

# MINNESOTA HISTORIC BRIDGE INVENTORY

Bridge No : L06138

County Name : Saint Louis

City/Township : Duluth

Township : 049 Range : 14W Section : 05 SW - NW - SE

UTM Coordinates : 15:565426:5178295

565 670 5178 070

USGS Quadrangle : Duluth Heights

Inventory Number : SL-DUL-2425

National Register Eligible : Maybe (District)

Criteria :

Context :

Period of Significance :

Retains Integrity : Yes

## Structural Data

Main Span Type :	306	Superstructure :	single-span, steel, deck, plate girder
number main spans :	01	Substructure :	built-up steel piers
number appr spans :		Floor/Decking :	
structure length :	80.00	Other Features :	
deck width :	31.00		

## Historical Data

Year built : Ca. 1925

Contractor/Builder :

Designer : Duluth, Missabe and Northern Railway

## Statement of significance :

Bridge No. L06138 is part of a multiple-span, deck, plate-girder viaduct that carries trackage of the Duluth Missabe and Iron Range Railway (DM & IR) over several city streets in the West End of Duluth. For state highway administrative purposes, the 75-foot span over Superior Street is designated as Bridge No. L06138. The line terminates about one-half mile south of the bridge on the shore of St. Louis Bay in Lake Superior at an elevated ore-handling facility known as Dock No. 5, which was completed in 1914 by the Duluth, Missabe and Northern Railway (DM & N) to ship the output of the Iron Range mines. As historian Frank A. King notes in his *The Missabe Road*, Dock No. 5, with its storage capacity of 115,200 tons of ore, "easily eclipsed in size any ore dock constructed until that time." This structure, along with its associated rail viaduct, played a vital role in moving Minnesota's iron ore eastward to the nation's steel-manufacturing centers, especially during the two world wars. According to a computerized bridge database compiled by the Minnesota Department of Transportation, Bridge No. L06138 was built in 1925, apparently as a replacement span in Dock No. 5's original viaduct system. Presumably, the structure was designed by the DM & N. At the time of the bridge's construction, both the dock and viaduct were controlled by the United States Steel Corporation. In the late 1930s, US Steel consolidated three of its northern Minnesota carriers, including the DM & N, to form the DM & IR, the present owner of Bridge No. L06138. Although the DM & N once served six ore-shipment facilities on St. Louis Bay, only two survive -- Dock No. 5 and adjacent Dock No. 6. Both retain their associated rail viaducts. According to a historical context study of Minnesota's iron ore industry, prepared by Patrick Labadie in 1993, Dock No. 6 was "rebuilt" in 1982, which suggests that its historic design may have been compromised. Dock No. 5, therefore, appears to be the sole survivor of its type on St. Louis Bay that retains integrity for National Register designation purposes. However, a decision concerning the dock's National Register eligibility must await an intensive-level survey of its engineering, history, and integrity, which is beyond the scope of the present Historic Bridge Inventory.

## MINNESOTA HISTORIC BRIDGE INVENTORY

---

If Dock No. 5 is determined eligible for the National Register, then its associated rail viaduct, including Bridge No. L06138, would also seem to be eligible in terms of its historical associations under Criterion A, within the historic context for the Iron Range prepared by the State Historic Preservation Office. Considered simply on its own terms as a railroad structure, Bridge No. L06138 is not eligible for the National Register under Criterion C, for its engineering was highly conventional for its period. During the early twentieth century, railroads were building similar plate-girder viaducts in the 100- to 120-foot span range.

### References :

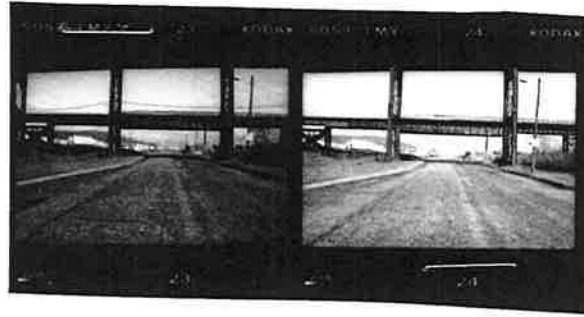
Minnesota Department of Transportation Bridge Database; Bridge No. L06138 File in Minnesota Department of Transportation, Waters Edge Building, Roseville, Minnesota; Patrick Labadie and others, "Minnesota's Lake Superior Shipwrecks A.D. 1650-1945: Historical Contexts and Property Types," in *Archaeological and Historical Studies of Minnesota's Lake Superior Shipwrecks*, ed. Scott F. Anfinson (St. Paul: Minnesota State Historic Preservation Office, Minnesota Historical Society, 1993); David A. Walker and Stephen P. Hall, "Duluth-Superior Harbor Cultural Resources Study," prepared by Archeology Department, FHA Division, Minnesota Historical Society for Department of the Army, St. Paul District Corps of Engineers, 1976, 75-84; "Historic Context: The Iron Range," *Minnesota History in Sites and Structures, A Comprehensive Preservation Planning Process* (St. Paul: State Historic Preservation Office, Minnesota Historical Society, 1985); Frank A. King, *The Missabe Road: The Duluth, Missabe and Iron Range Railway* (San Marino, CA: Golden West Books, 1972), 88, 119, 130; F.C. Kunz, *Design of Steel Bridges* (New York: McGraw-Hill Book Company, 1915), 145; field inspection by Jeffrey A. Hess, 28 October 1996.

**Form Prepared By :** Jeffrey A. Hess

# MINNESOTA HISTORIC BRIDGE INVENTORY

Bridge No : L06138

Photo Number : 012690



Source: *Duluth, Minnesota and Superior, Wisconsin* (N.p.: Rand McNally Map Services Company, n.d.).

MINNESOTA HISTORIC BRIDGE SURVEY-LIST WORKSHEET

Bridge No.: L-6138 Type: 306 County: ST. LOUIS

NR CRITERION "A," associated with events in (transportation, other) history:  
trunk highway, early \_\_\_\_\_, later \_\_\_\_\_ belt/parkway \_\_\_\_\_ blazed trail  
interstate \_\_\_\_\_ historic/significant crossing \_\_\_\_\_ in historic district  
federal relief program \_\_\_\_\_ RR grade-separation program ORE DOCKS

NR CRITERION "B," associated with life of person(s) significant in the past:  
no ?? yes: \_\_\_\_\_

NR CRITERION "C," engineering, architecture, aesthetics:  
computer-generated "C" list: original list added \_\_\_\_\_  
notable engineering: design/type: representative / unusual / unique / RR-related  
standard plan: documented / looks like / ?? VERY HIGH  
size: # spans / span-length / structure-length / width \_\_\_\_\_  
notable architecture, ornamentation, other aesthetic features: none  
style: neoclassical/WPA/moderne/rustic detail: railing/lighting/pier/abutment  
material: stone/RC/metal/wood function: rural/urban/gateway/park/beltway/RR  
when built bridge was: first / early / common / rare / later / last \_\_\_\_\_  
now bridge is: only / rare / common / ?? \_\_\_\_\_ in \_\_\_\_\_  
notable: engineer / builder / fabricator / architect \_\_\_\_\_  
meets a registration requirement established for its type:

DOCUMENTATION, overall: good some unconfirmed/unreliable nothing  
maintenance card Record Center file plans historic photos Improvement Bull.  
known: year-built engineer builder fabricator architect \_\_\_\_\_

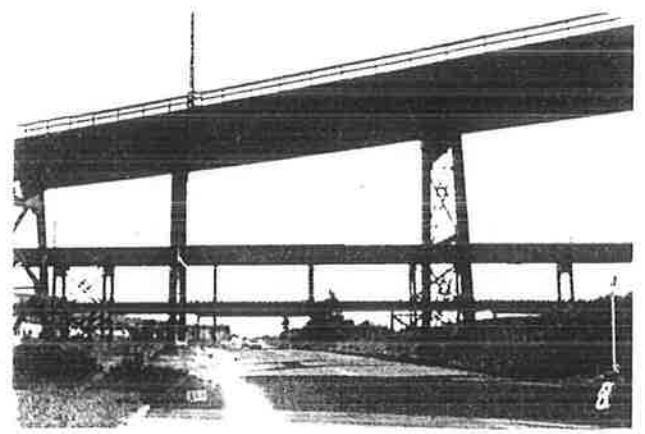
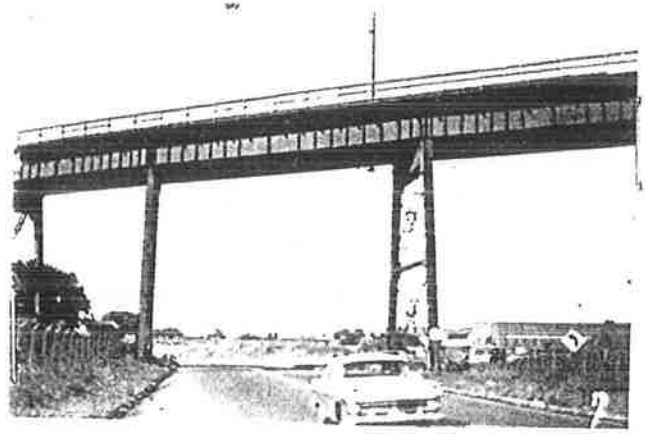
DESIGN INTEGRITY, overall: no serious problems questionable marginal none  
altered/damaged/removed/replaced: railings abutments/piers lighting approach  
widened: yes ?? moved: yes ??

SURVEY: YES NO CONSIDER ?? 1925  
YES NO CONSIDER ??

St. Louis Co. # L-6138

69621287

69621288

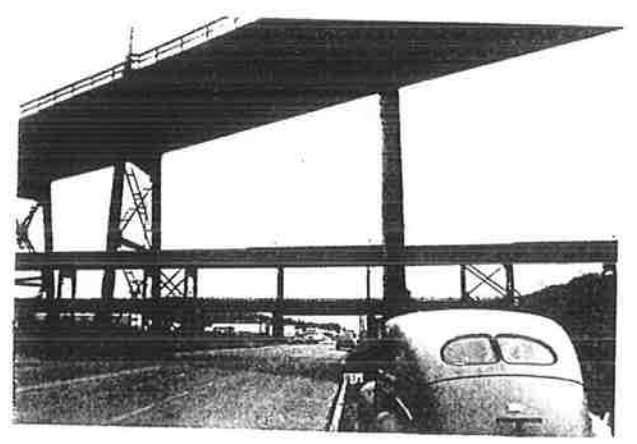
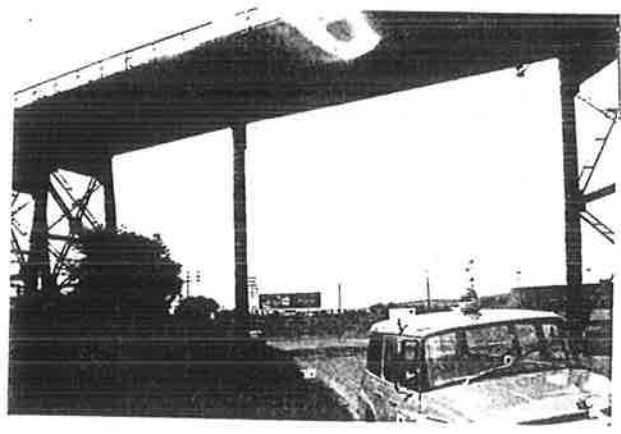


6967083

1962

6967084

1962



1967

1967

UNDER WATERS EDGE

IDENTIFICATION

Bridge No. L 6138 County St. Louis City Duluth  
Name of feature crossed by main span(s) Superior Street (MSAS 109)  
Name of feature crossed by other span(s) 3rd Street MSAS (126)  
Other features in vicinity (roads, railroads, buildings, natural features) \_\_\_\_\_  
This is one of two ore docks. This structure very high.

STRUCTURAL DATA

Type of main span(s) Steel deck girder  
(specific name, such as Warren truss, rigid frame concrete, concrete T beam, etc.)  
Number of main spans many Number of other spans \_\_\_\_\_  
Type of other span(s) same  
If metal bridge, type of connections: Pinned \_\_\_\_\_ Riveted X Welded \_\_\_\_\_  
Structure style, if girder or truss: Through \_\_\_\_\_ Pony \_\_\_\_\_ Deck X  
Unusual features of this structure, such as iron or stone decorations, unusual bearings  
Very High off the ground.

DATA FROM BRIDGE NAMEPLATE

Year constructed \_\_\_\_\_ Owner \_\_\_\_\_  
Builder, builder's address \_\_\_\_\_  
All other information \_\_\_\_\_

ABUTMENT DATA

Materials N.A.  
Type of construction \_\_\_\_\_  
(such as stone masonry, cast in place concrete, etc.)

PIER DATA

Materials Steel  
Type of construction Bents  
(such as pile bent, solid pier, column pier, etc.)

OTHER

Location where bridge plans or drawings are filed Railroad  
Names of designers on plan \_\_\_\_\_  
Firm names on plan \_\_\_\_\_  
Manufacturer or fabricator \_\_\_\_\_  
Dates on plans \_\_\_\_\_  
Dates of construction 1925  
Remarks \_\_\_\_\_

*MN DOT, WINDERS BRIDGE*

IDENTIFICATION

Bridge No. L 6138 County St. Louis City Duluth  
Name of feature crossed by main span(s) Superior Street (MSAS 109)  
Name of feature crossed by other span(s) 3rd Street MSAS (126)  
Other features in vicinity (roads, railroads, buildings, natural features) \_\_\_\_\_  
This is one of two ore docks. This structure very high.

STRUCTURAL DATA

Type of main span(s) Steel deck girder  
(specific name, such as Warren truss, rigid frame concrete, concrete T beam, etc.)  
Number of main spans many Number of other spans \_\_\_\_\_  
Type of other span(s) same  
If metal bridge, type of connections: Pinned \_\_\_\_\_ Riveted X Welded \_\_\_\_\_  
Structure style, if girder or truss: Through \_\_\_\_\_ Pony \_\_\_\_\_ Deck X  
Unusual features of this structure, such as iron or stone decorations, unusual bearings  
Very High off the ground.

DATA FROM BRIDGE NAMEPLATE

Year constructed \_\_\_\_\_ Owner \_\_\_\_\_  
Builder, builder's address \_\_\_\_\_  
All other information \_\_\_\_\_

ABUTMENT DATA

Materials N.A.  
Type of construction \_\_\_\_\_  
(such as stone masonry, cast in place concrete, etc.)

PIER DATA

Materials Steel  
Type of construction Bents  
(such as pile bent, solid pier, column pier, etc.)

OTHER

Location where bridge plans or drawings are filed Railroad  
Names of designers on plan \_\_\_\_\_  
Firm names on plan \_\_\_\_\_  
Manufacturer or fabricator \_\_\_\_\_  
Dates on plans \_\_\_\_\_  
Dates of construction 1925

Remarks \_\_\_\_\_

L06138

306

c. 1925

St. Louis

single-span, steel, deck, plate girder

built-up steel piers

Bridge No. L06138 is part of a multiple-span, deck, plate-girder viaduct that carries trackage of the Duluth Missabe and Iron Range Railway (DM & IR) over several city streets in the West End of Duluth. For state highway administrative purposes, the 75-foot span over Superior Street is designated as Bridge No. L06138. The line terminates about one-half mile south of the bridge on the shore of St. Louis Bay in Lake Superior at an elevated ore-handling facility known as Dock No. 5, which was completed in 1914 by the Duluth, Missabe and Northern Railway (DM & N) to ship the output of the Iron Range mines. As historian Frank A. King notes in his *The Missabe Road*, Dock No. 5, with its storage capacity of 115,200 tons of ore, "easily eclipsed in size any ore dock constructed until that time." This structure, along with its associated rail viaduct, played a vital role in moving Minnesota's iron ore eastward to the nation's steel-manufacturing centers, especially during the two world wars. According to a computerized bridge database compiled by the Minnesota Department of Transportation, Bridge No. L06138 was built in 1925, apparently as a replacement span in Dock No. 5's original viaduct system. Presumably, the structure was designed by the DM & N. At the time of the bridge's construction, both the dock and viaduct were controlled by the United States Steel Corporation. In the late 1930s, US Steel consolidated three of its northern Minnesota carriers, including the DM & N, to form the DM & IR, the present owner of Bridge No. L06138. Although the DM & N once served six ore-shipment facilities on St. Louis Bay, only two survive -- Dock No. 5 and adjacent Dock No. 6. Both retain their associated rail viaducts. According to a historical context study of Minnesota's iron ore industry, prepared by Patrick Labadie in 1993, Dock No. 6 was "rebuilt" in 1982, which suggests that its historic design may have been compromised. Dock No. 5, therefore, appears to be the sole survivor of its type on St. Louis Bay that retains integrity for National Register designation purposes. However, a decision concerning the dock's National Register eligibility must await an intensive-level survey of its engineering, history, and integrity, which is beyond the scope of the present Historic Bridge Inventory. If Dock No. 5 is determined eligible for the National Register, then its associated rail viaduct, including Bridge No. L06138, would also seem to be eligible in terms of its historical associations under Criterion A, within the historic context for the Iron Range prepared by the State Historic Preservation Office. Considered simply on its own terms as a railroad structure, Bridge No. L06138 is not eligible for the National Register under Criterion C, for its engineering was highly conventional for its period. During the early twentieth century, railroads were building similar plate-girder viaducts in the 100- to 120-foot span range.



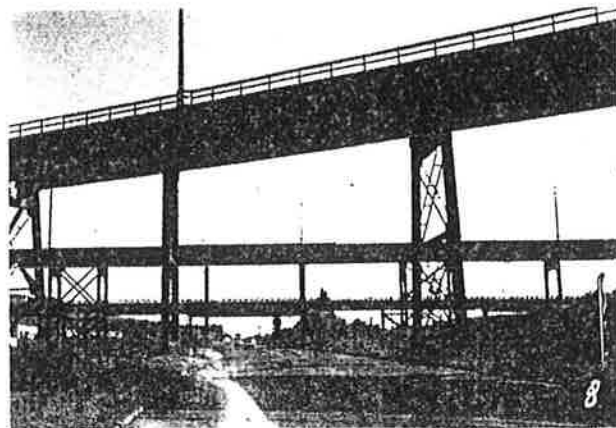
Minnesota Department of Transportation Bridge Database; Bridge No. L06138 File in Minnesota Department of Transportation, Waters Edge Building, Roseville, Minnesota; Patrick Labadie and others, "Minnesota's Lake Superior Shipwrecks A.D. 1650-1945: Historical Contexts and Property Types," in *Archaeological and Historical Studies of Minnesota's Lake Superior Shipwrecks*, ed. Scott F. Anfinson (St. Paul: Minnesota State Historic Preservation Office, Minnesota Historical Society, 1993); David A. Walker and Stephen P. Hall, "Duluth-Superior Harbor Cultural Resources Study," prepared by Archeology Department, FHA Division, Minnesota Historical Society for Department of the Army, St. Paul District Corps of Engineers, 1976, 75-84; "Historic Context: The Iron Range," *Minnesota History in Sites and Structures, A Comprehensive Preservation Planning Process* (St. Paul: State Historic Preservation Office, Minnesota Historical Society, 1985); Frank A. King, *The Missabe Road: The Duluth, Missabe and Iron Range Railway* (San Marino, CA: Golden West Books, 1972), 88, 119, 130; F.C. Kunz, *Design of Steel Bridges* (New York: McGraw-Hill Book Company, 1915), 145; field inspection by Jeffrey A. Hess, 28 October 1996.

yes

Designer: Duluth, Missabe and Northern Railway

69621287

69621288

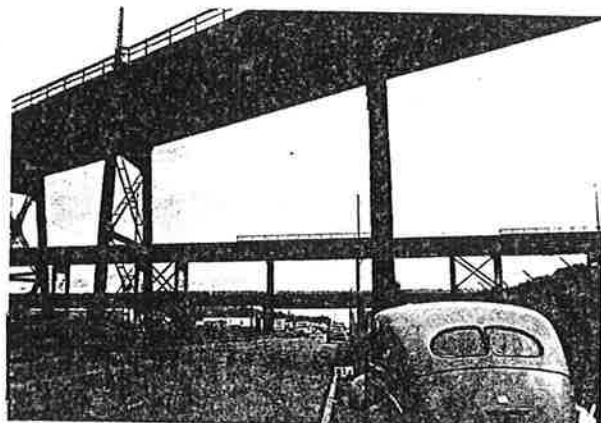
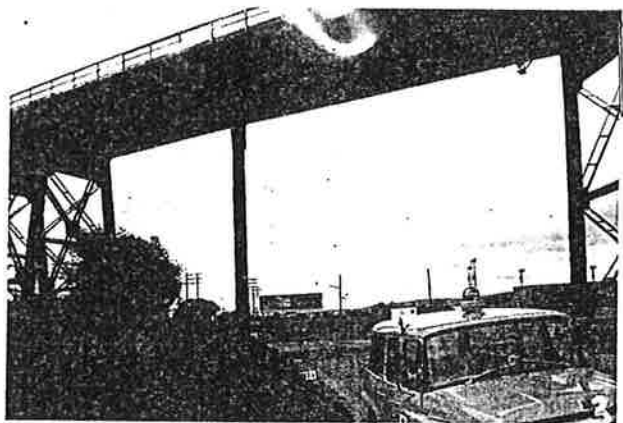


6967083

1962

6967084

1962



1967

1967