

## TRUSS BRIDGE INTENSIVE SURVEY FORM: BRIDGE NO. P-36-022

**WISDOT Designation:** P-36-022

**Historic Name:**

**Other Name:** Mill Road Bridge

**Current Owner:** Town of Manitowoc Rapids

**Year Built:** 1887

**Engineer:** Wisconsin Bridge and Iron Company

**Fabricator:** Wisconsin Bridge and Iron Company

**Contractor:** Unknown

**Status:** Extant as of 1996

### Geographical Data

**County:** Manitowoc

**City, Village or Town:** Town of Manitowoc Rapids

**Legal Description:** Section 23, Town 19N, Range 23E

**Crossing:** Mill Road over Manitowoc River

**Sketch Diagram** (For survey photos, see contact sheet 02014/5)

### Technical Data

**Bridge Category:** Metal pony truss

**Spans—No./Type:** 1 Pratt full-slope span (150')

**Connection Type:** Pinned

**Substructure:** Rough coursed stone abutments and wing walls

**Overall Length x Width:** 151' x 16'

**Inclined End-Post/Upper Chord:** Upper chord U1-U7: double upright channels (9-1/4") with cover plate (12-3/4"), tied with batten plates; inclined end posts L0-U1, L8-U7: double upright channels (9-1/4"), tied with V-lacing front and back

**Lower Chord:** L0-L8: double rectangular eyebars, looped

**Verticals:** L2-U2, L3-U3, etc.: double upright channels tied with V-lacing front and back; L1-U1, L7-U7: rectangular eyebars looped

**Diagonals:** Rectangular eyebars looped (L2-U1, L6-U7: 1" x 1-3/4"; L3-U2, L5-U6: 1" x 1-1/4"; L4-U3, L4-U5: 7/8" sq.)

**Counters:** L3-U4, L5-U4: 3/4" sq. eyebars with turnbuckles

**Floor System:** Built-up, fish-belly floor beams riveted via angles to post ends, above bottom chord; rolled-section stringers with wood-plank deck

**Bracing:** **Top laterals:** Cylindrical eyebars, looped, with turnbuckles; **Lateral struts:** Double angles with lacing (double struts with sway rods at U3 and U5); **Bottom laterals:** Cylindrical looped eyebars with turnbuckles and bent heads, bolted to floor beams

**Bearings:** Fixed on south end; expansion on north end

### Summary Description

Bridge P-36-022 is a single span, metal, pin-connected, full-slope Pratt truss. Built in 1887 (A), it carries Mill Road over the Manitowoc River in what is today a suburban area of Manitowoc County. Overall length is 151' with a span length of 150'; overall width is 16' carrying a 15' roadway. The bridge design is a representative Pratt configuration, although the span's relatively large size--especially for the early construction date--necessitated extra lateral sway bracing on two of the verticals and on the portals. The general construction of the bridge fits the pattern identified by the Wisconsin Historic Bridge Advisory Committee for trusses built 1880-94 (B). It employs built-up compression members and tension members of round and rectangular, looped eyebars. It has several additional items of note: the end posts are V-laced front and back, without the usual cover plate and therefore different from the top chord, and the floor beams are built-up members and configured in a "fish-belly" design. The deck is wood plank. The portal

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is particularly interesting, having cresting made with metal lattice bars extended above the top strut, and very unusual triangular builder plates mounted atop the portal strut. Representing the early construction date and contributing to the structure's overall integrity are the rough-coursed stone abutments and wingwalls. The bridge was built by the Wisconsin Bridge and Iron Company.

### Statement of Significance

- ☒ Represents type, period, technique
- ☒ Possesses high artistic values
- ☒ Assoc. with significant persons/firms
- ☐ Assoc. with significant events

**Period of significance:** 1887

Bridge P-36-022, erected in 1887, is a very significant representative example of an early Pratt truss of relatively long span. Having considerable contextual and structural integrity, it retains several notable early elements in addition to the basic Pratt metal construction, including the stone abutments, built-up floor beams, and wood plank deck. Particularly interesting are the aesthetically distinctive portals, with their metal cresting and triangular, sunburst builder plates (in fact, it is significant that two plates of any design from 1887 have survived at all). The plates state that the bridge's designer and builder was Wisconsin Bridge and Iron Company or Milwaukee, a "known prolific Wisconsin builder" of significance (B). In 1986, this bridge was identified as one of only five Pratt trusses extant from the pre-1890 period, and therefore significant. It is the longest span in this group.

### Sources of Information (Reference to Above)

- A. P-36-022 builder's plates, mounted on each portal.
- B. Wyatt, Barbara, ed. "Iron and Steel Truss Highway Bridges," in Cultural Resource Management in Wisconsin. Volume 2. Madison, Wis.: State Historical Society of Wisconsin, 1986.
- C. Danko, George M. "A Selective Survey of Metal Truss Bridges in Wisconsin." M.S., State Historical Society of Wisconsin-Historic Preservation Division, Madison, Wis., 1977, pp. 67-68.

### National Register Status

- ☐ Listed
- ☐ Determined eligible
- ☒ Eligible
- ☐ Not eligible

Date of Survey: October 22, 1986      Surveyor: Robert M. Frame III

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Mill Road Bridge (P-36-022), Town of Manitowoc Rapids, Manitowoc County

Top: South approach - *Source: J.A. Hess, 1986*

Bottom: Detail of builder's plate - *Source: J.A. Hess, 1986*

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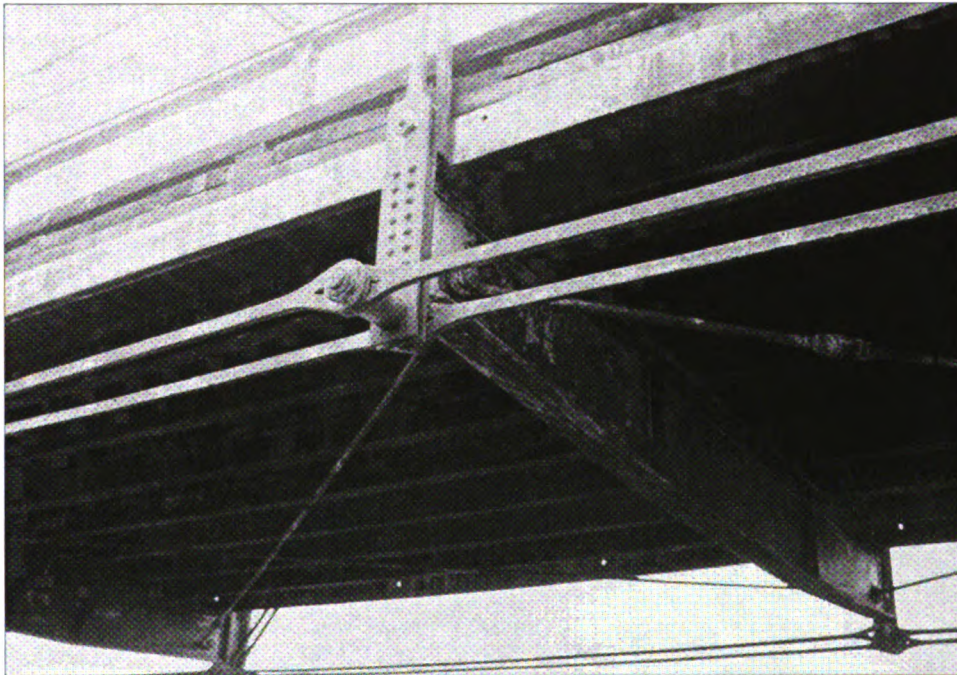


Mill Road Bridge (P-36-022), Town of Manitowoc Rapids, Manitowoc County

Top: Barrel view - *Source: J.A. Hess, 1986*

Bottom: West elevation - *Source: J.A. Hess, 1986*

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Mill Road Bridge (P-36-022), Town of Manitowoc Rapids, Manitowoc County  
Detail of deck - *Source: J.A. Hess, 1986*

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Mill Road Bridge (P-36-022), Town of Manitowoc Rapids, Manitowoc County  
North abutment - *Source: J.A. Hess, 1986*