

**2015 ROUTINE
BRIDGE INSPECTION REPORT**

**BRIDGE # 5371
MC RY over CSAH 34(UNIVERSITY AVE)**

DISTRICT: Metro

COUNTY: Ramsey

CITY/TOWNSHIP: St Paul

Date(s) of Inspection: 07/08/2015

Equipment Used:

Owner: County Highway Agency

Inspected By: Burt, Dick; Ekstrand, Ron; Schaaf, Jerry

Report Written By: Ron Ekstrand

Report Reviewed By: Glenn Pagel

Final Report Date: 12/29/2015

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



MnDOT Structure Inventory Report

Bridge ID: 5371

MC RY

over CSAH 34(UNIVERSITY AVE)

Date: 12/29/2015

GENERAL	
Agency Br. No.	
District	Metro
Maint. Area	Crew
County	062 - Ramsey
City	St Paul
Township	
Desc. Loc.	1.0 MI SE OF JCT TH 280
Sect., Twp., Range	33 - 029N - 23W
Latitude	Deg 44 Min 57 Sec 32.51
Longitude	Deg 93 Min 11 Sec 7.17
Custodian	02 - County Highway Agency
Owner	02 - County Highway Agency
BMU Agreement	
Year Built	1935
MN Year Reconstructed	
FHWA Year Reconstructed	
MN Temporary Status	
Bridge Plan Location	2 - DISTRICT (TH plans p
Date Opened to Traffic	
On-Off System	0 - OFF
Legislative District	66B

STRUCTURE	
Service On	2 - Railroad
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	10 R
Culvert Type	
Barrel Length	ft.
Cantilever ID	

NUMBER OF SPANS	
MAIN: 3	APPR: 0 TOTAL: 3
Main Span Length	68.5 ft.
Structure Length	141.4 ft.
Deck Width (Out-to-Out)	38.0 ft.
Deck Material	5 - Steel Plate (includes orthotr
Wear Surf Type	N - Not Applicable (applies onl
Wear Surf Install Year	
Wear Course/Fill Depth	0.00 ft.
Deck Membrane	0 - None
Deck Rebars	N - Not Applicable (no deck)
Deck Rebars Install Year	
Structure Area (Out-to-Out)	5373 sq. ft.
Roadway Area (Curb-to-Curb)	sq. ft.
Sidewalk Width	Lt 0.00 ft. Rt 0.00 ft.
Curb Height	Lt 0.00 ft. Rt 0.00 ft.
Rail Type	Lt 40 Rt 40

ROADWAY	
Bridge Match ID (TIS)	
Roadway O/U Key	
Route Sys	Number
	Roadway Name or Description
Level of Service	
Roadway Type	
Control Section (TH Only)	
Reference Point	
Detour Length	mi
Lanes	On Under 6
	ADT Year
HCACT	0 ADTT 0 %
Functional Class	

RDWY DIMENSIONS		
If Divided	NB-EB	SB-WB
Roadway Width	ft.	ft.
Vertical Clearance	ft.	ft.
Max. Vert. Clear.	ft.	ft.
Horizontal Clear.	ft.	ft.
Lateral Clearance	ft.	ft.
Appr. Surface Width	ft.	
Bridge Roadway Width	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)	3 - FTG PILE
Historic Status	5 - Not eligible

PAINT	
Year Painted	1981
Unsound Paint %	
Painted Area	sq. ft.
Primer Type	3 - Lead Silica - non 3309
Finish Type	C - Lead Silica Chromate

BRIDGE SIGNS	
Posted Load	0 - Not Required
Traffic	0 - Not Required
Horizontal	0 - Not Required
Vertical	1 - Rdwy. Clr. Restriction

INSPECTION	
Userkey	199
Unofficial Structurally Deficient	N
Unofficial Functionally Obsolete	N
Unofficial Sufficiency Rating	-2
Routine Inspection Date	07/08/2015
Routine Inspection Frequency	12
Inspector Name	City of St. Paul
Status	A - Open

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

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

SAFETY FEATURES	
Bridge Railing	0 - SUBSTANDARD
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 waterw
Pier Protection	
Nav. Clr. (ft.)	Vert. ft. Horiz. ft.
Nav. Vert. Lift Bridge Clear. (ft.)	
MN Scour Code	A - NON WATER' Year

CAPACITY RATINGS		
Design Load	8 - RAILROAD	
Operating Rating	2 - AS	HS 65.0
Inventory Rating	2 - AS	HS 65.0
Posting VEH:	SEMI:	DBL:
Rating Date		
MnDOT Permit Codes		
A:	N - N/A	
B:	N - N/A	
C:	N - N/A	

MnDOT BRIDGE INSPECTION REPORT

12/29/2015

Inspector: City of St. Paul

BRIDGE 5371 MC RY OVER CSAH 34(UNIVERSITY AVE)

ROUTINE INSP. DATE: 07/08/2015

County: Ramsey	Location: 1.0 MI SE OF JCT TH 280	Length: 141.4 ft.
City: St Paul	Route: Ref. Pt.:	Deck Width: 38.0 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: sq. ft. / %
Section: 33 Township: 029N Range: 23W Maint. Area:		Paint Area/ Pct. Unsnd: 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: 7 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 N
Horizontal: 0 - Not Required	Vertical: 1 - Rdwy. Clr. Restriction	Unofficial Sufficiency Rating N

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
038	Top of Concrete Slab (No Overlay - Uncoated Rebar)	2	Routine	07/08/2015	5371 SF	5371	5371	0	0	0
			Routine	07/08/2014	5371 SF	5371	5371	0	0	0

Requires Monitoring Monitored

Notes: Deck is covered by ties, track and ballast mostly. Outsides are 4' concrete walks. 2011-15
 Deck delaminating at SW side. 2011-15
 The combined area of unsound wearing surface is 2% or less than the total deck area. 2011-15
 Deck is for railroad use only. 2015

107	Painted Steel Girder or Beam	2	Routine	07/08/2015	1834 LF	1834	0	0	0	0
			Routine	07/08/2014	1834 LF	1834	0	0	0	0

Requires Monitoring Monitored

Notes: [1987] Moderate rust on bottom of beams. 03.-07.

110	Reinforced Concrete Girder or Beam	2	Routine	07/08/2015	282 LF	242	40	0	0	N/A
			Routine	07/08/2014	282 LF	282	0	0	0	N/A

Requires Monitoring Monitored

Notes: [1994] FACIA BEAMS ARE CONC GIRDERS. W CONC FACIA BEAM: N SPAN IS CRACKED FULL DEPTH OF BEAM, 11 LF N OF N PIER. E FACIA BEAM: S SPAN HAS A VERT CRACK IN THE TOP HALF OF GIRDER, 15 LF N OF S PIER. 02-13
 SW facia beam, 15 LF at the top of the beam is scalling. 2013-15
 Moderate cracking and surface scale present. 2013-15
 E.side-center span-WB lane-20' of impact damage. 2015
 Verify shear crack at N.side beam. 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
205	Reinforced Concrete Column	2	Routine	07/08/2015	14 EA	9	4	1	0	N/A
			Routine	07/08/2014	14 EA	9	4	1	0	N/A

 Requires Monitoring Monitored

Notes: N pier conc pilaster has 2 SF of spall adjacent to deck sidewalk and has 2 LF of crack at the bottom of pilaster with exposed rebar. 00-13
 [1987] 60 LF cracks in pier struts, top and sides. 2 SF spall, 2 inch depth, N pier, 2nd column from East.
 6 SF spalls, North strut, 1 inch deep. 00-13
 4' vertical crack - moderate - N.pier, 3rd column from the west. 2015

215	Reinforced Concrete Abutment	2	Routine	07/08/2015	79 LF	79	0	0	0	N/A
			Routine	07/08/2014	79 LF	79	0	0	0	N/A

 Requires Monitoring Monitored

Notes: [1987] 6 LF vertical cracks North abutment. 03.-13
 4 LF vertical cracks South abutment. 2014-15

234	Reinforced Concrete Pier Cap	2	Routine	07/08/2015	79 LF	79	0	0	0	N/A
			Routine	07/08/2014	79 LF	79	0	0	0	N/A

 Requires Monitoring Monitored

Notes: North pier has minor map cracking. 02-15

311	Expansion Bearing	2	Routine	07/08/2015	45 EA	30	15	0	N/A	N/A
			Routine	07/08/2014	45 EA	30	15	0	N/A	N/A

 Requires Monitoring Monitored

Notes: Outside bearings at S.abut. have pack rust. 2010-15
 Rocker bearings at S.abut are restricted from corrosion and rust. 2014-15
 Anchor bolts are corroded and rusty. 2014-15

313	Fixed Bearing	2	Routine	07/08/2015	15 EA	15	0	0	N/A	N/A
			Routine	07/08/2014	15 EA	15	0	0	N/A	N/A

 Requires Monitoring Monitored

Notes: Fixed bearings at N.abut. 2014

334	Metal Bridge Railing (Coated or Painted)	2	Routine	07/08/2015	282 LF	0	282	0	0	0
			Routine	07/08/2014	282 LF	0	282	0	0	0

 Requires Monitoring Monitored

Notes: PAINT SYSTEM ON RAILING HAS FAILED. Surface rust throughout. 2000-15
 Minor to moderate surface corrosion / rust. 2011-15
 Railing for RR / maintenance personnel only. 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
357	Pack Rust Smart Flag	2	Routine	07/08/2015	1 EA	1	0	0	0	N/A
			Routine	07/08/2014	1 EA	1	0	0	0	N/A

 Requires Monitoring Monitored

Notes: Pack rust present at the S.abut bearings. 2014-15

359	Underside of Concrete Deck Smart Flag	2	Routine	07/08/2015	1 EA	1	0	0	0	0
			Routine	07/08/2014	1 EA	1	0	0	0	0

 Requires Monitoring MonitoredNotes: 20 LF of moderate cracking in coping at North end, West side. [1987]
20 SF severe spalling, 2 inch deep, in SW coping. 2005-15
Little or no underdeck distress. 2013-15

362	Traffic Impact Smart Flag	2	Routine	07/08/2015	1 EA	0	1	0	N/A	N/A
			Routine	07/08/2014	1 EA	0	1	0	N/A	N/A

 Requires Monitoring MonitoredNotes: Minor impact damage. [1987] 8 SF of 3/4 inch deep spall in E facia girder over WBL.
10 SF of 3/4 inch deep spall in W facia girder with exposed rebar bent 4" east over EBL.
Numerous impact scrapes. 00-15
CONC SLAB POURED BETWEEN FACIA BEAMS TO CONTAIN BALLAST.
E.side-center span-WB lane-20' of impact damage. 2015

964	Critical Finding Smart Flag	2	Routine	07/08/2015	1 EA	1	0	N/A	N/A	N/A
			Routine	07/08/2014	1 EA	1	0	N/A	N/A	N/A

 Requires Monitoring Monitored

Notes: There are no critical findings at this time. 2015

981	Signing	2	Routine	07/08/2015	1 EA	1	0	0	0	0
			Routine	07/08/2014	1 EA	1	0	0	0	0

 Requires Monitoring Monitored

Notes: Inplace clearance signs are posted both side of bridge at 13'-6". 2013-15

982	Approach-Guardrail	4	Routine	07/08/2015	2 EA	2	0	0	N/A	N/A
			Routine	07/08/2014	2 EA	2	0	0	N/A	N/A

 Requires Monitoring MonitoredNotes: Light rail construction under bridge. 2011-12
Construction under bridge completed. 2013

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
985	Slopes & Slope Protection	2	Routine	07/08/2015	1 EA	1	0	0	N/A	N/A
			Routine	07/08/2014	1 EA	1	0	0	N/A	N/A

Requires Monitoring Monitored

Notes: Slopes were removed for light rail construction. 2011-15
 Construction under bridge completed. 2013
 1 LF of crack in the SE slope paving. 2014

986	Curb & Sidewalk	2	Routine	07/08/2015	1 EA	1	0	0	N/A	N/A
			Routine	07/08/2014	1 EA	1	0	0	N/A	N/A

Requires Monitoring Monitored

Notes: Sidewalk on the bridge is for maintenance personnel only. 2013
 Light rail construction under bridge. 2011-12
 Construction under bridge completed. 2013
 Sidewalk under the bridge on both sides of roadway. 2014-15
 Salt and sand is on roadway walk. 2014

988	Miscellaneous Items	2	Routine	07/08/2015	1 EA	1	0	0	N/A	N/A
			Routine	07/08/2014	1 EA	1	0	0	N/A	N/A

Requires Monitoring Monitored

Notes: RAILROAD BRIDGE CONSTRUCTED IN 1935.
 NOTE: BRIDGE HAS BEEN TURNED BACK TO RAMSEY COUNTY (FILE SENT ON 06/01/96)
 [1996] 2 MAINLINE TRACKS + 1 SWITCHING TRACK ON DECK.

General Notes: Light rail construction. 2011-12
 Construction completed. 2013

MC railway contact:
 Luke Babler (651) 632-9000 cell (612) 360-9899 Luke Babler <lbabler@mnr.net>

58. Deck NBI:

36A. Brdg Railings NBI:

36B. Transitions NBI:

36C. Appr Guardrail NBI:

36D. Appr Guardrail Terminal NBI:

59. Superstructure NBI:

60. Substructure NBI:

61. Channel NBI:

62. Culvert NBI:

71. Waterway Adeq NBI:

72. Appr Roadway Alignment NBI:

Inventory Notes:

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
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Ron Ekstrand
Inspector's Signature

Glenn Pagel
Reviewer's Signature

