

**ATTACHMENT 4 – Mn/DOT BRIDGE INSPECTION REPORTS DATED  
AUGUST 5, 1990 AND OCTOBER 18, 1993**  
(10 pages)

Mn/DOT Office of Bridges and Structures  
 BRIDGE INSPECTION REPORT

Bridge No. : 9340      T.H. No. : 35W      Ref. Point : 018.538      Location : 1.0 MI NE OF JCT TH 94      Road System: 5A  
 Crew NO. : 3      Stru. Cross : DV RR & MISS R & 2ND ST      Posted Limit in Tons : LEGAL      A Inspection  
 Bridge Type: RIVETED ST CONT DK TRUSS      Inspection Date : August 5, 1990      C. S. : 2783  
 Min.Vert ( Und./Und. ) 15.2      Deck Area (Sq. Ft.) : 205956      Painted Area (Sq. Ft.) : 490200  
 Min.Vert ( Over/Over )

NO	ITEM	RATING	REPAIR CODE	%PCT	QUANT	UNIT	COMMENTS
<u>SUBSTRUCTURE</u>							
1	Abutments .....	16:16:16:16					
2	Piers .....	16:16:16:16					Bridge 9340 Year 90
3	Bridge Seats .....	18:18:18:18					Bridge 9340 Year 88
<u>SUPERSTRUCTURE</u>							
4	Trusses .....	17:17:17:17					Bridge 9340 Year 87
5	Girders .....	1N:1N:1N:1N					1.) SO. ABUT. BRIDGE SEAT CRACKED & DISCOLORED
6	Floor Beams .....	17:17:17:17					
7	Stringers or Beams .....	18:18:18:18					2.) NORTH APPROACH SPANS PIERS HAVE BEEN PATCHED
8	Bearing Devices .....	17:17:17:14					EXTENSIVELY WITH SHOT-CRETE - BUT OTHER AREAS ARE
9	Arches .....	1N:1N:1N:1N					IN NEED OF PATCHING.
10	Fascia Beams .....	18:18:18:18					
11	Diaphragms .....	18:18:18:18					2.) PIER 7 (FIXED PIER ON NO. EDGE OF RIVER) WEST
12	Spandrel Columns .....	18:18:18:18					COLUMN IS CRACKED VERTICALLY THROUGH COLUMN
<u>DECK</u>							
13	Structural Slab .....	16:16:16:16					3.) LAST FOUR BEARING PLATES SOUTH ABUTMENT WEST SIDE
14	Wearing Surface .....	17:17:17:17					ARE QUITE RUSTY.
15	Curb & Walk .....	17:17:17:17					
16	Railing .....	16:16:14:14					
17	Expansion Joints .....	17:17:16:16					5.&7.) KNEE BRACING ON SOUTH EAST BEARING & BEAM HAS
							BEEN REPLACE BY BRIDGE CREW AND SEEMS TO BE
							WORKING WELL.
18	Bridge Deck Drains .....	16:16:16:16					
19	Median .....	11:11:11:11					
<u>AREA UNDER BRIDGE</u>							
20	Channel & Protection .....	18:18:18:18					5.&7.) THERE IS A COATING OF PIGEON DUNG ON STEEL
21	Fenders .....	11:11:11:11					WITH NEST AND HEAVY BUILDUP ON THE INSIDE
22	Roadway,Railway,Other .....	18:18:18:18					HOLLOW BOX SECTIONS.
23	Slopes & Berms .....	18:18:18:18					MODERATE TO SEVERE RUSTING OF CONNECTIONS UNDER
							MEDIAN.
<u>CULVERT &amp; WALL</u>							
24	Barrel & Floor .....	1N:1N:1N:1N					7.) MODERATE TO SEVERE RUST UNDER MEDIAN AND EXPANSION
25	Apron,Wingwall,Headwall .....	1N:1N:1N:1N					AREAS ON CONSTRUCTION.
<u>APPROACH ROADWAY</u>							
26	Approach Near (S or W) .....	17:17:17:17					7.) RUST ON TOP FLANG UNDER DECK CONCRETE SPAN 2, 7,
27	Approach Far (N or E) .....	17:17:17:17					10, 11, 22. PACK RUST ON H-BEAM STRINGER AT SPAN
							4.
<u>OTHER</u>							
28	Signing .....	18:18:18:18					
29	Retaining Wall .....	1N:1N:1N:1N					8.) BEARINGS ON SPAN # 1 CANTILEVER SECTION ARE CLOSED
30	Guardrail .....	18:18:18:18					TIGHT AT 60 DEGREES F.
31	Fence .....	18:18:18:18					
32	Paint .....	16:16:16:15	18	149020			8.) BEARING PINS ON TRUSS BEARING ASSEMBLIES AT ENDS
33	Plow Straps .....	1N:1N:1N:1N					OF TRUSS SHOULD BE REPLACED WITH SLIGHTLY LONGER
34	Drainage.....	16:16:16:16					BOLTS TO ALLOW FOR THERMAL THRUST (ON EVEN
35	Miscellaneous .....	11:11:11:11					EXPANSION - DUE TO TEMPERATURE DIFFERENCES BETWEEN

INSPECTOR	YEAR	REVIEWED BY
	1988	
	1989	
	1989	AUGUST 5, 1989
	1990	LARRY LEHRKE

Comments Continued for Bridge 9340 Year 90  
GIRDERS AND TRUSS COMPONENTS.)

- 13) STRUCTURAL SLAB UNDER THE MEDIAN OVERHANGS (AND OUTSIDE OVERHANGS) IS SPALLING AWAY WITH NORTH BOUND 2100 SQ. FT. OF SPALL. SOUTH BOUND 1000 SQ FT OF SPALL. 50 S.F. OF LOOSE CONCRETE ON BOTTOM OF MEDIAN OVER NORTH ACCESS ROAD AND PARKING LOT ON SOUTH END OF BRIDGE.
- 14.) 3000 L.F +OR- OF SLIGHT TO MODERATE TRANSVERSE CRACKS
- 15.) CURBS STARTING TO SPALL ALSO.
- 16.) 25% CONCRETE RAILING UNSOUND.  
SEVERE CRACKING OF WEST RAIL DUE TO TRAFFIC DAMAGE WHICH HAS BROKEN ONE POST ON WEST SIDE AT SOUTH END AND ONE BROKEN POST ON NORTH END EAST SIDE.
- 17.) APPEARS TO BE PAVEMENT THRUST FROM BOTH ENDS OF THE BRIDGE. WHILE RELIEF JOINTS HAVE BEEN CUT IN PAVEMENT THEY ALSO SHOULD BE CUT IN CURBS AND MEDIANS
22. 6-8% PAINT UNSOUND
- 23.) DRAINAGE SYSTEM WHERE DOWN PIPES ARE USED ARE PLUGGED. MOST OF DRAINAGE DEVICES ON BRIDGE ARE PLUGGED & GROWING VEGETATION.  
20 L.F. OF HORZ. CRACKS IN NORTH SLOPE.
- 31.) WIRE FENCE DOWN AT SOUTH ABUTMENT ON BOTH SIDES.
- 32.) PAINT IS 20% UNSOUND.
- 32.) PAINT UNDER MEDIAN JOINT IS IN POOR CONDITION WITH SMALL AREAS OF PACKRUST. THESE AREAS SHOULD BE CLEANED AND REPAINTED.
- 34.) DRAINAGE TROUGH UNDER HINGE JOINT ON THE SOUTH END OF THE MAIN TRUSS BROKE LOOSE FROM ITS MOUNTINGS.
- 35.) LIGHT BASE ON P.G. GROUT ERODED, SHOULD BE REPAIRED. LIGHT BASE COVERS MISSING AND WIRES EXPOSED.

NOTE: RELIEF JOINTS ARE NEEDED ON BOTH ENDS OF BRIDGE.  
IN CURBS AND MEDIAN.

NOTE: LIGHT BASE ON P.G. GROUT ERODED. THIS SHOULD BE REPAIRED.

NOTE: LIGHT BASE COVERS MISSING AND WIRES EXPOSED.

NOTE: MODERATE TO SEVERE RUST UNDER MEDIAN AND EXPANSION AREAS ON CROSS TRUSSES.

NOTE: DRAIN OVER THE RIVER IS PLUGGED.

NOTE: RUBBER GLAND AT SOME EXP. JOINTS STARTING TO LET LOOSE AND LEAK.

Mn/DOT OFFICE OF BRIDGES AND STRUCTURES

Road System: 01 ISTH  
 Road Number: 35W  
 City:  
 Township:  
 Maint. Area / District: 5A  
 Control Section : 2783

County : 27 HENNEPIN  
 Load Posting (Tons) : LEGAL  
 Reference Point : 018.538  
 Deck Area (Sq.Ft.) : 205956  
 Painted Area (Sq.Ft.) : 490200  
 Crew No. : 2

Location: 1.0 MI NE OF JCT TH 94  
 Feature Crossed: OV RR & MISS R & 2ND ST  
 Bridge Type : RIVETED ST CONT DK. TRUSS  
 Min. Vert (Und/Und) : 15.2  
 Min. Vert (Over/Over) :  
 Inspection Classification : A

NO	ITEM	RATINGS	%PCT	QUANT	UNIT	COMMENTS
<b>SUBSTRUCTURE</b>						
		6 6 6 6				BRIDGE 9340 YEAR '93
1	Abutments	7 7 7 7				Bridge 9340 Year 92
2	Piers	6 6 6 6				Bridge 9340 Year 90
3	Bridge Seats	8 8 8 8				Bridge 9340 Year 88
<b>SUPERSTRUCTURE</b>						
4	Trusses	7 7 7 7				62 SNOOPER INSPECTION 9/21/91
5	Girders	N N N N				X.) SO. ABUT. BRIDGE SEAT CRACKED & DISCOLORED
6	Floor Beams	7 7 6 6				41, 58
7	Stringers or Beams	8 8 8 8				X.) NORTH APPROACH SPANS PIERS HAVE BEEN PATCHED
8	Bearing Devices	4 4 4 4				EXTENSIVELY WITH SHOT-CRETE - BUT OTHER AREAS ARE
9	Arches	N N N N				IN NEED OF PATCHING.
10	Fascia Beams	8 8 8 8				58
11	Diaphragms	8 8 8 8				X.) PIER 7 (FIXED PIER ON NO. EDGE OF RIVER) WEST
12	Spandrel Columns	8 8 8 8				COLUMN IS CRACKED VERTICALLY THROUGH COLUMN
<b>DECK</b>						
13	Structural Slab	6 6 6 6		1	2059 sqft	62 X.) LAST FOUR BEARING PLATES SOUTH ABUTMENT WEST SIDE
14	Wearing Surface	7 7 7 7				ARE QUITE RUSTY.
15	Curb & Walk	7 7 7 7				20
16	Railing	4 4 4 4				X)
17	Expansion Joints	6 6 6 6				NO. END OF WEST TRUSS CONNECTION TO FLOOR BEAM
18	Bridge Deck Drains	6 6 6 6				EXTENSIVE CORROSION UNDER JOINT - NEEDS SPOT
19	Median					BLAST AND PAINT OR SEVERE CORROSION WILL RESULT
<b>AREA UNDER BRIDGE</b>						
20	Channel & Protection	8 8 8 8				20 WITHIN 5 YEARS (BY 1997).
21	Fenders					X)
22	Roadway, Railway, Other	8 8 8 8				20 WEST MAIN TRUSS, LOWER CHORD 2 FLOOR TRUSSES
23	Slopes & Berms	8 8 8 8				X)
<b>CULVERT &amp; WALL</b>						
24	Barrel & Floor	N N N N				SO. OF PIER 1 - 1/8 IN. L OF S.
25	Apron, Wingwall, Headwall	N N N N				79, 8
<b>APPROACH ROADWAY</b>						
26	Approach Near (S or W)	7 7 7 7				X.) KNEE BRACING ON SOUTH EAST BEARING & BEAM HAS
27	Approach Far (N or E)	7 7 7 7				BEEN REPLACE BY BRIDGE CREW AND SEEMS TO BE
<b>OTHER</b>						
28	Signing	8 8 8 8				8, 79
29	Retaining Wall	N N N N				X.) THERE IS A COATING OF PIGEON DUNG ON STEEL
30	Guardrail	8 8 8 8				WITH NEST AND HEAVY BUILDUP ON THE INSIDE
31	Fence	8 8 8 8				HOLLOW BOX SECTIONS.
32	Paint	5 5 5 5		8	39216 sqft	MODERATE TO SEVERE RUSTING OF CONNECTIONS UNDER
33	Plow Straps	N N N N				33
34	Drainage	6 6 6 6				X)
35	Miscellaneous					FIRST SPAN
						FLOOR TRUSS #3 - CENTER BAD WELD UNDERCUT IN

INSPECTOR	YEAR	REVIEWED BY
CHESTER MARTIN	1991	LARRY LEHRKE
CHAS. MARTIN & J. ANDERSON	1991	LARRY LEHRKE
MORAVEC, MARTIN & ALMANN	1993	
MORAVEC, MARTIN & WAKS	1993	TERRY MORAVEC

FLANGE.  
FLOOR TRUSS #4 - TOP CORD TACK WELD  
CRACKED.

#### SECOND SPAN

FLOOR TRUSS #5 - TOP CORD AT CENTER HAS PLATE  
WELDED TO BOTTOM FLANGE - LONGITUDINAL.  
FLOOR TRUSS #6 - AT TOP OF CORD CENTER THERE IS  
A FOUR WAY DIAGONAL MEMBER THAT ARE WELDED  
TRANSVERSE TO BOTTOM FLANGE.  
FLOOR TRUSS #10,11,12 - AT TOP OF CORD, CENTER  
DIAGONAL STIFFENER PLATE HAS A WELD TRANSVERSE  
TO BOTTOM FLANGE.  
FLOOR TRUSS #13 - SAME AS ABOVE TRANSVERSE AND  
HEAVY RUST AT MEDIAN, AT END OF BOTTOM FLANGE  
IS A LOSS OF SECTION OF 25% FROM PACK RUST ON  
DIAGONAL PLATE AT CENTER TOP CORD.

#### THIRD SPAN

FLOOR TRUSS #1 - TOP CORD AT CENTER PLATE TO  
DIAGONALS HAS A TRANSVERSE TACK WELD TO BOTTOM  
FLANGE.  
FLOOR TRUSS #2 - HEAVY PACK RUST WITH LOSS OF  
SECTION ON TOP AND BOTTOM CORD AT CENTER AND  
PLATE TO DIAGONAL.  
FLOOR TRUSS #3 - AT CENTER TOP CORD EIGHTH  
STRINGER BOLT HEAD BROKE OFF AT BEARING AND  
WELD AT DIAGONAL PLATE TO BOTTOM FLANGE TRANS.

33  
6)  
1992 INSPECTION  
CONNECTION FLOOR BEAM(MULTI TO TRUSS) NORTH END  
CRACK IN STIFFENER WHERE TRUSS PASSES THROUGH  
FLOOR BEAM. DRILLED OUT  
CONNECTION FLOOR BEAM, SOUTH END  
CRACK IN WEB AT WEST CONNCTION. GROUND OUT

79  
7)  
MODERATE TO SEVERE RUST UNDER MEDIAN AND  
EXPANSION AREAS ON CONSTRUCTION.

79  
7.) RUST ON TOP FLANG UNDER DECK CONCRETE SPAN 2, 7,  
10, 11, 22. PACK RUST ON H-BEAM STRINGER AT SPAN  
4.

7) 1ST MULTI-BEAM SPAN NO. OF TRUSS - GOUGES IN  
BTM OF ALL BEAMS OVER ROUDWAY.

96  
8.) BEARINGS ON SPAN # 1 CANTILEVER SECTION ARE CLOSED  
TIGHT AT 60 DEGREES F.

96  
8.) BEARING PINS ON TRUSS BEARING ASSEMBLIES AT ENDS  
OF TRUSS SHOULD BE REPLACED WITH SLIGHTLY LONGER  
BOLTS TO ALLOW FOR THERMAL THRUST (ON EVEN  
EXPANSION - DUE TO TEMPERATURE DIFFERENCES BETWEEN  
GIRDERS AND TRUSS COMPONENTS.)

159  
1/3) STRUCTURAL SLAB UNDER THE MEDIAN OVERHANGS (AND  
OUTSIDE OVERHANGS) IS SPALLING AWAY WITH  
NORTH BOUND 2100 SQ. FT. OF SPALL. SOUTH BOUND  
1000 SQ FT OF SPALL. 50 S.F. OF LOOSE CONCRETE  
ON BOTTOM OF MEDIAN OVER NORTH ACCESS ROAD AND  
PARKING LOT ON SOUTH END OF BRIDGE.

159  
1/3) LOOSE CONCRETE AT CENTER MEDIAN OVER DUMP AREA  
AND ROAD ALONG RIVER - NORTH BANK (S.E. MPLS  
SIDE)

158  
14.) 3000 L.F +OR- OF SLIGHT TO MODERATE TRANSVERSE  
CRACKS. 25 SF OF CRACKED AND DELAM. NORTH BOUND  
EAST TWO LANES, REMOVED AND PATCHED. 122

14) 122  
136  
15.) 3 S.F. SPALL S.B. LEFT CENTER LANE NEAR NO.  
FINGER JOINT.

15.) CURBS STARTING TO SPALL ALSO.

104  
16.) 25% CONCRETE RAILING UNSOUND.  
SEVERE CRACKING OF WEST RAIL DUE TO TRAFFIC DAMAGE  
WHICH HAS BROKEN ONE POST ON WEST SIDE AT SOUTH  
END AND ONE BROKEN POST ON NORTH END EAST SIDE.

90  
17.) APPEARS TO BE PAVEMENT THRUST FROM BOTH ENDS OF  
THE BRIDGE. WHILE RELIEF JOINTS HAVE BEEN CUT IN  
PAVEMENT THEY ALSO SHOULD BE CUT IN CURBS AND

MEDIANS. NORTH BOUND ALL EXPANSION JOINTS ARE STARTING TO PULL OUT.

822. 6-8% PAINT UNSOUND Approach Spans

23.) DRAINAGE SYSTEM WHERE DOWN PIPES ARE USED ARE PLUGGED. MOST OF DRAINAGE DEVICES ON BRIDGE ARE PLUGGED & GROWING VEGETATION.  
184 20 L.F. OF HORZ. CRACKS IN NORTH SLOPE. 185

188  
31.) WIRE FENCE DOWN AT SOUTH ABUTMENT ON BOTH SIDES.

20  
32.) PAINT IS 20% UNSOUND.

20  
32.) PAINT UNDER MEDIAN JOINT IS IN POOR CONDITION WITH SMALL AREAS OF PACKRUST. THESE AREAS SHOULD BE CLEANED AND REPAINTED.

184  
34.) DRAINAGE TROUGH UNDER HINGE JOINT ON THE SOUTH END OF THE MAIN TRUSS BROKE LOOSE FROM ITS MOUNTINGS.

188  
35.) LIGHT BASE ON P.G. GROUT ERODED, SHOULD BE REPAIRED. LIGHT BASE COVERS MISSING AND WIRES EXPOSED.

NOTE: RELIEF JOINTS ARE NEEDED ON BOTH ENDS OF BRIDGE. IN CURBS AND MEDIAN.

NOTE: LIGHT BASE ON P.G. GROUT ERODED. THIS SHOULD BE REPAIRED.

NOTE: LIGHT BASE COVERS MISSING AND WIRES EXPOSED.

NOTE: MODERATE TO SEVERE RUST UNDER MEDIAN AND EXPANSION AREAS ON CROSS TRUSSES.

NOTE: DRAIN OVER THE RIVER IS PLUGGED.

NOTE: RUBBER GLAND AT SOME EXP. JOINTS STARTING TO LET

LOOSE AND LEAK.

WESTSIDE:

LOOSE BOLT 2ND INTERIOR STRINGER BEARING AT V18  
NICK ON BOTTOM OF DIAGONAL L15 - 14  
NICK ON BOTTOM OF LOWER CORD L15 - 14  
2 NICKS IN DIAGONAL L15 - V12  
NICK IN BOTTOM OF TOP CORD L10 - V8  
NICK IN BOTTOM OF H SECTION TOP OF FLOOR BEAM V6  
NICK IN TOP OF H SECTION BOTTOM FLOOR BEAM V6

-----  
ADDITIONAL COMMENTS FROM OCTOBER 13-18, 1993 SNOOPER INSPECTION.

<sup>20</sup>  
4) DOWNSTREAM TRUSS AT L11 INSIDE GUSSET PLATE HAS LOSS OF SECTION  
18" LONG AND UP TO 3/16" DEEP (ORIGINAL THICKNESS = 1/2").

DOWNSTREAM TRUSS AT L13 THE LOWER HORIZ. BRACE BETWEEN THE TRUSSES  
HAS 3/16" SECTION LOSS AT RIVETED ANGLE.

TOP CORD OF UPSTREAM TRUSS JUST NO. OF NORTH RIVER PIER - POSSIBLE  
CRACKS IN WELD OF WEST BAFFLE GUSSET TO TOP FLANGE. CAN'T GET TO  
IT. CHECK AT NEXT IN DEPTH INSPECTION, POSSIBLE ULTRA-SONIC  
INSPECTION.

33) AT FLOOR TRUSS #11 AT STRINGER #11 THERE IS A CRACK IN THE WELD  
FROM THE BEARING BLOCK TO THE TOP FLANGE OF THE FLOOR TRUSS.

AT FLOOR BEAM U7 UPSTREAM SIDE DIAGONAL TO THE NORTH HAS EXCESSIVE  
PLAY & MOVEMENT AT UPPER PIN - PIN SHOWS LIGHT WEAR, 1/8" GAP.

FLOOR TRUSS #1 - COTTER PIN MISSING ON PIN HOLDING SWAY BRACE TO  
LOWER CHORD.

4TH FLOOR TRUSS FROM NORTH - COTTER PIN MISSING IN PIN CONNECTING THE BRACE TO THE BOTTOM CHORD OF THE FLOOR TRUSS.

FLOOR TRUSS OVER NORTH RIVER PIER - 4 BOLTS CONNECTING FLOOR BEAMS #'S 4 & 5 TO THE FLOOR TRUSS WERE MISSING AND REPLACE THIS SPRING DURING THE BRIDGE WASHING; 2 WITH 3/4" BOLTS AND 2 WITH 3/4" REDI-ROD. THE REDI-ROD SHOULD BE REPLACE WITH BOLTS.

97) AT (U5)(U10) WELD AT TOP FLANGE TO STRINGER BEARING BLOCK NEEDS CRACK GROUND OFF SOUTH SIDE. AT (5)(U11) WELDS AT BOTTOM FLANGE OF TOP CHORD OF FLOOR TRUSS #5 TO BEARING BLOCK TO TOP CHORD OF EAST MAIN TRUSS NEED CRACKS AT WELDS GRUOND OUT.

CRACKED WELD AT BOTTOM FLANGE OF STRINGER #9 TO PINNED DIAGONAL BETWEEN FLOORTRUSSES #'S 8 & 9.

AT (5)(U3) 3 - 7/8" X 8" BOLS MISSING FROM BEARING BLOCK.

96) MULTI-GRIDGE AREA AT SO. END - CANT. HINGES ARE IN FULL EXPANSION AND NOT WORKING. GRIDGER ENDS ARE IN CONTACT.

PIER #4 - EXPANSION BEARINGS APPEAR TO BE FROZEN.

194  
18) DRAIN OVER HUNCH IS PLUGGED.

---