

Bridge No. 4800  
(Highway 4 Bridge)  
Spanning the Minnesota River on Trunk Highway  
4 between Brown and Nicollet counties  
Sleepy Eye vicinity  
Brown County  
Minnesota

HAER No. MN-81

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PHOTOGRAPHS  
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Department of the Interior  
Denver, Colorado 80225-0287

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**HISTORIC AMERICAN ENGINEERING RECORD**

**BRIDGE NO. 4800  
(Highway 4 Bridge)**

**Location:** Spanning the Minnesota River on Trunk Highway 4 between Brown and Nicollet counties, 10 miles north of Sleepy Eye, Brown County, Minnesota, and approximately 9 miles northwest of St. George, Nicollet County, Minnesota.

**UTM:** 15.3636.49213  
USGS; Sleepy Eye Northwest, Minnesota  
Quadrangle; 7.5', 1964

**Dates of Construction:** 1930-31

**Present Owner:** Minnesota Department of Transportation

**Present Use:** vehicular bridge

**Significance:** Bridge No. 4800, the longest span on Minnesota's Trunk Highway 4, is representative of the larger bridges built by the state to span major waterways.

**Historians:** Frances P. Alexander, Holly K. Chamberlain, and Andrew J. Schmidt, The 106 Group Ltd., St. Paul, Minnesota, August 1994.

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## **LOCATION DESCRIPTION**

Bridge No. 4800 carries Minnesota Trunk Highway (T.H.) No. 4, a two lane highway, over the Minnesota River approximately 10 miles north of Sleepy Eye, Brown County, Minnesota into Nicollet County, Minnesota. The nearest town in Nicollet County is St. George, situated approximately 9 miles southeast of the bridge. St. George is not on T.H. 4, however, but rather at the junction of County State-Aid Highway (C.S.A.H.) 5 and C.S.A.H. 16. C.S.A.H. 5 connects with T.H. 4 slightly north of Bridge No. 4800. Fairfax, the nearest town north of the bridge on T.H. 4, is located about 8 miles north, in Renville County. Brown and Nicollet counties are located in the south-central portion of Minnesota. Bridge No. 4800 is located within a wildlife refuge in an otherwise agricultural region. The immediate environment is part of the Minnesota River valley, defined by wooded river banks, wide flood plains, and rolling hills.

## **PHYSICAL DESCRIPTION**

Bridge No. 4800 consists of two main spans and two approach spans. The two main spans are steel Parker trusses with riveted connections. The two approach spans are both Warren (with verticals) pony trusses, and the connections are also riveted. The trusses are composed of both boxed and lattice channel members. The bridge has cast-in-place reinforced concrete abutments and wing walls. There are solid, cast-in-place, reinforced concrete piers. The piers have capped, pentagonal ends with solid infill. Crossing the Minnesota River on a 90 degree skew, Bridge No. 4800 measures 419.3 feet in total length with a maximum span length of 141.6 feet. The bridge is 24 feet wide with a vertical clearance of 15.8 feet. The bridge has a guard railing constructed of angle iron, but there are no sidewalks.

## **HISTORICAL INFORMATION**

Bridge No. 4800, at 419.3 feet the longest span on T.H. 4, is representative of the larger bridges built as part of Minnesota's comprehensive trunk highway system. At the time of its construction, it was considered by the state to be an important bridge because of its large size and cost, location over a major river, and traffic requirements.<sup>1</sup> Its primary name comes from the Minnesota

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<sup>1</sup>Minnesota Highway Department, Report of the Commissioner of Highways of Minnesota for 1929-1930, (Minneapolis: Syndicate Printing Co.), 1 February 1931, p. 10.

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Department of Transportation bridge numbering system. The secondary name is derived from contemporary local usage.

Bridge No. 4800 was constructed from late 1930 until mid-1931 under the aegis of the Minnesota Highway Department (now called the Minnesota Department of Transportation) in conjunction with rebuilding T.H. 70 (now T.H. 4) between Sleepy Eye and Fairfax (Renville County), a distance of 17.3 miles. A new bridge had been slated for this general vicinity in the spring of 1928 but plans fell through due to difficulties of location and with right of way. However, continuously increasing traffic levels on this hilly, curvy stretch of road, primarily in the form of more personal automobiles and heavy trucks, kept the need for the project alive. Local boosters from Sleepy Eye and Fairfax lobbied State Highway Commissioner Charles M Babcock in the fall of 1929 for improvements to the well-used bridge and road and were promised same if funding became available. Congressional passage of a federal highway aid bill in January 1930 provided the necessary increase in dollars.<sup>2</sup>

In August and September of 1930, Commissioner Babcock met with a local committee in Sleepy Eye to discuss the routing of T.H. 70 into and through the town. Local suggestions were apparently taken into account as the planned route closely resembled that desired by interested area residents. In addition to providing a new bridge to replace an older span which flooded during periods of high water, the new route was touted as cutting the distance between Sleepy Eye and Fairfax by 3.7 miles, removing 33 sharp turns, improving the roadbed, removing two hills near the river, and providing better access for recreational visitors to historic Fort Ridgely.<sup>3</sup>

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<sup>2</sup>"Traffic on Trunk Highway No. 70 Shows Big Gain," Sleepy Eye Herald-Dispatch, 18 September 1930; "Highway No. 70 Will Be Rebuilt This Year Say Local Boosters," Sleepy Eye Herald-Dispatch, 6 February 1930. Had the money not become available for this clearly needed project in 1930, it would probably have been carried out in 1931 following passage of a highway funding bond issue by the Minnesota legislature. Increased state and federal funding and lower highway construction labor costs, both products of the 1929 Depression, made 1931 and 1932 the most productive years yet for the Minnesota Highway Department. Minnesota Highway Department, Biennial Report of the Commissioner of Highways of Minnesota for 1931-32, (St. Paul: Louis F. Dow Co.), 31 December 1932, p. 7.

<sup>3</sup>"Contract for No. 70 Will Be Let On September 23rd," Sleepy Eye Herald-Dispatch, 4 September 1930.

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As head state bridge engineer, M.J. Hoffman applied for formal federal approval for the bridge portion of the project on August 13, 1930.<sup>4</sup> The state was required by federal law to submit a request for approval of bridge projects over any navigable waters to the Chief of the U.S. Army Corps of Engineers and the U.S. Secretary of War. Following receipt of the necessary approval on September 22, the state let the contract for the project as planned on September 23, with bridge work and heavy grading slated to occur throughout the winter. Bridge construction could take place in the winter because the potential extra costs incurred by the need to protect concrete work from freezing were offset by the savings realized by being able to transport construction materials over ice or frozen ground.<sup>5</sup> The highway department also attempted to keep as many projects going through the winter as possible so as to provide steady employment during a recognized economic depression. During the winter in which Bridge No. 4800 was built, the highway department had more bridges under construction at once than during any previous winter.<sup>6</sup>

Several parties were involved in the construction of Bridge No. 4800, which was very probably built from a standardized design adapted by state-employed highway engineers. The various contractors were supervised by Oswald Lind, the state's "resident engineer" who oversaw the project from an office in Fairfax. Bidding competition was unusually keen, due to Depression-era circumstances, and many contractors from other fields and states were seeking the relative stability of Minnesota bridge work. Those selected, however, had a high level of experience in bridge construction. The fabricator

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<sup>4</sup>M.J. Hoffman (1918 -19--.) received his engineering degree from the University of Minnesota in 1911 and subsequently worked as a railroad structural designer before gaining employment with the state in 1914. His state service, which began with a position as district engineer, culminated with his appointment as Commissioner of Highways in 1939. Jeffrey A. Hess, Final Report of the Minnesota Historic Bridge Survey: Part 1, August 1988, p. 79.

<sup>5</sup>Construction Correspondence for Bridge No. 4800 dated August 13, 1930 and September 22, 1930, Minnesota Department of Transportation Records; "Contract for No. 70 Will Be Let On September 23rd," Sleepy Eye Herald-Dispatch, 4 September 1930. The former span was located a few rods east of the new site. A rod is a unit of measurement which translates into 16 1/2 feet. "Will Work on No. 70 During Winter Says Babcock," Sleepy Eye Herald-Dispatch, 2 October 1930.

<sup>6</sup>Minnesota Highway Department, Biennial Report of the Commissioner of Highways for Minnesota for 1929-30, (Minneapolis: Syndicate Printing Co.), 1 February 1931, p. 11.

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was the American Bridge Company, a 24-company consortium which was incorporated in 1900 in New Jersey by J.P. Morgan and Company and became a subsidiary of United States Steel Corporation in 1901. American Bridge operated in Minnesota under the aegis of the Gillette-Herzog Manufacturing Company, which had been incorporated in 1890 in Minneapolis but became a branch of American Bridge in 1901. In operation until 1944, American Bridge was responsible for 50 percent of the bridge fabricating capacity in the United States, and fabricated at least 20 other bridges in Minnesota.<sup>7</sup>

Construction services were provided by Minneapolis Bridge Company, which operated under several similar names between 1888 and 1941. During the time period relevant to Bridge No. 4800, the company was very likely under the direction of Isak Helseth, who served as vice president from 1917 to at least 1926. His name is associated with the company as late as 1944.<sup>8</sup> The Minneapolis Bridge Company built at least 31 bridges in Minnesota.

As per federal law, the Minnesota Department of Highways was required to submit monthly construction progress reports regarding Bridge No. 4800 to the U.S. Army Corps of Engineers. These monthly reports, which were based upon weekly reports submitted by the on-site state engineers, and other related correspondence, comprise a useful synopsis of how construction activities were progressing, what specific considerations were necessary for the completion of the project, and the relationship between the state and the contractors. The reports reveal that construction started promptly in early October, 1930 with the excavation work necessary for widening the river channel and continued until July, 1931, when the final coat of paint was applied. The bridge itself was constructed from south to north, with the excavation work for the south abutment, the driving of the south pier piles, and the associated concrete footings being completed by the end of November.<sup>9</sup>

Overall, the state reports indicated that the work progressed swiftly enough despite the contractor having delegated only a small complement of workers for the job initially, and that state-contractor relations were, for the most part, positive. Later reports indicated that work was progressing well into 1931,

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<sup>7</sup>Jeffrey A. Hess, Final Report of the Minnesota Historic Bridge Survey: Part 1, August 1988, pp. 65 - 66, and p. 75.

<sup>8</sup>Jeffrey A. Hess, Final Report: Part 1, p. 77 and pp. 87-88; "Will Work on No. 70 During Winter Says Babcock," Sleepy Eye Herald-Dispatch, 2 October 1930.

<sup>9</sup>Construction Correspondence dated 3 November 1930 and 4 December 1930, Minnesota Department of Transportation Records.

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with only one documented problem arising of sufficient magnitude as to require adjustments in the original plans. Pier 3, the northernmost one, originally differed sufficiently in design from the other two as to necessitate using a separate set of concrete forms. The pier was redesigned in late December to allow the cost-saving efficiency of using the same forms for all the piers. This small setback did not noticeably slow progress as the approach and substructure work was completed by the end of January and work begun that month on the steel superstructure was expected to be completed in February.<sup>10</sup>

The project apparently proceeded to the state's satisfaction until near the end of May when M.J. Hoffman wrote an angry letter to Oswald Lind criticizing him for misinterpreting instructions for grooving the deck slab. The plans called for the deck slab to be grooved longitudinally along the center line of the bridge following pouring of the concrete. However, the plans were misunderstood by the on-site staff and as a result some unnecessary transverse grooves were placed into the concrete of the deck slab which created an unacceptably rough driving surface. Lind responded that the situation was his fault but that the problem had been solved promptly and inexpensively. His letter, dated June 2, also stated that the bridge was almost complete except for the application of some asphalt which was expected to be done in a couple days, and a final coat of paint which would be put on the following month. Therefore, the bridge itself was completed in July, 1931.<sup>11</sup> The exact date the bridge was opened was not determined in the course of research for this project. As Bridge No. 4800 was part of a larger complement of improvements to T.H. 4, it might not have been usable until most, if not all, of the associated construction had taken place. The total cost of the bridge was \$53,926.86.<sup>12</sup> Bridge No. 4800 was one of 86 bridges completed on the trunk highway system in 1931.

### Minnesota Trunk Highway System

The Minnesota Highway Department completed Bridge No. 4800 during a period of intense activity and solid accomplishment. Built to serve local farm-

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<sup>10</sup>Construction Correspondence dated 30 December 1930, 2 January 1931, and 4 February 1931, Minnesota Department of Transportation Records.

<sup>11</sup>Construction Correspondence dated 22 May, 1931 and 2 June 1931, Minnesota Department of Transportation Records.

<sup>12</sup>Maintenance Reports, State of Minnesota Department of Highways, Minnesota Department of Transportation Records.

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to-market, recreational, and general transportation needs, Bridge No. 4800 was also a connecting link in the statewide trunk highway network. The trunk highway system, created by Public Highways Act of Minnesota in 1919 and related state constitutional amendment in 1920, was put into effect by the state legislature in 1921. It was conceived of as one of four classes of roads in the state -- the one which would be under state control and entirely state funded. The 70 designated trunk highways were comprised of 7000 miles of roadway selected from existing routes to connect all county seats and principal towns. They were intended for, and gradually received, great improvements in surfacing, alignment, and railway crossings and bridge safety<sup>13</sup>.

Bridge No. 4800 was completed ten years after the trunk highway system was implemented. Although construction took place in 1930-31, the bridge is largely a creation of the 1920s because the planning and surveying portions of the construction process took place late in that decade. The design of Bridge No. 4800 reflects 1920s trunk highway bridge improvement priorities. These include providing for sufficient width and strong enough foundations and abutments to accommodate a growing number of vehicles, many of them larger and heavier than in previous eras, and with enough waterway clearance to ensure bridge continuity and safety during periods of high water. The highway department expressed considerable satisfaction that Minnesota was one of few states foresighted enough to commit to building spans, such as Bridge No. 4800, which were at least 24 feet in width, the minimum considered safe at the time and for the predictable future, especially for night travel. The use of standardized plans allowed the department to construct cost-efficient bridges which not only addressed state transportation needs but also met national safety standards established the American Association of State Highway Officials.<sup>14</sup>

### **Alterations**

Minnesota Department of Transportation records indicate that Bridge No. 4800 has retained a good level of integrity. The bridge required few repairs until the early 1950s, when routine general maintenance commenced, including

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<sup>13</sup>Minnesota Highway Department, Biennial Report of the Commissioner of Highways of Minnesota for 1931-32, (St. Paul: Louis F. Dow Co.), 31 December 1932, pp. 26 and 27.

<sup>14</sup>The 106 Group, Ltd., Historical Context, Revised 1st Draft, Minnesota State-Wide Survey of Selected Bridges, September 1993, p. 10; Minnesota Highway Department, Biennial Report, 1 February 1931, p. 11.

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painting, concrete repair, and clearing away debris lodged on the piers, which has continued up to the present. A few major repairs have taken place, such as replacing some steel members in 1963, the angle iron railings in 1967, and the concrete deck surface in 1974.

**PROJECT INFORMATION**

This documentation was prepared in August, 1994 at the request of the Minnesota Department of Transportation in compliance with Section 106 of the National Historic Preservation Act of 1966. Plans to replace Bridge No. 4800 have been in place since at least 1990. It has been slated for replacement in 1994 due to general deterioration and the need for a bridge with more vertical and horizontal clearance. The replacement bridge is expected to have 40 feet of horizontal clearance and no vertical obstruction. Project historians were Frances P. Alexander, Holly K. Chamberlain, and Andrew J. Schmidt of The 106 Group, Ltd., Dacotah Building, 370 Selby Avenue, St. Paul, Minnesota, 55102. Project photographer was Mike Whye.

**SOURCES**

Hess, Jeffrey A. Final Report of the Minnesota Historic Bridge Survey: Part 1. August 1988.

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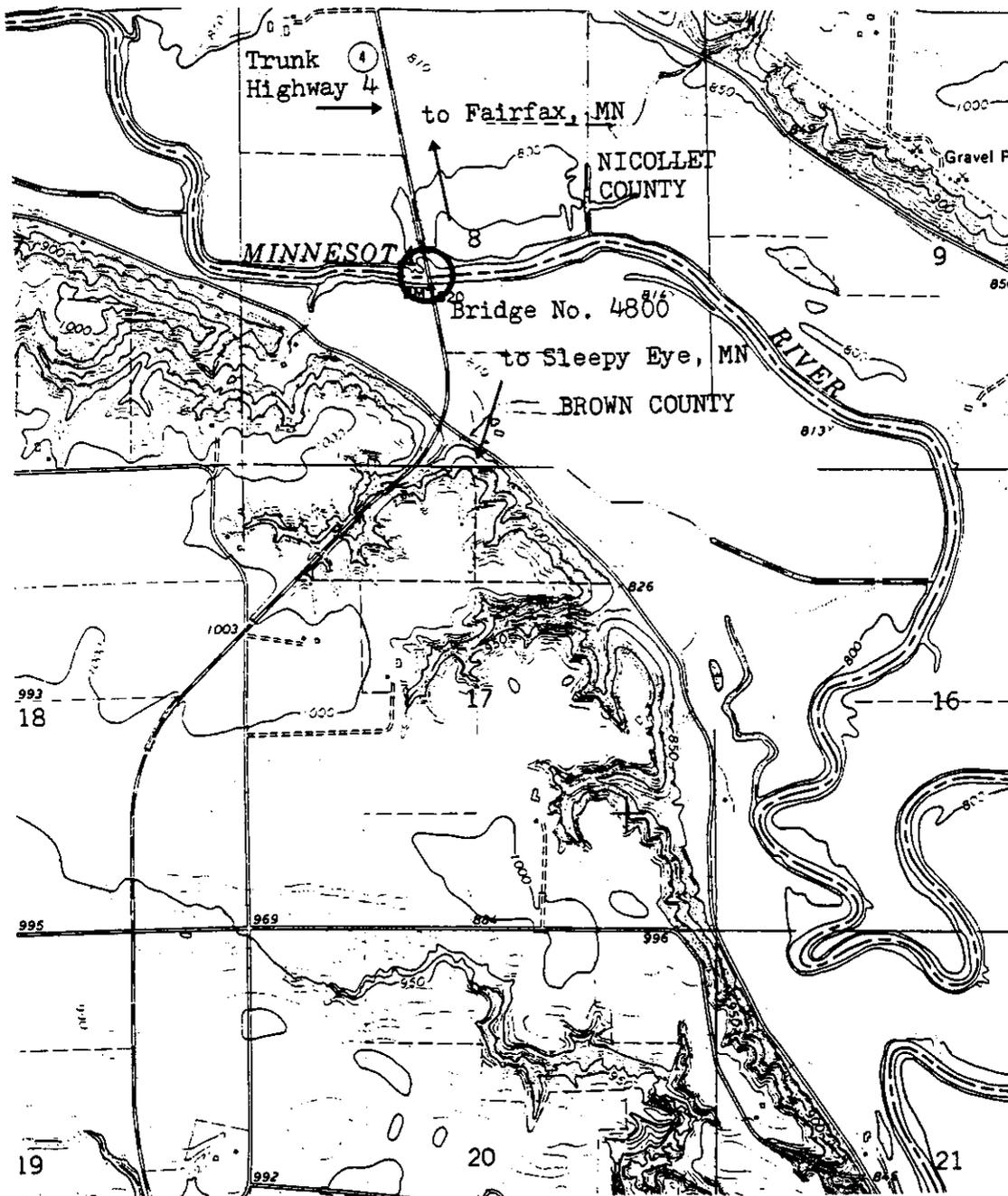
Minnesota Highway Department. Biennial Report of the Commissioner of Highways of Minnesota for 1929-1930. Minneapolis: Syndicate Printing Co. 1 February 1931.

Minnesota Highway Department. Biennial Report of the Commissioner of Highways of Minnesota for 1931 - 1932. St. Paul: Louis F. Dow Company. 31 December, 1932.

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Sleepy Eye Herald-Dispatch, 1930-1931.

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North ↑

Source: USGS; Sleepy Eye, Northwest,  
Minnesota, Quadrangle, 1964; 7.5'  
Scale: 1:24,000