

# MINNESOTA ARCHITECTURE - HISTORY INVENTORY FORM

## Project: Local Historic Bridge Study - Phase II Hartford Township, Todd County, Minnesota

Identification
<b>Historic Name</b> Bridge L7075
<b>Current Name</b> Bridge L7075
<b>Field #</b>
<b>Address</b> Township Road 411 over Turtle Creek
<b>City/Twp</b> Hartford Township
<b>County</b> Todd County
<b>Legal Desc.</b> Twp 130N Range 33W Sec 23 QQ SWSW
<b>USGS Quad</b> Browerville
<b>UTM Zone</b> 15 <b>Datum</b> 27
<b>Easting</b> 1180550 <b>Northing</b> 16735883
<b>Property ID (PIN)</b>

**SHPO Inventory Number** TO-HAR-009

**Review and Compliance Number**

**Form (New or Updated)** New

Description
<b>Linear Feature?</b> No
<b>HPC Status</b> Unknown
<b>Resource Type</b> Structure
<b>Architect/Engineer</b> Todd County
<b>Style</b> Rustic
<b>Construction Date</b> c.1940
<b>Original Use</b> Transportation
<b>Current Use</b> Transportation

### Description

Located in rural central Todd County about 2 miles east and south of Browerville, Bridge L7075 carries Township Road 411 over Turtle Creek on an east-west alignment. The bridge was constructed in 1940 and is currently owned by Hartford Township. The bridge consists of three 15-foot steel multi plate arches with a 24-foot-wide roadway. The structure's headwalls, parapets, piers, and abutments (with flared wingwalls) are of stone construction. The masonry is split, granite, fieldstone rubblework, except for certain architectural accents that employ squared fieldstone in a raised course. The more polished stonework appears in pilasters that frame the arch openings, in the arch ring stones (further ornamented with elongated keystones), in a stringcourse, and in the parapet cap stones.

The westernmost multi plate arch is not original to the bridge. This arch was added approximately two years after the original two-spans were constructed, c.1942, when a flood washed away the west creek bank. In June 2013 township personnel removed a portion of the deck and fill at the west end of the bridge to inspect the multi plate arch and potential water seepage issues and settling. Concrete was poured on top of the multi plate arch to address the issue and the dirt fill and roadway surfacing was replaced.

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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**

Bridge L7075 was constructed 1940 during a period when work relief projects conducted by the Works Progress Administration (WPA; later called Work Projects Administration) provided employment for struggling workers and improved roads and bridges throughout Minnesota. The WPA was established by executive order in 1935 with the intention of operating a national program of small projects designed to provide jobs for the nation's unemployed workers. On July 1, 1939, it was incorporated into the Federal Works Agency and was renamed the Works Projects Administration. The WPA was active in Minnesota; the number of people employed by WPA projects in Minnesota was 68,840 in September 1938 and remained high just two years later in March 1940 at 49,752. Nearly \$6 million of WPA funds had been spent on projects in Minnesota by June 1943. Those expenditures included a total of 1,458 new and rehabilitated bridges and viaducts throughout the state. These details are included in the United States Federal Works Agency report, "Final Report on the WPA Program, 1935-43."

In Todd County a number of WPA projects were undertaken to construct buildings and improve roads and bridges; Work Project 8036 consisted of county-wide road and bridge improvements, including Bridge L7069, which is located a few miles north of Bridge L7075 along Turtle Creek. Although research did not confirm that the WPA constructed Bridge L7075, it is likely due to its age, style, type, and association with L7069. While Bridge L7069 is a single-span bridge and L7075 has three spans, the stone facing and multi plate arch construction on both bridges is similar; the railings and wingwalls have slightly different details. The Todd County Highway Department is known to have prepared plans for the single-span Bridge L7069 that was erected by the WPA in 1940. Bridge L7075 presumably dates to approximately the same period and was likely also designed by the Todd County Highway Department.

Introduced by the Armco Culvert Manufacturers Association in 1931, multi plate was a galvanized, corrugated-iron product fabricated in curved segments to facilitate shipping in "nested" position. For bridge construction, the segments were bolted together in the field to form an arch, which was typically anchored by concrete headwalls and abutments. Frequently, the concrete work was ornamented with stone facing in order to simulate 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.

The westernmost multi plate arch was added to the original two-spans of the bridge c.1942 after flooding washed away the creek bed. Additionally, in 2013 Todd County engineers excavated a portion of the deck to repair the multi plate arch and to address settlement issues with the bridge. Research did not reveal any other alterations or modifications to the bridge.

##### **Significance**

Bridge L7075 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

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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 are 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 whether or not Bridge L7075 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 L7075 is not significant under *Criterion A* as part of the Federal Relief Construction MPDF.

Bridge L7075 is significant 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 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.

Bridge L7075 satisfies the registration requirement and conveys significance 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.

#### **Integrity**

Bridge L7075 retains a high degree of integrity. The bridge remains in its original location and continues to carry Township Road 411 over Turtle Creek. 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). While the westernmost multi plate arch is not original to the bridge, it was added soon after its construction in response to creek bank failure. The additional multi plate arch matches the original structure in design, materials, and workmanship. The 2013 addition of concrete between the multi plate arch and the deck is considered minor and does not compromise integrity of design, materials, or workmanship. As such, the bridge retains sufficient integrity to convey its significance.

#### **Recommendation**

Bridge L7075 is significant under National Register *Criterion C* in the area of engineering as 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 outlines for a multi plate arch. The bridge retains all aspects of

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integrity despite the addition of an arch in c.1942. While Bridge L7075 is recommended not eligible within the Federal Relief Construction MPDF, it is recommended eligible for the National Register under *Criterion C: Engineering* as an important type. The period of significance is 1940, which corresponds with the year the bridge was built.

### **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.

Bridge L7075 electronic record in the Minnesota Department of Transportation Bridge Database.

Bridge L07075 File. Available at the Minnesota Department of Transportation, St. Paul, Minn.

Bridge L07075 File, in Todd County Highway Department, Long Prairie, Minnesota.

Field inspection by Chad Perkins, 17 September 1996.

Field inspection by LHB and Mead & Hunt, 26 June 2013.

Hess, Roise and Company. Historic Bridge Inventory Form for Bridge L07069. Available at State Historic Preservation Office, Minnesota Historical Society, St. Paul, Minn.

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.

United States Federal Works Agency. "Final Report on the WPA Program, 1935-43." Washington, D.C.: Federal Works Agency, 1947. Available online at Library of Congress in electronic format at <http://lcweb2.loc.gov/service/gdc/scd0001/2008/20080212001fi/20080212001fi.pdf>.

"WPA Projects in Todd County," 1995. Available at Todd County Historical Society, Long Prairie, Minn.

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

Eligible - Individual

### **Prepared By**

Mead & Hunt, Inc.

### **Date Surveyed**

06/26/2013

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### **Property Photographs**



View facing west



View facing southeast

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View facing west

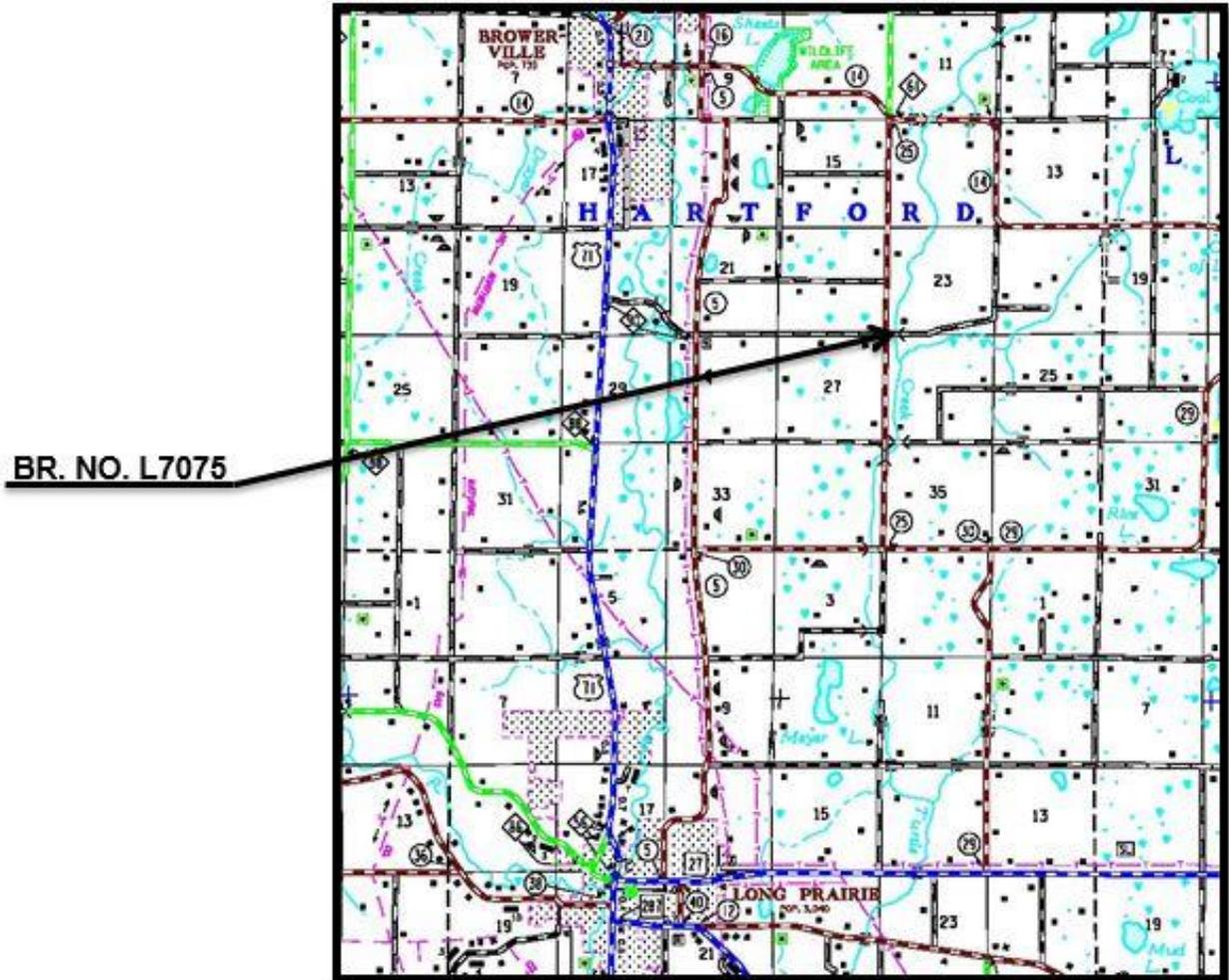


Detail of the stone parapet

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Location Map



BR. NO. L7075

Bridge L7075 – TWP 411 over TURTLE CREEK



PROJECT LOCATION

TODD COUNTY

SEC. 23, TO 130NN, R 33W

UTM ZONE: 15      NAD: 27

USGS QUAD NAME: BROWERVILLE

EASTING: 1180550 ft.

NORTHING: 16735883 ft.