

MINNESOTA ARCHITECTURE - HISTORY INVENTORY FORM

Project: Local Historic Bridge Study - Phase II

City of Duluth, St. Louis County, Minnesota

Identification
Historic Name Bridge L8503
Current Name Bridge L8503
Field #
Address Seven Bridges Road over Amity Creek
City/Twp City of Duluth
County St. Louis
Legal Desc. Twp 51N Range 13W Sec 32 QQ SWSE
USGS Quad Duluth
UTM Zone 15 Datum 27
Easting 1887607 Northing 17025448
Property ID (PIN)

SHPO Inventory Number SL-DUL-2399

Review and Compliance Number

Form (New or Updated) Updated

Description
Linear Feature? No
HPC Status Unknown
Resource Type Structure
Architect/Engineer Morell & Nichols
Style Neoclassical
Construction Date 1912 (1996 Rehabilitation)
Original Use Transportation
Current Use Transportation

Description

Constructed in 1912, Bridge L8503 is single-span, filled-spandrel, reinforced-concrete barrel arch bridge. It carries Seven Bridges Road over Amity Creek in rural Amity Park in Duluth. The overall structure length is 28.2 feet and the deck width is 21.5 feet. The masonry of the bridge is pitch-faced, rough-ashlar with a defined arch ring. The headwalls, wingwalls, and railings are solid native gabbro stone, and the abutments are stone faced with a concrete core. Formwork is visible on the arch barrel. Stylistic details consist of cap stones atop the parapet and arch ring made of pink opal granite and stone-faced pilasters that extend up from the springline of the arch to the parapet. A horizontal stringcourse also extends along the length of the bridge at the base of the parapet. The pilasters, coursing, and accentuated architectural details result in an overall formal and refined appearance indicative of the Neoclassical style. The bridge rests on concrete footings and has U-shaped abutments; the southern abutment is elongated with stone-faced retaining walls on both sides.

In 1996 the bridge underwent rehabilitation; the bridge's railings were reconstructed and restored. This included the removal of concrete railing caps and replacing them with stone caps, as per the original design. The majority of the original cap stones were retrieved from the stream and bridge slopes and placed back on the bridge. The pilaster caps were replaced with new stones. Additionally, the stonework was repointed along the railings, wingwalls, headwalls, and abutments of the bridge.

Following a flood event in 2012, concrete underpinnings were added to the bottom of both abutments and spot repointing of stone masonry was completed.

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EVALUATION AND ANALYSIS

Historical Context

Reinforced-Concrete Highway Bridges in Minnesota, 1900-1945

Historical Narrative

Historical background information provided below is based on information in the November 2011 Skyline Parkway Cultural Resources Inventory.

Bridge L8503 is located within the Skyline Parkway (Parkway) in the city of Duluth and its history is closely linked with development of the Parkway. The Parkway generally extends in a southwest-northeast direction from the southern part of St. Louis County, along the bluff on Duluth's western periphery, to the unincorporated townships of Duluth and Midway at the shore of Lake Superior located northeast of downtown Duluth. The Parkway consists of 13 segments defined by geographic location and construction periods: Congdon North Shore Boulevard Segment, Snively/Seven Bridge Road Segment, Amity Creek Segment, Hawk Ridge Segment, UMD Gap Segment, Congdon Park Drive Segment, Chester Park Drive Segment, Rogers (Terrace) Parkway Segment, Lincoln Park Drive Segment, Western Extension Segment, Bardon's Peak Segment, Knowlton Creek Boulevard Segment, and Mission Creek Segment. The Parkway connects each of the segments and has both urban and natural settings with a variety of associated resources.

The concept of developing a parkway or boulevard system in Duluth was first conceived in the early 1860s but no real work occurred until the 1880s, when the city was re-chartered and more financially sound. Resulting from efforts by William K. Rogers, who had interests in mining and banking, the city council passed a resolution in 1887 to create a system of public parks and avenues. A Board of Park Commissioners eventually formed and state legislation passed in 1889 empowered the commission to begin construction on a system of parks and a parkway. This original portion of the Parkway followed Chester Creek up to Terrace Drive to a point near 17th Avenue West and included bridges and culverts. After the State Legislature passed a new law that limited the power of the Board of Parks Commissioners, the commission reformed in 1891 and issued its first annual report. By this time the commission had acquired substantial property for the parkway, which stretched from Chester Creek to Miller's Creek. In 1894 Terrace Drive was renamed Rogers Boulevard in honor of William K. Rogers, former president of the Park Board and original promoter of the parkway connecting the city's parks.

Between approximately 1900 and 1910 the Park Board focused its efforts on the reconstruction and extension of Rogers Boulevard to the west and the acquisition and redevelopment of Congdon Park along Tischer's Creek and Snively Boulevard on the city's east side. Samuel Snively, who worked as a lawyer and developer, constructed Snively Parkway between 1899 and 1903. Snively assembled land with the intention of building a picturesque parkway that would connect to Rogers Parkway. He secured the right-of-way from adjacent landowners, including 60 acres of his own land, on the condition that a roadway be built. He also personally pledged and collected \$1,600 to build the road, and the city offered \$1,500 with the stipulation that the completed road be turned over to the City of Duluth. Snively's parkway criss-crossed Amity Creek on a series of rustic timber bridges. Snively donated the road and bridges to the City of Duluth in 1909. Due to deferred maintenance, Snively Parkway had become nearly impassable to vehicular traffic by this time with overgrown trees, foliage, and timber bridges in a state of disrepair.

Within a year of the donation, the City had contracted with Minneapolis landscape design firm Morell & Nichols to design replacement reinforced-concrete arch structures with stone veneer for the timber bridges to provide a more picturesque

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aesthetic to the parkway and more permanent crossings for vehicular traffic. The bridges were constructed within a few years, including Bridge L8503, in 1912, and the Snively Parkway segment became known as Seven Bridges Road after the stone-faced bridges. The reinforced-concrete arch bridges included a veneer of native granite and 6-inch band of cap stones made of pink opal granite from St. Cloud to accent the parapet and arch.

Morell & Nichols was a notable Minnesota landscape architectural firm. Arthur Nichols was the first graduate in landscape architecture from the Massachusetts Institute of Technology (MIT) in 1902 and spent seven years working for New York landscape architect Charles W. Leavitt. Anthony Morell worked for Leavitt during this time as well, and the two formed a partnership and eventually left New York to establish their own landscape architectural design firm in Minneapolis in 1909. Noteworthy designs by Morell & Nichols included Duluth's Congdon Park in 1910 and Morgan Park in 1914. In 1916 Morell and Nichols completed the landscape design of St. Paul business magnate Oliver Crosby's Stonebridge Estate. Nichols also served as a consulting landscape architect for the University of Minnesota from 1912 to 1944. Morell died suddenly in 1924 but Nichols continued on, serving as consulting landscape architect for the Minnesota Highway Department (1932-1940) and the Minnesota State Parks Department (1950-1960). Nichols also designed the Capitol Approach in St. Paul in 1944.

Significance

Bridge L8503 was previously evaluated as a contributing resource to the Skyline Parkway Historic District, a linear resource that has been determined eligible for listing in the National Register of Historic Places (National Register). However, the bridge was not previously evaluated individually for its design and engineering significance. Under *Criterion C*, the bridge as an individual resource displays distinctive characteristics of the earliest period of reinforced-concrete arch bridge construction and also possesses aesthetic value as demonstrated in its architectural details. According to the historic context "Reinforced-Concrete Highway Bridges in Minnesota, 1900-1945" and the Multiple Property Documentation Form (MPDF) associated with this context, bridges built prior to 1912 represent the earliest, pre-standardization, experimental era in reinforced-concrete bridge construction and are rare. Early Minnesota Highway Commission standardized designs characterize the period of concrete bridge construction from 1912-1921. Bridge L8503 was designed by private firm Morell & Nichols along a parkway road and no evidence was found to indicate that the bridge has a direct association to early standardized designs of the Minnesota Highway Commission. However, since the bridge was constructed in 1912, but not prior to 1912, it does not represent the early pre-standardization period as defined in the MPDF. The design and ornamentation on the bridge is complementary to other structures and features along the parkway and displays architectural details like pilasters, horizontal stone course, parapet cap, and decorative arch ring that convey the aesthetic of formality and refinement associated with the Neoclassical style.

Integrity

Bridge L8503 has undergone few alterations since its construction in 1912 and none that severely diminish its overall integrity. Bridge L8503 underwent rehabilitation in 1996 following the original Morrell and Nichols plan. Rehabilitation efforts included the reconstruction and restoration of the railing cap stones with the original stone design, masonry repointing, and other masonry repairs. Additionally, a new wingwall at the northwest corner of the bridge was installed. The 1996 rehabilitation work was conducted with an emphasis on maintaining the integrity of the original design. Isolated areas of concrete mortar replacement are compatible with the original mortar in terms of color, texture, and thickness and do not result in a loss of integrity. The top of the retaining wall sits well below the top of the parapet and does not change the overall elevation appearance of the main span; the retaining wall is also relatively small in scale compared to the rest of the bridge. In addition, concrete underpinnings added below the arch at each abutment within the past year do not detract from the significant architectural features or alter view sheds of the bridge in a manner that diminishes integrity of feeling or

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design. Section 106 compliance files were not located at the State Historic Preservation Office; however, the rehabilitation appears to have been guided by the Secretary of the Interior's Standards. As such, Bridge L8503 retains integrity of location, setting, design, workmanship, materials, feeling, and association.

Recommendation

Bridge L8503 was previously identified as a contributing resource to the National Register-eligible Skyline Parkway Historic District. Within the historic context of "Reinforced-Concrete Highway Bridges in Minnesota, 1900-1945" and the MPDF associated with this context, Registration Criterion 1 states that reinforced-concrete bridges built prior to 1912 represent the earliest, pre-standardization, experimental era in reinforced-concrete bridge construction, and are rare. Constructed right on the date threshold for Criterion 1, Bridge L8503 did not satisfy Criterion 1 because it was constructed in 1912 and not prior to 1912. However, the bridge does satisfy Registration Criterion 5, which states that a concrete highway bridge may be eligible under *Criterion C* if it displays notable aesthetics. Bridge L8503 satisfied this criterion based on its Neoclassical design features and ornamentation. The period of significance for Bridge L8503 is 1912 to correspond with its date of construction. The bridge retains integrity of setting, location, design, materials, workmanship, feeling, and association, and conveys its historic significance as a contributing resource to Skyline Parkway Historic District and its engineering and design significance as early example of a reinforced-concrete arch bridge with Neoclassical details.

Sources

Bridge L8503 General Plan & Elevation. City of Duluth Project No. 1236, State Aid Project No. 118-080-048, 31 May 2013.

Lathrop, Alan K. *Minnesota Architects: A Biographical Dictionary*. Minneapolis, Minn.: University of Minnesota Press, 2010.

Minnesota Department of Transportation. Bridge file for L8503. Central Office, St. Paul, Minn.

Minnesota Department of Transportation. "Mn/DOT Bridge Inspection Report." Minnesota Department of Transportation, 2 October 2013.

Historic Context for Reinforced-Concrete Highway Bridges in Minnesota, 1900-1945.

Site visit by Mead & Hunt and LHB, August 28, 2013.

Stark Preservation Planning, L.L.C. "Skyline Parkway Cultural Resources Inventory, Duluth, St. Louis County, Minnesota." Prepared for the City of Duluth and Minnesota Department of Transportation, November 2011.

Consultant's Recommendation of Eligibility

Eligible – Individual; Contributing to an Eligible Historic District

Prepared By

Mead & Hunt, Inc.

Date Surveyed

8/28/13

SL-DUL-2399

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Property Photographs



Elevation, view facing north



Deck view, top of non-historic concrete retaining wall at far right, view facing southwest

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Cap stones on end posts, detail view



Concrete retaining wall on north side of bridge, view facing south

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Location Map



BR. NO. L8503

Bridge L8503 – E SKYLINE/MUN 712 over AMITY CREEK



PROJECT LOCATION
ST. LOUIS COUNTY
SEC. 32, TO 051NN, R 13W
UTM ZONE: 15 NAD: 27
USGS QUAD NAME: DULUTH
EASTING: 1887607 ft.
NORTHING: 17025448 ft.