

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 on the back of the form. Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete the appropriate box or boxes in the appropriate box or boxes by entering the information requested. If an 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.

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INTERAGENCY RESOURCE CENTER
NATIONAL PARK SERVICE

1. Name of Property

historic name Columbia River Bridge at Kettle Falls

other names/site number WSDOT 395/545

2. Location

street & number U.S. Route 395, spanning the Columbia River not for publication

city or town Kettle Falls vicinity

state Washington code WA county Ferry and Stevens code 019, zip code 99141
065

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, 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.)
Mary M. Romper 2/1/95
Signature of certifying official/Title Date
State of 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 certifying official/Title Date
State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the 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 of the Keeper Edson H. Beall Date of Action 3-28-95
Entered in the National Register

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

Number of Resources within Property
(Do not include previously listed resources in the count.)

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

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)
"Bridges of Washington State, 1941-1950"
"Historic Bridges & Tunnels in Washington State"

Number of contributing resources previously listed in the National Register
0

6. Function or Use

Historic Functions
(Enter categories from instructions)

Transportation/road-related/bridge

Current Functions
(Enter categories from instructions)

Transportation/road-related/bridge

7. Description

Architectural Classification
(Enter categories from instructions)

Other: steel through truss

Materials
(Enter categories from instructions)

foundation _____
walls _____
roof _____
other steel _____
concrete _____

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.

Areas of Significance

(Enter categories from instructions)

Engineering

Transportation

Period of Significance

1941-1945

Significant Dates

1941

Significant Person

(Complete if Criterion B is marked above)

n/a

Cultural Affiliation

n/a

Architect/Builder

Washington State, Dept. of Highways

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 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.

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: Bridge Condition Unit, WSDOT, Olympia, WA; AHS, Eastern Washington University, Cheney, WA

10. Geographical Data

Acreage of Property less than one acre

UTM References

(Place additional UTM references on a continuation sheet.)

1 | 1 | 1 | | 4 | 1 | 7 | 7 | 3 | 0 | 5 | 2 | 7 | 6 | 2 | 6 | 0 |
Zone Easting Northing
2 | | | | | | | | | | | | | | | | | |

3 | | | | | | | | | | | | | | | | | |
Zone Easting Northing
4 | | | | | | | | | | | | | | | | | |

See continuation sheet

Verbal Boundary Description The property is a bridge, measuring 1,266 feet, spanning the Columbia River on U.S. Route 395, and connecting Ferry and Stevens counties, Washington.
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification The boundary of the property is the bridge itself.
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Robert H. Krier, J. Byron Barber, Robin Bruce, Craig Holstine

organization AHS, Eastern Washington University date 3 December 1991

street & number MS-168 Monroe Hall telephone (509)359-2284

city or town Cheney state WA zip code 99004

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 SHPO or FPO.)

name _____

street & number _____ telephone _____

city or town _____ state _____ zip code _____

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 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 Projects (1024-0018), Washington, DC 20503.

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7. Physical Description.

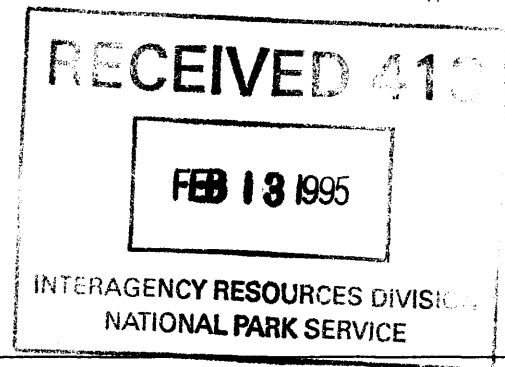
The total length of the Columbia River Bridge at Kettle Falls (completed in 1941) is 1,266 feet 10.5 inches. The structure consists of a cantilever concrete T-beam and two concrete T-beam approach spans on the east end, one concrete T-beam and one concrete cantilever T-beam approach spans on the west end, and a riveted steel through cantilever truss main span. The total length of the concrete T-beam approach spans is 143 feet 2.5 inches on the east end and 73 feet on the west end, for a total of 216 feet 2.5 inches. The steel portion of the structure is 1,050 feet 8 inches long and consists of two anchor spans each 225 feet 4 inches long, two cantilever spans each 150 feet long, and suspended span 300 feet long. the central span is 600 feet long between main piers, making it the longest main span of any bridge built in Washington between 1941 and 1950.

The bridge has a nearly horizontal top chord and sloped bottom chords for the anchor spans and cantilever spans. This type of configuration is cost effective when compared to a straight bottom chord and sloped top chord because it reduces the height of the main piers. An unusual feature of this bridge is the use of sloping reinforced concrete struts running from the top of the first bent of the approach span to the bottom of the first pier of the steel structure to provide longitudinal stability to the top of the first bent. As this bent is approximately 90 feet high and the roadway fill is approximately 75 feet deep, the use of the sloping struts was an economical way of providing longitudinal support to the top of the bent to resist the forces induced by the fill.

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8. Statement of Significance.

The Columbia River Bridge at Kettle Falls is eligible for inclusion in the National Register of Historic Places under Criteria A and C. Completed in 1941, the bridge connects Ferry and Stevens counties, Washington. The structure is significant in several regards. This steel truss bridge crosses one of the most historic features in the region, the Kettle Falls of the Columbia, now inundated. Waters behind Grand Coulee Dam (Lake Roosevelt) cover the falls where Native American peoples gathered to fish and trade for thousands of years. What was once a destination point is now a crossing on two of the state's major highways: State Route 20, traversing the Okanogan Highlands and the North Cascades, and U.S. Route 395, connecting southern British Columbia with Spokane and points east and south. (The same roadway serves as US 395 and SR 20 between the bridge and Colville, Washington.) In addition to its historical significance, the bridge is also important for engineering and design features. Use of sloping struts to provide longitudinal support to resist weight and pressure induced by massive fill represent the successful realization of innovative design concepts.

Construction of the Grand Coulee Dam and formation of Lake Roosevelt necessitated the building of two new bridges across the Columbia River and its tributaries. The largest of these was the bridge at Kettle Falls on Primary State Highway No. 3, now US 395. This bridge replaced an older structure which would be nearly inundated by the backwaters of the Grand Coulee Dam. The abutments of the older bridge are still clearly visible above high water. The present bridge was built at a higher clearance to allow high water runoff and navigable passage beneath. The replacement of the older bridge was a part of one of the largest projects undertaken by the federal government in this century, the Columbia Basin Project.

Construction cost for the bridge was approximately \$452,000. The U.S. Bureau of Reclamation reimbursed the State of Washington for all costs associated with the bridge as part of the Grand Coulee Dam-Columbia Basin Project. Integration of sloping struts (nearly horizontal top chord and sloped bottom chords for the anchor and cantilever spans) into the bridge design provided a cost-effective innovation. The design reduced the height of the main piers, thus contributing to the savings in material expenses. Lacey V. Murrow was the Director of Highways at the time the Columbia River Bridge at Kettle Falls was built. R. W. Finke was the Bridge Engineer. S. S. Mullen & Company was the contractor for the concrete approaches and main piers, and Romano & Company was the contractor for the steel span.

The bridge both illustrates, and is representative of, the magnitude of the projects that characterized the Columbia Basin Project, one of the country's most monumental federal undertakings. The Columbia River Bridge at Kettle Falls occupies a vital and strategic crossing in the transportation network of western United States and Canada, as well as exemplifies ingenious design concepts.

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9. Major Bibliographical References.

Ruby, Robert H., and John A. Brown. *Ferryboats on the Columbia River*. Seattle: Superior Publishing Company, 1974.

Washington State Department of Highways. *Biennial Reports*, 1946–1948, 1948–1950.

Washington State Department of Transportation (WSDOT). Columbia River Bridge at Kettle Falls plans (layout), revision dated 22 March 1940, on file in the Bridge Preservation Office, WSDOT, Olympia, Washington.

WSDOT. "Bridge Condition Card—Columbia River Bridge at Kettle Falls," 18 February 1940, on file in the Bridge Preservation Office, WSDOT, Olympia, Washington.