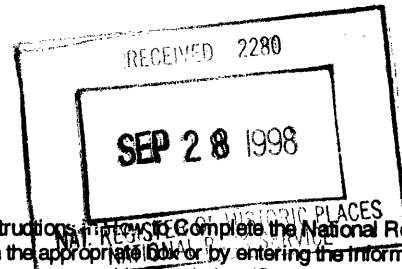


United States Department of the Interior
National Park Service



NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in previous editions. Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name WAI'ALE DRIVE BRIDGE
other names/site number Wai'ale Road Overpass; R. R. Overpass

2. Location

street & number Ka'ahumanu Avenue, 0.1 miles E of Kinipopo Street not for publication N/A
city or town Wailuku vicinity Kahului
state Hawai'i code HI county Maui code 009 zip code 96793

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

[Signature] 9-16-98
Signature of certifying official Date
State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of commenting or other official Date
State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that this property is:
 entered in the National Register
 See continuation sheet.
 determined eligible for the National Register
 See continuation sheet.
 determined not eligible for the
 National Register
 removed from the National Register
 other (explain): _____

[Signature] 10/30/98
Signature of Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property

(Check only one box)

- building(s)
- district
- site
- structure
- object

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing.)

Number of Resources within Property

Contributing	Noncontributing	
0	0	buildings
0	0	sites
1	0	structures
0	0	objects
1	0	Total

Number of contributing resources previously listed in the National Register 0

6. Function or Use

Historic Functions (Enter categories from instructions)

Cat: Transportation

Sub: Road-related (vehicular); Rail-related

Current Functions (Enter categories from instructions)

Cat: Transportation

Sub: Road-related (vehicular)

7. Description

Architectural Classification

(Enter categories from instructions)

OTHER/ Rigid-Frame Steel-Stringer Bridge

Materials

(Enter categories from instructions)

foundation N/A
roof N/A
walls N/A
other Steel, concrete, masonry

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations

(Mark "X" in all the boxes that apply.)

Property is:

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or a grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

USD/NPS NRHP Registration Form
 Wai'ale Drive Bridge
 Maui, Hawai'i
 Historic Highway Bridges of Hawai'i, 1894 - 1941 .

Page 4

11. Form Prepared By

name/title	Barbara Shideler/Architect; Spencer Leineweber/Architect; Ann Yoklavich/Architectural Historian		
organization	Spencer Mason Architects	date	May 21, 1996
street & number	1050 Smith Street	telephone	(808) 536-3636
city or town	Honolulu	state	Hawai'i
		zip code	96817

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets**Maps**

- A USGS map (7.5 or 15 minute series) indicating the property's location.
- A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative black and white photographs of the property.

Additional Items

(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name	State of Hawai'i, Department of Transportation		
street & number	869 Punchbowl Street	telephone	(808) 587-2150
city or town	Honolulu	state	HI
		zip code	96813

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 1 Wai'ale Drive Bridge
 Maui, Hawai'i

Narrative Description

The Wai'ale Drive Bridge carries Ka'ahumanu Avenue (State Highway 32) across Wai'ale Drive in Wailuku, Maui. The bridge was designed to provide a grade separation for the now-defunct Wailuku Sugar Company railroad alignment to the mill.¹ This is one of two steel stringer grade separations designed by William R. Bartels of the Territorial Highways Department in 1936, and constructed by the Hawaiian Contracting Company of Honolulu by steel members fabricated by U.S. Steel Products and the American Bridge Company.²

The Wai'ale Drive Bridge is in its original location along Ka'ahumanu Avenue. The bridge's original design, a steel rigid-frame structure with cantilever ends, remains intact. The bridge has two main spans, the longest is located over the roadway and the other over the now-defunct railroad alignment. The use of steel, a relatively uncommon material in Hawai'i, can be attributed to the industrial purpose of the bridge. The industrial feeling and mill setting of the area has since become more residential since the bridge was first built. The materials used for the bridge, both steel structure and railing, concrete deck and posts, and masonry (basalt or "lava rock") abutments and wingwalls are original, and no reconstruction or major repair of the bridge has been noted by the State DOT. The workmanship of the bridge is evident, particularly in the coursed basalt abutments. The historic feeling remains intact, primarily due to the relatively narrow roadway, uncommon materials, and evidence of the span over the old railroad line. The association the bridge conveys is somewhat diminished since the railroad line to the mill is now gone, nonetheless, the span over the railroad right-of-way clearly remains.

construction date(s): 1936
construction type: steel-rigid frame with cantilever ends
construction cost: unknown
span number: 2
total length: 79'
max. span(s): 51'
roadway width: 34'
height above road: 13.6'
superstructure: reinforced-concrete flat slab (deck) on steel stringers
substructure: masonry (lava-rock) abutments and wingwalls; reinforced-concrete intermediate support
floor/decking: asphalt on concrete deck
parapets: steel balusters with reinforced-concrete rail, and intermediate and end piers
other features: bridge name and date of construction incised on end piers; two 2.5' sidewalks on either side of roadway ; masonry and concrete pedestrian stair to roadway below
alterations: railroad tracks removed beneath bridge

¹Hawai'i (State), Department of Transportation, Design Plans: *Waiale R. R. Overpass, Sta. 20*. prepared by Territorial Highway Department, Territory of Hawai'i, (Honolulu, October 1935).

²Spencer Mason Architects, *Historic Bridge Inventory: Island of Kauai*, Prepared for the State of Hawai'i, Department of Transportation, Highways Division in cooperation with the U.S. Department of Transportation, Federal Highways Administration (Honolulu, 1989), 210.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 8 Page 1 Wai'ale Drive Bridge
 Maui, Hawai'i

Narrative Statement of Significance

The Wai'ale Drive Bridge is significant for its contributions to the fields of engineering and transportation in Hawai'i. The steel stringer bridge is eligible under Criterion A for its associations with the economic development of Maui by providing economical transportation to the mill for the sugar cane plantations located in the Wailuku region. The Wai'ale Drive Bridge is eligible under Criterion C as a uncommon example of a steel stringer bridge in Hawai'i, as well as a rare example of the use of vernacular materials (the lava-rock abutments) on a Federal Aid bridge. The bridge is representative of the "work of a master": William R. Bartels, the chief designer for the Territorial Highway Department.

The Wai'ale Drive Bridge was constructed as part of the upgrading of the Maui Belt Road undertaken by the Territory in the 1930s utilizing Federal funds. The bridge was built with U.S. Works Program Grade Crossing funding which provided federal money, without the usual match requirement, to build bridges separating railroad and road grades. This is the only bridge on Maui associated with the U.S. Works Program Grade Crossing funding. The bridge spanned the railroad alignment to the Wailuku Sugar Company mill, a vital element of Kahului-Wailuku's economic base.

The Wai'ale Drive Bridge is one of two steel rigid-frame bridges in the state (the other is the Lihu'e Mill Bridge on Kaua'i). The erection of steel stringer bridges was a deliberate effort by the Territorial government in permanent public works improvements requiring the latest technology and utilizing federal assistance. The materials selected for the bridge's construction are an usual mixture of steel and "lava rock", a local basalt. The use of steel is uncommon in Hawai'i due to the extreme marine environment and may reflect the requirements of the U.S. Grade Crossing Program. Local basalts were commonly used in bridge construction in Hawai'i during the nineteenth and early twentieth-centuries. Masonry fell out of favor for bridge construction after reinforced-concrete was introduced to Hawai'i in 1904-05, however the material made a resurgence during the Depression.

The bridge was designed by William R. Bartels and constructed by the Hawai'ian Contracting Company with materials fabricated by U. S. Steel Products and the American Bridge Company. Bartels was responsible for the design of all major Territorial bridge projects between 1932 and his retirement from the department in 1956.³ His work characteristically utilized the latest technology and involved a high degree of engineering complexity. Nonetheless, his bridges evidence a refined aesthetic sensibility which makes them distinctive from the works of other engineers.

³Patricia Alvarez, "A History of Road and Bridge Development on the Island of Hawaii" in *Historic Bridge Inventory and Evaluation: Island of Hawaii*, Prepared for the State of Hawai'i, Department of Transportation, Highways Division in cooperation with the U.S. Department of Transportation, Federal Highways Administration (Honolulu, 1987a), 72.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 9 Page 1 Wai'ale Drive Bridge
 Maui, Hawai'i

Major Bibliographical References

- Alvarez, Patricia. "A History of Road and Bridge Development on the Island of Hawaii" in *Historic Bridge Inventory and Evaluation: Island of Hawaii and A History of Road and Bridge Development on the Island of Hawaii*. Prepared for the State of Hawai'i Department of Transportation Highways Division in cooperation with the U.S. Department of Transportation Federal Highway Administration, Honolulu, 1987a.
- Hawai'i Heritage Center. *Historic Bridge Inventory: Island of Maui*. Prepared for the State of Hawai'i Department of Transportation Highways Division in cooperation with the U.S. Department of Transportation Federal Highway Administration, Honolulu, 1990.
- Hawai'i (State), Department of Transportation. Structure Inventory and Appraisal (SI&A) Sheets for Structures Built Before 1940. (Computer printout known as the State Bridge Inventory). Honolulu, 1994.
- _____. Bridge Inventory Sheets for State-owned Bridges. Unpublished data in Bridge Design Section, Honolulu, 1986.
- _____. Design Plans: *Waiale R. R. Overpass, Sta. 20*. prepared by Territorial Highway Department, Territory of Hawai'i. Honolulu, October 1935.
- Spencer Mason Architects. *Historic Bridge Inventory: Island of Kauai*. Prepared for the State of Hawai'i Department of Transportation Highways Division in cooperation with the U.S. Department of Transportation Federal Highway Administration, Honolulu, 1989.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

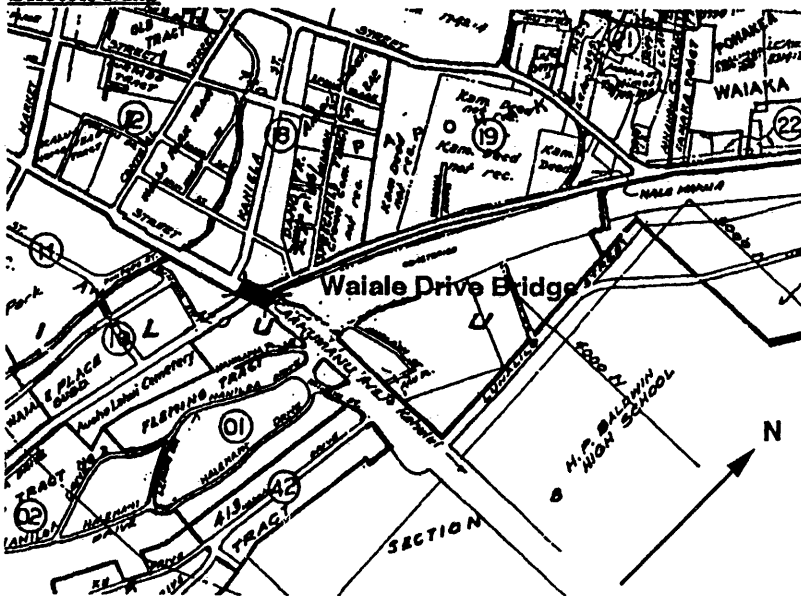
Wai'ale Drive Bridge
Maui, Hawai'i

Additional Documentation

Geographical Map

A United States Geological Survey (USGS) Map indicating the location of the nominated property is appended to the National Register Multiple Property form for "Historic Highway Bridges of Hawai'i, 1894 - 1941".

Sketch Map



Photographs

The following information applies to all photographs for this bridge:

Name of Property:	Wai'ale Drive Bridge
Location:	Wailuku, Maui, Hawai'i
Name of Photographer:	Barbara Sannino Shideler, AIA
Date of Photograph:	May 1994
Location of Original Negative:	State of Hawai'i, Department of Transportation 869 Punchbowl Street, Honolulu, HI 96813

Photograph Number 1: Detail of rail with view of approach; view from SE.

Photograph Number 2: Substructure; view from NE.