

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: 95000630

Date Listed: 5/24/95

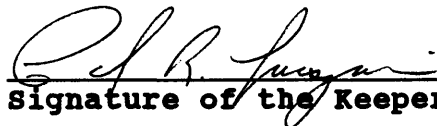
Toppenish-Zillah Bridge
Property Name

Yakima
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

5/24/95
Date of Action

=====
Amended Items in Nomination:

U.T.M.:

The correct UTM coordinates should read: 10 709080 5141850.

This information was confirmed by Lauren McCroskey of the Washington SHPO

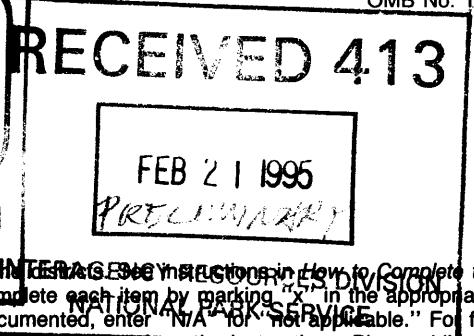
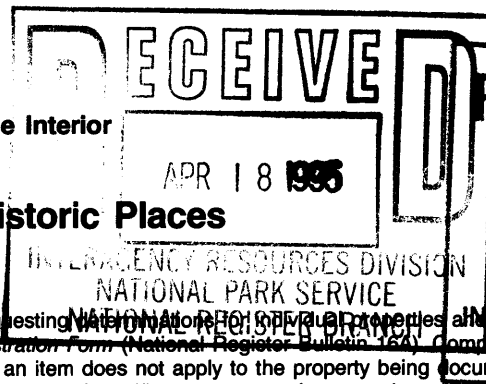
DISTRIBUTION:

- 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 preliminary consideration for individual properties and districts. See instructions in How to 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 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.

1. Name of Property

historic name Toppenish-Zillah Bridge

other names/site number Bridge No. 485

2. Location

street & number Secondary Highway between Toppenish and Zillah, not for publication
spanning the Yakima River

city or town Toppenish vicinity

state Washington code WA county Yakima code 077 zip code 98948

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. Kasper 2/21/95
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

Date of Action

Cal R. Ferguson

5/24/95

Toppenish-Zillah Bridge
Name of Property

Yakima, Washington
County and State

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

APP

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: concrete box girder

Materials
(Enter categories from instructions)

foundation _____
walls _____
roof _____
other concrete _____

Narrative Description

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

Toppenish-Zillah Bridge
Name of Property

Yakima, Washington
County and State

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 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.

Areas of Significance

(Enter categories from instructions)

Engineering

Period of Significance

1947

Significant Dates

1947

Significant Person

(Complete if Criterion B is marked above)

n/a

Cultural Affiliation

n/a

Architect/Builder

Homer M. Hadley, engineer

Ramsey & Company, contractors

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 Yakima County, Dept. of Public Works, Name of repository: Yakima, WA; Archaeological and Historical Services, Eastern Washington University, Cheney, WA

Toppenish-Zillah Bridge
Name of Property

Yakima, 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 | 10 | 709080 | 5141850 |
| Zone | Easting | Northing | |
| 2 | | | |

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

See continuation sheet

Verbal Boundary Description The property is a bridge, measuring 541 feet in length, spanning the Yakima River on the Washington State Secondary Highway between the communities of Toppenish and Zillah, 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 6 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 _____

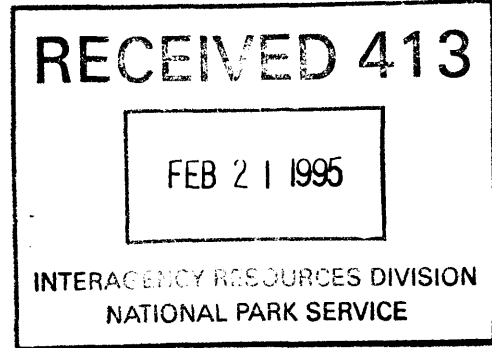
Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain 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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National Register of Historic Places Continuation Sheet

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7. Physical Description

The Toppenish–Zillah Bridge is located in Yakima County, Washington, spanning the Yakima River between the communities of Toppenish and Zillah. Constructed in 1947, the bridge replaced an earlier structure built on the same alignment.

The Toppenish–Zillah Bridge is a symmetrical, continuous reinforced-concrete box-girder bridge consisting of 34.5-foot cantilevers at each end and four interior spans, each 118 feet long, for a total length of 541 feet. The bridge was designed by Homer M. Hadley, who also designed the Donald–Wapato Bridge located nearby. Unlike the Donald–Wapato Bridge (County Bridge No. 396), which consists of two separate hollow boxes, the Toppenish–Zillah Bridge is a single box consisting of two cells. The box is 6 feet deep and 19 feet wide with 4.5-foot cantilevers that extend on each side of the box to support the 2-foot curbs and railings. The lattice steel railing adds to the aesthetics of the bridge. Expansion rollers are placed at piers 1, 2, 4, and 5 to allow for thermal movements. Only pier 3 is rigidly fixed to the superstructure. Pier 3 is a single, solid shaft, whereas the other piers are composed of two separate shafts, or columns, connected with a solid wall. All of the piers have angular ends, or “nosings,” to facilitate stream flow and to serve as architectural embellishments.

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8. Statement of Significance

The Toppenish–Zillah Bridge is eligible for inclusion in the National Register of Historic Places under Criterion C. This bridge is significant as the earliest known continuous indeterminate box girder bridge built in the state of Washington. Earlier box-girder structures, such as the Purdy Bridge (b. 1936) in Pierce County, the Washougal River Bridge (b. 1946) and the Cedar Creek Bridge (b. 1946), both in Clark County, are not considered continuous, indeterminate bridges. x

O. E. Breashears was the Yakima County road engineer in charge of the Toppenish–Zillah Bridge project. Contractor for the project was Ramsey & Company, a well-known bridge builder from the 1940s through the 1960s. The Toppenish–Zillah Bridge was built at a cost of \$135,800.

The Toppenish–Zillah Bridge was designed by Homer M. Hadley, an engineer of considerable renown in Washington State. Given the type of structure represented by the Toppenish–Zillah Bridge and the date of its construction, it appears highly probable that Hadley used the Hardy Cross moment distribution method (a then-new system of mathematical formulations) to determine the moments in his design of this continuous, indeterminate structure. Thus, the Toppenish–Zillah Bridge appears to represent a structure utilizing an advanced method of analysis for its era.

Hadley was particularly well known for his work in the advancement of box girder concepts for the design of structures, and for innovative engineering techniques employed in his early bridges. These structures served as prototypes for later box girder bridges. The Toppenish–Zillah Bridge is significant because of its association with Homer M. Hadley, that it represents an advanced method of design analysis for its time, and because it is the earliest known continuous indeterminate box girder bridge constructed in Washington State.

9. Major Bibliographic References

Soderberg, Lisa. 1980. "Historic Bridges and Tunnels in Washington State," on file in the Washington State Office of Archaeology and Historic Preservation, Olympia, Washington.

Yakima County Department of Public Works. Toppenish–Zillah Bridge plans, dated 20 February 1947, on file in the Department of Public Works, Yakima County Courthouse, Yakima, Washington.