

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form

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

For NPS use only
received FEB 23 1983
date entered

1. Name

historic Opaekaa Road Bridge

and/or common

2. Location

street & number Opaekaa Road, over Opaekaa Stream not for publication

city, town Kapaa 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 checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture <input type="checkbox"/> museum
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial <input type="checkbox"/> park
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational <input type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment <input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government <input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial <input checked="" type="checkbox"/> transportation
	N/A	<input type="checkbox"/> no	<input type="checkbox"/> military <input type="checkbox"/> other:

4. Owner of Property

name County of Kauai

street & number 4396 Rice Street

city, town Lihue vicinity of state Hawaii

5. Location of Legal Description

courthouse, registry of deeds, etc. Bureau of Conveyances

street & number 1151 Punchbowl

city, town Honolulu state Hawaii

6. Representation in Existing Surveys

title Hawaii Historic Places Inventory has this property been determined eligible? yes no

date 1982 federal state county local

depository for survey records Department of Land & Natural Resources

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 type="checkbox"/> original site
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input checked="" type="checkbox"/> moved
<input checked="" type="checkbox"/> fair	<input type="checkbox"/> unexposed		date <u>1919</u>

Describe the present and original (if known) physical appearance

The Opaekaa Road Bridge is a single lane, wrought-iron, Warren truss bridge which terminates with vertical end posts. The bridge is 73 feet long and its trusses consist of 7 panels, each approximately 10 feet in length and 9 feet 8 inches tall. The trusses are 13 feet 4 inches apart, center to center, and the panels form the outline of a slightly elongated equilateral triangle.

The width of the top chords, bottom chords and end posts is 16 inches, and the diagonal web members are 6 inches wide. The bottom chords of the trusses were strengthened in 1919 when 5 rolled steel I-beams were welded to them. These I-beams run perpendicular to the two trusses and serve to connect them structurally. They also support 2 steel I-beams which run parallel to the trusses and assist in supporting the reinforced concrete roadway deck. The 5 perpendicular I-beams extend beyond the edges of the trusses and 3 of them are connected to the top chords by small welded steel members which provide lateral bracing. The end posts at one end of the bridge are reinforced concrete and at the other end are steel boxes welded to the original trusses.

A reinforced concrete deck, which is at least 5 inches thick, rests on top of the trusses' bottom chords and the I-beams. The entire structure rests upon two lava rock masonry abutments and one lava rock masonry pier.

The trusses are formed of simple rolled plates, angles and channels. They were more than likely riveted together in the iron works and apparently employ drilled rivet holes. A wrought-iron plate near one end of the bridge reads,

Alex. Findlay & Co.
Bridge Builders
Motherwell
near
Glasgow 1890

Originally the Opaekaa Road Bridge was part of a longer three-span bridge which crossed the mouth of the Wailua river. The end posts, deck, I-beams and lateral braces all date from the moving of this section of the Wailua Bridge to the Opaekaa Road location.

Since 1919 the bridge has not been altered or moved.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input 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 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/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input checked="" type="checkbox"/> 1800-1899	<input checked="" type="checkbox"/> commerce	<input checked="" type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input checked="" type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1890, 1919 **Builder/Architect** Alexander Findlay - Joseph H. Moragne

Statement of Significance (in one paragraph)

The Opaekaa Road Bridge is significant as the only known British-made iron bridge in the United States, and one of the few surviving iron bridges in the state of Hawaii. Also, the bridge is significant because of its associations with the development of the Wailua Homesteads.

In 1888 the Hawaiian legislature approved a bridge for the Wailua river, a major impediment to travel between Lihue and settlements on the northwest coast of Kauai. The bridge was fabricated by Alexander Findlay & Co. of Motherwell, near Glasgow, and was delivered in pre-fabricated sections. Due to insufficient funds the bridge was not immediately erected, but in 1894-1895 was finally set in place, following a loan from G.N. Wilcox to the Provisional government for this purpose.

In 1919 the County of Kauai replaced this iron bridge with a reinforced concrete arch bridge. Joseph H. Moragne, the County's Engineer and Road Supervisor, designed and built the new bridge and also was responsible for retaining a part of the former Scottish-made bridge for use over Opaekaa stream.

The Opaekaa Road Bridge is the only known British-made bridge in the United States. It typifies British bridge manufacture of the late nineteenth century with its factory riveted trusses, use of drilled rivet holes, lack of lateral bracing, short height, and use of the bottom chords to support the road deck. This bridge also is one of the few major Nineteenth century, British-manufactured products to still exist in Hawaii, and as such serves as a reminder of the once-strong British presence in the Islands.

The bridge is also one of the few metal truss bridges remaining in the State. Others include the Karsten Thot bridge (Wahiawa, Oahu-1934) and the Hanalei Bridge (Hanalei, Kauai- 1912).

The bridge has further significance for its associations with the opening of the Wailua Homesteads first series. When the United States annexed Hawaii much of the crown lands came under the jurisdiction of the territorial government.

9. Major Bibliographical References

Donald C. Jackson & Barnes Riznic, "Kauai's Opaekaa Bridge: The Only Known British Truss Bridge in the United States" Industrial Archaeology, vol.13 (Summer 1978) no. 2

10. Geographical Data

Acreage of nominated property less than a quarter acre

Quadrangle name Kapaa

Quadrangle scale 1:24000

UMT References

A

0	4	4	6	0	7	0	0	2	4	3	9	7	8	0
Zone			Easting				Northing							

B

Zone			Easting				Northing							

C

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D

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H

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Verbal boundary description and justification

This nomination includes the bridge, its footings and the land & water they stand upon and span.

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

state	code	county	code
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state	code	county	code
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11. Form Prepared By

name/title Don Hibbard architectural historian

organization DLNR date August 31, 1982

street & number 1151 Punchbowl Street telephone 548-6408

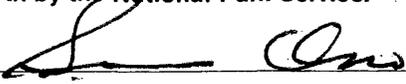
city or town Honolulu state Hawaii

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 State Historic Preservation Officer date February 15, 1983

For NPS use only

I hereby certify that this property is included in the National Register

 date 3-28-83
Keeper of the National Register

Attest: _____ date _____

Chief of Registration

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

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Continuation sheet

Item number 8

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When existing leases on these parcels expired a number of them were subdivided into homesteads, which were sold to people for a modest price.

The Wailua Homesteads first series were opened in December 1919. 908 people applied for the 31 lots, which were distributed by way of a lottery. The roads were constructed prior to the lottery, and the Opaekaa Road bridge was part of this initial government improvement. The Garden Isle of September 23, 1919, applauded the putting in of the roads in advance. The editors found it to be,

A great improvement over anything we have had heretofore, where in many cases a sure-footed pack mule, or a light-landing aeroplane was the only means of getting near some of them (the homestead lots).¹

The area serviced by Opaekaa Road still reflects the agricultural orientation associated with the homestead movement, although many more modern residences now dot the landscape. The bridge stands as one of the few man-made reminders of the period when the homesteads were opened.

1. Garden Isle September 23, 1919, p. 1

