

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

**National Register of Historic Places
Continuation Sheet**

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 95000263

Date Listed: 3/30/95

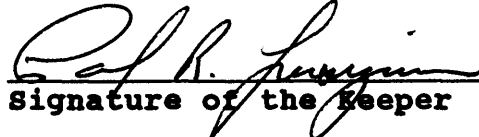
Barstow Bridge
Property Name

Ferry
County

WA
State

Bridges of Washington State MPS
Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.


Signature of the Keeper

3/30/95
Date of Action

=====
Amended Items in Nomination:

Description:

The Barstow Bridge should be properly called a pony truss design rather than a through truss. While the traffic load is carried with the truss's bottom chords, there is no lateral bracing between the top cords. This technical change does not impact the property's significance.

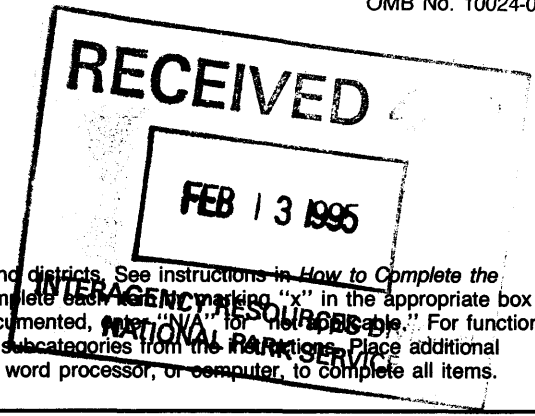
This information was confirmed with Lauren McCroskey of the WA SHPO.

DISTRIBUTION:
National Register property file
Nominating Authority (without nomination attachment)

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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 *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete back marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, mark "N/A" for "Not Applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the *National Park Service*. 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 Barstow Bridge

other names/site number Bridge No. 224

2. Location

street & number U.S. Route 395 and County Road 4061 spanning Kettle 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. Hanson 2/7/95
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 Patrick Andrews Date of Action 3/30/95

Barstow Bridge
Name of Property

Ferry/Stevens, Washington
County and State

5. Classification

Ownership of Property
(Check as many boxes as apply)

Category of Property
(Check only one box)

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

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

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

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: through Pratt truss

Materials
(Enter categories from instructions)

foundation
walls
roof
other steel

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

Period of Significance

1947-1950

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.

Significant Dates

1947

Significant Person

(Complete if Criterion B is marked above)

n/a

Cultural Affiliation

n/a

Architect/Builder

U.S. War Department

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 - Stevens County Dept. of Public Works, Colville, WA;
University of Washington, Eastern Washington University, Cheney, WA

Name of repository: vices, Eastern Washington University, Cheney, WA

Barstow Bridge
Name of Property

Ferry/Stevens, Washington
County and State

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 4 0 0	5 4 0 3 9 0 0
	Zone	Easting	Northing
2			

3			
	Zone	Easting	Northing
4			

See continuation sheet

Verbal Boundary Description The property is a bridge, measuring 180 feet, spanning the Kettle River on Stevens County Road No. 4061, about 1.0 mile northeast of U.S. Route 395.

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 11 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 _____

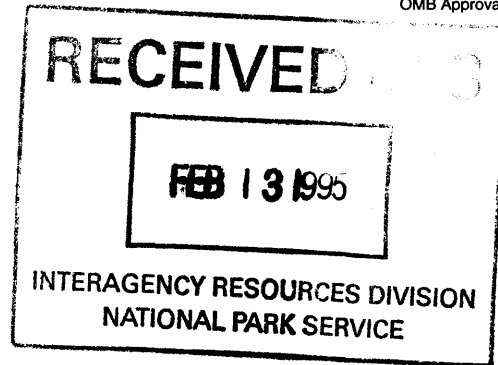
Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain 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 pre-fabricated steel through Pratt truss Barstow Bridge spans the Kettle River in a sparsely populated region of northeastern Washington. Purchased from the U.S. War Assets Administration in 1946, the surplus World War II bridge was moved into place at its crossing near the unincorporated community of Barstow in 1947.

The truss span of the Barstow Bridge is 123 feet long and, with approach spans, the bridge totals 180 feet in length. The narrow width (16 feet) of the former railroad bridge accommodates only a single lane of motor vehicle traffic. The bridge's roadway is composed of timber planking. In placing the Barstow Bridge, the contractor utilized one concrete abutment (at the east bank) from the previous bridge and constructed a new center pier resting upon ten 10-foot-by-10-foot H-bearing piles and steel abutments held in place by four 10-foot-by-10-foot H-bearing piles on the west bank. The bridge weighs 131 tons.

All pre-fabricated World War II bridges of the same type as the Barstow Bridge conformed to certain standards. The bridges were through Pratt truss railway bridges, which were constructed of standard unit parts, many of which could be reversed end for end. The Pratt truss design allowed rapid field construction by unskilled labor, under skilled direction. The design was intended for use where wide gaps had to be bridged without intermediate piers. Spans from 90 to 150 feet could be accommodated with the Pratt truss design. Because these bridges were heavier than typical unit construction railway bridges, loadings up to a "Cooper's E-45" rating could be accommodated (A Cooper's E-45 rating indicates a considerably heavier carrying capacity than any highway bridge of like dimensions.). Connections for the bridges consisted of rivets and bolts (used for permanent connections) and driftpins with pegs (used for temporary connections). Principal erection equipment consisted of a launching nose, a tail frame, trolleys, receiving and lowering equipment, and erection gantries and travelers. Because of the Barstow Bridge's exceptional weight, and the heavy loads involved, standard (T-type) unit steel trestles were used as piers. (U.S. War Department, *War Department Technical Manual: Through Truss Railway Bridge*, TM5-373, 18 August 1944:1-2.)

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Section number 8 Page 1A Name of Property Barstow Bridge
County and State Ferry & Stevens Counties, WA

The Barstow Bridge meets National Register guidelines for exceptional significance as the single example of a bridge type which is a direct reflection of the nation's building challenges following World War II. Designed as a prefabricated unit for use in European railway bridge replacement during the war, the bridge was obtained from surplus stock in 1947 and adapted for vehicle traffic in this remote corner of Washington. The bridge is the only example of such an application of this bridge type in the state, and its transport, adaptation and installation at this site was an engineering feat in itself. The Barstow Bridge belongs to a recognized period in the country's building industry during and after the war, a period characterized by advancements in prefabrication and the resourceful adaptation of scarce materials.

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8. Statement of Significance

The Barstow Bridge is eligible for inclusion in the National Register of Historic Places under Criterion C. Located north of the confluence of the Kettle and Columbia rivers in a sparsely populated area of northeastern Washington State, the Barstow Bridge occupies a vital crossing in the agricultural and logging region known as the Kelly Hill District. The structure is the only known pre-fabricated World War II railway bridge serving as a vehicular bridge in Washington State. The bridge is successful in meeting the site challenge connected with the Kettle River crossing and is significant for its adaptive design used for strategic purposes during World War II and the subsequent recycling and modification of the structure for civilian use.

Moved into place in 1947, the pre-fabricated single-lane Barstow Bridge spans the Kettle River, which forms the boundary between Stevens County on the east and Ferry County on the west. The structure is co-owned by the two counties. The bridge is the latest in a succession of bridges that have occupied the present crossing since 1904. The history of this crossing illustrates difficulties some counties face in building and maintaining bridges in remote rural areas. Periodic flooding of the Kettle River and maintenance difficulties (deterioration and stream flow damage to rock-filled timber crib piers) were principally responsible for the destruction, abandonment, and replacement of earlier bridges. In addition, the Barstow Bridge is one of only two bridges in the area capable of supporting farm and logging trucks, thus facilitating the movement of agricultural and timber products from east of the Kettle River to U.S. Route 395.

In 1946, Stevens County reached a practical solution to the problems of the Kettle River crossing. During the summer of 1946, the county purchased a pre-fabricated steel railway through Pratt truss bridge from the Reconstruction Finance Corporation (or War Assets Administration) for use as a highway bridge—the present Barstow Bridge. The War Assets Administration headquarters and surplus bridge stock was located in Albany, New York, from where the Barstow Bridge was shipped to Stevens County in 1947. This bridge was one of many similar structures produced for use in replacing war-damaged bridges in the European Theater of Operations during the U.S.'s involvement in World War II (1941–1945). It is not known at this time, however, if the Barstow Bridge was actually used for bridge replacement during the War or if it was a part of strategic war stocks inventory and never transferred to the war zone. The Barstow Bridge is an example of a bridge type specifically modified for strategic purposes from an earlier prototype (the through Pratt truss bridge patented in 1842). Revision of this early popular bridge type by World War II-era engineers facilitated rapid repair and construction of bridges in the field under war-time conditions. Later, the War Assets Administration sold these bridges as surplus stock to local civilian governments.

The contractor for transporting the Barstow Bridge from Boyds, Washington, to the bridge site was Northwest Hauling Company. Erection plans for the Barstow Bridge and piers across the Kettle River were designed by W. T. Batcheller of Seattle.

9. Major Bibliographic References

Steven County Department of Public Works. Barstow Bridge files (various), on file in the Department of Public Works, Colville, Washington.

U.S. War Department, *War Department Technical Manual: Through Truss Railway Bridge*, TM5-373, 18 August 1944:1–2.