

# MINNESOTA ARCHITECTURE - HISTORY INVENTORY FORM

## Project: Local Historic Bridge Study - Phase II Zumbro Falls, Wabasha County, Minnesota

Identification
<b>Historic Name</b> Zumbro Parkway Bridge
<b>Current Name</b> Zumbro Parkway Bridge; Bridge 3219
<b>Field #</b>
<b>Address</b> County Road 68 over Zumbro River tributary
<b>City/Twp</b> Zumbro Falls
<b>County</b> Wabasha County
<b>Legal Desc.</b> Twp 109N Range 13W Sec 06 QQ NENW
<b>USGS Quad</b> Zumbro Falls
<b>UTM Zone</b> 15 <b>Datum</b> 27
<b>Easting</b> 1791660 <b>Northing</b> 16086213
<b>Property ID (PIN)</b>

**SHPO Inventory Number** WB-HPK-003

**Review and Compliance Number**

**Form (New or Updated)** Updated

Description
<b>Linear Feature?</b> No
<b>HPC Status</b> Unknown
<b>Resource Type</b> Structure
<b>Architect/Engineer</b> J.M. Evans
<b>Style</b> Rustic
<b>Construction Date</b> 1937
<b>Original Use</b> Transportation
<b>Current Use</b> Transportation

### Description

Built in 1937, the Zumbro Parkway Bridge is located immediately south of Zumbro Falls in a rural area of Wabasha County. It is an unaltered, double-arch, multi plate bridge that carries a two lane, unpaved, east-west road over a tributary of the Zumbro River. Built on a 45-degree skew, the Zumbro Parkway Bridge contains two identical arches with 25-foot span lengths and a structural length of 59 feet. The roadway width is 32 feet 7 inches.

Springing about 56 inches above grade, the arches consist of field-bolted, galvanized, corrugated-iron segments. The bridge represents a type of modular construction known as "multi plate." The corrugated-metal vault supports earth fill, which, in turn, supports the roadway. Ornamented with simulated cut-stone voussoirs of cast concrete, the multi plate arches are anchored in place by stone masonry head walls and straight-back retaining walls that rise above the roadway to serve as parapet railings. The stonework incorporates Gothic Revival detailing in the form of evenly spaced, paired, pointed arch openings along the entire length of the railings. Rectangular coursed-rubble limestone pilasters (referred to as buttresses in the National Register nomination) project several inches from the pier and abutment faces on each side of the bridge, and rise several inches above the parapet. Concrete-capped-and-footed, rubble-limestone abutments and pier support the arches. Weep holes line the abutment walls below the corrugated metal arches. A rounded cutwater protects each side of the pier.

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### **EVALUATION AND ANALYSIS**

#### **Historical Context**

Iron and Steel Bridges in Minnesota, 1873-1945; Federal Relief Construction in Minnesota, 1933-1941

#### **Historical Narrative**

The Zumbro Parkway Bridge is one of 35 surviving multi plate New Deal era stone arch bridges (this statistic is from the 1988 Zumbro Parkway Bridge National Register nomination). Designed for the WPA by J.M. Evans, who apparently was an engineer with the Wabasha County Highway Department, the Zumbro Parkway Bridge is one of the finest examples of its type. The quality of its stonework and the visual interest of its Gothic Revival design were recognized by its New Deal sponsors. When the Works Progress Administration (WPA) of Minnesota showcased its achievements with *WPA Accomplishments* in 1939, the book's "highway section" included photographs of only two stone-faced multi plate bridges: a triple-arch structure in Whitewater State Park, which has been demolished, and the double-arch Zumbro Parkway Bridge.

Multi plate is a galvanized, corrugated-iron product that is fabricated in curved segments so that individual pieces can be bolted together in the field to form a load-bearing arch. Multi plate was introduced by the Armco Culvert Manufacturer's Association in 1931, as a replacement for prefabricated corrugated-iron pipe, which had been used in culverts since the 1890s. Although corrugated-iron pipe was durable, its prefabricated lengths were difficult to handle in the field. Multi plate alleviated this problem with its built-up modular design, permitting the construction of larger spans with thicker gauge. Although multi plate's chief application was backfilled culverts, Armco also aggressively marketed a low- cost bridge design using multi plate arches for spans up to 30 feet. To prevent undermining and shifting of the structure, the arch generally was anchored to concrete abutments and headwalls. When decorative stone veneer was used on the headwalls, the bridge took on the appearance of a stone-arch bridge. Such construction found ready acceptance with work-relief planners of the 1930s and 1940s, for the stone-faced, multi plate arch bridge was highly compatible with the New Deal's agenda of promoting highway beautification, local craft skills, and labor-intensive public works projects.

#### **Significance**

The Zumbro Parkway Bridge was evaluated under the "Federal Relief Construction in Minnesota, 1933-1941" Multiple Property Documentation Form (Federal Relief Construction MPDF) for *Criterion A* for its possible association with the WPA. The Federal Relief Construction MPDF identifies Transportation Systems as a property type. The property type is further divided into the following "structural types": highway, street, and sidewalk projects and airport facility projects. While bridges are not specifically mentioned as a structural type, bridges were often constructed as part of highway or street projects and, for the purpose of this evaluation, are reviewed as part of the highway, street, and sidewalk project structural type. According to the registration requirements, the Transportation System is eligible under *Criterion A* if it provides an important change in the existing transportation pattern such as a newly developed farm-to-market road, a highway incorporating the principles of landscape design into the construction process, accessed the resort areas of the state or a new airport. Research did not reveal that the Zumbro Parkway Bridge was constructed as part of a larger highway or street development program, improved the state or city's existing transportation pattern, or accessed the state's resort areas or a new airport. As such, Bridge 3219 is not significant under *Criterion A* as part of the Federal Relief Construction MPDF.

The Zumbro Parkway Bridge was previously evaluated under *Criterion C* for its design and workmanship within the Multiple Property Documentation Form "Iron and Steel Bridges in Minnesota, 1873-1945" (Iron and Steel Bridges MPDF). The Iron

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and Steel Bridges MPDF indicates that the multi plate arch is a significant property type that was constructed almost entirely between 1933 and 1942, which “reflect the new Deal agenda of promoting highway beautification, local craft skills, and labor-intensive public works projects” and “it represents a unique engineering type that frequently incorporated notable aesthetic qualities of local masonry design and workmanship.” The type had a short period of popularity, and there are approximately 35 examples surviving from the New Deal period. The Iron and Steel Bridges MPDF presents the following registration criteria for the multi plate arch type:

Since the Multi Plat [sic] arch bridge is most notable for its modular corrugated-metal construction and stone headwalls and spandrels, these features should be clearly visible and relatively unaltered. And since the Multi Plat [sic] arch bridge enjoyed its vogue at least partly because of the New Deal's encouragement of roadside beautification, the bridge's workmanship and design should be on the original site, harmonious with the general setting, of high aesthetic quality, and of New Deal vintage.

The Zumbro Parkway Bridge satisfies the registration requirement and conveys significance under *Criterion C* through its multi plate arch design, use of natural materials, and overall aesthetic that reflects the highway beautification and local craftsmanship promoted by New Deal policies. Its period of significance is 1937, which corresponds with the year the bridge was built.

#### **Integrity**

The Zumbro Parkway Bridge retains a high degree of integrity. The bridge remains in its original location and continues to carry County Road 68 over a Zumbro River tributary. Its rural setting and association with transportation are also retained. The Iron and Steel Bridges MPDF states that in order for a bridge to be eligible for the National Register of Historic Places (National Register), the superstructure should be in “substantially original condition,” while the work on the substructure or deck must “be of such scale and composition that they do not overwhelm or otherwise detract from a clear visual impression” of the bridge (Renewable Technologies, Inc., F-8). The Zumbro Parkway Bridge superstructure and substructure retain the original design, materials, and workmanship as there have been no known alterations to the bridge. Although concrete slabs were placed, at an unknown date, in the creek bed to slow erosion under the bridge arches, this addition does not affect the integrity of the bridge. As such, the bridge retains sufficient integrity to convey its significance.

#### **Recommendation**

The Zumbro Parkway Bridge is significant under National Register *Criterion C* in the area of engineering as an example of an important type within the Iron and Steel Bridges MPDF. The multi plate arch is identified as a unique property type that frequently incorporated notable aesthetics. It meets the registration requirements outlined for a multi plate arch, and the bridge retains all aspects of integrity. While the Zumbro Parkway Bridge is recommended not eligible within the Federal Relief Construction MPDF, it is recommended still eligible for the National Register under *Criterion C: Engineering* as an important type.

#### **Sources**

Anderson, Rolf T. “Federal Relief Construction in Minnesota, 1933-1941.” National Register of Historic Places Multiple Property Documentation Form, Sec. E, 48-67. Available at the State Historic Preservation Office, Minnesota Historical Society, St. Paul, Minn.

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Quivik, Fredric L. "Iron and Steel Bridges in Minnesota." National Register of Historic Places Multiple Property Documentation Form, Sec. F, 10-11. Available at the State Historic Preservation Office, Minnesota Historical Society, St. Paul, Minn.

Hess, Jeffrey A. *Zumbro Parkway Bridge*. Washington, D.C.: National Register of Historic Places, National Park Service, August 1988.

### **Consultant's Recommendation of Eligibility**

Eligible - Individual

### **Prepared By**

Mead & Hunt, Inc.

### **Date Surveyed**

To be completed

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### **Property Photographs**



View facing northeast



View facing north

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View facing north

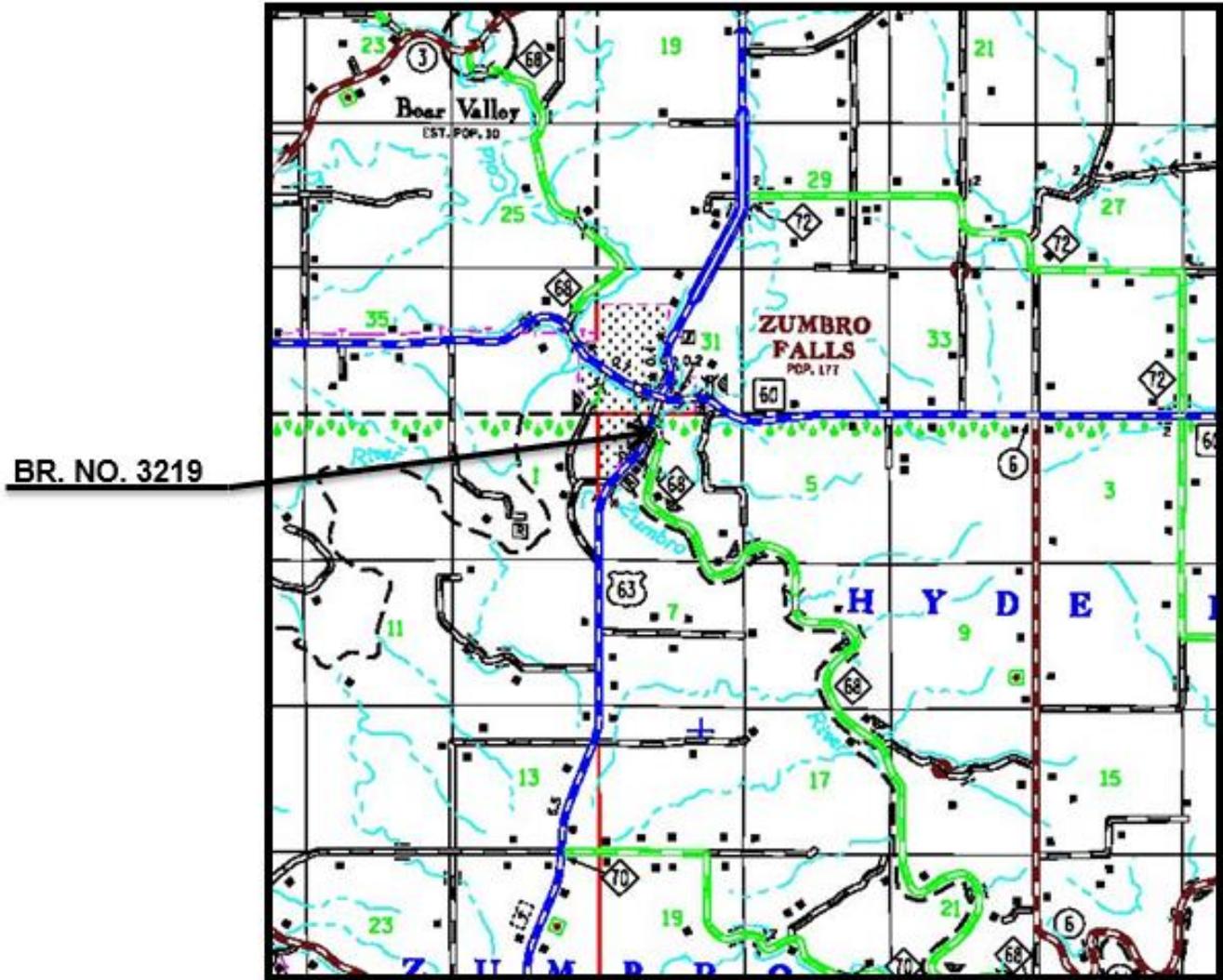


Railing detail

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**Bridge 3219 – CR 68 over STREAM**



### PROJECT LOCATION

WABASHA COUNTY

SEC. 06, TO 109NN, R 13W

UTM ZONE: 15      NAD: 27

USGS QUAD NAME: ZUMBRO FALLS

EASTING: 1791660 ft.

NORTHING: 16086213 ft.