

The National Bridge Inventory contains data submitted by state transportation departments to the Federal Highway Administration in coded format.
 Form Interface Design: www.historicbridges.org. Data Conversion Assistance By www.bridgehunter.com. None of the involved parties make any guarantee of accuracy.

Basic Information

Michigan [26]	Ontonagon County [131]	Interior [40760]	5.0 MI W OF HOUGHTON COL	46-28-45 = 46.479167	089-05-25 = - 89.090278
8491	Highway agency district 1	Owner State Highway Agency [01]	Maintenance responsibility	State Highway Agency [01]	
Route 28	M-28	Toll On free road [3]	Features intersected	M BR ONTONAGON RIVER	
Design - main	Steel [3]	Design - approach	Concrete [1]	Kilometerpoint	5611.6 km = 3479.2 mi
1	Arch - Deck [11]	2	Slab [01]	Year built	1929
				Year reconstructed	1992
				Skew angle	0
				Structure Flared	
				Historical significance	Bridge is on the NRHP. [1]
Total length	58.8 m = 192.9 ft	Length of maximum span	45.7 m = 149.9 ft	Deck width, out-to-out	10.7 m = 35.1 ft
				Bridge roadway width, curb-to-curb	9.8 m = 32.2 ft
Inventory Route, Total Horizontal Clearance	9.7 m = 31.8 ft	Curb or sidewalk width - left	0 m = 0.0 ft	Curb or sidewalk width - right	0 m = 0.0 ft
Deck structure type	Concrete Cast-in-Place [1]				
Type of wearing surface	Monolithic Concrete (concurrently placed with structural deck) [1]				
Deck protection	Epoxy Coated Reinforcing [1]				
Type of membrane/wearing surface					

Weight Limits

Bypass, detour length	Method to determine inventory rating	Load Factor(LF) [1]	Inventory rating	47 metric ton = 51.7 tons
4.8 km = 3.0 mi	Method to determine operating rating	Load Factor(LF) [1]	Operating rating	78.6 metric ton = 86.5 tons
	Bridge posting	Equal to or above legal loads [5]	Design Load	MS 22.5 / HS 25 [9]

Functional Details

Average Daily Traffic	2303	Average daily truck traffi	18	%	Year	2007	Future average daily traffic	1668	Year	2018
Road classification	Principal Arterial - Other (Rural) [02]		Lanes on structure	2		Approach roadway width	12.2 m = 40.0 ft			
Type of service on bridge	Highway [1]		Direction of traffic	2 - way traffic [2]		Bridge median				
Parallel structure designation	No parallel structure exists. [N]									
Type of service under bridge	Waterway [5]		Lanes under structure	0		Navigation control				
Navigation vertical clearanc	0 = N/A		Navigation horizontal clearance	0 = N/A						
Minimum navigation vertical clearance, vertical lift bridge			Minimum vertical clearance over bridge roadway	99.99 m = 328.1 ft						
Minimum lateral underclearance reference feature	Feature not a highway or railroad [N]									
Minimum lateral underclearance on right	99.9 = Unlimited				Minimum lateral underclearance on left	0 = N/A				
Minimum Vertical Underclearance	0 = N/A		Minimum vertical underclearance reference feature	Feature not a highway or railroad [N]						
Appraisal ratings - underclearances	N/A [N]									

Repair and Replacement Plans

Type of work to be performed	Work done by	Work to be done by contract [1]								
Bridge deck replacement with only incidental widening. [37]	Bridge improvement cost	69000	Roadway improvement cost							
	Length of structure improvement			Total project cost						
	Year of improvement cost estimate									
	Border bridge - state				Border bridge - percent responsibility of other state					
	Border bridge - structure number									

Inspection and Sufficiency

Structure status	<input type="text" value="Open, no restriction [A]"/>	Appraisal ratings - structural	<input type="text" value="Somewhat better than minimum adequacy to tolerate being left in place as is [5]"/>
Condition ratings - superstructure	<input type="text" value="Good [7]"/>	Appraisal ratings - roadway alignment	<input type="text" value="Better than present minimum criteria [7]"/>
Condition ratings - substructure	<input type="text" value="Fair [5]"/>	Appraisal ratings - deck geometry	<input type="text" value="Meets minimum tolerable limits to be left in place as is [4]"/>
Condition ratings - deck	<input type="text" value="Good [7]"/>		
Scour	<input type="text" value="Bridge foundations (including piles) on dry land well above flood water elevations. [9]"/>		
Channel and channel protection	<input type="text" value="Bank protection is in need of minor repairs. River control devices and embankment protection have a little minor damage. Banks and/or channel have minor amounts of drift. [7]"/>		
Appraisal ratings - water adequacy	<input type="text" value="Equal to present minimum criteria [6]"/>	Status evaluation	<input type="text"/>
Pier or abutment protection	<input type="text"/>	Sufficiency rating	<input type="text" value="75.4"/>
Culverts	<input type="text" value="Not applicable. Used if structure is not a culvert. [N]"/>		
Traffic safety features - railings	<input type="text" value="Inspected feature meets currently acceptable standards. [1]"/>		
Traffic safety features - transitions	<input type="text" value="Inspected feature meets currently acceptable standards. [1]"/>		
Traffic safety features - approach guardrail	<input type="text" value="Inspected feature meets currently acceptable standards. [1]"/>		
Traffic safety features - approach guardrail ends	<input type="text" value="Inspected feature meets currently acceptable standards. [1]"/>		
Inspection date	<input type="text" value="August 2010 [0810]"/>	Designated inspection frequency	<input type="text" value="24"/> Months
Underwater inspection	<input type="text" value="Not needed [N]"/>	Underwater inspection date	<input type="text"/>
Fracture critical inspection	<input type="text" value="Not needed [N]"/>	Fracture critical inspection date	<input type="text"/>
Other special inspection	<input type="text" value="Not needed [N]"/>	Other special inspection date	<input type="text"/>

The National Bridge Inventory contains data submitted by state transportation departments to the Federal Highway Administration in coded format.
 Form Interface Design: www.historicbridges.org. Data Conversion Assistance By www.bridgehunter.com. None of the involved parties make any guarantee of accuracy.

Basic Information

Michigan [26] Ontonagon County [131] Unknown [00000] 5.0 MI W OF HOUGHTON CO L 46-28-48 = 46.480000 089-05-24 = - 89.090000

66166023000B010 Highway agency district 1 Owner State Highway Agency [01] Maintenance responsibility State Highway Agency [01]

Route 28 M-28 Toll On free road [3] Features intersected M BR ONTONAGON R

Design - main Steel [3] Design - approach Concrete [1] Kilometerpoint Year built 1929 Year reconstructed N/A [0000]

1 Arch - Deck [11] 2 Slab [01] Skew angle 0 Structure Flared Historical significance Bridge is on the NRHP. [1]

Total length 58.8 m = 192.9 ft Length of maximum span 45.7 m = 149.9 ft Deck width, out-to-out 10.8 m = 35.4 ft Bridge roadway width, curb-to-curb 9.1 m = 29.9 ft

Inventory Route, Total Horizontal Clearance 10 m = 32.8 ft Curb or sidewalk width - left 0.5 m = 1.6 ft Curb or sidewalk width - right 0.5 m = 1.6 ft

Deck structure type Concrete Cast-in-Place [1]

Type of wearing surface Monolithic Concrete (concurrently placed with structural deck) [1]

Deck protection

Type of membrane/wearing surface

Weight Limits

Bypass, detour length 4.8 km = 3.0 mi Method to determine inventory rating Inventory rating 19.1 metric ton = 21.0 tons

Method to determine operating rating Operating rating 80.1 metric ton = 88.1 tons

Bridge posting Equal to or above legal loads [5] Design Load M 13.5 / H 15 [2]

Functional Details

Average Daily Traffic	1500	Average daily truck traffi	13	%	Year	1988	Future average daily traffic	1200	Year	1977
Road classification	Principal Arterial - Other (Rural) [02]		Lanes on structure	2		Approach roadway width	12.2 m = 40.0 ft			
Type of service on bridge	Highway [1]		Direction of traffic	2 - way traffic [2]		Bridge median				
Parallel structure designation	No parallel structure exists. [N]									
Type of service under bridge	Waterway [5]		Lanes under structure	0		Navigation control				
Navigation vertical clearanc	0 = N/A		Navigation horizontal clearance	0 = N/A						
Minimum navigation vertical clearance, vertical lift bridge			Minimum vertical clearance over bridge roadway	99.99 m = 328.1 ft						
Minimum lateral underclearance reference feature	Feature not a highway or railroad [N]									
Minimum lateral underclearance on right	0 = N/A					Minimum lateral underclearance on left				
Minimum Vertical Underclearance	0 = N/A		Minimum vertical underclearance reference feature	Feature not a highway or railroad [N]						
Appraisal ratings - underclearances	N/A [N]									

Repair and Replacement Plans

Type of work to be performed	Work done by		Work to be done by contract [1]							
Replacement of bridge or other structure because of substandard load carrying capacity or substantial bridge roadway geometry. [31]	Bridge improvement cost	923000	Roadway improvement cost	92000						
	Length of structure improvement	58.8 m = 192.9 ft		Total project cost	1088000					
	Year of improvement cost estimate									
	Border bridge - state				Border bridge - percent responsibility of other state					
	Border bridge - structure number									

Inspection and Sufficiency

Structure status	Open, no restriction [A]	Appraisal ratings - structural	Meets minimum tolerable limits to be left in place as is [4]
Condition ratings - superstructure	Fair [5]	Appraisal ratings - roadway alignment	Better than present minimum criteria [7]
Condition ratings - substructure	Poor [4]	Appraisal ratings - deck geometry	Somewhat better than minimum adequacy to tolerate being left in place as is [5]
Condition ratings - deck	Poor [4]		
Scour			
Channel and channel protection	Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition. [8]		
Appraisal ratings - water adequacy	Equal to present minimum criteria [6]	Status evaluation	Structurally deficient [1]
Pier or abutment protection		Sufficiency rating	42.4
Culverts	Not applicable. Used if structure is not a culvert. [N]		
Traffic safety features - railings	Inspected feature meets currently acceptable standards. [1]		
Traffic safety features - transitions	Inspected feature meets currently acceptable standards. [1]		
Traffic safety features - approach guardrail	Inspected feature meets currently acceptable standards. [1]		
Traffic safety features - approach guardrail ends	Inspected feature meets currently acceptable standards. [1]		
Inspection date	September 1991 [0991]	Designated inspection frequency	12 Months
Underwater inspection	Not needed [N]	Underwater inspection date	
Fracture critical inspection	Not needed [N]	Fracture critical inspection date	
Other special inspection	Not needed [N]	Other special inspection date	