

Mn/DOT BRIDGE INSPECTION REPORT**BRIDGE 5895****US 61 OVER MISS RIVER, RR, STREET****INSP. DATE: 05-01-2009**

County: DAKOTA Location: 0.9 MI N OF JCT TH 55 Length: 1,857.3 ft
 City: HASTINGS Route: USTH 61 Ref. Pt.: 117+00.634 Deck Width: 40.0 ft
 Township: Control Section: 1913 Maint. Area: METRO Rdwy. Area / Pct. Unsd: 59,438 sq ft 2 %
 Section: 22 Township: 115N Range: 17W Local Agency Bridge Nbr: Paint Area / Pct. Unsd: 20 %
 Span Type: CSTL HIGH TRUSS Culvert: N/A
 NBI Deck: 5 Super: 4 Sub: 5 Chan: 6 Culv: N Open, Posted, Closed: LOAD POSTED Postings: 40 - 40 - 40
 Appraisal Ratings - Approach: 7 Waterway: 9 MN Scour Code: R-CRIT;MONITOR Def. Stat: S.D. Suff. Rate: 38.1
 Required Bridge Signs - Load Posting: VEHICLE & SEMI Traffic: NOT REQUIRED
 Horizontal: NOT REQUIRED Vertical: ROADWAY RESTRICTION

STRUCTURE UNIT: 0

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
22	LS O/L (CONC DECK)	2	05-01-2009	74,292 SF	0	74,292	0	0	0
			10-14-2008	74,292 SF	0	74,292	0	0	0
	Notes: 2 Lanes (no shoulders). [1975 - 87] Bituminous overlay. [1987] 3" Low slump overlay (extensive full depth deck repairs, mainly in arch spans). [1993] Scale along gutterlines. [2001] Some delamination in overlay. 10 SF delamination at north end block. [2008] Concrete deck patches by contract.								
300	STRIP SEAL JOINT	2	05-01-2009	510 LF	408	34	68	N/A	N/A
			10-14-2008	510 LF	408	34	68	N/A	N/A
	Notes: [1987] Type H strip seal (15 joints). [1999] Pier 5: strip seal patched. [2001] 1" wide gland at south abutment. Pier 5 gland torn full length. [2007] South abutment has severe leakage.								
301	POURED DECK JOINT	2	05-01-2009	1,665 LF	0	1,665	0	N/A	N/A
			10-14-2008	1,665 LF	0	1,665	0	N/A	N/A
	Notes: 45 pourable joints. [1998] 22 pourable joints in truss spans were sealed. [2007] Water leaks through joints.								
303	ASSEMBLY DECK JOINT	2	05-01-2009	32 LF	0	32	0	N/A	N/A
			10-14-2008	32 LF	0	32	0	N/A	N/A
	Notes: Finger joint at pier 8. Flaking & surface rust below.								
320	CONC APPR SLAB-BITOL	2	05-01-2009	1 EA	1	0	0	0	N/A
			10-14-2008	1 EA	1	0	0	0	N/A
	Notes: South approach is bituminous. [1988] SW approach curb has 2 SF of spall & exposed rebar. [2008] 15 SF Bituminous patches & (pot holes) at four corners south approach. 3 FT x 28 FT bituminous patch south approach.								
321	CONC APPROACH SLAB	2	05-01-2009	1 EA	1	0	0	0	N/A
			10-14-2008	1 EA	1	0	0	0	N/A
	Notes: [1987] North approach (with 2 1/2" low slump overlay). [1990] West approach curb has 2 SF spall. [2008] 2.5 FT x 28 FT bituminous patch north approach.								
334	METAL RAIL-COATED	2	05-01-2009	3,639 LF	2,000	1,000	539	100	0
			10-14-2008	3,639 LF	2,000	1,000	539	100	0
	Notes: [1950] Rail code 40, 3 FT 4" metal rail. [1994] 4 vertical rail bars are damaged. East rail: base plates and nuts are rusted. [1995] West rail: railposts supports attached to stringers (truss spans) have severe section loss: (holes in web of supports). [1998] West rail: rail post bent near panel point 4. [2002] Two sections metal rail replaced from traffic impact SBL. SE concrete end post has 10 SF spall (2" deep with exposed rebar).								
107	PAINTED STEEL GIRDER	2	05-01-2009	2,243 LF	1,293	500	200	250	0
			10-14-2008	2,243 LF	1,293	500	200	250	0
	Notes: [1988] Bridge painted with zinc system. [1995] Paint system is 20% unsound. Spans 9 - 13 have riveted beams. [95/2008] Fascia girders salt film, bubbled/peeled paint, section loss: (pitting 1/16" deep), flaking & surface rust at girder ends below deck joints.								
110	CONCRETE GIRDER	2	05-01-2009	1,792 LF	1,462	240	90	0	N/A
			10-14-2008	1,792 LF	1,462	240	90	0	N/A
	Notes: Spans 1 - 5 have cast in place concrete deck girders. [87/2008] Span 1: shotcrete repairs on east fascia beam, 50 SF delamination, 15 SF delamination (2 spots) west fascia. [2008] Span 2: 50 SF concrete patch (shotcrete), 75 SF delamination east fascia. [2008] Span 3: 50 SF spall & exposed rebar (2 spots) east fascia. [1994/97] Pier 5: east fascia beam has 8 SF spall & exposed rebar on bottom flange. [2008] Span 5: 50 SF delamination east fascia. [2008] Beams patched by contract.								

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113	PAINT STEEL STRINGER	2	05-01-2009	6,758 LF	5,900	500	208	150	0
			10-14-2008	6,758 LF	5,900	500	208	150	0
	Notes: [1995] Fascia stringer expansion bearings & stringers have salt film, section loss: (pitting 1/16" deep), flaking & surface rust.								
121	P/STL THRU TRUSS/BOT	2	05-01-2009	1,930 LF	72	780	750	300	28
			10-14-2008	1,930 LF	72	780	750	300	28
	Notes: [2008] Salt film, bubbled/peeled paint, section loss: (pitting up to 1/8" deep), flaking & surface rust, pack rust & bowed gusset plates at bottom truss connections. Pitting, flaking & surface rust along the edge of the built up members & holes in lacing plates. [2008] Gusset plate (both trusses bottom cleaned & painted) L4, L6, L6', L4' repaired by contract.								
126	P/STL THRU TRUSS/TOP	2	05-01-2009	1,930 LF	453	400	770	277	30
			10-14-2008	1,930 LF	453	400	770	277	30
	Notes: [95/2008] Upper truss members have bubbled/peeled paint, surface rust in some locations, bowed gusset plates at upper truss connections. Areas just above roadway have salt film, bubbled/peeled paint, flaking & surface rust. Most truss verticals have section loss: flaking & surface rust (pitting 1/16" deep) above the top interior gusset plate (bottom chord & floorbeam connection). Vertical bridge clearance sign posted 14 feet 6 inches. [2007] West truss, vertical member, has section of 10%. [2008] Gusset plate (both trusses) U15 repaired by contract.								
152	PAINT STL FLOORBEAM	2	05-01-2009	1,240 LF	0	278	735	165	62
			10-14-2008	1,240 LF	0	278	735	165	62
	Notes: 31 Floorbeams. [1994] Floorbeams have salt film, bubbled/peeled paint, corrosion on flanges section loss: (pitting 1/16" deep), flaking & surface rust and extensive stains (pourable joints above). Pack rust between floorbeam & bottom truss connections. [2008] Floorbeams cleaned & painted by contract.								
422	PAINTED BEAM ENDS	2	05-01-2009	14 EA	0	14	0	0	0
			10-14-2008	14 EA	0	14	0	0	0
	Notes: (truss & north approach) Flaking & surface rust.								
380	SECONDARY ELEMENTS	2	05-01-2009	1 EA	0	0	1	0	N/A
			10-14-2008	1 EA	0	0	1	0	N/A
	Notes: Cracking, delamination & spall on concrete diaphragms (south abutment to pier 5). Flaking & surface rust on steel bracing.								
311	EXPANSION BEARING	2	05-01-2009	26 EA	3	21	2	N/A	N/A
			10-14-2008	26 EA	3	21	2	N/A	N/A
	Notes: Truss bearings & north approach. Rocker bearings at piers 5, 8, 10 & 12: rockernest at pier 7. All bearings at piers 5, 8 & 10 plus 5 bearings pier 12 have surface rust. [1996] Pier 7 "rockernest" bearings are frozen (in 1998, the retainer plates were loosened and rockers cleaned in an attempt to allow movement). [1994] Pier 10: span 11 rocker bearings are tipped excessively in contraction (debris under the rocker plates). [1979] Pier 12: cantilever bearing plates installed (south side) due to movement. [2008] Elastomeric bearings added pier 12, some bearings cleaned & painted by contract.								
312	ENCLOSED BEARING	2	05-01-2009	42 EA	18	24	0	N/A	N/A
			10-14-2008	42 EA	18	24	0	N/A	N/A
	Notes: South approach spans have concealed bearings (concrete diaphragm directly on cap). [2008] 30 Expansion bearings at south abutment, piers 1, 3 & 5. 12 Fixed bearings at piers 2 & 4. [1995] Bearings at south abutment, piers 3 & 5 have surface rust. [2008] Bearings at south abutment pier 3 & 5 cleaned & painted by contract.								
313	FIXED BEARING	2	05-01-2009	22 EA	18	4	0	N/A	N/A
			10-14-2008	22 EA	18	4	0	N/A	N/A
	Notes: Truss pier 6 & north approach. 2 Fixed bearings at pier 6 (truss), 20 fixed bearings at (piers 9, 11 & north abutment). [1987] North abutment fixed bearings replaced. 4 Fascia bearings at piers 9 & 11 have surface rust.								
205	CONCRETE COLUMN	2	05-01-2009	24 EA	21	3	0	0	N/A
			10-14-2008	24 EA	21	3	0	0	N/A
	Notes: [1987/97] Columns have minor scale, cracks & spalls. West column at piers 8, 10 & 12 have cracking (with rust stains) and spalling (exposed rebar). [2003] Shotcrete repair on spalled areas.								
210	CONCRETE PIER WALL	2	05-01-2009	250 LF	225	25	0	0	N/A
			10-14-2008	250 LF	225	25	0	0	N/A
	Notes: [1995] Pier wall footings on piers 6 - 12 have cracking, extensive spalling (exposed rebar) on the face and top cap (pier 7 has no spalling). [2003] Shotcrete repair tops of pierwalls.								

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215	CONCRETE ABUTMENT	2	05-01-2009 10-14-2008	90 LF 90 LF	37 37	40 40	13 13	0 0	N/A N/A
	Notes: [1989/94] Each abutment have 20 LF cracks, 20 SF delamination & 26 SF spalls.								
234	CONCRETE CAP	2	05-01-2009 10-14-2008	484 LF 484 LF	364 364	100 100	20 20	0 0	N/A N/A
	Notes: [1994] Pier 8: spalling (exposed rebar) at west truss bearing pedestal. [1995] Pier 5: underside of cap has minor scrapes and 10 LF of spalls from traffic impact. [1995] Pier 3: cap has delamination on west end and a small spall on the bottom. Caps have scale.								
356	FATIGUE CRACKING	2	05-01-2009 10-14-2008	1 EA 1 EA	0 0	1 1	0 0	N/A N/A	N/A N/A
	Notes: [1995] Beams have numerous tack welds: some cracked. Numerous cracked tack welds at truss & stringer connections.								
357	PACK RUST	2	05-01-2009 10-14-2008	1 EA 1 EA	0 0	0 0	1 1	0 0	N/A N/A
	Notes: [1995] Truss bottom chord has corrosion damage. [2008] Moderate pack rust at floorbeam connections to truss bottom chord. Pack rust stringers 1 & 7 at all floorbeam connections.								
358	CONC DECK CRACKING	2	05-01-2009 10-14-2008	1 EA 1 EA	1 1	0 0	0 0	0 0	N/A N/A
	Notes: [1997/98] Overlay has extensive map cracking, and transverse cracks at 10 FT intervals. [2008] Deck cracks sealed by contract.								
359	CONC DECK UNDERSIDE	2	05-01-2009 10-14-2008	1 EA 1 EA	0 0	0 0	0 0	1 1	0 0
	Notes: [93/2008] South approach spans have longitudinal cracks, delamination running along the beams. (bays 3, 4 & 5) . [1997] North approach spans have delamination below the transverse poured joints. [2000/08] 500 SF each water saturation (bays 3, 4 & 5) in spans 1, 2 & 3. 50 SF each water saturation along middle bay in spans 4 & 5. Full depth deck repairs. [2007] Spans 6 - 8 have random thermal cracking.								
360	SETTLEMENT	2	05-01-2009 10-14-2008	1 EA 1 EA	1 1	0 0	0 0	N/A N/A	N/A N/A
	Notes: [1968/87] North abutment modified due to settlement (bearing pedestals added, parapet & wingwalls reconstructed). [2007] Repairs in good condition.								
361	SCOUR	2	05-01-2009 10-14-2008	1 EA 1 EA	0 0	1 1	0 0	N/A N/A	N/A N/A
	Notes: [1991/96] Underwater inspections found minor scale at the upstream nose of piers 7 & 8. Pier 7: top of footing was exposed on the upstream nose and both sides. [1998] Sonar topo mapping of river bottom revealed scour holes at upstream ends of piers 7 & 8 (see scour file). [2004] Underwater Inspection by "Ayres Associates" found the footing at pier 7 is exposed around entire pier, but no changes in structure conditions. [2008] Underwater Inspection by Collins Engineers, Inc. found seal of Pier #7 exposed, with a maximum of 3 feet. The minor scour at Pier #8 was not found at this inspection.								
362	TRAFFIC IMPACT	2	05-01-2009 10-14-2008	1 EA 1 EA	0 0	1 1	0 0	N/A N/A	N/A N/A
	Notes: [1995] Pier 5: bottom of cap has minor scrapes and 10 LF of spalls from high loads. [92/2002] Portal braces and sway braces throughout truss bridge have impact damage (tears & nicks NBL & SBL). [2004] Hole at south portal repaired NBL.								
363	SECTION LOSS	2	05-01-2009 10-14-2008	1 EA 1 EA	0 0	0 0	1 1	0 0	N/A N/A
	Notes: Section loss: (pitting 1/16" deep), flaking & surface rust, holes at truss bottom chord lacing, upper truss lacing & floorbeam web stiffeners. [1995] Floorbeam at pier 8 (below finger joint) has extensive corrosion, with severe section loss: (pitting 1/16" deep), (numerous holes at the base of the web stiffeners). [1997] Top flanges checked for section loss with UT. Most truss verticals have section loss: flaking & surface rust (pitting 1/16" deep) above the top interior gusset plate (bottom chord & floorbeam connection). [2007] Spans 6 - 8, floorbeams remaining section is recorded at flanges & web at several locations using PT or Calipers.								
964	CRITICAL FINDING	2	05-01-2009 10-14-2008	1 EA 1 EA	1 1	0 0	N/A N/A	N/A N/A	N/A N/A
	Notes: < none >								

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965	SHEAR CRACKING	2	05-01-2009	1 EA	0	1	0	0	N/A
			10-14-2008	1 EA	1	0	0	0	N/A
	Notes: [2008] Shear cracks: 50 LF beam 5 span 2. 3 LF crack above bearing beam 6 (pier 5).								
966	FRACTURE CRITICAL	2	05-01-2009	1 EA	0	1	0	N/A	N/A
			10-14-2008	1 EA	0	1	0	N/A	N/A
	Notes: See in-depth report for location of F/C members.								
981	SIGNING	2	05-01-2009	1 EA	1	0	0	0	0
			10-14-2008	1 EA	1	0	0	0	0
	Notes: Signs required: [2007] 40 Ton load posting, Vertical clearance: vertical bridge clearance sign posted 14 feet 6 inches. Vertical bridge clearance sign posted 13 feet 0 inches under pier 5 cap. [Before 2007] Posted 28 ton vehicle, 40 ton semi.								
982	GUARDRAIL	2	05-01-2009	1 EA	1	0	0	N/A	N/A
			10-14-2008	1 EA	1	0	0	N/A	N/A
	Notes: Plate beam guardrail at northeast & northwest corners TH 61.								
984	DRAINAGE	2	05-01-2009	1 EA	0	0	1	N/A	N/A
			10-14-2008	1 EA	0	0	1	N/A	N/A
	Notes: Pier 3 & 5 has deck drains with 2 downspouts. Deck drains in spans 6, 7, 8, 9, 10, 11 & 12. [1990] Pier drains plugged on approach spans.								
985	SLOPES	2	05-01-2009	1 EA	0	1	0	N/A	N/A
			10-14-2008	1 EA	0	1	0	N/A	N/A
	Notes: Concrete slope at south abutment, bare dirt slope at north abutment. [1994] North abutment slope has minor erosion (top of footing is exposed).								
986	CURB & SIDEWALK	2	05-01-2009	1 EA	0	1	0	N/A	N/A
			10-14-2008	1 EA	0	1	0	N/A	N/A
	Notes: [1989/93] East curb has 12 SF of spall, west curb has 30 SF of spall at south approach spans (2" deep with exposed rebar). [1991] Pier 10: sidewalk cover plate loose (3 of 5 bolts missing). [1992] Pier 3 & 8: curb cover plate missing. [1994] Sidewalk has extensive patching. [2007] Previous epoxy repairs are in poor condition with exposed, heavily corroded rebar, especially from piers 8 to 11. [2008] Spot sidewalk sealed by contract.								
988	MISCELLANEOUS	2	05-01-2009	1 EA	1	0	0	N/A	N/A
			10-14-2008	1 EA	1	0	0	N/A	N/A
	Notes: River navigation & aircraft warning lights. [1994] Swallow nests. [1995] Underdeck lights on pier caps 1 thru 4. [2007] Safety hazard above navigation light in span 7 with exposed wires at junction box.								
423	GUSSET PLATE (PAINT)	2	05-01-2009	0 EA	0	0	0	0	0
			10-14-2008	0 EA	0	0	0	0	0
	Notes: Bubbled/peeled paint, flaking & surface rust, section loss: 1/8" pitting.								
967	GUSSET DISTORTION	2	05-01-2009	1 EA	0	0	1	0	N/A
			10-14-2008	1 EA	0	0	1	0	N/A
	Notes: Bowed gusset plates 3/16".								

Inspector's Signature

Reviewer's Signature / Date