



**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0003**

**USH 2 over BN Rail Road
Oct 19, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-19-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-19-15	60	X
SI&A	08-19-13	48	

Latitude 46°44'32.63"N
Longitude 92°09'13.28"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours	Minutes	
1	0	

	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0003
Feature Under: BN Rail Road	County: DOUGLAS(16)	
Location 1.0M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 54	Bridge Roadway Width: 59.0	Total Length: 504.0
Approach Pavement Width: 0	Deck Width: 65.0	Deck Area (sq ft): 35154

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0	10	2012	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS24	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS48	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: PCC overlay completed 2015 under project 8680-04-71.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 89.3

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		73.0	
2	CONT STEEL	DECK GIRDER		154.0	Y
3	CONT STEEL	DECK GIRDER		154.0	
4	CONT STEEL	DECK GIRDER		123.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under	27.58		

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Structure No.: **B-16-038-0003**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	32,776	32,776	0	0	0
			minor spalls in deck have been repaired. Chloride content (LB/CY) is high enough to warrant NBI 4. Border bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior. Deck overlay in progress, complete in 2015.						
		8514	Concrete Overlay	SF	32,776	0	32,776	0	0
			PCC overlay completed 2015.						
		3220	Crack (Wearing Surface)	SF		0	32,776	0	0
			Random blue cracking through out.						
	8522		Coated Reinforcing	SF	32,776	0	0	0	0
			minor spalls in deck have been repaired. Chloride content (LB/CY) is high enough to warrant NBI 4. Border bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior.						
	107		Steel Open Girder	LF	4,031	4,025	0	0	6
			Girder #7 at pier #4 heavy rust below failed expansion joint. Leakage in bays 7 & 8 pier 4. See sub-unit 2 for strip-seal element.						
		1000	Corrosion	LF		0	0	0	6
	8517		Weathering Steel	SF	68,446	68,000	0	0	446
			Girder #7 at pier #4 heavy rust below failed expansion joint. Leakage in bays 7 & 8 pier 4. See sub-unit 2 for strip-seal element.						
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	0	446
			Girder #7 at pier #4 heavy rust below failed expansion joint						
	210		Reinforced Concrete Pier Wall	LF	153	153	0	0	0
			Grafeti tagged piers 4,5,6,& 7						
X	303		Modular Joint	LF	65	65	0	0	0
			Total replacement in progress, complete in 2015.						
X	311		Moveable Bearing	EA	24	24	0	0	0
		1000	Corrosion	EA		0	0	0	0
			Painting of bearings in progress, complete 2015.						
X	313		Fixed Bearing	EA	8	8	0	0	0
		1000	Corrosion	EA		0	0	0	0
			rust on core 10 steel bearings. Painted 2015.						
X	330		Metal Bridge Rail	LF	1,007	1,007	0	0	0
			outside parapet rails						
X	331		Reinforced Concrete Bridge Rail	LF	1,354	1,354	0	0	0
			Deck overlay in progress, complete in 2015 surface repair included. 5 posts damaged by hits on uprights approx. 50ft from east jt on south rail.						

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Structure No.: **B-16-038-0003**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	9004		Drainage - Deck	EA	3	3	0	0	0
			clean and clear (09) extension added to 24+90 center WB. New drain extensions being installed and new grates complete in 2015						
X	9007		Median	EA	157	157	0	0	0
			Deck overlay in progress, complete in 2015 surface repair included.						
X	9043		Slope Protection- Crushed Aggregate with Bit.	EA	1	1	0	0	0
			Large washout on slope repaired 2010 repaired 2012. Resprayed 2015.						
X	9167		Steel Diaphragm	EA	157	157	0	0	0
X	9169		Lateral Bracing	EA	69	69	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Water level 602.91 8/19/2014 (Duluth ship canal)

Inspection Specific Notes

(06) Damage to slope paving unrepaired.
 (07) Inspection done 8/17 thru 8/30/2007.
 Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
 (09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
 Inspected 2010 by Mndot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D Harrington.
 Inspected by DJH etal between 8/22/2011 and 8/31/2011.
 Inspected by DJH etal bewteen 8/15/12 and 8/30/12.
 Inspected by DJH etal between 8/12/13 and 8/29/13. Scheduled for deck overlay prpjct begin 2014.
 Inspected by DJH etal between 8/19/14 and 8/26/14.
 Project 8680-04-71 in progress, complete in 2015.

Inspector Site-Specific Safety Considerations

Ship Traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment		
Other		

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Structure No.: **B-16-038-0003**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-85
1984	NEW SUPERSTRUCTURE	8680-01-84
1983	NEW STRUCTURE	8680-01-81

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0003**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Dry	Pier 4
Pier 1		Dry	Pier 5
Pier 2		Surface Supplied Air	Pier 6
Pier 3		Surface Supplied Air	Pier 7
Non Cardinal Abutment			

Routine

Document Comment/Description

Joint 3-4 showing modular joint replacement and paint in progress, also new drain tube.



Routine
Document Comment/Description

Name Plate



Routine
Document Comment/Description

Crash Cushion new 2015.



Routine
Document Comment/Description

South fascia



Routine
Document Comment/Description

Pier 4.



Routine
Document Comment/Description

South fascia looking east from Pier 4.



Routine
Document Comment/Description

Resealed slope paving.



Routine
Document Comment/Description

Piers 7 and 8.





**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0004**

**USH 2 over BN RR
Oct 19,2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-19-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-19-15	60	X
SI&A	08-19-13	48	

Latitude
Longitude

Owner
Maintainer

Time Log

Team members

Hours	Minutes	
1	0	

	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	<input type="text" value="Completed by Allan Bjorklund(dotayb)"/>	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0004
Feature Under: BN RR	County: DOUGLAS(16)	
Location 0.9M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 54	Bridge Roadway Width: 70.0	Total Length: 549.0
Approach Pavement Width: 0	Deck Width: 76.0	Deck Area (sq ft): 54652

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS20	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS36	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 PCC overlay completed 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		31.0	
2	CONT STEEL	DECK GIRDER		187.0	Y
3	CONT STEEL	DECK GIRDER		147.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under	26.7		

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Structure No.: **B-16-038-0004**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	54,659	54,659	0	0	0
			Chloride content (LB/CY) is high enough to warrant a NBI 4. Border Bridge agreement to place deck at NBI 5. Testing report on file NWR/Superior. Deck overlay in progress, complete in 2015.						
		8514	Concrete Overlay	SF	54,659	0	54,659	0	0
			PCC overlay completed WB 2014, EB 2015.						
		3220	Crack (Wearing Surface)	SF		0	54,659	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	54,659	0	0	0	0
			Chloride content (LB/CY) is high enough to warrant a NBI 4. Border Bridge agreement to place deck at NBI 5. Testing report on file NWR/Superior. Deck overlay in progress, complete in 2015.						
			Steel Open Girder	LF	6,058	5,928	60	70	0
			flaking rust in windblown pattern around drain pipes on bottom of lower flanges. Added 2 drain pipe extensions in 2011.						
		1000	Corrosion	LF		0	60	70	0
			Heavy rust center diaphragm between mainline and ramp B. also at 4/5 joint under sidewalk, heavy rust with flaking under sidewalk joint.						
	8517		Weathering Steel	SF	102,865	102,365	0	500	0
			flaking rust in windblown pattern around drain pipes on bottom of lower flanges. Added 2 drain pipe extensions in 2011. At joints under centerline heavy rust 2014. Painting in progress, complete in 2015.						
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	500	0
	210		Reinforced Concrete Pier Wall	LF	117	117	0	0	0
			graffeti present on piers 8, 9 & 10.						
X	303		Modular Joint	LF	75	75	0	0	0
			New WB 2014, EB 2015.						
	311		Moveable Bearing	EA	33	0	33	0	0
		1000	Corrosion	EA		0	33	0	0
	313		Fixed Bearing	EA	11	0	11	0	0
		1000	Corrosion	EA		0	11	0	0
X	330		Metal Bridge Rail	LF	1,145	1,100	45	0	0
		1000	Corrosion	LF		0	45	0	0
			plow scrapes						
X	331		Reinforced Concrete Bridge Rail	LF	2,244	2,244	0	0	0
			Deck overlay in progress, complete in 2015. Surface repair of parapets included.						

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Structure No.: **B-16-038-0004**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck clean and clear. Drain extension added to Sta. 27+96 WB drainpipe under 8/04. Two additional extensions added on EB. New drain extensions and new grates being installed, complete in 2015.	EA	4	4	0	0	0
	9167		Steel Diaphragm	EA	219	219	0	0	0
	9169		Lateral Bracing	EA	108	108	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Four tracks under span 8-9 BNSF Railroad. RR tamping ballast date of inspection 2014.
 Water elevation 602.91 (Duluth Ship Canal) 8/19/2014

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.
 Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
 (09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
 Inspected 2010 by Mndot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D. Harrington.
 Inspected by DJH etal between 8/22/2011 and 8/31/2011.
 Inspected by DJH etal between 8/15/12 and 8/30/12.
 Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled 2014.
 Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress, complete in 2015.

Inspector Site-Specific Safety Considerations

Ship Traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment		
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-00
1984	NEW DECK	8680-01-85
1984	NEW SUPERSTRUCTURE	8680-01-84
1983	NEW STRUCTURE	8680-01-81

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Structure No.: **B-16-038-0004**

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0004**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Dry	Pier 8
Pier 2		Surface Supplied Air	Pier 9
Pier 3		Surface Supplied Air	Pier 10
Non Cardinal Abutment		Wade	NA

Routine

Document Comment/Description

Pier 9 and bottom of deck span 9-10



Routine

Document Comment/Description

Pier 8 A & B span 8-9 showing RR tracks



Routine
Document Comment/Description

Name Plate



Routine
Document Comment/Description

Looking north.



Routine

Document Comment/Description

Note beginning of split median.



Routine

Document Comment/Description

Finished at Jt 3-4.



Routine

Document Comment/Description

Typical transition at paint.



Non-Image Documents

Type	Document	Document Comment/Description	Attached
UW Profile	b16-038-00_xpd1.xlsx	From 2012 Consultant Dive Report.	



**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0005**

**USH 2 over ST LOUIS RIVER
Oct 19, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-19-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-19-15	60	X
SI&A	08-19-13	48	

Latitude 46°44'24.02"N
Longitude 92°09'05.25"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours	Minutes	
1	0	

	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0005
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.8M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 54	Bridge Roadway Width: 81.0	Total Length: 402.0
Approach Pavement Width: 0	Deck Width: 93.5	Deck Area (sq ft): 41466

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS22	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS39	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		37.0	
2	CONT STEEL	DECK GIRDER		203.0	Y
3	CONT STEEL	DECK GIRDER		162.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0005**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	41,462	41,462	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior. Deck overlay in progress, complete in 2015.						
		1080	Delamination - Spall - Patched Area	SF		0	0	0	0
		1130	Cracking (RC)	SF		0	0	0	0
		8514	Concrete Overlay New WB 2014, EB 2015.	SF	41,462	0	41,462	0	0
		3220	Crack (Wearing Surface) Random cracking throughout.	SF		0	41,462	0	0
	8522		Coated Reinforcing	SF	41,462	0	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior.						
	107		Steel Open Girder	LF	4,494	4,478	16	0	0
			flaking rust around each of the drain pipes.						
		1000	Corrosion flaking rust around each of the drain pipes.	LF		0	16	0	0
		8517	Weathering Steel flaking rust around each of the drain pipes.	SF	97,520	97,520	0	0	0
	3430		Oxide Film Degradation - Weathering Steel	SF		0	16	0	0
	210		Reinforced Concrete Pier Wall	LF	219	215	0	4	0
			typical 1/4 inch deep, up to 1/2 inch deep maximum scaling at the waterline Grafeti present on pier 11 & 12. Pier 11 south edge has spalled and deteriorating concrete 10 feet up from water line at pour joint.						
	1080		Delamination - Spall - Patched Area	LF		0	0	4	0
			Spall on pier 11 column B at joint of part C and B upriver end.						
X	303		Modular Joint	LF	121	121	0	0	0
			New WB 2014, EB 2015.						
	2310		Leakage, Seal Adhesion, Damage, Cracking	LF		0	0	0	0
	311		Moveable Bearing	EA	23	23	0	0	0
		1000	Corrosion	EA		0	0	0	0
		2210	Movement	EA		0	0	0	0
		2220	Alignment	EA		0	0	0	0

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	313		Fixed Bearing	EA	11	11	0	0	0
		1000	Corrosion	EA		0	0	0	0
X	330		Metal Bridge Rail	LF	1,209	1,008	201	0	0
		1000	Corrosion plow scrapes	LF		0	200	0	0
		1900	Distortion joint 5-6 rail on unit 5 bent from plow at joint	LF		0	1	0	0
X	331		Reinforced Concrete Bridge Rail	LF	1,209	1,209	0	0	0
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
	9004		Drainage - Deck	EA	3	3	0	0	0
			clean and clear New drain downspouts and new grates in project, complete in 2015.						
	9167		Steel Diaphragm	EA	177	177	0	0	0
	9169		Lateral Bracing	EA	90	90	0	0	0
	9336		Luminaire Bases	EA	1	0	0	1	0
			Sign bridge base over pier 11 outside of parapet spall drip edge with exposed rebar. (may get repaired with project in 2015)						

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Water elevation 602.91 (Duluth Ship Canal) Water high enough to use boat and motor around all piers in Unit 5, first time in years.

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Structure No.: **B-16-038-0005**

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.
Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
(09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
Inspected 2010 by Mndot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D Harrington.
Inspected by DJH etal between 8/22/2011 and 8/31/2011.
Inspected by DJH etal between 8/15/12 and 8/30/12.
Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.
Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress, complete in 2015.

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

Unable to use Snooper due to Project in progress 2015.

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-05
1984	NEW SUPERSTRUCTURE	8680-01-84
1983	NEW STRUCTURE	8680-01-81

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0005**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 11
Pier 2		Surface Supplied Air	Pier 12
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Joint 4-5



Routine
Document Comment/Description

Note continued separated median.



Routine

Document Comment/Description

Typical cracks in overlay.



Routine
Document Comment/Description

Sidewalk typical.



Routine**Document Comment/Description**

Typical work on sidewalk included adding a polymer overlay from parapet to base of rail, epoxy sealer from poly overlay to exterior girder, and caulking around rail base.



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**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0006**

**USH 2 over ST LOUIS RIVER
Oct 19, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-19-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-19-15	60	X
SI&A	08-19-13	48	

Latitude 46°44'20.33"N
Longitude 92°09'03.27"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
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	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0006
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.7M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 54	Bridge Roadway Width: 70.0	Total Length: 609.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 53652

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS25	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS45	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 PCC overlay completed 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		41.0	
2	CONT STEEL	DECK GIRDER		203.0	Y
3	CONT STEEL	DECK GIRDER		203.0	
4	CONT STEEL	DECK GIRDER		162.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0006**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	53,679	53,679	0	0	0
			some surface spalling at modular expansion joints. Chloride content is high enough to warrant a NBI 4. Border Bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior. Deck overlay in progress, complete in 2015						
		1080	Delamination - Spall - Patched Area	SF		0	0	0	0
		1130	Cracking (RC)	SF		0	0	0	0
		8514	Concrete Overlay New WB 2014, EB 2015.	SF	53,679	0	53,679	0	0
		3220	Crack (Wearing Surface) Random cracking throughout.	SF		0	53,679	0	0
	8522		Coated Reinforcing	SF	53,679	0	0	0	0
			some surface spalling at modular expansion joints. Chloride content is high enough to warrant a NBI 4. Border Bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior.						
			Steel Open Girder	LF	5,682	5,666	16	0	0
			flaking rust on bottom flange of girders around the drain pipes in a windblown pattern.						
		1000	Corrosion	LF		0	16	0	0
		8517	Weathering Steel flaking rust on bottom flange of girders around the drain pipes in a windblown pattern.	SF	123,300	122,800	0	500	0
	3430		Oxide Film Degradation - Weathering Steel	SF		0	0	500	0
			Reinforced Concrete Pier Wall	LF	288	286	0	2	0
			void at waterline on Pier # 15 has been repaired. Spalls on piers 13 and 15 SW corners 3 feet above normal water (cold joint) 1 sf each.						
		1080	Delamination - Spall - Patched Area Spalls on piers 13 and 15 SW corners 3 feet above normal water (cold joint) 1 sf each.	LF		0	0	2	0
			Modular Joint	LF	82	82	0	0	0
			New WB 2014, EB 2015.						
X	303	2310	Leakage, Seal Adhesion, Damage, Cracking	LF		0	0	0	0
	311		Moveable Bearing	EA	19	19	0	0	0
		1000	Corrosion	EA		0	0	0	0
		2210	Movement	EA		0	0	0	0
	2220		Alignment	EA		0	0	0	0

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Structure No.: **B-16-038-0006**

	313		Fixed Bearing	EA	18	18	0	0	0
		1000	Corrosion	EA		0	0	0	0
X	330		Metal Bridge Rail	LF	1,830	1,830	0	0	0
		1000	Corrosion	LF		0	0	0	0
		1900	Distortion	LF		0	0	0	0
X	331		Reinforced Concrete Bridge Rail	LF	1,826	1,826	0	0	0
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck	EA	3	3	0	0	0
			Clean and clear						
X	9009		Sidewalk	EA	1	1	0	0	0
			Polymer overlay applied from parapet to base of rail. Epoxy sealer applied from poly overlay to exterior girder.						
	9167		Steel Diaphragm	EA	234	234	0	0	0
	9169		Lateral Bracing	EA	110	110	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Water elevation 602.91 (Duluth Ship Canal) 8/19/2014.
Pier 15 is constructed 3 feet upriver from proper place.

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Structure No.: **B-16-038-0006**

Inspection Specific Notes

Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
(09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
Inspected 2010 by Mndot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for dateonly by D Harrington.
Inspected by DJH etal between 8/22/2011 and 8/31/2011.
Inspected by DJH etal between 8/15/12 and 8/30/12.
Inspected by DJH etal between 8/19/14 and 8/28/14.
Project 8680-04-71 in progress, complete 2015.
Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.

Inspector Site-Specific Safety Considerations

Ship Traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-85
1984	NEW SUPERSTRUCTURE	8680-01-84
1983	NEW STRUCTURE	8680-01-81

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0006**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 13
Pier 2		Surface Supplied Air	Pier 14
Pier 3		Surface Supplied Air	Pier 15
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Sidewalk plate at jt 5-6.



Routine
Document Comment/Description

Joint 5-6



Routine
Document Comment/Description

Typical cracking in overlay.



Routine
Document Comment/Description

Typical sidewalk.





**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0007**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°44'14.60"N
Longitude 92°09'01.01"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
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	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0007
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.6M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 54	Bridge Roadway Width: 70.0	Total Length: 609.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 50303

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS24	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS43	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay in 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		41.0	
2	CONT STEEL	DECK GIRDER		203.0	Y
3	CONT STEEL	DECK GIRDER		203.0	
4	CONT STEEL	DECK GIRDER		162.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0007**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	50,332	50,332	0	0	0
			surface spalls at modular expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrent a NBI 4. Border Bridge agreement to place deck at NBI 5. Testing reports in files NWR/Superior. Surface spalls EB RT lane 2013. Deck overlay in progress, complete in 2015.						
		8514	Concrete Overlay	SF	50,332	0	50,332	0	0
			PCC overlay completed WB 2014, EB 2015.						
		3220	Crack (Wearing Surface)	SF		0	50,332	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	50,332	0	0	0	0
			surface spalls at modular expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrent a NBI 4. Border Bridge agreement to place deck at NBI 5. Testing reports in files NWR/Superior. Surface spalls EB RT lane 2013.						
	107		Steel Open Girder	LF	4,871	4,855	16	0	0
			area around drain pipes where flaking rust is on lower flanges.						
		1000	Corrosion	LF		0	16	0	0
			area around drain pipes where flaking rust is on lower flanges.						
	8517		Weathering Steel	SF	105,700	105,700	0	0	0
	210		Reinforced Concrete Pier Wall	LF	269	262	0	7	0
		1080	Delamination - Spall - Patched Area	LF		0	0	7	0
			Pier 18 Spall NE 20 ft off water 1'x2' exposed rebar; Spall SW at Part "B" and "C" construction joint 5'x1' see picture.						
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed WB 2014, EB 2015.						
	311		Moveable Bearing	EA	8	6	2	0	0
		1000	Corrosion	EA		0	2	0	0
			Center bearings under expansion 7/8 from salt water on deck. To be repainted under current project to complete in 2015.						
	313		Fixed Bearing	EA	24	24	0	0	0
X	330		Metal Bridge Rail	LF	1,830	1,430	400	0	0
			a few loose bolts.						
		1000	Corrosion	LF		0	400	0	0
			plow scraps along parapet rails are corroding.						
X	331		Reinforced Concrete Bridge Rail	LF	1,830	1,830	0	0	0

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Structure No.: **B-16-038-0007**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck New grates and downspouts in project in progress, complete in 2015.	EA	5	5	0	0	0
X	9009		Sidewalk sidewalk repair and epoxy overlay in 2015	EA	1	1	0	0	0
	9167		Steel Diaphragm	EA	196	196	0	0	0
	9169		Lateral Bracing	EA	82	82	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Inspection Specific Notes

Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
 (09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
 Inspected 2010 by Mndot, Gary Elmquist et al. Signed copy of inspection in bridge file Superior office. Entered for date only by D Harrington.
 Inspected by DJH etal between 8/22/2011 to 8/31/2011.
 Inspected by DJH etal between 8/15/12 and 8/30/12.
 Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.
 Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress, to complete in 2015.

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat with sonar
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-85
1984	NEW SUPERSTRUCTURE	8680-01-82
1983	NEW STRUCTURE	8680-01-81

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Structure No.: **B-16-038-0007**

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0007**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 16
Pier 2		Surface Supplied Air	Pier 17
Pier 3		Surface Supplied Air	Pier 18
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description
scrapes along parapet rail



Routine
Document Comment/Description

Name plate



Routine
Document Comment/Description

Sidewalk coverplate at jt 6-7.



Routine
Document Comment/Description

Typical work on sidewalk.



Routine
Document Comment/Description

Joint 6-7 EB.



Routine
Document Comment/Description

Joint 6-7 WB.



Routine
Document Comment/Description

Typical overlay cracking.



Non-Image Documents

Type	Document	Document Comment/Description	Attached
UW Profile	b16-038-00_xpdl.xlsx	Profile taken during Consultants 2012 dive inspection.	



**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0008**

USH 2 over ST LOUIS RIVER
Oct 27, 2015



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°44'08.70"N
Longitude 92°08'59.46"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
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	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0008
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.5M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 54	Bridge Roadway Width: 70.0	Total Length: 427.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 35270

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS29	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS47	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay in 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		41.0	
2	CONT STEEL	DECK GIRDER		204.0	Y
3	CONT STEEL	DECK GIRDER		182.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0008**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	35,284	35,284	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. border bridge agreement to place deck at NBI 5. Testing reports in files NWR/Superior. Deck overlay in progress, complete in 2015.						
		8514	Concrete Overlay	SF	35,284	0	35,284	0	0
			PCC overlay completed WB 2014, EB 2015.						
		3220	Crack (Wearing Surface)	SF		0	35,284	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	35,284	0	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. border bridge agreement to place deck at NBI 5. Testing reports in files NWR/Superior.						
			Steel Open Girder	LF	3,415	3,284	131	0	0
			Flaking rust on bottom flanges of girders in area around drain pipes and on girder #5 at 7-8 joint under median, strange rust pattern G6 span 20 investigated looks to be water from above staining girder.						
		1000	Corrosion	LF		0	131	0	0
			Flaking rust on bottom flanges of girders in area around drain pipes and on girder #5 at 7-8 joint under median, strange rust pattern G6 span 20 investigated looks to be water from above staining girder.						
	8517		Weathering Steel	SF	74,105	73,974	0	131	0
			Flaking rust on bottom flanges of girders in area around drain pipes and on girder #5 at 7-8 joint under median, strange rust pattern G6 span 20 investigated looks to be water from above staining girder.						
			Oxide Film Degradation - Weathering Steel	SF		0	0	131	0
			see above						
		3430							
			Reinforced Concrete Pier Wall	LF	180	180	0	0	0
			Pier 19 UW visual /probe; Pier 20 UW-dive.						
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed WB 2014, EB 2015.						
	311		Moveable Bearing	EA	8	6	2	0	0
		1000	Corrosion	EA		0	2	0	0
			at 7-8 joint under median,						
	313		Fixed Bearing	EA	16	16	0	0	0
X	330		Metal Bridge Rail	LF	1,278	1,078	200	0	0
			a few loose bolts						
		1000	Corrosion	LF		0	200	0	0
			scrapes along parapet rail from snowplows are corroding.						
X	331		Reinforced Concrete Bridge Rail	LF	1,278	1,278	0	0	0
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
			Concrete surface repair and sealing in current project to complete in 2015.						

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Structure No.: **B-16-038-0008**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck Clean and clear	EA	3	3	0	0	0
X	9009		Sidewalk Hatch for Mndot electrical service over Pier 20.	EA	1	1	0	0	0
	9167		Steel Diaphragm	EA	147	147	0	0	0
	9169		Lateral Bracing	EA	80	80	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Hatch to MNdot electrical feed for bridge lighting and camera on Pier 21 in sidewalk over pier 20. New hatch in 2015.

Inspection Specific Notes

<p>Inspection done 8/17 thru 8/30/2007. Underwater Bridge Inspection Report by Collins Engineers, Inc. for MNdot on file in bridge file Superior office NWR. Entered for date only by DJH. Inspected by Mndot in 2008 file in bridge office Superior NWR entered for date by DJH. (09) Inspected by DJH between 8-24-2009 and 9-4-2009. Inspected 2010 by Mndot, Gary Elmquist et al. Signed copy of inspection in bridge file Superior office. Entered for date only by D Harrington. Inspected by DJH et al between 8/22/2011 and 8/31/2011. Inspected by DJH et al between 8/15/12 and 8/30/12. Inspected by DJH et al between 8/12/13 and 8/29/13. Overlay project scheduled for 2014. Inspected by DJH et al between 8/19/14 and 8/28/14. Overlay project 8680-04-71 in progress, complete in 2015.</p>
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Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

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Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat with sonar.
Other		

BRIDGE INSPECTION REPORT
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Structure No.: **B-16-038-0008**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-85
1984	NEW SUPERSTRUCTURE	8680-01-82
1983	NEW STRUCTURE	8680-01-81

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0008**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 19
Pier 2		Surface Supplied Air	Pier 20
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover jt 7-8.



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Joint 7-8 EB.



Routine
Document Comment/Description

Joint 7-8 WB.



Routine
Document Comment/Description

Typical cracking in overlay.



Non-Image Documents

Type	Document	Document Comment/Description	Attached
UW Profile	b16-038-00_xpdl.xlsx	Profile from 2012 Consultant Dive Inspection.	

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**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0009**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°44'04.57"N
Longitude 92°08'58.01"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
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	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

BRIDGE INSPECTION REPORT
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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0009
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.4M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 54	Bridge Roadway Width: 70.0	Total Length: 421.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 34774

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS28	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS49	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay in 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		50.0	
2	CONT STEEL	DECK GIRDER		206.0	Y
3	CONT STEEL	DECK GIRDER		165.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

BRIDGE INSPECTION REPORT
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Structure No.: **B-16-038-0009**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	34,788	34,788	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior. Deck overlay in progress, complete in 2015.						
		8514	Concrete Overlay	SF	34,788	0	34,788	0	0
			PCC overlay completed WB 2014, EB 2015.						
		3220	Crack (Wearing Surface)	SF		0	34,788	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	34,788	0	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior.						
	107		Steel Open Girder	LF	3,369	3,238	131	0	0
			flaking rust around drain pipes on bottom of lower flanges and at joint 8-9 Gir #5 under median						
		1000	Corrosion	LF		0	131	0	0
			flaking rust around drain pipes on bottom of lower flanges and at joint 8-9 Gir #5 under median						
		8517	Weathering Steel	SF	73,110	72,979	0	131	0
			flaking rust around drain pipes on bottom of lower flanges and at joint 8-9 Gir #5 under median						
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	131	0
	210		Reinforced Concrete Pier Wall	LF	180	162	10	8	0
		1080	Delamination - Spall - Patched Area	LF		0	0	8	0
			Pier 22 - four spalls at Part B and Part C construction joint						
		1130	Cracking (RC)	LF		0	10	0	0
			Pier 21 upriver side vertical cracking SW corner						
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed WB 2014, EB 2015.						
	311		Moveable Bearing	EA	18	10	8	0	0
		1000	Corrosion	EA		0	8	0	0
			under 8/9 joint						
	313		Fixed Bearing	EA	16	16	0	0	0
X	330		Metal Bridge Rail	LF	1,257	1,057	200	0	0
			a few loose bolts.						
		1000	Corrosion	LF		0	200	0	0
			scrapes from snowplows are corroding.						
X	331		Reinforced Concrete Bridge Rail	LF	1,257	1,257	0	0	0

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Structure No.: **B-16-038-0009**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck New grates and downspouts in project to complete in 2015.	EA	2	2	0	0	0
X	9009		Sidewalk sidewalk repair and epoxy overlay to complete in 2015.	EA	1	0	1	0	0
	9167		Steel Diaphragm	EA	140	140	0	0	0
	9169		Lateral Bracing	EA	76	76	0	0	0
	9336		Luminaire Bases Sign Bridge approx. over Pier 21 WB. bottom spalling with exposed rebar, scheduled for concrete repair under project.	EA	1	0	1	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Sign Bridge approx. over Pier 21 WB with camera.

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.
 Underwater Bridge Inspection Report by Collins Engineers, Inc. for MNdot on file in bridge file Superior office NWR. Entered for date only by DJH.
 Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
 (09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
 Inspected 2010 by MNdot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D Harrington.
 Inspected by DJH etal between 8/22/2011 and 8/31/2011.
 Sign Bridge WB Pier # 21 with camera.
 Inspected by DJH etal between 8/15/12 and 8/30/12.
 Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.
 Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress, complete in 2015.

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat with sonar.
Other		

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Structure No.: **B-16-038-0009**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-82
1983	NEW STRUCTURE	8680-01-80

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0009**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 21
Pier 2		Surface Supplied Air	Pier 22
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk coverplate jt 8-9.



Routine
Document Comment/Description

Joint 8-9 EB.



Routine
Document Comment/Description

Joint 8-9 WB.



Routine
Document Comment/Description

Typical cracking in overlay.



Non-Image Documents

Type	Document	Document Comment/Description	Attached
UW Profile	b16-038-00_xpdl.xlsx	Profile from 2012 Consultant Dive Inspection.	



**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0010**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°44'00.78"N
Longitude 92°08'55.21"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
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	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Wisconsin Department of Transportation
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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0010
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.3M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 412.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 34031

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS24	Overburden depth (in): 1.5	Last rating date:	Controlling:
Operating rating: HS39	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		41.0	
2	CONT STEEL	DECK GIRDER		206.0	Y
3	CONT STEEL	DECK GIRDER		165.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0010**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	34,046	34,046	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. border Bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior. Deck overlay in progress, complete in 2015.						
		8514	Concrete Overlay	SF	34,046	0	34,046	0	0
			PCC overlay completed WB 2014, EB 2015.						
		3220	Crack (Wearing Surface)	SF		0	34,046	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	34,046	0	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. border Bridge agreement to place deck at NBI 5. Testing report in files NWR/Superior.						
			Steel Open Girder	LF	3,297	3,166	131	0	0
			flaking rust on bottom of flanges around drain pipes. Cracked weld G3 at 10/11 joint at bearing bracket to web connection 3 inches ground out and marked in yellow paint 2013.						
		1000	Corrosion	LF		0	131	0	0
			flaking rust on bottom of flanges around drain pipes						
	8517		Weathering Steel	SF	71,550	71,419	0	131	0
			flaking rust on bottom of flanges around drain pipes. Cracked weld G3 at 10/11 joint at bearing bracket to web connection 3 inches ground out and marked in yellow paint 2013.						
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	131	0
	210		Reinforced Concrete Pier Wall	LF	180	172	0	8	0
			Pier 24 spall out of bottom of champaine glass section south side 1"x2"-2011.						
		1080	Delamination - Spall - Patched Area	LF		0	0	8	0
			Pier 24 upriver end two spalls at Part C and D construction joint and part Band C.						
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed WB 2014, EB 2015.						
			Moveable Bearing	EA	8	6	2	0	0
		1000	Corrosion	EA		0	2	0	0
			under joint 9/10						
	313		Fixed Bearing	EA	16	16	0	0	0
			Metal Bridge Rail	LF	1,239	1,039	200	0	0
			some loose bolts						
		1000	Corrosion	LF		0	200	0	0
			scrapes along parapet rails from snowplows corroding.						
X	331		Reinforced Concrete Bridge Rail	LF	1,239	1,189	50	0	0
			one section 50 LF in EB lane with extensive horizontal cracking in area over pier 24						
		1130	Cracking (RC)	LF		0	50	0	0
			one section 50 LF in EB lane with extensive horizontal cracking in area over pier 24						

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Structure No.: **B-16-038-0010**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck New grates and downspouts in progress complete in 2015	EA	2	2	0	0	0
X	9009		Sidewalk sidewalk repair and epoxy overlay complete in 2015.	EA	1	1	0	0	0
	9167		Steel Diaphragm	EA	133	133	0	0	0
	9169		Lateral Bracing	EA	72	72	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Peregrine falcon spotted on pier 23 in 2014.

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.
 Underwater Bridge Inspection Report by Collins Engineers, Inc. for MNdot on file in bridge file Superior office NWR. Entered for date only by DJH.
 Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
 (09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
 Inspected 2010 by MNdot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D. Harrington.
 Inspected by DJH etal between 8/22/2011 and 8/31/2011
 Inspected by DJH etal between 8/15/12 and 8/30/12.
 Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.
 Inspected by DJH etal between 8/19/2014 and 8/28/2014. Project 8680-04-71 in progress.

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat with sonar.
Other		

BRIDGE INSPECTION REPORT
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Structure No.: **B-16-038-0010**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-00
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-82
1983	NEW STRUCTURE	8680-01-80

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0010**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 23
Pier 2		Surface Supplied Air	Pier 24
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk coverplate Jt 10-11



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Joint 10-11 EB.



Routine
Document Comment/Description

Joint 10-11 WB.



Routine
Document Comment/Description

Typical cracking in overlay.





**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0011**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°43'57.71"N
Longitude 92°08'51.24"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours	Minutes	
1	0	

	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0011
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.2M W MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 412.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 34031

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS24	Overburden depth (in): 1.5	Last rating date:	Controlling:
Operating rating: HS39	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		41.0	
2	CONT STEEL	DECK GIRDER		206.0	Y
3	CONT STEEL	DECK GIRDER		165.0	

Expansion joint(s)

Temperature:

File:	New:
-------	------

Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0011**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	34,046	34,046	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border Bridge Agreement to place deck at NBI 5. Testing report in files NWR/ Superior. Deck overlay project in progress, complete in 2015.						
		8514	Concrete Overlay	SF	34,046	0	34,046	0	0
			PCC overlay completed WB 2014, EB 2015.						
		3220	Crack (Wearing Surface)	SF		0	34,046	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	34,046	0	0	0	0
			minor spalls at expansion joints have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border Bridge Agreement to place deck at NBI 5. Testing report in files NWR/ Superior.						
	107		Steel Open Girder	LF	3,297	3,133	164	0	0
			flaking rust on bottom of flanges in area around drain pipes. 2007 rust stain below weld with under cut on gusset plate S side of G4 next to splice plate checked out okay.						
		1000	Corrosion	LF		0	164	0	0
			flaking rust on bottom of flanges in area around drain pipes.						
	8517		Weathering Steel	SF	71,550	71,386	0	164	0
			flaking rust on bottom of flanges in area around drain pipes. 2007 rust stain below weld with under cut on gusset plate S side of G4 next to splice plate checked out okay.						
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	164	0
			flaking rust on bottom of flanges in area around drain pipes.						
	210		Reinforced Concrete Pier Wall	LF	180	180	0	0	0
		1080	Delamination - Spall - Patched Area	LF		0	4	0	0
			Pier 28 two spalls upriver end of pier 4 lf						
		1130	Cracking (RC)	LF		0	0	0	0
			random cracking around bar chairs in concrete upriver end of piers 25 and 26						
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed WB 2014, EB 2015.						
	311		Moveable Bearing	EA	6	4	2	0	0
		1000	Corrosion	EA		0	2	0	0
			under expansion 10/11						
	313		Fixed Bearing	EA	16	16	0	0	0
X	330		Metal Bridge Rail	LF	1,239	1,039	200	0	0
			a few loose bolts.						
		1000	Corrosion	LF		0	200	0	0
			scraps from snowplows are corroding						
X	331		Reinforced Concrete Bridge Rail	LF	1,239	1,219	20	0	0
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	20	0	0
			20 LF in wall. Vertical crack below light pole A16 EB lane.						

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Wisconsin Department of Transportation
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Structure No.: **B-16-038-0011**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck new grates and downspouts are part of the project to complete in 2015.	EA	1	1	0	0	0
X	9009		Sidewalk sidewalk repair and epoxy overlay to complete in 2015.	EA	1	1	0	0	0
	9167		Steel Diaphragm	EA	133	133	0	0	0
	9169		Lateral Bracing	EA	72	72	0	0	0
	9336		Luminaire Bases Sign base WB approx. over pier 26 to the outside "Welcome to Minnesota"	EA	1	0	1	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Cantilever sign over pier 26 WB to the outside.

Inspection Specific Notes

<p>Inspection done 8/17 thru 8/30/2007. Underwater Bridge Inspection Report by Collins Engineers, Inc. for MNdot on file in bridge file Superior office NWR. Entered for date only by DJH. Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH. (09) Inspected by DJH etal between 8-24-2009 and 9-4-2009. Inspected 2010 by Mndot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D. Harrington. Inspected by DJH between 8/22/2011 and 8/31/2011. Inspected by DJH etal between 8/15/12 and 8/30/12. Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014. Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress, complete in 2015.</p>
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Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

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Special Requirements

Chk	Comments
Traffic Control	
ReachAll Vehicle	
Access Equipment	X 14 foot boat and sonar.
Other	

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Structure No.: **B-16-038-0011**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-82
1983	NEW STRUCTURE	8680-01-80

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0011**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 25
Pier 2		Surface Supplied Air	Pier 26
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover plate joint 10-11.



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Joint 10-11 EB.



Routine
Document Comment/Description

Joint 10-11 WB.



Routine
Document Comment/Description

Typical cracking in overlay.



Routine
Document Comment/Description

Typical cracking in parapet.



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**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0012**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°43'55.39"N
Longitude 92°08'46.23"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
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	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0012
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.1M W OF MINN ST LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 453.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 37417

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS26	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS48	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		41.0	
2	CONT STEEL	DECK GIRDER		206.0	Y
3	CONT STEEL	DECK GIRDER		206.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0012**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	37,436	37,436	0	0	0
			chloride content (LB/CY) is high enough to warrant a NBI 4. Border Bridge agreement to place deck at NBI 5. testing report in files NWR/Superior.						
		8514	Concrete Overlay	SF	37,436	0	37,436	0	0
			PCC overlay completed WB 2014, EB 2015.						
		3220	Crack (Wearing Surface)	SF		0	37,436	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	37,436	0	0	0	0
			surface spalls at modular expansion joints have been repaired and one 4"x4" spall on deck EB lane next to median near pier 28 that has been repaired. chloride content (LB/CY) is high enough to warrant a NBI 4. Border Bridge agreement to place deck at NBI 5. testing report in files NWR/Superior.						
	107		Steel Open Girder	LF	3,625	3,494	131	0	0
		1000	Corrosion	LF		0	131	0	0
			some flaking rust on bottom flanges near drain pipes						
		8517	Weathering Steel	SF	78,660	78,529	0	131	0
	3430		Oxide Film Degradation - Weathering Steel	SF		0	0	131	0
			some flaking rust on bottom flanges near drain pipes						
	210		Reinforced Concrete Pier Wall	LF	180	136	40	4	0
		1080	Delamination - Spall - Patched Area	LF		0	0	4	0
			Pier 28 exposed rebar at water line (low 2007) 3 bars 4lf spall.						
		1130	Cracking (RC)	LF		0	40	0	0
			random cracking mainly on the vertical upriver end of the piers 28 and 29.						
	220		Reinforced Concrete Pile Cap/Footing	LF	2	2	0	0	0
			Footing exposed at Piers 27 and 28 up to 3 feet maximum vertical face exposure.						
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed WB 2014, EB 2015.						
	311		Moveable Bearing	EA	8	6	2	0	0
		1000	Corrosion	EA		0	2	0	0
			under expansion joint.						
	313		Fixed Bearing	EA	16	16	0	0	0
X	330		Metal Bridge Rail	LF	1,356	1,156	200	0	0
			a few loose bolts.						
		1000	Corrosion	LF		0	200	0	0
			Scrapes from snowplows are corroding.						

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Structure No.: **B-16-038-0012**

X	331		Reinforced Concrete Bridge Rail	LF	1,356	1,356	0	0	0
			concrete repair and sealing to complete in 2015.						

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck	EA	4	4	0	0	0
			New grates and downspouts in progress complete in 2015.						
X	9009		Sidewalk	EA	1	1	0	0	0
			Sidewalk repair and epoxy overlay to complete in 2015.						
	9167		Steel Diaphragm	EA	147	147	0	0	0
	9169		Lateral Bracing	EA	80	80	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

last approach unit before Arch movable bearing on Pier 29 (1st arch pier)

Inspection Specific Notes

<p>Inspection done 8/17 thru 8/30/2007.</p> <p>Underwater Bridge Inspection Report by Collins Engineers, Inc. for MNdot on file in bridge file Superior office NWR. Entered for date only by DJH.</p> <p>Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.</p> <p>(09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.</p> <p>Inspected 2010 by Mndot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D. Harrington.</p> <p>Inspected by DJH etal between 8/22/2011 and 8/31/2011.</p> <p>Inspected by DJH etal between 8/15/12 and 8/30/12.</p> <p>Inspection by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.</p> <p>Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress complete in 2015.</p>

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

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Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat with sonar.
Other		

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Structure No.: **B-16-038-0012**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-82
1983	NEW STRUCTURE	8680-01-80

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0012**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 27
Pier 2		Surface Supplied Air	Pier 28
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover plate joint 11-12.



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Joint 11-12 EB.



Routine
Document Comment/Description

Joint 11-12 WB.



Routine
Document Comment/Description

Typical cracking in overlay.



Routine
Document Comment/Description

Ponding near joint 12-13 on EB shoulder.



**Routine
Document Comment/Description**

Sidewalk access hatch near joint 12-13. Note reflective tape on rail to indicate location of hatch for snow removal operations.





**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0014**

USH 2 over ST LOUIS RIVER
Oct 27, 2015



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°43'52.55"N
Longitude 92°08'33.17"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours	Minutes	
1	0	

	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0014
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.1M E OF MINN ST LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 570.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 47082

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS28	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS46	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		205.0	
2	CONT STEEL	DECK GIRDER		205.0	Y
3	CONT STEEL	DECK GIRDER		160.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0014**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	47,102	47,102	0	0	0
			small spalls have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place the deck at NBI 5. Testing report in files NWR/Superior.						
		8514	Concrete Overlay	SF	47,102	0	47,102	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
		3220	Crack (Wearing Surface)	SF		0	47,102	0	0
			Random cracking in overlay through out.						
	8522		Coated Reinforcing	SF	47,102	0	0	0	0
			small spalls have been repaired. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place the deck at NBI 5. Testing report in files NWR/Superior.						
			Steel Open Girder	LF	4,559	4,237	262	60	0
			G8 has a bad weld looked cracked tested with mag-particle okay, labeled in blue marker.						
		1000	Corrosion	LF		0	262	60	0
			flaking rust on bottom flange around drain pipes, heavy rust on rocker, diagonal bracing, diaphragm girder at median joint 14-15. 2007 joint at 14/15 bearing top plate						
	8517		Weathering Steel	SF	98,930	98,608	0	262	60
			flaking rust on bottom flange around drain pipes, heavy rust on rocker, diagonal bracing, diaphragm girder at median joint 14-15. 2007 joint at 14/15 bearing top plate G8 has a bad weld looked cracked tested with mag-particle okay, labeled in blue marker.						
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	262	60
			flaking rust on bottom flange around drain pipes, heavy rust on rocker, diagonal bracing, diaphragm girder at median joint 14-15. 2007 joint at 14/15 bearing top plate						
			Reinforced Concrete Pier Wall	LF	180	170	10	0	0
		1080	Delamination - Spall - Patched Area	LF		0	10	0	0
			Pier 32 cracks and spalls on upriver end of pier up to 35 feet from water.						
X	300		Strip Seal Expansion Joint	LF	81	81	0	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
	311		Moveable Bearing	EA	8	6	2	0	0
		1000	Corrosion	EA		0	2	0	0
			two bearings under ripped expansion strip seal Pier 30 EB are rusting moderately,						
	313		Fixed Bearing	EA	16	16	0	0	0
X	330		Metal Bridge Rail	LF	1,710	1,710	0	0	0
			some loose bolts.						
X	331		Reinforced Concrete Bridge Rail	LF	1,141	1,141	0	0	0
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
			WB lane in span 30-31; 50 lf of spall w/exposed rebar @ gutterline. Patched 2014.						

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Structure No.: **B-16-038-0014**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck Drain plugged EB above 14/15 joint. New grates and downspouts in project to complete in 2015.	EA	4	3	1	0	0
X	9009		Sidewalk sidewalk repair and epoxy overlay completed in 2015.	EA	1	1	0	0	0
	9167		Steel Diaphragm	EA	0	0	0	0	0
	9169		Lateral Bracing flaking rust on bottom flange around drain pipes, heavy rust on rocker, diagonal bracing, diaphragm girder at median joint 14-15.	EA	75	74	0	1	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.
 Underwater Bridge Inspection Report by Collins Engineers, Inc. for MNDOT on file in bridge file Superior office NWR. Entered for date only by DJH.
 Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date only by DJH.
 (09) Inspected by DJH et al between 8-24-2009 and 9-4-2009.
 Inspected 2010 by Mndot, Gary Elmquist et al. Signed copy of inspection in bridge file Superior office. Entered for date only by D. Harrington.
 Inspected by DJH et al between 8/22/2011 and 8/31/2011.
 Inspected 2012 by DJH et al between 8/15/2012 and 8/30/2012.
 Inspected by DJH et al between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.
 Inspected by DJH et al between 8/19/14 and 8/28/14. Project 8680-04-71 in progress to complete in 2015.

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

Chk	Comments
Traffic Control	
ReachAll Vehicle	
Access Equipment	X 14 foot boat with sonar.
Other	

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Structure No.: **B-16-038-0014**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-74
1983	NEW STRUCTURE	8680-01-78

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0014**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 31
Pier 2		Surface Supplied Air	Pier 32
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

unit 14



Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover plate and access hatch near joint 13-14.



Routine
Document Comment/Description

Joint 13-14 EB.



Routine
Document Comment/Description

Joint 13-14 WB.



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Typical cracking in overlay.



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**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0015**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°43'51.02"N
Longitude 92°08'25.26"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
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	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0015
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.2M E OF MINN ST LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 572.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 47247

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS25	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS46	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		40.0	
2	CONT STEEL	DECK GIRDER		190.0	Y
3	CONT STEEL	DECK GIRDER		190.0	
4	CONT STEEL	DECK GIRDER		152.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0015**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	47,275	47,275	0	0	0
			repairs made to deck from truck fire 2001 by MnDOT forces 2002. Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place deck at NBI 5. Testing reports in file NWR/Superior. Deck overlay in progress, complete in 2015.						
		8514	Concrete Overlay	SF	47,275	0	47,275	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
		3220	Crack (Wearing Surface)	SF		0	47,275	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	47,275	0	0	0	0
	107		Steel Open Girder	LF	4,576	4,458	98	20	0
			flaking rust on bottom flange of girders around drain pipes, heavy rust at median joints 14-15 & 15-16 under gap between modular expansion joints.						
		1000	Corrosion	LF		0	98	20	0
			flaking rust on bottom flange of girders around drain pipes, heavy rust at median joints 14-15 & 15-16 under gap between modular expansion joints.						
	8517		Weathering Steel	SF	99,300	99,182	0	98	20
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	98	20
			flaking rust on bottom flange of girders around drain pipes, heavy rust at median joints 14-15 & 15-16 under gap between modular expansion joints.						
	210		Reinforced Concrete Pier Wall	LF	269	266	0	3	0
			Pier 35 UW/Visual Probe; Piers 33 & 34 UW-Dive						
		1080	Delamination - Spall - Patched Area	LF		0	0	3	0
			Pier 33 and 34 map cracking and spall on upriver end of pier at part B part C construction joint.						
X	303		Modular Joint	LF	164	164	0	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
	311		Moveable Bearing	EA	8	6	2	0	0
		1000	Corrosion	EA		0	2	0	0
			under expansion joint in center.						
	313		Fixed Bearing	EA	24	24	0	0	0
X	330		Metal Bridge Rail	LF	1,710	1,710	0	0	0
			Several panels replaced due to damage from truck fire 2001.						
X	331		Reinforced Concrete Bridge Rail	LF	1,710	1,660	50	0	0
		1130	Cracking (RC)	LF		0	50	0	0
			approx. 50" of median under light pole AWS 9 has extensive horizontal cracking on both sides of median, montor. Water observed leaking out of cracks after rain event 2011 (on downhill run of electric conduit). Cracks deteriorating 2013 scheduled for repair in overlay project 2014.						

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Structure No.: **B-16-038-0015**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck clean and clear. New grates and downspouts in project to complete in 2015.	EA	5	5	0	0	0
X	9009		Sidewalk Sidewalk repair and epoxy overlay completed in 2015.	EA	1	1	0	0	0
	9167		Steel Diaphragm	EA	196	196	0	0	0
	9169		Lateral Bracing	EA	90	90	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Repairs to deck EB from truck fire (2001) done by MNDOT in 2002.
Several sections of bridge rail on parapet and sidewalk replaced at that time.

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007. Low water levels reveals debris field in spans 35-35 underwater; large lengths of hpiles and pipes hazard to boaters. Underwater Bridge Inspection Report by Collins Engineers, Inc. for MNDot on file in bridge file Superior office NWR. Entered for date only by DJH.
Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
(09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
Inspected 2010 by Mndot, Gary Elmquist et al. Signed copy of inspection in bridge file Superior office. Entered for date only by D. Harrington.
Inspected by DJH etal between 8/22/2011 and 8/31/2011.
Inspected 2012 by DJH etal between 8/15/2012 and 8/30/2012.
Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.
Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress, complete in 2015.

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat with sonar
Other		

BRIDGE INSPECTION REPORT
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Structure No.: **B-16-038-0015**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-74
1983	NEW STRUCTURE	8680-01-79

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0015**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 33
Pier 2		Surface Supplied Air	Pier 34
Pier 3		Surface Supplied Air	Pier 35
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover plate at joint 14-15.



Routine
Document Comment/Description

Typical work on sidewalk.



Routine
Document Comment/Description

Joint 14-15 EB.



Routine
Document Comment/Description

Joint 14-15 WB.



Routine
Document Comment/Description

Typical cracking in overlay.



Routine
Document Comment/Description

Cracking in median parapet.



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**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0016**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°43'49.48"N
Longitude 92°08'17.39"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
------------	--------------	--

	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0016
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.3M E MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 380.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 31387

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS26	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS51	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		38.0	
2	CONT STEEL	DECK GIRDER		190.0	Y
3	CONT STEEL	DECK GIRDER		152.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0016**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	31,409	31,409	0	0	0
			Chloride content (LB/CY) is high enough to warrant a NBI 4. Border Bridge agreement to place deck at NBI 5. Testing reports in file NWR/Superior. Deck overlay in progress, complete in 2015.						
			Concrete Overlay	SF	31,409	0	31,409	0	0
	8514		PCC overlay completed 2014 WB, 2015 EB.						
		3220	Crack (Wearing Surface)	SF		0	31,409	0	0
			Random cracking through out.						
	107		Steel Open Girder	LF	3,040	2,942	98	0	0
			Corrosion	LF		0	98	0	0
		1000	flaking rust on bottom flange of girders around the drain pipes.						
			Weathering Steel	SF	65,970	65,872	0	98	0
	8517								
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	98	0
			flaking rust on bottom flange of girders around the drain pipes.						
	210		Reinforced Concrete Pier Wall	LF	180	176	0	4	0
			Delamination - Spall - Patched Area	LF		0	0	4	0
		1080	Pier 36 spall (1ft x 2 ft) on SW corner at lower pour joint 2013. Pier 37 spall at top of pier upriver edge (2ftx3ft)						
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
	311		Moveable Bearing	EA	8	6	2	0	0
			Corrosion	EA		0	2	0	0
		1000	under expansion joints in center.						
	313		Fixed Bearing	EA	16	16	0	0	0
X	330		Metal Bridge Rail	LF	1,140	1,140	0	0	0
			a few loose bolts.						
X	331		Reinforced Concrete Bridge Rail	LF	1,140	1,140	0	0	0

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Structure No.: **B-16-038-0016**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck clean and clear. New grates and downspouts in project to complete in 2015.	EA	2	2	0	0	0
X	9009		Sidewalk sidewalk repair and epoxy overlay completed in 2015.	EA	1	0	1	0	0
	9167		Steel Diaphragm	EA	133	133	0	0	0
	9169		Lateral Bracing	EA	72	72	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.
 Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date only by DJH.
 (09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.
 Inspected 2010 by Mndot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D. Harrington.
 Inspected by DJH etal between 8/22/2011 and 8/31/2011.
 Inspected by DJH etal between 8/15/2012 and 8/30/2012.
 Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.
 Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress, to complete in 2015.

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind
 Debris field in water upriver from bridge spans 35 and 36 H-pile and pipe from construction , danger to boats.

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat with sonar.
Other		

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Wisconsin Department of Transportation
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Structure No.: **B-16-038-0016**

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-74
1983	NEW STRUCTURE	8680-01-79

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0016**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 36
Pier 2		Surface Supplied Air	Pier 37
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover plate joint 15-16.



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Joint 15-16 EB.



Routine
Document Comment/Description

Joint 15-16 WB.



Routine
Document Comment/Description

Typical cracking in overlay.





**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0017**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°43'47.93"N
Longitude 92°08'12.56"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
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	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

BRIDGE INSPECTION REPORT
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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0017
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.4M E MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 380.0
Approach Pavement Width: 0	Deck Width: 82.6	Deck Area (sq ft): 31387

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS26	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS51	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		38.0	
2	CONT STEEL	DECK GIRDER		190.0	Y
3	CONT STEEL	DECK GIRDER		152.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0017**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	31,398	31,398	0	0	0
			Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place deck at NBI 5. Testing report in file NWR/Superior. Deck overlay in progress, to complete in 2015.						
		8514	Concrete Overlay	SF	31,398	0	31,398	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
		3220	Crack (Wearing Surface)	SF		0	31,398	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	31,398	0	0	0	0
	107		Steel Open Girder	LF	3,040	2,942	98	0	0
			G1 span 38 lower stringer on fascia 15" W of P38, we found a blemish, possible crack, we ground out the blemish and marked it with red paint. No crack visible NDT not available (2005).						
		1000	Corrosion	LF		0	98	0	0
			flaking rust on the bottom flange in area around drain pipes.						
	8517		Weathering Steel	SF	65,970	65,872	0	98	0
			G1 span 38 lower stringer on fascia 15" W of P38, we found a blemish, possible crack, we ground out the blemish and marked it with red paint. No crack visible NDT not available (2005).						
		3430	Oxide Film Degradation - Weathering Steel	SF		0	0	98	0
			flaking rust on the bottom flange in area around drain pipes.						
	210		Reinforced Concrete Pier Wall	LF	180	178	2	0	0
		1080	Delamination - Spall - Patched Area	LF		0	2	0	0
			Pier 39 spall and vertical crack SW corner at water.						
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
	311		Moveable Bearing	EA	8	6	2	0	0
		1000	Corrosion	EA		0	2	0	0
			under expansion joint in center.						
	313		Fixed Bearing	EA	16	16	0	0	0
X	330		Metal Bridge Rail	LF	1,140	1,140	0	0	0
			some loose bolts.						
X	331		Reinforced Concrete Bridge Rail	LF	1,140	1,140	0	0	0

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Wisconsin Department of Transportation
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Structure No.: **B-16-038-0017**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck clean and clear. New grates and downspouts in project to complete in 2015.	EA	2	2	0	0	0
X	9009		Sidewalk Sidewalk repairs and epoxy overlay completed in 2015.	EA	1	1	0	0	0
	9167		Steel Diaphragm	EA	133	133	0	0	0
	9169		Lateral Bracing	EA	72	72	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.
 Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
 (09) Inspected by DJH etal between 8-24-2009 nd 9-4-2009.
 Inspected 2010 by Mndot, Gary Elmquist et al. Signed copy of inspection in bridge file Superior office. Entered for date only by D. Harrington.
 Inspected 2011 by DJH etal between 8/22/11 and 8/31/11.
 Inspected 2012 by DJH etal between 8/15/12 and 8/30/12.
 Inspected 2013 by DJH etal between 8/12/13 and 8/29/13.
 Overlay project scheduled for 2014.
 Inspected by DJH etal between 8/19/14 and 8/28/14. Project 8680-04-71 in progress to complete in 2015.

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment	X	14 foot boat with sonar.
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-00
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-74
1983	NEW STRUCTURE	8680-01-79

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Structure No.:B-16-038-0017

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0017**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 38
Pier 2		Surface Supplied Air	Pier 39
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover plate joint 16-17.



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Joint 16-17 EB.



Routine
Document Comment/Description

Joint 16-17 WB.



Routine
Document Comment/Description

Typical cracking in overlay.



Routine
Document Comment/Description

Upstream view.



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**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0018**

**USH 2 over ST LOUIS RIVER
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
Interim	09-27-05	0	
Uw-Dive	09-19-12	60	
Uw-Profile	10-27-15	60	X
SI&A	08-19-13	48	

Latitude 46°43'45.61"N
Longitude 92°08'08.37"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours 1	Minutes 0	
------------	--------------	--

	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

BRIDGE INSPECTION REPORT
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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0018
Feature Under: ST LOUIS RIVER	County: DOUGLAS(16)	
Location 0.5M E MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 380.0
Approach Pavement Width: 0	Deck Width: 82.0	Deck Area (sq ft): 31274

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS26	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS52	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 91.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		38.0	
2	CONT STEEL	DECK GIRDER		190.0	Y
3	CONT STEEL	DECK GIRDER		152.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

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Structure No.: **B-16-038-0018**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	31,172	31,172	0	0	0
			Chloride content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place deck at NBI 5. Testing report in file NWR/Superior. Structure under construction at time of inspection with west bound lanes closed.						
		1080	Delamination - Spall - Patched Area	SF		0	0	0	0
		1130	Cracking (RC)	SF		0	0	0	0
		8514	Concrete Overlay	SF	31,172	0	31,172	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
		3220	Crack (Wearing Surface)	SF		0	31,172	0	0
			Random cracking through out.						
	8522		Coated Reinforcing	SF	31,172	0	0	0	0
	107		Steel Open Girder	LF	3,040	2,942	98	0	0
		1000	Corrosion	LF		0	98	0	0
			flaking rust on bottom flanges in areas around drain pipes.						
	8517		Weathering Steel	SF	65,968	65,968	0	0	0
	210		Reinforced Concrete Pier Wall	LF	180	180	0	0	0
			Pier 40 in water Pier 41 west side in water east side is land Grafeti present both piers 2013.						
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0
X	303		Modular Joint	LF	82	82	0	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
		2310	Leakage, Seal Adhesion, Damage, Cracking	LF		0	0	0	0
	311		Moveable Bearing	EA	8	8	0	0	0
		1000	Corrosion	EA		0	0	0	0
		2210	Movement	EA		0	0	0	0
		2220	Alignment	EA		0	0	0	0
	313		Fixed Bearing	EA	8	8	0	0	0
		1000	Corrosion	EA		0	0	0	0

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Structure No.: **B-16-038-0018**

X	330		Metal Bridge Rail	LF	1,140	1,140	0	0	0
			Two top rails on concrete parapets and pedestrian rail on outside of sidewalk.						
		1000	Corrosion	LF		0	0	0	0
		1900	Distortion	LF		0	0	0	0
X	331		Reinforced Concrete Bridge Rail	LF	1,140	1,140	0	0	0
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9004		Drainage - Deck	EA	2	0	0	2	0
			clean and clear (09) Broken grate eastbound casting "Neenah Foundry 3922-0002" still broke 2011, 2012 in for replacement on rehap project 2015. Both casting grates are broken.						
X	9009		Sidewalk	EA	380	380	0	0	0
	9167		Steel Diaphragm	EA	133	133	0	0	0
	9169		Lateral Bracing	EA	72	72	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.

Inspected by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.

(09) Inspected by DJH etal between 8-24-2009 and 9-4-2009.

Inspected 2010 by Mndot, Gary Elmquist etal. Signed copy of inspection in bridge file Superior office. Entered for date only by D.Harrington.

Inspected by DJH etal between 8/22/2011 and 8/31/2011.

Inspected by DJH etal between 8/15/2012 and 8/30/2012.

Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.

At time of inspection the construction project 8680-04-71 was underway with work progressing on the closed west bound lanes.

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Structure No.: **B-16-038-0018**

Inspector Site-Specific Safety Considerations

Ship traffic, Waves/Wind

Structure Inspection Procedures

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Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment		
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-71
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-74
1983	NEW STRUCTURE	8680-01-79

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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**Underwater Probe Form
B-16-038-0018**

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment		Wade	NA
Pier 1		Surface Supplied Air	Pier 40
Pier 2		Wade	Pier 41
Non Cardinal Abutment		Wade	NA

Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover plate Joint 17-18.



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Joint 17-18 EB.



Routine
Document Comment/Description

Joint 17-18 WB.



Routine
Document Comment/Description

Typical cracking in overlay.



Routine
Document Comment/Description

Typical underside of deck.



10/27/2015

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**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

**Inspection Report for
B-16-038-0019**

**USH 2 over BN RR
Oct 27, 2015**



Type	Prior	Frequency (mos)	Performed
Routine	10-27-15	24	X
SI&A	08-25-14	48	

Latitude 46°43'42.73"N
Longitude 92°08'05.08"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours	Minutes	
1	0	

	Name	Number	Signature	Date
Inspector	Bjorklund, Allan M	8003	Completed by Allan Bjorklund(dotayb)	
Reviewer				

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Identification & Location

Feature On: USH 2	Section Town Range: S08 T49N R14W	Structure Number: B-16-038-0019
Feature Under: BN RR	County: DOUGLAS(16)	
Location 0.6M E MINN STATE LINE	Municipality: CITY-SUPERIOR(16281)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 64	Bridge Roadway Width: 70.0	Total Length: 310.1
Approach Pavement Width: 48	Deck Width: 82.6	Deck Area (sq ft): 25614

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	4	17500	2010	TWO WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS20	Overburden depth (in): 1.5	Last rating date: 10-16-03	Controlling:
Operating rating: HS51	Deck surface material: CONCRETE	Re-rate for capacity (Y/N): Y	Control location:
Posting:	Re-rate notes: Project 8680-04-71 completed PCC overlay 2015.		

Hydraulic

Classification

Scour Critical Code(113): (N) NO WATERWAY	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 89.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		38.0	
2	CONT STEEL	DECK GIRDER		150.0	Y
3	CONT STEEL	DECK GIRDER		120.0	

Expansion joint(s)

Temperature:

File:	New:
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Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under	39.5		

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Structure No.: **B-16-038-0019**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	25,614	25,613	0	1	0
			Chloride Content (LB/CY) is high enough to warrant a NBI 4. Border bridge agreement to place deck at NBI 5. testing report in file NWR/Superior. At time of inspection construction was occurring on the west bound lanes.						
		1080	Delamination - Spall - Patched Area 1 SF spall in bay 2 approx. 5 ft from east abutment.	SF		0	0	1	0
		1130	Cracking (RC)	SF		0	0	0	0
		8514	Concrete Overlay PCC overlay completed 2014 WB, 2015 EB.	SF	25,614	0	25,614	0	0
		3220	Crack (Wearing Surface) Random cracking through out.	SF		0	25,614	0	0
X	107	8522	Coated Reinforcing	SF	25,614	0	0	0	0
			Steel Open Girder	LF	2,463	2,463	0	0	0
		1000	Corrosion	LF		0	0	0	0
X	210	8517	Weathering Steel	SF	54,200	54,200	0	0	0
			Reinforced Concrete Pier Wall	LF	180	180	0	0	0
			Graffiti present.						
X	215	1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0
			Reinforced Concrete Abutment	LF	82	82	0	0	0
X	300		Graffiti present.						
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0
X	311		Strip Seal Expansion Joint	LF	82	82	0	0	0
			PCC overlay completed 2014 WB, 2015 EB.						
X	311	2310	Leakage, Seal Adhesion, Damage, Cracking	LF		0	0	0	0
			Moveable Bearing	EA	16	16	0	0	0
			P42 and Abutment						
X	311	1000	Corrosion	EA		0	0	0	0
		2210	Movement	EA		0	0	0	0
		2220	Alignment	EA		0	0	0	0

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Structure No.: **B-16-038-0019**

X	313		Fixed Bearing P43	EA	8	8	0	0	0
		1000	Corrosion	EA		0	0	0	0
X	330		Metal Bridge Rail 2 rails on top of concrete parapets, and 1 rail on exterior of sidewalk.	LF	930	930	0	0	0
		1000	Corrosion	LF		0	0	0	0
		1900	Distortion	LF		0	0	0	0
X	331		Reinforced Concrete Bridge Rail	LF	930	930	0	0	0
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	9009		Sidewalk Polymer overlay on from parapet to rail, epoxy from rail to exterior girder.	EA	310	310	0	0	0
X	9043		Slope Protection- Crushed Aggregate with Bit. a few trees growing in edges, Needs respray, loose rocks, bad footing. Washout repaired along south east side. Resealed 2015.	EA	1	1	0	0	0
X	9167		Steel Diaphragm	EA	112	112	0	0	0
X	9169		Lateral Bracing	EA	60	60	0	0	0
X	9322		Approach Roadway - Concrete (non-structural) PCC overlay completed 2014 WB, 2015 EB.	EA	2	2	0	0	0

NBI Ratings

	File	New
Deck	5	7
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	N	N
Waterway	N	N

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Structure No.: **B-16-038-0019**

Structure Specific Notes

Inspection Specific Notes

Inspection done 8/17 thru 8/30/2007.
Inspection by MNDOT in 2008 file in bridge office Superior NWR entered for date by DJH.
(09) Inspected by DJH etal between 8-24-2009 and 9-4-2009. found and replaced one broken light base during inspection.
Inspected 2010 by Mndot, Gary Elmquist et al. Signed copy of inspection in bridge file Superior office. Entered for date only by D.Harrington.
Inspected by DJH etal between 8/22/2011 and 8/31/2011.
Inspected by DJH etal between 8/15/2012 and 8/30/2012.
Inspected by DJH etal between 8/12/13 and 8/29/13. Overlay project scheduled for 2014.
At time of inspection the construction project 8680-04-71 was underway on the closed west bound lanes.

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control	X	moving traffic control, outside lane closure.
ReachAll Vehicle		
Access Equipment	X	62' Aspen
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	8680-04-00
1984	NEW DECK	8680-01-75
1984	NEW SUPERSTRUCTURE	8680-01-74
1983	NEW STRUCTURE	8680-01-79

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
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Maintenance Items

Item	Priority	Recommended by	Status	Status change
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Routine
Document Comment/Description

Nameplate.



Routine
Document Comment/Description

Sidewalk cover plate joint 18-19.



Routine
Document Comment/Description

Typical sidewalk work.



Routine
Document Comment/Description

Joint 18-19 EB.



Routine
Document Comment/Description

Joint 18-19 WB.



Routine
Document Comment/Description

Typical overlay cracking.



Routine
Document Comment/Description

Sidewalk cover plate at east abutment.



Routine
Document Comment/Description

Joint East Abutment EB.



Routine
Document Comment/Description

Joint East Abutment WB.



Routine
Document Comment/Description

Repaired SE approach parapet.



Routine
Document Comment/Description

Repaired SE approach sidewalk.



Routine
Document Comment/Description

Typical sidewalk edge repair.



Routine
Document Comment/Description

Typical sidewalk edge repair.



Routine
Document Comment/Description

Spall in bay 2 near east abutment.



Routine
Document Comment/Description

Restored and resealed east slope paving.

