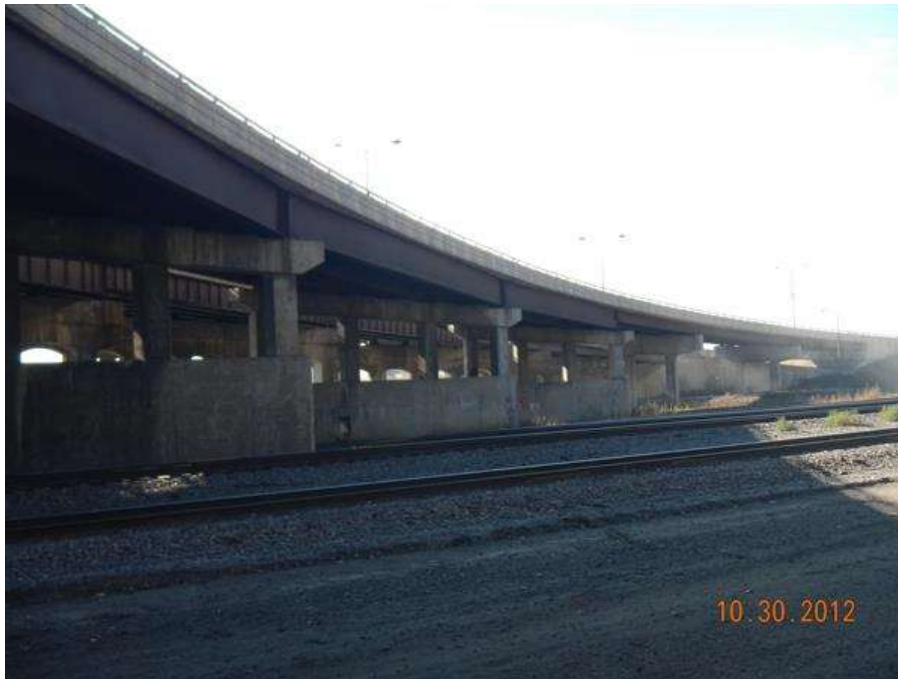


**2016 ROUTINE
BRIDGE INSPECTION REPORT**



**BRIDGE # 62531
CSAH 36(WB WARNER) over RAILROADS; CHILDS RD**

DISTRICT: Metro **COUNTY:** Ramsey **CITY/TOWNSHIP:** St Paul
STATE: Minnesota

Date of Inspection: 07/16/2016

Equipment Used:

Owner: County Highway Agency

Inspected By: Ekstrand, Ron; Engel, Michael; Grau, Joe; Reimer, Dan

Report Written By: Ron Ekstrand
Report Reviewed By: Glenn Pagel
Final Report Date: 08/05/2016

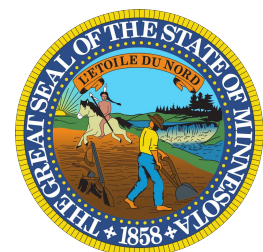


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Minnesota Structure Inventory Report

Bridge ID: 62531

CSAH 36(WB over RAILROADS; CHILDS
WARNER) RD

Date: 08/04/2016

+ GENERAL +	+ ROADWAY +	+ INSPECTION +			
Agency Br. No. Crew	Bridge Match ID (TIS) 1	Userkey 199			
District 05 Maint. Area	Roadway O/U Key Route On Structure	Structurally Deficient N			
County 062 - Ramsey	Route Sys 04 - CSAH Number 36	Functionally Obsolete N			
City St Paul	Roadway Name or Description CSAH 36	Sufficiency Rating 78.3			
Township	Level of Service 1 - MAINLINE	Routine Inspection Date 07/16/2016			
Desc. Loc. 0.8 MI SW OF JCT TH 61	Roadway Type 1 - 1-way traffic	Routine Inspection Frequency 24			
Sect., Twp., Range 4 - 028N - 22W	Control Section (TH Only)	Inspector Name Ekstrand, Ron			
Latitude 44° 56' 37.93"	Reference Point 001+00.561	Status A - Open			
Longitude 93° 3' 11.41"	Detour Length 3.0 mi.	+ NBI CONDITION RATINGS +			
Custodian 02 - County Highway Agency	Lanes ON 2 UNDER 2	Deck 7 Unsound Deck %			
Owner 02 - County Highway Agency	ADT 9000 YEAR 2005	Superstructure 6			
BMU Agreement	HCADT ADTT %	Substructure 7			
Year Built 1977	Functional Class 14 - Urban - Other Principal Arterial	Channel N			
MN Year Reconstructed		Culvert N			
FHWA Year Reconstructed		+ NBI APPRAISAL RATINGS +			
MN Temporary Status	+ RDWY DIMENSIONS +				Structure Evaluation 6
Bridge Plan Location 1 - CENTRAL	If Divided NB-EB SB-WB	Deck Geometry 4			
Date Opened to Traffic	Roadway Width 30.00 ft. ft.	Underclearances 4			
On - Off System 1 - ON	Vertical Clearance ft. ft.	Waterway Adequacy N			
Legislative District 67B	Max. Vert. Clear. ft. ft.	Approach Alignment 8			
Potential ABC 2 - N/A	Horizontal Clear. ft. ft.	+ SAFETY FEATURES +			
	Lateral Clearance ft. ft.	Bridge Railing 1 - MEETS STANDARDS			
	Appr. Surface Width 30.0 ft.	GR Transition 1 - MEETS STANDARDS			
	Bridge Roadway Width 30.0 ft.	Appr. Guardrail 1 - MEETS STANDARDS			
	Median Width On Bridge ft.	GR Termini 1 - MEETS STANDARDS			
	+ MISC. BRIDGE DATA +				
	Structure Flared 0 - No flare	+ IN DEPTH INSP. +			
	Parallel Structure L - Left structure (South or West)	Frac. Critical Y/N Freq Date			
	Field Conn. ID	Underwater N			
	Abutment 1 - CONC	Pinned Asbly. N			
	Foundation (Material/Type) 3 - FTG PILE	Spec. Feat.			
	Pier Foundation 1 - CONC	+ WATERWAY +			
	Foundation (Material/Type) 3 - FTG PILE	Drainage Area (sq. mi.)			
	Historic Status 5 - Not eligible	Waterway Opening (sf.)			
	+ PAINT +				Navigation Control N - Not applicable, no
	Year Painted	Pier Protection -			
	Unsound Paint %	Nav. Clr. (ft.) Vert. 0.0 Horiz. 0.0			
	Painted Area sq. ft.	Nav. Vert. Lift Bridge Clear. (ft.)			
	Primer Type F - Unpainted - 3309	MN Scour Code A - NON Year			
	Finish Type K - Unpainted 3309 Steel	+ CAPACITY RATINGS +			
	+ BRIDGE SIGNS +				Design Load 5 - HS 20
	Posted Load 0 - Not Required	Operating Rating 1 - H TRUCK 53.7			
	Traffic 0 - Not Required	Inventory Rating 1 - H TRUCK 29.0			
	Horizontal 0 - Not Required	Posting VEH: SEMI: DBL:			
	Vertical N - Not Applicable	Rating Date 8/1/1977			
		Overweight Permit Codes			
		A N - N/A B N - N/A C N - N/A			
+ STRUCTURE +					
Service On 1 - Highway					
Service Under 4 - Highway - railroad					
Main Span Type 3 - Steel					
Main Span Design 01 - Beam Span					
Main Span Detail					
Appr. Span Type 5 - Prestress or Precast					
Appr. Span Design 01 - Beam Span					
Appr. Span Detail					
Skew 0					
Culvert Type					
Barrel Length					
Cantilever ID					
Number of Spans					
MAIN: 8 APPR: 4 TOTAL:					
Main Span Length 110.5 ft.					
Structure Length 986.3 ft.					
Deck Width (Out-to-Out) 31.5 ft.					
Deck Material 1 - Concrete Cast-in-Place					
Wear Surf Type 4 - Low Slump Concrete					
Wear Surf Install Year 1977					
Wear Course/Fill Depth 0.16 ft.					
Deck Membrane 0 - None					
Deck Rebars 0 - None					
Deck Rebars Install Year					
Structure Area (Out-to-Out) 31068 sq. ft.					
Roadway Area (Curb-to-Curb) 29590 sq. ft.					
Sidewalk Width 50A. Lt 0.00 ft. 50B. Rt 0.00 ft.					
Curb Height Lt 0.25 ft. Rt 0.25 ft.					
Rail Type Lt 07 Rt 07					

MINNESOTA BRIDGE INSPECTION REPORT

08/05/2016

Inspector: CO Bridge

BRIDGE 62531 CSAH 36(WB WARNER) OVER RAILROADS; CHILDS RD

County: Ramsey	Location: 0.8 MI SW OF JCT TH 61	Length: 986.3 ft.
City: St Paul	Route: 04 - CSAH 36 Ref. Pt.: 001+00.561	Deck Width: 31.5 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 29590 sq. ft. / %
Section: 4 Township: 028N Range: 22W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 3 - Steel 2 - Stringer/Multi-beam or Girder	Local Agency Bridge Nbr.:	Culvert: N/A
List:		Postings:
NBI Deck: 7 Super: 6 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	Unofficial Functionally Obsolete N
Horizontal: 0 - Not Required	Unofficial Sufficiency Rating 78.3
Traffic: 0 - Not Required	
Vertical: N - Not Applicable	

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	Reinforced Concrete Deck	Routine	07/16/2016	31068 SF	30447	372	249	0
		Migrated Values		31068 SF	30447	372	249	0
	Notes: Transverse cracks with light leaching. 2010-16 Isolated areas of loose delamination. 2014-16							
510 - Wearing Surfaces		Routine	07/16/2016	29590 SF	28998	0	592	0
		Migrated Values		29590 SF	28998	0	592	0
	Notes: Low Slump Overlay with Epoxy Rebar Notes: Spalls and patches present. Spalls vary from 1/2" to 1-1/2" deep. 2014-16 Deck was chained in 2015. 259 sq. ft. of delamination found during chaining. 2015 LS wear area = 30' wide X 982.3' length = 29,469 SF total							
107	Steel Open Girder/Beam	Routine	07/16/2016	2743 LF	2633	110	0	0
		Migrated Values		2743 LF	2633	110	0	0
	Notes: Weathering steel is staining column. 2012-16 West abutment beam ends have moderate deterioration. 2014-16 Protective coating is failing. 2014-15							
515 - Steel Protective Coating		Routine	07/16/2016	66101 SF	15310	46270	3305	1216
		Migrated Values		66101 SF	15310	46270	3305	1216
109	Prestressed Concrete Open Girder/Beam	Routine	07/16/2016	1201 LF	1199	2	0	0
		Migrated Values		1201 LF	1199	2	0	0
	Notes: Beam end at East abutment has 2 LF of cracking. 2014-16							
205	Reinforced Concrete Column	Routine	07/16/2016	29 EA	28	1	0	0
		Migrated Values		29 EA	28	1	0	0
	Notes: There is 6 sq. ft. of spall in the crash strut of the 4th pier from the west abutment. 2012-16							
215	Reinforced Concrete Abutment	Routine	07/16/2016	66 LF	62	4	0	0
		Migrated Values		66 LF	62	4	0	0
	Notes: Dirt is washing on to north corner of east abutment bridge seat. 2010-16 NW.side abut. cracks. One is vertical. 2015-16 East abut cracking is present - 4 LF. 2014-16							

BRIDGE 62531 CSAH 36(WB WARNER) OVER RAILROADS; CHILDS RD

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
231	Steel Pier Cap	Routine	07/16/2016	30 LF	25	5	0	0
		Migrated Values		30 LF	25	5	0	0
	515 - Steel Protective Coating	Routine	07/16/2016	340 SF	285	0	55	0
		Migrated Values		340 SF	285	0	55	0
234	Reinforced Concrete Pier Cap	Routine	07/16/2016	436 LF	414	0	22	0
		Migrated Values		436 LF	414	0	22	0
Notes: Several vertical cracks in pier grade barriers. 2000-16 One delamination on the bottom of the 4th pier from the east near the center. 2006-16 There is 8 LF of horizontal cracks in the north end of pier 4 cap 8 ft. in from the north end. 2006-16 Spalls with exposed rebar present. 2014-16								
300	Strip Seal Expansion Joint	Routine	07/16/2016	417 LF	0	395	17	5
		Migrated Values		417 LF	0	395	17	5
Notes: Leakage at East abutment. 2015-16 Piers 7 and 8 and 9 leak 2000-16 Spalling / delamination occurring at the expansion joint extrusions. 2015-16 Bentonit material at joint is failing. 2012-16 West abutment joint area spalling. 15' steel extrusion pulling away. 2014-16 5 LF of gland is closed / tight to 1/2". 2016 17 LF of gland is torn or pulled out. 2016								
301	Pourable Joint Seal	Routine	07/16/2016	98 LF	49	49	0	0
		Migrated Values		98 LF	49	49	0	0
Notes: Joint sealant is missing or has loss of adhesion. 2015 3 joints X 32.7 ft = 98 LF total. 2015								
304	Open Expansion Joint	Routine	07/16/2016	60 LF	0	48	0	12
		Migrated Values		60 LF	0	48	0	12
Notes: Located at the approaches. 2016 Consists of an open joint with protection angles on each side. Preformed backer with sealant on the top. 2016								
311	Movable Bearing	Routine	07/16/2016	53 EA	52	1	0	0
		Migrated Values		53 EA	52	1	0	0
Notes: The NW bearing at the west abutment is very rusty. 2002-16 Bearing count on the plans is = 49 total. Verify next inspection. 2015								
313	Fixed Bearing	Routine	07/16/2016	32 EA	32	0	0	0
		Migrated Values		32 EA	32	0	0	0
321	Reinforced Concrete Approach Slab	Routine	07/16/2016	2010 SF	1786	200	24	0
		Migrated Values		2010 SF	1786	200	24	0
Notes: East approach has wide cracking and spalling. 2015-16 West approach has wide cracking and unsound patches. 2015-16								
330	Metal Bridge Railing	Routine	07/16/2016	2043 LF	1643	400	0	0
		Migrated Values		2043 LF	1643	400	0	0
	515 - Steel Protective Coating	Routine	07/16/2016	2043 SF	0	1643	400	0
		Migrated Values		2043 SF	0	1643	400	0

BRIDGE 62531 CSAH 36(WB WARNER) OVER RAILROADS; CHILDS RD

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
331	Reinforced Concrete Bridge Railing	Routine	07/16/2016	2043 LF	1713	290	40	0
		Migrated Values		2043 LF	1713	290	40	0
Notes: Scale and abrasion is present. 2016 The bridge railing is cracked moderately. 2015-16 Spalling / delams and exposed rebar is present at various locations. 2015-16								
800	Critical Deficiencies or Safety Hazards	Routine	07/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: NO CRITICAL FINDINGS OBSERVED DURING THE LAST INSPECTION. 2016								
810	Concrete Decks - Cracking & Sealing	Routine	07/16/2016	1392 LF	696	696	0	0
		Migrated Values		1392 LF	696	696	0	0
Notes: Unsealed cracks less than .012" wide. 2016 Crack sealant is slightly deteriorated. 2016								
850	Steel Hinge Assembly	Routine	07/16/2016	4 EA	4	0	0	0
		Migrated Values		4 EA	4	0	0	0
Notes: Quantity is 4 hinge assemblies. 2015								
880	Impact Damage	Routine	07/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Impact damage from train on the underside of the bridge. 2014-16								
883	Concrete Shear Cracking	Routine	07/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Use this element to monitor the presence of shear cracking on concrete elements. Pay particular attention to the concrete pier caps.								
892	Slopes & Slope Protection	Routine	07/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
893	Guardrail	Routine	07/16/2016	1 EA	0	1	0	0
		Migrated Values		1 EA	0	1	0	0
Notes: The south Child's Road Guardrail by Pier 1 is ripped at the top of the turn down. The rip is about 2 ft. long and curled in away from the road. 2006-12 NE and SW approach guard rails have severe corrosion. 2015-16								
894	Deck & Approach Drainage	Routine	07/16/2016	1 EA	0	1	0	0
		Migrated Values		1 EA	0	1	0	0
Notes: Steel trough system is severely rusted. 2015-16								
895	Sidewalk, Curb, & Median	Routine	07/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
899	Miscellaneous Items	Routine	07/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: One horizontal crack at top south end of west retaining wall by pier 1. 93-12								
900	Protected Species	Routine	07/16/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Use this element to track the presence of protected species living on this structure. None noticed. 2016								

General Notes: Adjacent bridge project was completed in 2015.

BRIDGE 62531 CSAH 36(WB WARNER) OVER RAILROADS; CHILDS RD

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
-------------	--------------	-------------	------------	----------	-------------	-------------	-------------	-------------

58. Deck NBI: Minor isolated deterioration. 2012

36A. Brdg Railings NBI:

36B. Transitions NBI:

36C. Appr Guardrail NBI:

36D. Appr Guardrail
Terminal NBI:

59. Superstructure NBI: Moderate surface corrosion at steel beam ends. 2014

60. Substructure NBI:

61. Channel NBI:

62. Culvert NBI:

71. Waterway Adeq NBI:

72. Appr Roadway
Alignment NBI:

Inventory Notes:

Ron Ekstrand

Inspector's Signature

Glenn Pagel

Reviewer's Signature



1. 10-30-2012 029.jpg



2. 3rd pier from east abut spalling.JPG



3. abut W. bearing_1-1.jpg



4. 4th pier from east abut spalling.JPG



5. abut W. bearing_1-2.jpg



6. approach panels over east end.JPG



7. abut W. bearing_1-3.jpg



8. drain trough 2nd pier.JPG



9. abut W. bearing_1-4.jpg



10. east end pre-stressed beam.JPG



11. jersey barrier 300ft c.s. #2.JPG



12. abut W. bearing_2-1.jpg



13. northeast abut.JPG



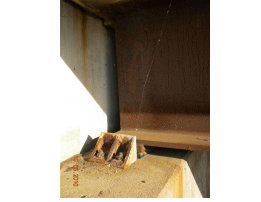
14. abut W. bearing_2-2.jpg



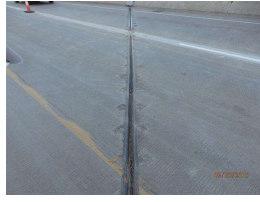
15. northeast approach guard rail.JPG



16. abut W. bearing_3-1.jpg



17. abut W. bearing_4-3.jpg



18. section #4 strip seal.JPG



19. section #5 strip seal.JPG



20. abut W. cracks_1.jpg



21. section #6 strip seal.JPG



22. drain corrosion_1.jpg



23. drain corrosion_2.jpg



24. section #6 strip seal (2).JPG



25. section #8 strip seal.JPG



26. drain corrosion_4.jpg



27. section 3-4 strip seal.JPG



28. drain corrosion_5.jpg



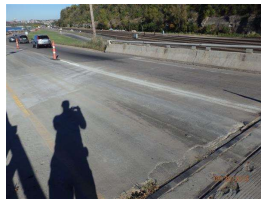
29. pier cap spall_1.jpg



30. southwest approach jersey barrier.JPG



31. pier cap spall_2.jpg



32. southwest approach panel.JPG



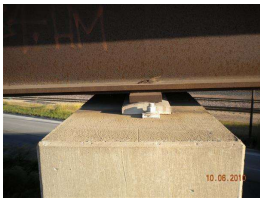
33. steel hinge assembly.JPG



34. pier cap spall_3.jpg



35. steel pier cap 3rd pier.JPG



36. W.side bearing_1-1.jpg



37. steel pier cap moderate rust.JPG



38. W.side rust.jpg



39. upper deck east abut section 12.JPG



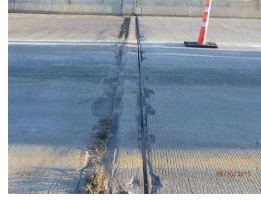
40. W.side spall_1-1.jpg



41. west abut.JPG



42. W.side spall_1-2.jpg



43. west abut - loss of anchorage.JPG



44. 2nd from the E.JPG



45. 3rd from the E, N end.JPG



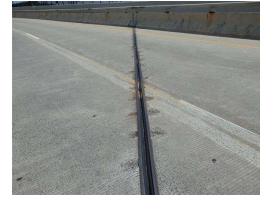
46. 3rd from the E.JPG



47. 4th from the E.JPG



48. 4th Pier cap from the W.JPG



49. 5th from the E.JPG



50. 6th from the E.JPG



51. Bearing, Beam at W end.JPG



52. Column, 4th pier from the W.JPG



53. Column, 6th pier from the W.JPG



54. Crash Strut, 4th pier from the W.JPG



55. E Approach slab.JPG



56. E Strip seal.JPG



57. N Beam at W end.JPG



58. North rail near E end.JPG



59. Roadway at W approach.JPG



60. W approach, N end.JPG



61. W Strip seal.JPG