NPS Form 10-900 OMB No. 1024-0018 883

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

RECEIVED 2280
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NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* 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.

1. Name of Property

Historic name: West Bridge
Other names/site number: Bridge No. 6527
Name of related multiple property listing:
~~N/A~~ IRON & STEEL BRIDGES OF MN MPS
(Enter "N/A" if property is not part of a multiple property listing

2. Location

Street & number: Adjacent to County Road 116 over Watonwan River
City or town: Madelia State: Minnesota County: Watonwan
Not For Publication: N/A Vicinity: N/A

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this X 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 X meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___**national** X **statewide** ___**local**

Applicable National Register Criteria:

___**A** ___**B** X **C** ___**D**

Barbara Howard September 23, 2013

Signature of certifying official/Title: Deputy SHPO, MHS **Date**

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official: **Date**

Title : **State or Federal agency/bureau or Tribal Government**

4. National Park Service Certification

I hereby certify that this property is:

✓ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:) _____

for Edson H. Beall 12.3.13

Signature of the 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 ☐

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

Contributing	Noncontributing	
		buildings
		sites
1		structures
		objects
1		Total

Number of contributing resources previously listed in the National Register 0

6. Function or Use
Historic Functions
(Enter categories from instructions.)
TRANSPORTATION/road-related (vehicular)

Current Functions
(Enter categories from instructions.)
TRANSPORATION/pedestrian-related

7. Description

Architectural Classification
(Enter categories from instructions.)
Other: Warren through truss

Materials: (enter categories from instructions.)
Principal exterior materials of the property: Steel (superstructure)
Asphalt (other)
Concrete (substructure)

Narrative Description
(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

West Bridge (No. 6527) is located in the northeast corner of section 28, Township 107 North, Range 30 West (Madelia Township) in the northeast corner of Watonwan County, Minnesota, where it crosses the Watonwan River in the southwest corner of the city of Madelia. Aligned on a northeast-southwest axis adjacent to County Road (CR) 116, it is a single-span, steel, riveted Warren through truss with vertical members. It has a main span length of 94.5 feet, a structure length of 96.7 feet, and a deck width of 15.8 feet.[1] It was built in 1908 as a vehicular bridge but was converted to pedestrian use in 1990. It has historic integrity.

[1] These measurements are taken from the Minnesota Department of Transportation (Mn/DOT) Structure Inventory Report in 2012.

Narrative Description

See Continuation Sheet, Section 7.

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.
- [x] 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.)

- [ ] 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 old or achieving significance within the past 50 years

Areas of Significance
(Enter categories from instructions.)
TRANSPORTATION

Period of Significance
1908

Significant Dates
1908

Significant Person
(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder
Jones, Commodore P.

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Built in 1908 in Madelia, Minnesota, West Bridge (No. 6527) is significant under National Register Criterion C in the Area of Significance of Engineering as an example of the work of Commodore P. Jones, a bridge builder important to the history of bridge building in Minnesota. It is also significant under National Register Criterion C in the Area of Significance of Engineering for its use of riveted connections before 1913, when such connections became standard for steel highway bridges based on the specifications of the State Highway Commission of Minnesota (SHC). Its period of significance is 1908. The West Bridge is being nominated under the Multiple Property Documentation Form (MPDF) "Iron and Steel Bridges in Minnesota, 1873-1945." The bridge has statewide significance.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

See Continuation Sheet, Section 8.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

PUBLISHED SOURCES

Brown, John A., ed. *History of Cottonwood and Watonwan Counties, Minnesota, Their People, Industries and Institutions.* Indianapolis: B.F. Bowen & Company, Inc., 1916.

Davison's Minneapolis City Directory. Minneapolis: Minneapolis Directory Company. 1908

Gardner, Denis P. *Wood, Concrete, Stone, and Steel, Minnesota's Historic Bridges.* Minneapolis: University of Minnesota Press, 2008.

General Laws of the State of Minnesota. Delano, Minnesota: The Eagle Printing Co., 1907.

General Laws of the State of Minnesota. Saint Paul: The Pioneer Company, 1913.

History of Watonwan County Minnesota. Dallas, TX: Curtis Media, 1995.

Illustrated Historical Atlas of the State of Minnesota. Chicago: A.T. Andreas, 1874.

Ketchum, Milo S. *The Design of Highway Bridges and the Calculation of the Stresses in Bridge Trusses.* New York: The Engineering News Publishing Co., 1908.

Madelia Times Messenger, 1907-1908.

Map of Watonwan County, Minnesota. Vermillion, South Dakota: E. Frank Peterson, 1898.

Minnesota, Dakota and Montana Gazetteer and Business Directory. Saint Paul: R.L. Polk & Co., 1884-1913.

Plat Book of Watonwan County, Minnesota. Philadelphia: Inter State Publishing Co., 1886.

Quivik, Fredric L. "Montana's Minneapolis Bridge Builders." *IA: Journal of the Society for Industrial Archeology* 10 (1984): 35-54.

Upham, Warren. *Minnesota Place Names, a Geographical Encyclopedia.* 3d ed. Saint Paul: Minnesota Historical Society Press, 2001.

UNPUBLISHED SOURCES

Curtis, Will, Mrs., comp. "Historical Incidents of Watonwan County, Minnesota." Minnesota Historical Society, Saint Paul, [ca 1924].

Fourteenth Census of the United States (1920).

Frame, Robert M., III. "Historic Bridge Project: A Report to the State Historic Preservation Office of the Minnesota Historical Society and the Minnesota Department of Transportation." Minnesota Historical Society, Saint Paul, 1985.

Haycroft, Julius E. "Madelia in retrospect." Address by Judge Julius E. Haycroft at Madelia's third decennial homecoming, July 21, 1934. Minnesota Historical Society, Saint Paul.

History/Architecture Inventory, State Historic Preservation Office, Minnesota Historical Society, Saint Paul. Accessed February 2013.

Minnesota. Bridge Division. Bridge Maintenance Logs, 1921-1934, 1964. State Archives, Minnesota Historical Society, Saint Paul.

Minnesota Department of Transportation (Mn/DOT). Bridge Division. Subject files, 1909-2000. State Archives, Minnesota Historical Society, Saint Paul.

Mn/DOT. "Bridge No. 6527," Bridge Inspection Report. Mn/DOT, September 2011.

Mn/DOT. "Bridge No. 6527," Structure Inventory Report. Mn/DOT, Accessed June 2012.

Minnesota State Census of1905.

Minnesota State Highway Commission. "Standard Specifications for Steel and Concrete Highway Bridges." [Saint Paul: Minnesota State Highway Commission, 1912]. Minnesota Historical Society, Saint Paul.

Parsons Brinckerhoff and Engineering and Industrial Heritage. "NCHRP Project 25-25, Task 15: A Context for Common Historic Bridge Types," National Cooperative Highway Research Program, Transportation Research Council, National Research Council, October 2005.

Quivik, Fredric L., and Dale L. Martin. "Iron and Steel Bridges in Minnesota, 1873-1945," National Register of Historic Places Multiple Property Documentation Form, 1988. State Historic Preservation Office, Minnesota Historical Society, Saint Paul.

Tenth Census of the United States (1880).

WEB SOURCES

"Cloyd [sic] Perry "Commodore" Jones, Sr." Accessed February 2013. http://www.*findagrave.com*.

Mn/DOT Bridge Reports. Accessed February 2013. http://www.*dotapp7.dot.state.mn.us/bridgereports*.

"National Bridge Inventory Data. " Accessed February 2013. http://www.*uglybridges.com*.

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 # _____
____ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

_x_ State Historic Preservation Office
____ Other State agency
____ Federal agency
____ Local government
____ University
_x_ Other
Name of repository: Minnesota Historical Society Library

Historic Resources Survey Number (if assigned): WW-MDT-003

10. Geographical Data

Acreage of Property less than one acre

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates
Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)

1. Latitude: Longitude:
2. Latitude: Longitude:
3. Latitude: Longitude:
4. Latitude: Longitude:

Or
UTM References
Datum (indicated on USGS map):

[x] NAD 1927 or [ ] NAD 1983

1. Zone: 15 Easting: 3 85 300 Northing: 48 77 588
2. Zone: Easting: Northing:
3. Zone: Easting: Northing:
4. Zone: Easting : Northing:

Verbal Boundary Description (Describe the boundaries of the property.)

The nominated property consists of a rectangle, 96.7 feet long and 15.8 feet wide, whose corners coincide with the outside corners of the bridge abutments at each end of the bridge.

Boundary Justification (Explain why the boundaries were selected.)

The boundary of the nominated property includes the parcel historically associated with bridge.

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11. Form Prepared By

name/title: Emily F. Ganzel, Historian
organization:
street & number: 5317 14th Avenue South
city or town: Minneapolis state: MN zip code: 55417
e-mail emily@ganzelworks.com
telephone: 612/824-9960
date: 11 April 2013

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: West Bridge

City or Vicinity: Madelia

County: Watonwan State: MN

Photographer: Emily Ganzel

Date Photographed: November 2012

Description of Photograph(s) and number, include description of view indicating direction of camera:

Photo #1 of 4.
West Bridge perspective view, camera facing east.

Photo #2 of 4.
West Bridge northeast approach, camera facing southwest.

Photo #3 of 4.
West Bridge below deck, camera facing southwest.

Photo # 4 of 4.
West Bridge detail of floor beam/vertical connection, camera facing south.

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.460 et seq.).
Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 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 Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

NARRATIVE DESCRIPTION

West Bridge (No. 6527) was built as a vehicular bridge over the Watonwan River in 1908. In 1990, it was converted to pedestrian use. A golf course is south of the bridge. The bridge's surroundings include some trees and other low vegetation along the river bank. Except for the river's shallow ravine, the terrain is relatively flat. Bridge No. 83531 carries CR 116 across the river ten feet southwest of the West Bridge. It was erected in 1990 to replace the West Bridge. An asphalt road leads to the West Bridge's northeast portal; a dirt path leads away from the southwest portal.

The superstructure of the West Bridge consists of two parallel Warren trusses with vertical members, having six panels each. The upper chords and end posts are comprised of built-up, riveted, back-to-back channels with cover plates on top and batten plates underneath. The lower chords as well as the vertical and diagonal members are built-up and riveted, with paired back-to-back angles and batten plates. The truss rigid connections are riveted gusset plates.

The portal and sway bracings use an A-frame design. The top lateral bracings are comprised of angle members. Railings, which extend between the portal end posts inside both trusses, consist of two angle-section rails carried on angle-section posts.

The floor system is made up of five rolled I-beam floor beams with welded cover plates. The floor beams carry 16 lines of stringers—14 rolled I-beams and two channels in the center. The stringers support a bridge deck comprised of corrugated metal panels with asphalt overlay. The floor beams are riveted to the verticals with gusset plates and angles. The bottom bracings are paired facing angles in an "x" configuration.

The bridge has roller-nest expansion bearings on its northeast end and fixed bearings on its southwest end. The bearings include a number of historic square-headed bolts.

The bridge's substructure includes concrete abutments. The northeast abutment is straight without wing walls and the southwest abutment includes a full-width wing wall in the west corner and a narrower wing wall in the south corner.

Minor repairs have been made to the West Bridge. The deck's corrugated metal panels are not original[1], nor are the cover plates on the floor beams described above. The southwest abutment has been repaired with concrete.

The bridge shows limited deterioration, including flaking paint and some rust on the members and on

[1] According to an article in the *Madelia Times-Messenger* (4 October 1907), the original deck was constructed with three-inch oak plank flooring and a concrete backing.

the deck's exposed metal panels. The sway struts on both portals are bent, and the railings have about a half-dozen bent members. Neither the repairs nor the deterioration affect the bridge's design integrity.[2]

The bridge retains integrity of materials. By retaining its riveted connections and the use of rivets and bolts for secondary field connections, the bridge maintains its integrity of workmanship. A comparison of the bridge today with an historic photo of the bridge shows that it is largely unaltered. (See Figure 1.)

The West Bridge retains its integrity of location. The bridge's setting, however, has changed from the tree-lined approach photographed in 1917. (See Figure 2.) Set within 10 feet of CR 116 and with buildings visible to the southwest, the bridge has diminished integrity in its immediate setting. The golf course, however, and the trees and vegetation along the river do support the integrity of feeling for the bridge's original rural surroundings.

[2] The MnDOT Bridge Inspection Report from 2011 indicates the pack rust does not strain the bridge's connections. Available reports do not indicate when the bridge was last painted.

STATEMENT OF SIGNIFICANCE

The West Bridge is located in southern Minnesota on the western edge of the city of Madelia. The city is within Madelia Township in the northeast corner of Watonwan County. Originally part of Brown County to its north, Watonwan County was established in 1860[1] and named for the river which runs west to east through it.[2]

First platted in 1857 and incorporated as a village in 1873, Madelia is the original county seat for Watonwan County. (In 1878, the county seat was moved to the nearby city of St. James.) Madelia was named for the daughter of Gen. Madeline Hartshorn, one of the proprietors of the Madelia townsite.[3] By the time the St. Paul & Sioux City Railroad reached Madelia in 1870,[4] it was "the only village Watonwan county could then boast of having."[5] The population of the city of Madelia in 1870 was 215; by 1905 it had grown to approximately 800[6]. The city grew geographically as well—in twelve years, it expanded one-quarter mile to the south and the Watonwan River became the city's southern boundary.[7]

Three Madelia Bridges

The West Bridge was named for its geographical relationship with two other bridges (East and Center) that also crossed the Watonwan River to enter the city of Madelia from the south. Of the three bridges extant in 1908, only the West Bridge remains; the other two have been replaced. The West Bridge is located on the border of Sections 28 and 27 in Madelia Township; the current Center Bridge is a half-mile downstream and the current East Bridge is a half-mile further.[8]

The site of the West Bridge appears to be the earliest crossing of the three; an 1874 map shows a river crossing next to a mill at the site of the current West Bridge.[9] An 1886 plat map of Watonwan County indicates a bridge at the site, just south of the Madelia Mills and a mill race. The same 1886 map also shows river crossings at the sites of the Center and East bridges.[10] An 1898 map identifies each of the crossings as bridges.[11]

Available sources reveal little information about the West and Center bridges depicted on the 1898 map. The East Bridge, however, has been documented as a wrought-iron Pratt through-truss built by Horace E. Horton in 1886.[12] This has since been replaced and the current bridges at the site –Bridge Nos. 83017 and 83018 made of pre-stressed concrete beams and girders—were built in 1975 as part of Highway 15 just south of Madelia.[13]

In 1908, the same year they built the West Bridge, the Minneapolis Bridge and Iron Company was also contracted to rebuild the Center Bridge as a steel bridge for $1,693.[14] In 1929, the Center Bridge was replaced with a Parker through-truss bridge. This in turn was replaced in 1974 with Bridge No. 83001 made of pre-stressed concrete beams and girders.[15]

The bridge replaced by the current West Bridge was apparently made of timber, based on a February 1908 newspaper account of "the bridge timber sale at the old West bridge ... [at which] the supervisors cleared $112 on the timber, after reserving a considerable portion of it."[16]

The push to replace "the rickety old west bridge"[17] began in July 1907, when the Madelia township supervisors called a special election to decide whether to build a new bridge. Under the headline "Vote for the Bridge," the *Madelia-Times Messenger* argued, "By all means a new bridge should be built, for the old West bridge was long ago condemned and is absolutely unsafe. Look at the old bridge—then cast your ballot."[18]

The special election was held 22 July 1907 and the measure passed with 29 in favor and 3 opposed. It was then sent to the Watonwan County commissioners for their approval on 6 August 1907.[19] The commission followed a new state law enacted that year that divided the expense of bridge construction equally between the county and township.[20] The commissioners agreed to assist "in the construction of a new steel bridge across the Watonwan River" with Commissioners Crowley and Blisser helping to select the bridge contractor.[21]

On August 31, 1907, the Madelia Township Board accepted sealed contractor bids for the project, reserving the right to reject any and all bids.[22] The lowest bid received was $300 over the budget of $3,000; therefore all of the bids were rejected. Newspaper accounts do not explain what transpired after the bids were rejected, but on October 2, 1907, the village, township, and county boards met in a joint session and awarded the $3,000 contract to the Minneapolis Bridge and Iron Company, whose president was Commodore P. Jones.[23]

Bridge Contractor Commodore P. Jones

In a seminal article on bridge builders, architectural historian Fredric L. Quivik refers to Commodore P. Jones as one of the "founding fathers of the Minneapolis 'family' of bridge builders"[24] and he is included among Minnesota's significant early bridge builders in the MPDF "Iron and Steel Bridges in Minnesota," also authored by Quivik.[25] Born in Missouri in 1847, Commodore P. Jones had moved to Minneapolis by 1880 where he is listed in the Federal Census as a "bridge contractor."[26] By 1884, he had partnered with S.M. Hewett to form Jones & Hewitt, "builders of iron, combination and wood bridges."[27] After this partnership dissolved, Jones began the Jones Bridge Company in 1886.[28] The Minneapolis Bridge and Iron Company is first listed in the *Minnesota Business Directory* in 1900 with Jones as its president.[29]

When it built the West Bridge in 1908, the Minneapolis Bridge and Iron Company included Commodore Jones as president, Commodore's 29-year-old son, Robert C. Jones, as vice president and treasurer, and F.W. Straw as secretary.[30] In this same year, the firm also built two other bridges in Watonwan County—the East Bridge described above and the Long Lake Township Bridge (No. L-9044).[31] Of the

three, only the West Bridge survives.

In fact, based on available information, the West Bridge is the only bridge built by Commodore Jones in Minnesota that is extant.[32] There are no surviving bridges from the Jones & Hewitt partnership,[33] nor any from the Jones Bridge Company.[34]

The Minneapolis Bridge and Iron Company merged with the Hewett Bridge Company to form the Great Northern Bridge Company in 1912, with Commodore's son, Robert C. Jones, as secretary. Commodore Jones is not listed among the company's principals in the *Minnesota Business Directory*.[35] In 1920, Jones was still listed in the Federal Census as a bridge builder in Minneapolis.[36] Available records suggest that he died in California in 1927.[37]

Warren Through-Truss with Riveted Connections

At the end of the 19th and the beginning of the 20th century, iron and steel truss bridges dominated bridge building,[38] typically using the Pratt truss and later the Warren truss designs.[39] In designing a Warren through-truss for the West Bridge, Jones was implementing a design that had gained popularity in the U.S. in the 1890s, although few examples from the 19th century remain. The Warren pony truss (a shallower truss without overhead bracing) was used by counties throughout the U.S. beginning in the 1890s, by state highway departments beginning in the 1920s, and by railroads beginning in the 1930s.[40] By the late 1920s, the Warren bridge type, "more refined and economical in its use of materials," replaced the Pratt bridge type as the most common truss design.[41]

The West Bridge is the earliest vehicular Warren through-truss bridge remaining in Minnesota. The earliest after that is Bridge No. 90664 in Minneapolis, a five-span Warren through-truss over the Burlington Northern Railroad built by the Northern Pacific Railway in 1925.[42]

Given his selection of the Warren through-truss design for the West Bridge, Jones' use of riveted connections instead of pinned connections on the bridge is not unexpected. Civil Engineer Milo S. Ketchum wrote in 1908, the same year that the West Bridge was built, that "the Warren truss is commonly built with riveted joints."[43] It is important to note, however, that pin-connected truss bridges were still more prevalent than riveted trusses in the first decade of the 20th century.[44]

In 1908, the choice between riveted and pinned connections on Minnesota county and township bridges was largely left to bridge builders and engineers, since counties were usually responsible for bridge construction and builders' bids were often based on their own designs. Although the first statewide requirements for bridge design and construction were created after the State Highway Commission of Minnesota (SHC) was established in 1905, the SHC had jurisdiction only over bridges built with state funds.[45]

In 1912, the SHC issued its "Standard Specifications for Steel and Concrete Highway Bridges" bulletin, which stated that "all field connections of ... all truss bridges of 75 feet and over in length shall be field riveted."[46] At the time, this applied only to state-funded bridges. The next year, however, the state legislature passed the Dunn Law[47] which stated that "all county roads shall be established, constructed and improved ... in conformity with the rules and regulations to be made and promulgated by the highway commission."[48] It was therefore only in 1913 that the riveted connections used by Jones on the West Bridge became the standard for all county bridges.

Summary

The West Bridge is the earliest vehicular Warren through-truss bridge remaining in Minnesota. Its significance makes it eligible for the National Register within the historic context of "Iron and Steel Bridges of Minnesota, 1873-1945." In this MPDF, historians Fredric L. Quivik and Dale L. Martin provide a list of registration requirements that make a bridge eligible for the National Register under Criterion C and the Area of Significance of Engineering. Included as a qualification is that the bridge is "built by an important Minnesota bridge builder;" a select list that includes Commodore P. Jones.[49] As noted above, in an earlier article, Quivik also refers to Commodore P. Jones as one of the "founding fathers of the Minneapolis 'family' of bridge builders."[50] The West Bridge is the only bridge built by Jones in Minnesota that is extant.

The West Bridge is also eligible for the National Register under Criterion C and the Area of Significance of Engineering for its use of riveted connections. While the State Highway Commission of Minnesota, created in 1905, recommended riveted connections over pinned connections, state law did not require county bridges to meet the commission's specifications until 1913. With the construction of the West Bridge in 1908, Jones adopted an engineering technique predating state specifications by five years.

[1] Warren Upham, *Minnesota Place Names, a Geographical Encyclopedia.* 3rd ed. (Saint Paul: Minnesota Historical Society Press, 2001), 624.
[2] Julius E. Haycroft, "Madelia in retrospect." Address by Judge Julius E. Haycraft at Madelia's third decennial homecoming, July 21, 1934. Minnesota Historical Society, Saint Paul, unnumbered page.
[3] Upham, 624.
[4] John A. Brown, ed., *History of Cottonwood and Watonwan Counties, Minnesota, Their People, Industries and Institutions* (Indianapolis: B.F. Bowen & Company, Inc., 1916), 440 and 445.
[5] Mrs. E.Z. Rasy, "Pioneer Days in Watonwan County, Minnesota." In *Historical Incidents of Watonwan County, Minnesota,* compiled by Mrs. Will Curtis, [1924]. Minnesota Historical Society, Saint Paul, 1.

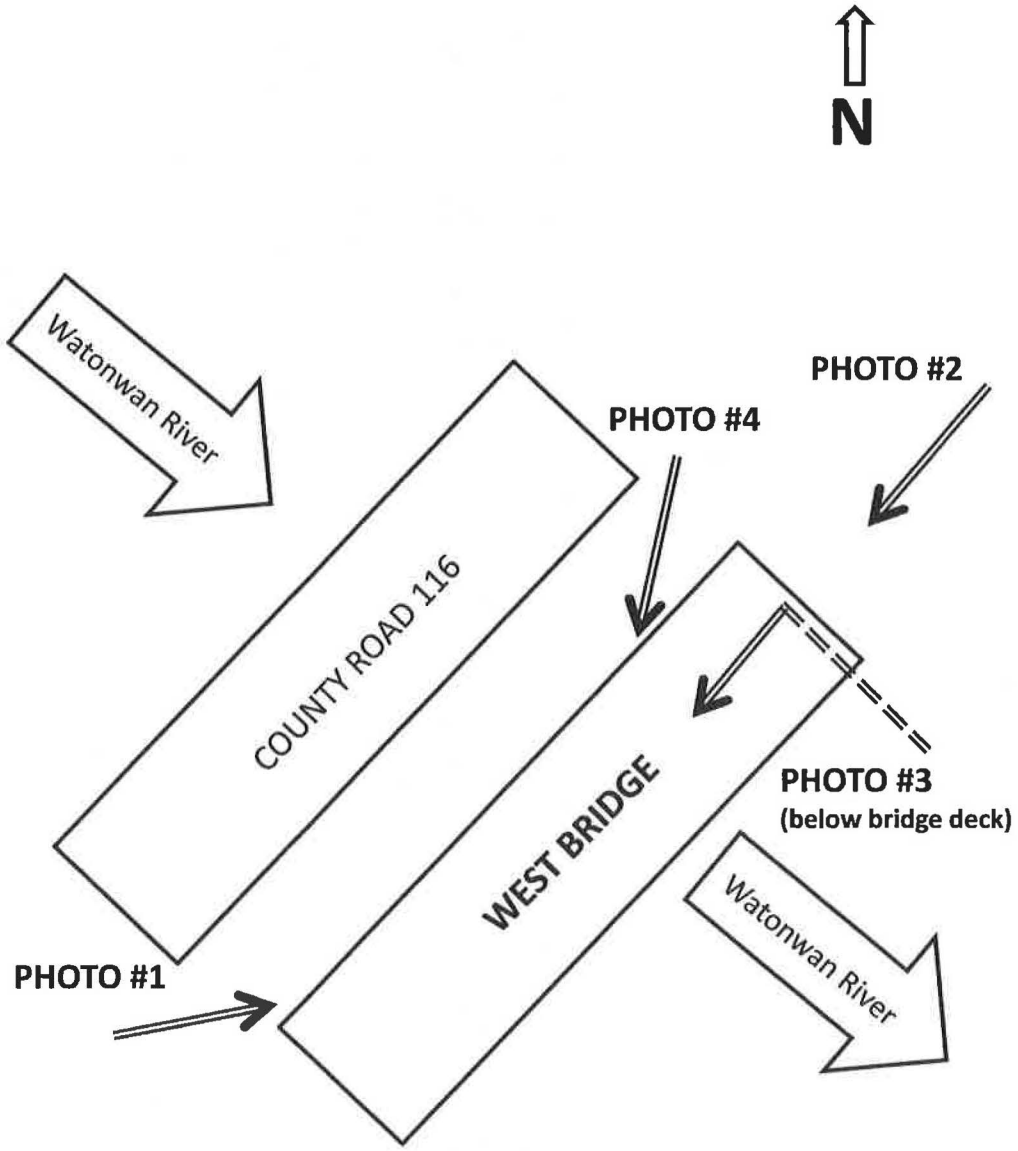
[6] *Illustrated Historical Atlas of the State of Minnesota* (Chicago: A.T. Andreas, 1874), 15; Minnesota State Census of 1905.
[7] *Illustrated Historical Atlas,*137; *Plat Book of Watonwan County, Minnesota.* (Philadelphia: Inter State Publishing Co., 1886), 19.
[8] *Plat Book of Watonwan County*, 19.
[9] *Illustrated Historical Atlas*, 137.
[10] *Plat Book of Watonwan County*, 19 and 48-49.
[11] *Map of Watonwan County, Minnesota* (Vermillion, SD: E. Frank Peterson, 1898).
[12] E.J. Miller, "Bridge Maintenance, Book No. 6, 1923," 34-35. Bridge Maintenance Logs 1921-1934, 1964, Minnesota Highway Department, Bridge Division. Minnesota Historical Society State Archives, Saint Paul.
[13] "National Bridge Inventory Data," *uglybridges.com*. Accessed February 2013.
[14] *Madelia Times-Messenger (MTM),* 22 May 1908, 1.
[15] Log of bridge numbers, Subject files 1909-2000. Minnesota Department of Transportation, Bridge Division. Minnesota Historical Society State Archives, Saint Paul; "National Bridge Inventory Data."
[16] *MTM*, 2 February 1908, unnumbered page.
[17] "A New Steel Bridge," *MTM,* 4 October 1907, 1.
[18] "Vote for the Bridge," *MTM,* 12 July 1907, 1.
[19] "Special Town Election Notice," *MTM,* 12 July 1907, 1; *MTM,* 26 July 1907, unnumbered page.
[20] Chapter 423—S.F. No. 492, *General Laws of the State of Minnesota.*(Delano, MN: The Eagle Printing Co., 1907), 603.
[21] *MTM*, 16 August 1907, unnumbered page.
[22] *MTM,* 30 August 1907, 1.
[23] *MTM*, 4 October 1907. The newspaper account indicates that the contractor was the "Atlas Bridge and Iron company of Minneapolis." The builder's plaque bolted to the bridge, however, says "Minneapolis Bridge & Iron Co., 1908, Mpls. MN." There is no listing for the Atlas Company in the Minneapolis City Directory for 1908. The Minneapolis Bridge and Iron Company is listed in the city directory, along with its president, C.P. Jones.
[24] Fredric L. Quivik, "Montana's Minneapolis Bridge Builders." *IA: The Journal for the Society of Industrial Archeology* 10, no. 1, (1984), 38.
[25] See Section E, p.9, Fredric L. Quivik and Dale L. Martin, "Iron and Steel Bridges in Minnesota," National Register of Historic Places Multiple Property Documentation Form, prepared by Renewable Technologies, Inc., Butte, MT for State Historic Preservation Office, Minnesota Historical Society, 1988.
[26] United States Census of 1880.
[27] Advertisement in *Minnesota, Dakota and Montana Gazetteer and Business Directory [Minnesota Business Directory]* (Saint Paul: R.L. Polk & Co. 1884-85), 399.
[28] *Minnesota Business Directory,* 1886-1887, 500.
[29] *Minnesota Business Directory, 1900-01,* 2429.
[30] *Davison's Minneapolis City Directory* (Minneapolis: Minneapolis Directory Company, 1908), 1083; United States Census of 1880.
[31] Quivik and Martin, E-9; History/Architecture Inventory, State Historic Preservation Office (SHPO), Minnesota Historical Society, accessed February 2013.
[32] History/Architecture Inventory, SHPO; Minnesota Department of Transportation (MnDOT), "Bridges That Have Been Removed," *dotapp7.dot.state.mn.us/bridgereports*. Accessed February 2013.
[33] Quivik and Martin, E-9.
[34] History/Architecture Inventory, Minnesota SHPO.
[35] *Minnesota Business Directory, 1912-13*, 719.
[36] United States Census of 1920.
[37] "Cloyd [sic] Perry "Commodore" Jones, Sr.," *findagrave.com*. Accessed February 2013.
[38] Robert M. Frame III, "Historic Bridge Project: A Report to the State Historic Preservation Office of the Minnesota

Historical Society and the Minnesota Department of Transportation" (Saint Paul: Minnesota Historical Society, 1985), 19.
[39] Parsons Brinckerhoff and Engineering and Industrial Heritage, "NCHRP Project 25-25, Task 15: A Context for Common Historic Bridge Types," National Cooperative Highway Research Program, Transportation Research Council, National Research Council, October 2005, 2-27.
[40] Parsons Brinckerhoff, 3-39.
[41] Parsons Brinckerhoff, 2-27.
[42] History/Architecture Inventory, Minnesota SHPO. The 1905 Duluth Aerial Lift Bridge in St. Louis County has a Warren through-truss design for the lift span. This lift span, however, was added in 1930 to the original transporter bridge.
[43] Milo S. Ketchum, *The Design of Highway Bridges and the Calculation of the Stresses in Bridge Trusses* (New York: The Engineering News Publishing Co., 1908), 7.
[44] Denis P. Gardner, *Wood, Concrete, Stone, and Steel, Minnesota's Historic Bridges* (Minneapolis: University of Minnesota Press, 2008), 61.
[45] Frame, 22.
[46] Minnesota State Highway Commission, "Standard Specifications for Steel and Concrete Highway Bridges," (Saint Paul: Minnesota State Highway Commission, 1912), 6. The commission's specification of a riveted connection may have been due to its sturdier construction when compared to a pinned connection. See Gardner, 61-62.
[47] Frame, 24.
[48] Chapter 235—H.F. No. 571, section 4, *General Laws of the State of Minnesota.*(Saint Paul: The Pioneer Company, 1913), 291.
[49] Quivik and Martin, F-9.
[50] Quivik, 38.

Figure 1: Undated early photo of West Bridge. Photo courtesy of the Watonwan County Historical Society.

Figure 2: Approach to West Bridge in 1917, as described on page 78 of *History of Watonwan County*. Photo courtesy of the Watonwan County Historical Society.

SKETCH MAP


N
Watonwan River
PHOTO #2
PHOTO #4
COUNTY ROAD 116
WEST BRIDGE
PHOTO #3
(below bridge deck)
Watonwan River
PHOTO #1

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map
US Topo

MADELIA QUADRANGLE
MINNESOTA
7.5-MINUTE SERIES

WEST BRIDGE
WATONWAN COUNTY, MN
UTM REFERENCE
15/385300/4877588

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 15T
10 000-foot ticks: Minnesota Coordinate System of 1983 (south zone)

Imagery.....NAIP, June 2009
Roads.....©2006-2010 Tele Atlas
Names.....GNIS, 2008
Hydrography.....National Hydrography Dataset, 2009
Contours.....National Elevation Dataset, 1999

MN
GN
1° 53'
34 MILS
0° 60'
18 MILS
UTM GRID AND 2010 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
UJ
Grid Zone Designation
15T

SCALE 1:24 000

KILOMETERS 1 0.5 0 1 2
METERS 1000 500 0 1000 2000
MILES 1 0.5 0 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with version 0.5.10 of the draft USGS Standards for 7.5-Minute Quadrangle Maps.
A metadata file associated with this product is draft version 0.5.11

MINNESOTA

QUADRANGLE LOCATION

Lake Hanska East	Hanska	Cambria
La Salle	Madelia	Perth
Saint James East	Lewisville	Willow Creek

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION

Interstate Route
US Route
Ramp
State Route
Local Road
4WD

Interstate Route
US Route
State Route

MADELIA, MN
2010

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY NAME: West Bridge

MULTIPLE NAME: Iron and Steel Bridges in Minnesota MPS

STATE & COUNTY: MINNESOTA, Watonwan

DATE RECEIVED: 10/18/13 DATE OF PENDING LIST: 11/14/13
DATE OF 16TH DAY: 11/29/13 DATE OF 45TH DAY: 12/04/13
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 13000883

REASONS FOR REVIEW:

APPEAL:	N	DATA PROBLEM:	N	LANDSCAPE:	N	LESS THAN 50 YEARS:	N
OTHER:	N	PDIL:	N	PERIOD:	N	PROGRAM UNAPPROVED:	N
REQUEST:	N	SAMPLE:	N	SLR DRAFT:	N	NATIONAL:	N

COMMENT WAIVER: N

✓ ACCEPT ___ RETURN ___ REJECT 12.3.13 DATE

ABSTRACT/SUMMARY COMMENTS:

Entered in
The National Register
of
Historic Places

RECOM./CRITERIA_____

REVIEWER_____ DISCIPLINE_____

TELEPHONE_____ DATE_____

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.

Minnesota Historical Society
State Historic Preservation Office
345 Kellogg Blvd West, St. Paul, Minnesota 55102
651/259-3451

RECEIVED 2280
OCT 18 2013
NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

TO: Carol Shull, Keeper
National Register of Historic Places

FROM: Denis P. Gardner

DATE: September 23, 2013

NAME OF PROPERTY: West Bridge

COUNTY AND STATE: Watonwan County, Minnesota

SUBJECT: National Register:

- ☒ Nomination
- ☐ Multiple Property Documentation Form
- ☐ Request for determination of eligibility
- ☐ Request for removal (Reference No.)
- ☐ Nomination resubmission
- ☐ Boundary increase/decrease (Reference No.)
- ☐ Additional documentation (Reference No.)

DOCUMENTATION:

- ☒ Original National Register of Historic Places Registration Form
- ☐ Multiple Property Documentation Form
- ☒ Continuation Sheets
- ☐ Removal Documentation
- ☒ Photographs
- ☒ CD w/ image files
- ☒ Original USGS Map
- ☒ Sketch map(s)
- ☐ Correspondence
  - ☐ Owner Objection

    The enclosed owner objections
    Do ☐ Do not ☐ constitute a majority of property owners

STAFF COMMENTS: