

Dehmel Road Bridge (Black Bridge)
Spanning Cass River
Frankenmuth vicinity
Saginaw County
Michigan

HAER No. MI-28

HAER
MICH,
TB-FRANK.V,
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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
U. S. Department of the Interior
P. O. Box 37127
Washington, D. C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

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MICH,
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Dehmel Road Bridge
(Black Bridge)

HAER No. MI-28

Location: Spanning the Cass River (tributary to Saginaw River),
Frankenmuth vicinity, Saginaw County, Michigan

Date of Construction: 1907

Builder/Designer: Joliet Bridge and Iron Company, Joliet, Illinois

Present Owner: City of Frankenmuth

Present Use: River crossing

Significance: The Dehmel Road Bridge is of local significance as an
engineering structure that is representative of a type
and method of bridge construction used in the late
nineteenth and early twentieth centuries. Constructed
by the Joliet Bridge and Iron Company, a nationally
prolific bridge company, it retains historic integrity.

Researcher: A. Howard Kunding
Spicer Engineering Company
Saginaw, Michigan

October 2, 1980

The Dehmel Road Bridge is the second Cass River crossing in the vicinity of the city of Frankenmuth. Since 1883, there has been a bridge crossing at this site, when a simple, uncovered, wooden bridge crossed the Cass River. This bridge was constructed on a different alignment than the current one and carried traffic straight across the Cass River, so that the north approach directly aligned with Beyer Road, south of the river. It was not an engineering triumph and was threatened to be washed out during flooding conditions. The bridge was finally dismantled and replaced in 1907 with the Dehmel Road Bridge.

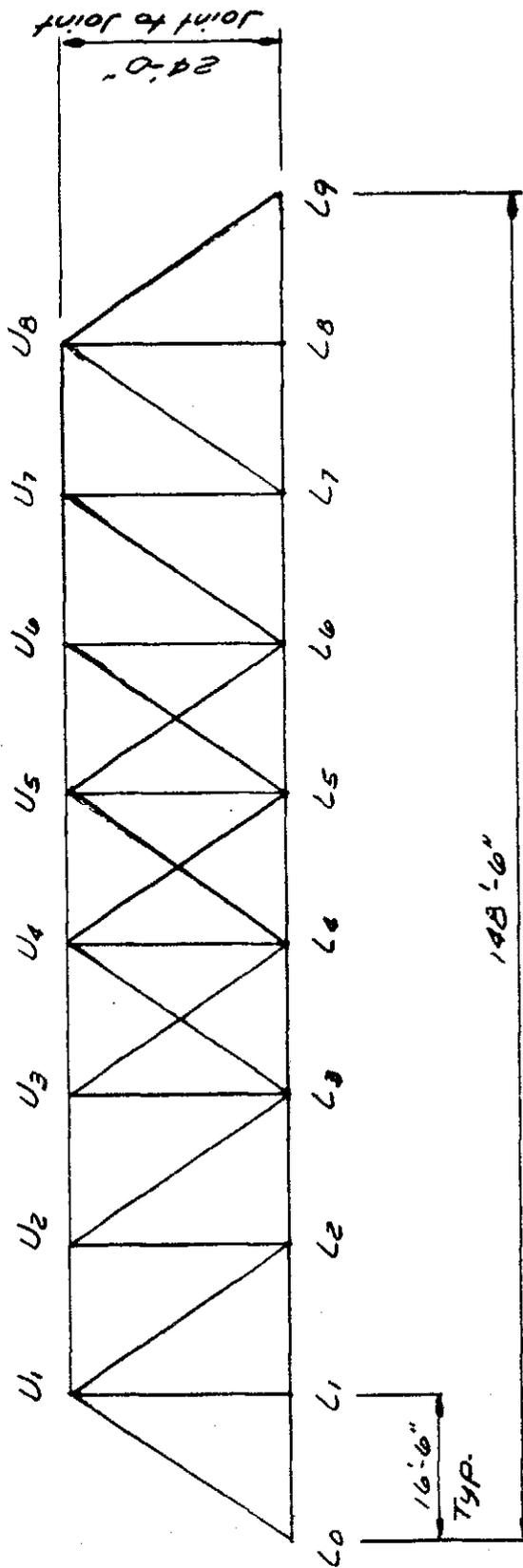
Commissioned by a Frankenmuth Township Board, the Dehmel Road Bridge had a revised alignment that crossed the Cass River from the south, while angling easterly. Thus, a new short approach road from the north came to a dead-end at the St. Lorenz Church on Tuscola Road. This 180-foot bridge was constructed of iron and painted black; its piers constructed of concrete. It was, and is often, referred to as the "Black Bridge." Its main span is a 151-foot, Pratt through truss, and it has 16 feet of horizontal clearance and 14 feet in vertical clearance on an overall height of 20 feet. A second span, on the north end of the bridge, is a small Pony truss of 30 feet in length. The bridge has an ornamental lattice-work across the top of each end of the main span.

This bridge is not as historically significant as the crossing in Frankenmuth (Main Street) or the one at Plank Road (Dixie Highway) because it did not define local development patterns or relate to historically significant events or places. The bridge did contribute to access for farming operations, access to the school and church at St. Lorenz, and general community travel. It is, however, one of the most aesthetic sitings and structures among the Cass River bridges.

Situated on a narrow, wooded floodplain, the bridge is surrounded by vacant and agricultural land, single-family residences, and the St. Lorenz Church and School. The setting is very picturesque, located on the westerly edge of the city of Frankenmuth, three-fourths of a mile from the city.

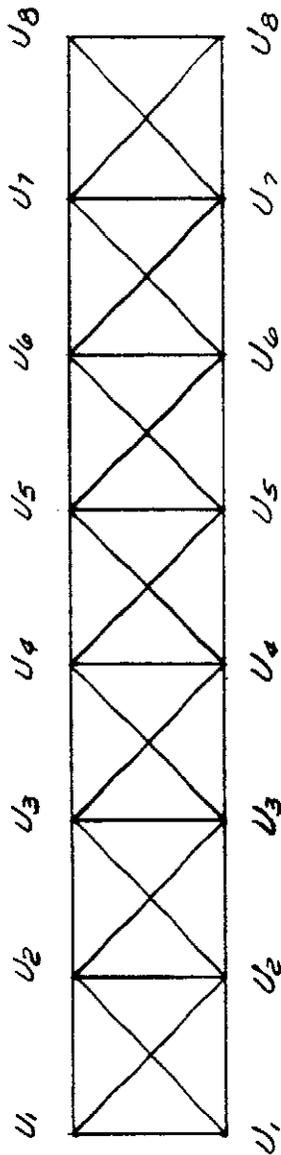
The bridge is in good condition, but is functionally obsolete because of sharply curving approaches, narrow one-lane clearance, and weight restrictions of three tons. It has been nominated to the National Register of Historic Places and, accordingly, the Saginaw County Board of Road Commissioners has requested a Determination of National Registry Eligibility. However, the Road Commission proposes to replace the existing bridge with a new span immediately adjacent.

NOTE: See field records for the Dehmel Road Bridge Site Relocation Study and field photographs.



PROFILE
SCALE: 1"=20'-0"

DEHMEI ROAD BRIDGE
OVER THE CASS RIVER
SECTIONS 27 & 28
FRANKENMUTH TOWNSHIP
SAGINAW COUNTY, MICHIGAN
SPICER ENGINEERING COMPANY
MAY 11, 1982
DONALD E. SCHERZER A-13637-1



PLAN
 SCALE 1" = 20'-0"

UPPER CHORDS - 7/8" \square Bar (Top) - 22'-11 3/4" long

LOWER CHORDS - 1" ϕ Bar (Both) - 22'-11 3/4" long

TOP STUITS
 U1, U4, U8 - 2 - 4" L's - 16'-0" long

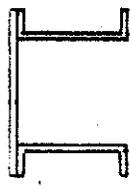


TOP STUITS
 SCALE 3/4" = 1'-0"

DEHMEI ROAD BRIDGE
 OVER THE CASS RIVER
 Sections 27 & 28
 Frankmouth Township
 Saginaw County, Michigan
 Spicer Engineering Company
 May 11, 1982
 Donald E. Scherzer A-13637-2

END POSTS & UPPER CHORDS

L0 U1 & L9 U8 - 2-C 2"x9" w/ 1/4"x14" Riveted R - 29'-1 1/2" long
 U1 U2, U2 U3, U3 U4, U4 U5, U5 U6, U6 U7, & U7 U8
 U6 U6, U6 U7, & U7 U8



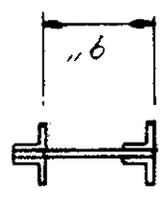
END POST &
UPPER CHORD
 SCALE 3/4"=1'-0"

VERTICAL & DIAGONAL POSTS

U1 U1 & U6 L0	- 2 - 7/8" □ Bars	- 29'-0" Jt. to Jt.
U2 U2 & U8 L7	- 2 - 3" x 3/4" R	- 29'-1 1/2" Jt. to Jt.
U2 L2 & U7 L7	- 2 - C 2"x7"	- 29'-0" Jt. to Jt.
U2 L3 & U7 L6	- 2 - 5/8" x 2 1/2" R	- 29'-1 1/2" Jt. to Jt.
U3 L3 & U6 L6	- 2 - C 2"x6"	- 29'-0" Jt. to Jt.
U3 L4 & U6 L5	- 2 - 5/8" x 2" R	- 29'-1 1/2" Jt. to Jt.
U4 L3 & U5 L6	- 1 - 7/8" □ Bar	- 29'-1 1/2" Jt. to Jt.
U4 L4 & U5 L5	- 2 - C 1 3/4" x 5" R	- 29'-0" Jt. to Jt.
U4 L5 & U5 L4	- 2 - 7/8" □ Bars	- 29'-1 1/2" Jt. to Jt.

SWAY STEETS

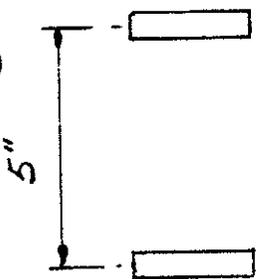
U2 U1, U5 U3, U4 U4, U5 U5, U6 U5 & U7 U7
 - 4 - 2 1/4" L's & 9" x 1/2" R - 10'-0" long



SWAY STEET
 SCALE: 3/4"=1'-0"

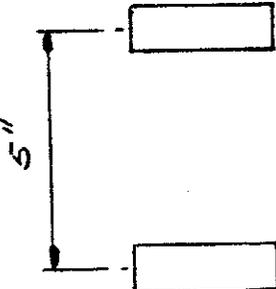
DEHMEI ROAD BRIDGE
 OVER THE CASS RIVER
 SECTIONS 27 & 28
 Frankenth Township
 Saginaw County, Michigan
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 May 11, 1982
 Donald R. Scherzer

LOWER CHOED
 20L1, 20L9 - 2 - 2 1/2" x 5/8" - 16'-6" long
 21L2, 21L8



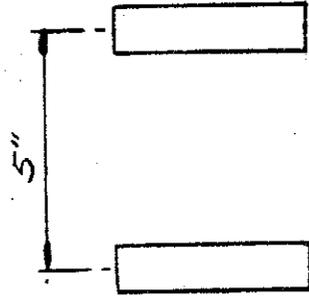
LOWER CHOED
 SCALE 3 1/4" = 1'-0"

LOWER CHOED
 22L2, 22L7 - 2 - 3" x 1" - 16'-6" long



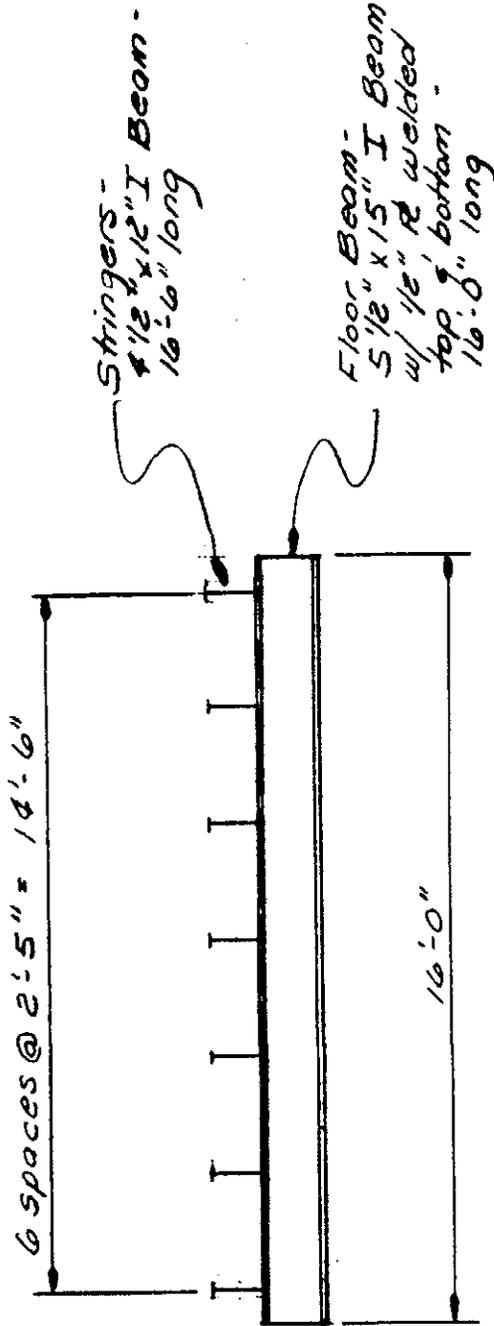
LOWER CHOED
 SCALE 3 1/4" = 1'-0"

LOWER CHOED
 23L2, 23L6 - 2 - 4" x 1" - 16'-6" long
 24L2, 24L5



LOWER CHOED
 SCALE 3 1/4" = 1'-0"

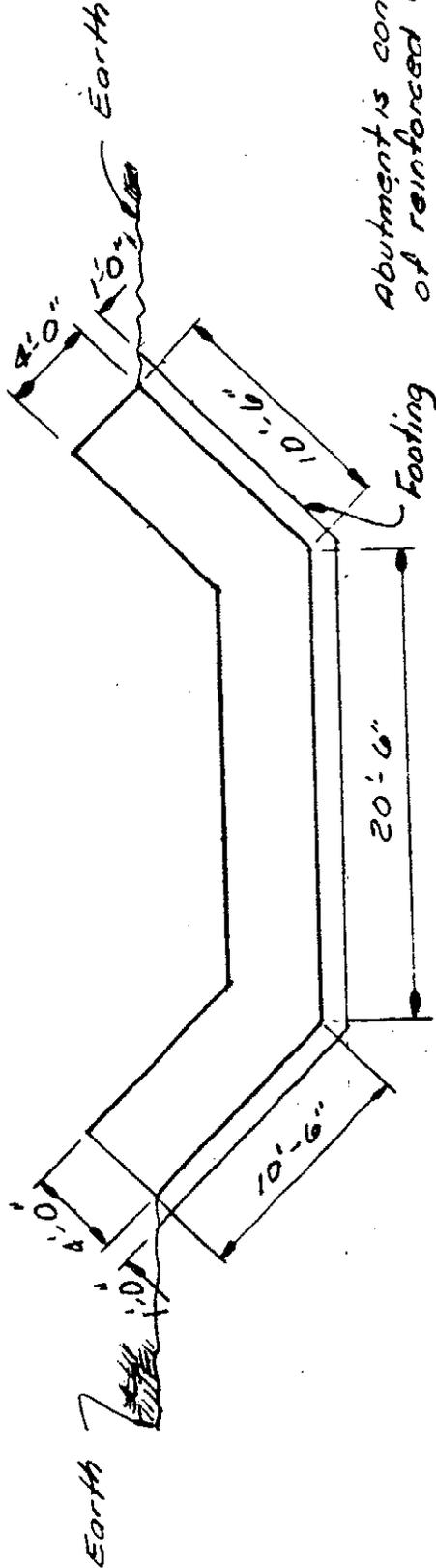
DEHMEL ROAD BRIDGE
 OVER THE CASS RIVER
 Sections 27 & 28
 Frankenth Township
 Saginaw County, Michigan
 Spicer Engineering Company
 May 12, 1982
 Donald E. Scherzer A-13637-D



DECK CROSS SECTION
 SCALE 1/4" = 1'-0"

NOTE: Structural Steel manufactured around the turn of the century. Bridge built 1919. Assume A7 Steel for all structural members. Original deck was wood planking. This deck was replaced with bituminous material over corrugated metal at an undetermined date.

DEHMEI ROAD BRIDGE
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 Sections 27 #28
 Frankemuth Township,
 Saginaw County, Michigan
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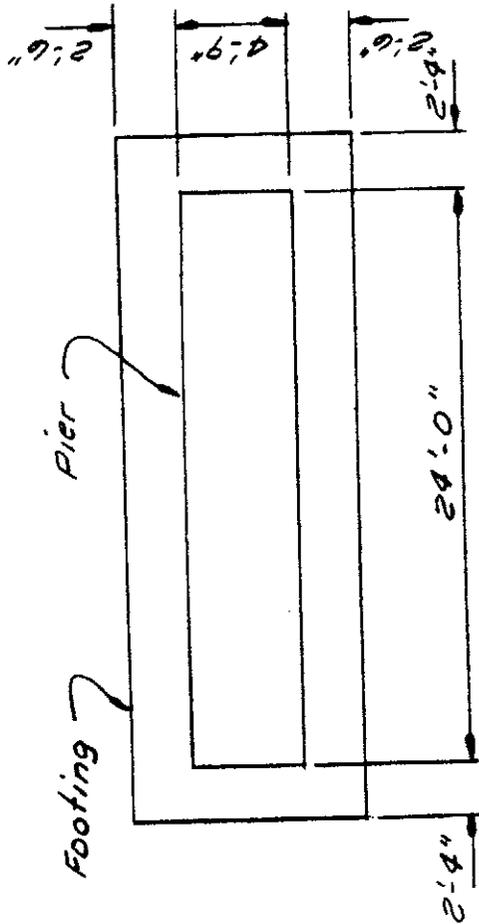


Abutment is constructed
of reinforced concrete.

Abutment- 19'-0" high
Top of Abutment to
Top of Footing.

PLAN
SOUTH ABUTMENT
SCALE 1/8"=1'-0"

DEHMEL ROAD BRIDGE
OVER THE CASS RIVER
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FRANKENMUTH TOWNSHIP,
SAGINAW COUNTY, MICHIGAN
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DONALD E. SCHERZER
A-13637-4



Pier is constructed
of reinforced concrete.
Pier - 18'-0" high
Top of Pier to
Top of Footing

PLAN
PIER
SCALE 1/8"=1'-0"

DEHMEI ROAD BRIDGE
OVER THE CASS RIVER
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