 24 foot high faced wall of dress and jointed stones. Today, the scale of the causeway is only suggested in the exposed upper two to three courses of stonework. The construction of the roadway in 1920 probably buried much of the structure and, therefore, the site still has a high research potential for defining the Hawaiian engineering technology and construction details. The site also has legendary significance for its association with the Menehunes who are credited with the construction of this unique feature.

9. Major Bibliographical References

Bennett, Wendell
1931. Archaeology of Kauai. Bishop Museum Bulletin No. 80. Honolulu

Damon, Ethel M.
1931. ~~Koamalu: A Story of Pioneers of Kauai and of What They Built in~~
~~The Pali of Kauai Island~~. Honolulu

10. Geographical Data

Acreege of nominated property 2 Acre Length
Manapepe

Quadrangle name _____

Quadrangle scale 1:24,000

UMT References

A

04	431	880	24	30	080
Zone	Easting				

B

04	431	900	24	299	900
Zone	Easting				

C

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D

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E

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F

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G

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H

--	--	--	--	--	--

Verbal boundary description and justification

The section of the walled ditch from the tunnel north for a distance of 61 meters or about 200 feet and from the pali face to the roadway. Only section of intact wall with dressed and jointed stonework.

List all states and counties for properties overlapping state or county boundaries

state	code	county	code

state	code	county	code

11. Form Prepared By

name/title Martha Yent, Archaeologist

organization Historic Preservation Office date November 2, 1983

street & number 1151 Punchbowl Street telephone (808) 538-6408

city or town Honolulu state Hawaii

12. State Historic Preservation Officer Certification

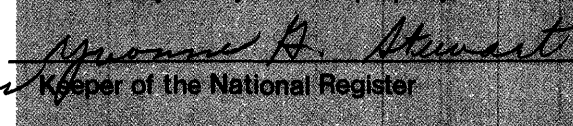
The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

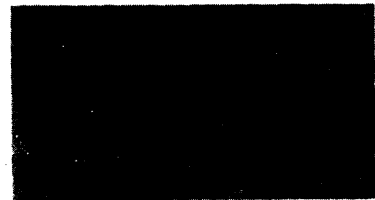
State Historic Preservation Officer signature 

title for State Historic Preservation Officer date 9/28/84

For NPS use only	
I hereby certify that this property is included in the National Register	
	date <u>11/16/84</u>
Keeper of the National Register	
Attest:	date
Chief of Registration	

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**National Register of Historic Places
Inventory—Nomination Form**



1984

Continuation sheet DESCRIPTION Item number 7 Page 2

Menzies (1920:28-29) and Kuykendall (N.D.:395-396, manuscript, Kauai Historical Society) both recorded the ditch wall as over 20 feet in height. Vancouver (pages 376-377) also noted that the top of the wall served as both a pathway and as a causeway, especially useful for traveling around the cliff that would normally be at the river's edge without the ditch modification.

The ditch wall is of a unique dressed and jointed stone construction. Bennett made the following description of the courses of stacked cut stone just above the tunnel (Bennett, 1930:105-107).

The stones of this ditch are squared off on all sides but the inside. Some of the blocks are squared all around. The object was to have the stones fit closely together and present a smooth, flat surface on the river side. On the inside, where the fill was of dirt or stone or both, the roughness was perhaps beneficial. The size of the blocks shows a great variation, some measuring 5 feet in length and over 3 feet in depth and width. There was no attempt to cut them all the same size. The masonry shows true coursing in some places, but it is by no means consistent, and many square joints, with the corners of four stones meeting at one place are found... (Another) jointing consists of a projection down from the lower corner of a stone fitting into a notch in the upper corner of a stone; the lower corner of a stone fitting into a notch in the upper corner of a stone below; a combination of the two and a projection forward on the lower corner of a stone; and a notch that distinguishes the rough inner end from the cut-bottom edge of the stone. The purpose of this jointing does not seem to be primarily for locking stones together, it is not consistent enough for the purpose... The numerous joints between the first and second layer of stone seem to be for the purpose of keeping the top at a level... Of course, some of the jointing was probably the easiest method of fitting the stones together.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Inventory—Nomination Form**



Continuation sheet DESCRIPTION Item number 7 Page 3

Bennett also mentions that the probable source for the basaltic stone quarry is 7 to 8 miles distant from the ditch and on top of a ridge. Although this quarry is mentioned in legend, Bennett also suggests nearer locations are possible. It is probable that the stones were roughly dressed at the quarry and final fitting was done at the ditch site. Bennett also suggests that pecking and grinding was the probable methods of cutting as the fracture of the stones would not permit much splitting.

Historical modifications to the original structure have been noted, including some realignment of the ditch. Much of this modification took place around 1920 when the road was built and the top stones of the wall in sections were removed by valley residents for personal use, by the construction crew to build up the retaining wall for the road, and other stones were used to construct the realignment of the ditch (Personal Communication, Senator N. Miyake, 1973). Prior modification probably also took place when a horse path ran parallel to the ditch before the road was constructed.

At present, the ditch runs for a length of 7000 feet. It is estimated that 75 acres of farmland below the tunnel and 35-40 acres above the tunnel can be irrigated by the ditch. The road construction in 1920 built up a roadbed of dirt on the riverside of the ditch wall that left only the upper two feet of the ditch wall exposed. Presently, there is only a 100 foot (30.5 meters) length of intact ditch wall visible which is located just above (north) the tunnel. This remnant is marked by a bronze plaque that was set into the pali face in 1928 by the Territory of Hawaii to mark the historical significance of the site. The dirt bermed ditch contiguous with the walled portion appears to be an intact portion of the original ditch but lacks the exposed stonework. This dirt bermed ditch section extends another 100 feet upstream (north) and is included in the site area for a total length of 200 feet. The ditch is situated adjacent to the county road and has suffered some damage historically from large machinery scraping grooves in the rock, the construction of concrete supports for the swing bridge across the Waimea River, and drill holes in the cut stones are thought to be recent and made with steel drills (Bennett, 1931). There is a dirt mound atop the wall from ditch cleaning which has been an ongoing practice to maintain the depth of the ditch.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Inventory—Nomination Form**



84

Continuation sheet

DESCRIPTION

Item number

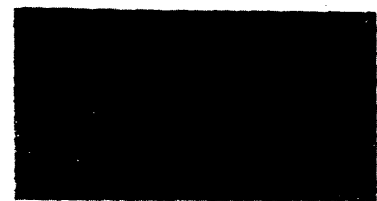
7

Page 4

At present, three courses of dressed stone, some of them interlocking, are visible above (north) the tunnel. It is only through archaeological excavations along the ditch wall, that it can be determined to what extent the wall was originally constructed of dressed stones. There have been questions raised about the dating of the jointed stonework. Some believe that it is only in the top two courses and was done historically, circa 1920 when the road was built. However, others such as Bennett state that the "dressed stone blocks and their jointing are unique features of Hawaiian stonework." Again, archaeological investigations might provide insight into these questions as the research potential is judged to be high.

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**



084

Continuation sheet MAJOR BIBLIOGRAPHICAL REFERENCES Item number 9 Page 2

BIBLIOGRAPHY (continued)

- Fornander, Abraham
1880. Hawaiian Antiquities and Folklore. Bishop Museum. Honolulu.
- Menzies, Archibald
1920. Hawaii Nei, 128 Years Ago. Honolulu.
- Vancouver, Captain George
1798. A Voyage of Discovery to the North Pacific Ocean and Round
the World 1790, 1791, 1792, 1793, 1794, 1795. London.