

**2015 ROUTINE
BRIDGE INSPECTION REPORT**



**BRIDGE # 7276
CSAH 51(LEX PKWY) over CSAH 33(PIERCE BUTLER)**

DISTRICT: Metro

COUNTY: Ramsey

CITY/TOWNSHIP: St Paul

Date(s) of Inspection: 10/16/2015

Equipment Used:

Owner: County Highway Agency

Inspected By: Engel, Michael; Lee, Joseph; Nelson, Kevin

Report Written By: Kevin Nelson

Report Reviewed By: Glenn Pagel

Final Report Date: 12/30/2015

**MnDOT Bridge Office
3485 Hadley Avenue North
Oakdale, MN 55128**



MnDOT Structure Inventory Report

Bridge ID: 7276

CSAH 51(LEX PKWY)

over CSAH 33(PIERCE BUTLER)

Date: 12/30/2015

GENERAL	
Agency Br. No.	
District	Metro
Maint. Area	Crew
County	062 - Ramsey
City	St Paul
Township	
Desc. Loc.	0.7 MI N OF UNIV AVE
Sect., Twp., Range	26 - 029N - 23W
Latitude	Deg 44 Min 57 Sec 59.44
Longitude	Deg 93 Min 8 Sec 47.73
Custodian	02 - County Highway Agency
Owner	02 - County Highway Agency
BMU Agreement	
Year Built	1959
MN Year Reconstructed	1982
FHWA Year Reconstructed	
MN Temporary Status	
Bridge Plan Location	1 - CENTRAL
Date Opened to Traffic	
On-Off System	1 - ON
Legislative District	66B

STRUCTURE	
Service On	5 - Highway-pedestrian
Service Under	1 - Highway, w/ or w/out ped.
Main Span Type	
	3 - Steel 01 - Beam Span
Main Span Detail	
Appr. Span Type	
Appr. Span Detail	
Skew	0
Culvert Type	
Barrel Length	ft.
Cantilever ID	

NUMBER OF SPANS		
MAIN:	3	APPR: 0 TOTAL: 3
Main Span Length	63.0	ft.
Structure Length	122.9	ft.
Deck Width (Out-to-Out)	62.3	ft.
Deck Material	1 - Concrete Cast-in-Place	
Wear Surf Type	4 - Low Slump Concrete	
Wear Surf Install Year	1982	
Wear Course/Fill Depth	0.17	ft.
Deck Membrane	0 - None	
Deck Rebars	1 - Epoxy Coated Reinforcing	
Deck Rebars Install Year	1982	
Structure Area (Out-to-Out)	7657	sq. ft.
Roadway Area (Curb-to-Curb)	5899	sq. ft.
Sidewalk Width	Lt 6.00	ft. Rt 6.00
Curb Height	Lt 0.83	ft. Rt 0.83
Rail Type	Lt 27	Rt 27

ROADWAY	
Bridge Match ID (TIS)	1
Roadway O/U Key	Route On Structure
Route Sys	04 - CSAH Number 51
Roadway Name or Description	CSAH 51
Level of Service	1 - MAINLINE
Roadway Type	2 - 2-way traffic
Control Section (TH Only)	
Reference Point	003+00.770
Detour Length	2.0 mi
Lanes	On 4 Under 4
	ADT 24500 Year 2005
HCACT	0 ADTT 0 %
Functional Class	16 - Urban - Minor Arterial

RDWY DIMENSIONS			
If Divided	NB-EB	SB-WB	
Roadway Width	48.00	ft.	ft.
Vertical Clearance		ft.	ft.
Max. Vert. Clear.		ft.	ft.
Horizontal Clear.	47.9	ft.	ft.
Lateral Clearance		ft.	ft.
Appr. Surface Width	48.0	ft.	
Bridge Roadway Width	48.0	ft.	
Median Width On Bridge		ft.	

MISC. BRIDGE DATA	
Structure Flared	0 - No flare
Parallel Structure	N - No parallel structure
Field Conn. ID	
Abutment Foundation	1 - CONC
(Material/Type)	3 - FTG PILE
Pier Foundation	1 - CONC
(Material/Type)	1 - SPRD SOIL
Historic Status	5 - Not eligible

PAINT	
Year Painted	1995
Unsound Paint %	
Painted Area	8000 sq. ft.
Primer Type	0 - Other - non 3309
Finish Type	M - Urethane

BRIDGE SIGNS	
Posted Load	0 - Not Required
Traffic	0 - Not Required
Horizontal	0 - Not Required
Vertical	N - Not Applicable

INSPECTION	
Userkey	199
Unofficial Structurally Deficient	N
Unofficial Functionally Obsolete	Y
Unofficial Sufficiency Rating	54.8
Routine Inspection Date	10/16/2015
Routine Inspection Frequency	24
Inspector Name	City of St. Paul
Status	A - Open

NBI CONDITION RATINGS	
Deck	7 - Good Condition
Unsound Deck %	
Superstructure	5 - Fair Condition
Substructure	7 - Good Condition
Channel	N - Not Applicable
Culvert	N - Not Applicable

NBI APPRAISAL RATINGS	
Structure Evaluation	5
Deck Geometry	2
Underclearances	3
Water Adequacy	N - Not Applicable
Approach Alignment	8 - Equal to present desirable

SAFETY FEATURES	
Bridge Railing	1 - MEETS STANDARDS
GR Transition	N - NOT REQUIRED
Appr. Guardrail	N - NOT REQUIRED
GR Termini	N - NOT REQUIRED

IN DEPTH INSP.			
	Y/N	Freq	Date
Frac. Critical			
Underwater			
Pinned Asbly.			
Spec. Feat.			

WATERWAY	
Drainage Area (sq. mi.)	
Waterway Opening	sq. ft.
Navigation Control	N - Not applicable, no waterway
Pier Protection	5 - None present; reevaluation
Nav. Clr. (ft.)	Vert. ft. Horiz. ft.
Nav. Vert. Lift Bridge Clear. (ft.)	
MN Scour Code	A - NON WATER' Year

CAPACITY RATINGS		
Design Load	5 - HS 20	
Operating Rating	2 - AS	HS 26.9
Inventory Rating	2 - AS	HS 16.1
Posting VEH:	SEMI:	DBL:
Rating Date	03/31/2015	

MnDOT Permit Codes	
A:	N - N/A
B:	N - N/A
C:	N - N/A

MnDOT BRIDGE INSPECTION REPORT

12/30/2015

Inspector: City of St. Paul

BRIDGE 7276 CSAH 51(LEX PKWY) OVER CSAH 33(PIERCE BUTLER)

ROUTINE INSP. DATE: 10/16/2015

County: Ramsey	Location: 0.7 MI N OF UNIV AVE	Length: 122.9 ft.
City: St Paul	Route: 04 - CSAH 51 Ref. Pt.: 003+00.770	Deck Width: 62.3 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 5899 sq. ft. / %
Section: 26 Township: 029N Range: 23W Maint. Area:		Paint Area/ Pct. Unsnd: 8000 sq. ft. / %
Span Type: 3 - Steel 02 - Stringer/Multi-beam or Girder	Local Agency Bridge Nbr.:	Culvert: N/A
List:		Postings:
NBI Deck: 7 Super: 5 Sub: 7 Chan: N Culv: N		
	Open, Posted, Closed: A - Open	
	MN Scour Code: A - NON WATERWAY	
Appraisal Ratings - Approach: 8 Waterway: N		Unofficial Structurally Deficient N
Required Bridge Signs - Load Posting: 0 - Not Required	Traffic: 0 - Not Required	Unofficial Functionally Obsolete Y
Horizontal: 0 - Not Required	Vertical: N - Not Applicable	Unofficial Sufficiency Rating 54.8

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY	QTY	QTY	QTY	QTY
						CS 1	CS 2	CS 3	CS 4	CS 5
107	Painted Steel Girder or Beam	2	Routine	10/16/2015	1220 LF	1000	220	0	0	0
			Update	09/23/2014	1220 LF	1000	220	0	0	0
			Routine	10/16/2013	1220 LF	1220	0	0	0	0

Requires Monitoring Monitored

Notes: Localized paint failure in several scattered locations. 05. Newly painted in 1999.
Slight deflection in fascia stringers. 94-11.
West fascia beam appears bent East slightly above EB lane. 95-11.
Fascia beam rust present. Minor surface corrosion. 2011-15
Fascia beam ends at abuts have rust and corrosion on bottom flanges and web. 2015
Flaking paint from extreme cold winter temps. 2014

205	Reinforced Concrete Column	2	Routine	10/16/2015	9 EA	8	1	0	0	N/A
			Update	09/23/2014	9 EA	8	1	0	0	N/A
			Routine	10/16/2013	9 EA	8	1	0	0	N/A

Requires Monitoring Monitored

Notes: SE corner of center column of N. pier is micro silica concrete - Shot Crete repair. 90.
Pier columns S.side - minor spalls. 2011-15

215	Reinforced Concrete Abutment	2	Routine	10/16/2015	118 LF	118	0	0	0	N/A
			Update	09/23/2014	118 LF	118	0	0	0	N/A
			Routine	10/16/2013	118 LF	118	0	0	0	N/A

Requires Monitoring Monitored

Notes: The east corner of the N. Abutment has cracked & a small spall at the top. 05-15

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
234	Reinforced Concrete Pier Cap	2	Routine	10/16/2015	118 LF	113	5	0	0	N/A
			Update	09/23/2014	118 LF	113	5	0	0	N/A
			Routine	10/16/2013	118 LF	113	5	0	0	N/A

 Requires Monitoring Monitored

Notes: Rust staining present at fascia beams. 2011-15
5' transverse crack at the top of cap. 2013-15

300	Strip Seal Deck Joint	2	Routine	10/16/2015	115 LF	115	0	0	N/A	N/A
			Update	09/23/2014	115 LF	115	0	0	N/A	N/A
			Routine	10/16/2013	115 LF	115	0	0	N/A	N/A

 Requires Monitoring Monitored

Notes: The expansion joints are dirty. 02-11.

311	Expansion Bearing	2	Routine	10/16/2015	30 EA	22	6	2	N/A	N/A
			Update	09/23/2014	30 EA	22	6	2	N/A	N/A
			Routine	10/16/2013	30 EA	26	4	0	N/A	N/A

 Requires Monitoring Monitored

Notes: Located at abuts and pier 2. 2013
The fascia bearings are rusty. 2009-15
The fascia bearings are in a CS2 and CS3. 2014-15
Abut. bearings - corrosion and rust is present. 2011-15
Expansion bearing are at the abutments and pier 2.
NW and NE abut fascia bearings both have broken anchor bolts. 2014-15

313	Fixed Bearing	2	Routine	10/16/2015	10 EA	6	4	0	N/A	N/A
			Update	09/23/2014	10 EA	6	4	0	N/A	N/A
			Routine	10/16/2013	10 EA	6	4	0	N/A	N/A

 Requires Monitoring Monitored

Notes: The fascia bearings are rusty. 2009-15
Changed quantity to 10 total. 2013
Fixed bearings are located at pier 1 only. 2013

321	Concrete Approach Slab-Concrete Wearing Surface	2	Routine	10/16/2015	2 EA	0	2	0	0	N/A
			Update	09/23/2014	2 EA	2	0	0	0	N/A
			Routine	10/16/2013	2 EA	2	0	0	0	N/A

 Requires Monitoring Monitored

Notes: There is a 2 sq. ft. spall in the north approach panel at the east gutterline. 03.
Transverse and longitudinal cracks present. 92-15
The N. railings and sidewalk are settled 1 1/4" & 3/4". - 2015

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
333	Masonry, Other or Combination Material Railing	2	Routine	10/16/2015	801 LF	801	0	0	N/A	N/A
			Update	09/23/2014	801 LF	801	0	0	N/A	N/A
			Routine	10/16/2013	801 LF	801	0	0	N/A	N/A

 Requires Monitoring MonitoredNotes: Vertical cracks. 92-98.
Painted metal railing. 95.

357	Pack Rust Smart Flag	2	Routine	10/16/2015	1 EA	1	0	0	0	N/A
			Update	09/23/2014	1 EA	1	0	0	0	N/A
			Routine	10/16/2013	1 EA	1	0	0	0	N/A

 Requires Monitoring MonitoredNotes: Several areas in the bottom flange have small rust spots in the center span. 2009
Facia beam bearings have pack rust. 2013

358	Concrete Deck Cracking Smart Flag	2	Routine	10/16/2015	1 EA	1	0	0	0	N/A
			Update	09/23/2014	1 EA	1	0	0	0	N/A
			Routine	10/16/2013	1 EA	1	0	0	0	N/A

 Requires Monitoring Monitored

Notes: Cracks in the concrete wear surface are of insignificant size and density. 2013-15

359	Underside of Concrete Deck Smart Flag	2	Routine	10/16/2015	1 EA	1	0	0	0	0
			Update	09/23/2014	1 EA	1	0	0	0	0
			Routine	10/16/2013	1 EA	1	0	0	0	0

 Requires Monitoring Monitored

Notes: Little or no underdeck distress. 2013-15

373	Steel Hinge Assembly	2	Routine	10/16/2015	20 EA	20	0	0	0	0
			Update	09/23/2014	2 EA	2	0	0	0	0
			Routine	10/16/2013	2 EA	2	0	0	0	0

 Requires Monitoring MonitoredNotes: Added element # 373 steel hinge assembly. 2013
Quantity is = 20 hinges assemblies total. 2015

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
377	Low Slump O/L (Concrete Deck with Epoxy Rebar)	2	Routine	10/16/2015	7653 SF	0	7653	0	0	0
			Update	09/23/2014	7653 SF	0	7653	0	0	0
			Routine	10/16/2013	7653 SF	0	7653	0	0	0

 Requires Monitoring Monitored

Notes: Wearing surface: Some minor cracks. 90-03.
 Partial sealing of deck cracks by bridge crew. 95.
 Unsound wearing surface is 2% or less than the total deck area. 2013-15

387	Reinforced Concrete Wingwall	2	Routine	10/16/2015	4 EA	4	0	0	0	N/A
			Update	09/23/2014	4 EA	4	0	0	0	N/A
			Routine	10/16/2013	4 EA	4	0	0	0	N/A

 Requires Monitoring Monitored

Notes: PONTIS element inspection comments - < none >

964	Critical Finding Smart Flag	2	Routine	10/16/2015	1 EA	1	0	N/A	N/A	N/A
			Update	09/23/2014	1 EA	1	0	N/A	N/A	N/A
			Routine	10/16/2013	1 EA	1	0	N/A	N/A	N/A

 Requires Monitoring Monitored

Notes: DO NOT DELETE THIS CRITICAL FINDING SMART FLAG.

985	Slopes & Slope Protection	2	Routine	10/16/2015	1 EA	0	1	0	N/A	N/A
			Update	09/23/2014	1 EA	0	1	0	N/A	N/A
			Routine	10/16/2013	1 EA	0	1	0	N/A	N/A

 Requires Monitoring Monitored

Notes:
 Slope paving has differential settlement up to 2" of the blocks. 95-05.

986	Curb & Sidewalk	1	Routine	10/16/2015	2 EA	0	2	0	N/A	N/A
			Update	09/23/2014	2 EA	0	2	0	N/A	N/A
			Routine	10/16/2013	2 EA	0	2	0	N/A	N/A

 Requires Monitoring Monitored

Notes: Walks are cracked traverse and longitudinal. 92-15
 Recommend sealing. 2015
 SW, NW and SE approach walks are down 1' from settlement. 96-00.
 5' x 2' spall 1/2" deep at the N end of the N. Approach walk. 05.
 1 sq.ft. spall at the N end the E approach walk. 05.

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
988	Miscellaneous Items	1	Routine	10/16/2015	1 EA	1	0	0	N/A	N/A
			Update	09/23/2014	1 EA	1	0	0	N/A	N/A
			Routine	10/16/2013	1 EA	1	0	0	N/A	N/A

 Requires Monitoring Monitored

Notes:

General Notes:

58. Deck NBI: Minor isolated deterioration. 2011
Minor cracking and leaching. 2011

36A. Brdg Railings NBI:

36B. Transitions NBI:

36C. Appr Guardrail NBI:

36D. Appr Guardrail
Terminal NBI:

59. Superstructure NBI: Moderate corrosion and rust present. 2014
Moderate deterioration of the fascia bearings. 2014
NW and NE abut fascia bearings have broken anchor bolts. 2014

60. Substructure NBI: Minor cracks and spalls. 2011

61. Channel NBI:

62. Culvert NBI:

71. Waterway Adeq NBI:

72. Appr Roadway
Alignment NBI:

Inventory Notes:

Kevin Nelson

Inspector's Signature

Glenn Pagel

Reviewer's Signature



1. 2011 deckview.jpg



2. 2011 elevation_2.jpg



3. bearings N.side_10.jpg



4. bearings S.side_1.jpg



5. bearings S.side_3.jpg



6. bearings S.side_7.jpg



7. column N.side_1.jpg



8. column S.side damage_1.jpg



9. column S.side damage_2.jpg



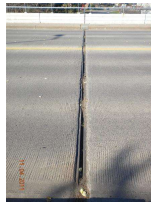
10. column S.side_1.jpg



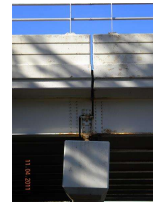
11. pier N.side joint_1.jpg



12. pier N.side joint_2.jpg



13. pier S.side joint_1.jpg



14. pier S.side joint_2.jpg



15. underdeck_1.jpg



16. underdeck_2.jpg



17. flaking paint 019.JPG



18. flaking paint 020.JPG



19. flaking paint 021.JPG



20. flaking paint 035.JPG



21. NE abut bearing anchor bolt 007.JPG



22. NW abut bearing anchor bolt 001.JPG



23. NE pier 2 bearing 014.JPG



24. SE abut bearing anchor bolt 029.JPG



25. SW abut bearing anchor bolt 032.JPG