

**2016 ROUTINE
BRIDGE INSPECTION REPORT**



**BRIDGE # 62523
DALE ST over BNSF RR**

DISTRICT: Metro

COUNTY: Ramsey

CITY/TOWNSHIP: St Paul

STATE: Minnesota

Date of Inspection: 09/09/2016

Equipment Used:

Owner: County Highway Agency

Inspected By: Burt, Dick; Engel, Michael; Grau, Joe

Report Written By: Joe Grau

Report Reviewed By: Glenn Pagel

Final Report Date: 11/17/2016



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Minnesota Structure Inventory Report

Bridge ID: 62523

DALE ST over BNSF RR

Date: 11/03/2016

+ GENERAL +	+ ROADWAY +	+ INSPECTION +																				
Agency Br. No. Crew District 05 Maint. Area County 062 - Ramsey City St Paul Township Desc. Loc. 0.2 MI N OF JCT MSAS 164 Sect., Twp., Range 25 - 029N - 23W Latitude 44 ° 57 ' 57.02 " Longitude 93 ° 7 ' 34.83 " Custodian 02 - County Highway Agency Owner 02 - County Highway Agency BMU Agreement Year Built 1970 MN Year Reconstructed FHWA Year Reconstructed MN Temporary Status Bridge Plan Location 4 - MUNICIPAL Date Opened to Traffic On - Off System 1 - ON Legislative District 65A Potential ABC 2 - N/A	Bridge Match ID (TIS) 0 Roadway O/U Key Route On Structure Route Sys 04 - CSAH Number 53 Roadway Name or Description CSAH 53 Level of Service 1 - MAINLINE Roadway Type 2 - 2-way traffic Control Section (TH Only) Reference Point 001+00.790 Detour Length 1.0 mi. Lanes ON 4 UNDER 0 ADT 15438 YEAR 2008 HCA DT ADTT % Functional Class 16 - Urban - Minor Arterial	Userkey 199 Structurally Deficient N Functionally Obsolete N Sufficiency Rating 92.4 Routine Inspection Date 09/09/2016 Routine Inspection Frequency 24 Inspector Name Grau, Joe Status A - Open																				
		+ NBI CONDITION RATINGS +																				
		Deck 6 Unsound Deck % Superstructure 6 Substructure 7 Channel N Culvert N																				
		+ NBI APPRAISAL RATINGS +																				
		Structure Evaluation 6 Deck Geometry 9 Underclearances 5 Waterway Adequacy N Approach Alignment 8																				
		+ 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. +																				
		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Y/N</th> <th style="text-align: center;">Freq</th> <th style="text-align: center;">Date</th> </tr> </thead> <tbody> <tr> <td>Frac. Critical</td> <td style="text-align: center;">N</td> <td></td> <td></td> </tr> <tr> <td>Underwater</td> <td style="text-align: center;">N</td> <td></td> <td></td> </tr> <tr> <td>Pinned Asbly.</td> <td style="text-align: center;">N</td> <td></td> <td></td> </tr> <tr> <td>Spec. Feat.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Y/N	Freq	Date	Frac. Critical	N			Underwater	N			Pinned Asbly.	N			Spec. Feat.			
	Y/N	Freq	Date																			
Frac. Critical	N																					
Underwater	N																					
Pinned Asbly.	N																					
Spec. Feat.																						
		+ WATERWAY +																				
		Drainage Area (sq. mi.) Waterway Opening (sf.) Navigation Control N - Not applicable, no Pier Protection <table style="width: 100%; border-collapse: collapse;"> <tr> <td>Nav. Clr. (ft.)</td> <td>Vert. 0.0</td> <td>Horiz. 0.0</td> </tr> </table> Nav. Vert. Lift Bridge Clear. (ft.) MN Scour Code A - NON	Nav. Clr. (ft.)	Vert. 0.0	Horiz. 0.0																	
Nav. Clr. (ft.)	Vert. 0.0	Horiz. 0.0																				
		+ CAPACITY RATINGS +																				
		Design Load 5 - HS 20 Operating Rating 2 - HS TRUCK 37.0 Inventory Rating 2 - HS TRUCK 22.2 Posting VEH: SEMI: DBL: Rating Date 05/14/2012 Overweight Permit Codes A N - N/A B N - N/A C N - N/A																				
+ STRUCTURE +	+ RDWY DIMENSIONS +																					
Service On 5 - Highway-pedestrian Service Under 2 - Railroad Main Span Type 4 - Steel Continuous Main Span Design 01 - Beam Span Main Span Detail Appr. Span Type Appr. Span Design Appr. Span Detail Skew 5 RIGHT Culvert Type Barrel Length Cantilever ID Number of Spans MAIN: 3 APPR: 0 TOTAL: Main Span Length 112.0 ft. Structure Length 233.7 ft. Deck Width (Out-to-Out) 94.3 ft. Deck Material 1 - Concrete Cast-in-Place Wear Surf Type 4 - Low Slump Concrete Wear Surf Install Year 1986 Wear Course/Fill Depth 0.20 ft. Deck Membrane 0 - None Deck Rebars 0 - None Deck Rebars Install Year Structure Area (Out-to-Out) 22038 sq. ft. Roadway Area (Curb-to-Curb) 17760 sq. ft. Sidewalk Width 50A. Lt 5.80 ft. 50B. Rt 5.80 ft. Curb Height Lt 0.75 ft. Rt 0.75 ft. Rail Type Lt 17 Rt 17	If Divided NB-EB SB-WB Roadway Width 38.00 ft. 38.00 ft. Vertical Clearance ft. ft. Max. Vert. Clear. ft. ft. Horizontal Clear. 37.9 ft. 37.9 ft. Lateral Clearance ft. ft. Appr. Surface Width 80.0 ft. Bridge Roadway Width 76.0 ft. Median Width On Bridge 4.00 ft.																					
	+ MISC. BRIDGE DATA +																					
	Structure Flared 0 - No flare Parallel Structure N - No parallel structure Field Conn. ID 4 - Bolted Abutment Foundation (Material/Type) 1 - SPRD SOIL Pier Foundation (Material/Type) 1 - CONC 1 - SPRD SOIL Historic Status 5 - Not eligible																					
	+ PAINT +																					
	Year Painted Unsound Paint % Painted Area sq. ft. Primer Type Finish Type																					
	+ BRIDGE SIGNS +																					
	Posted Load 0 - Not Required Traffic 0 - Not Required Horizontal 0 - Not Required Vertical 0 - Not Required																					

MINNESOTA BRIDGE INSPECTION REPORT

11/17/2016

Inspector: CO Bridge

BRIDGE 62523 DALE ST OVER BNSF RR

County: Ramsey	Location: 0.2 MI N OF JCT MSAS 164	Length: 233.7 ft.
City: St Paul	Route: 04 - CSAH 53 Ref. Pt.: 001+00.790	Deck Width: 94.3 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 17760 sq. ft. / %
Section: 25 Township: 029N Range: 23W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 4 - Steel Continuous 2 - List: Stringer/Multi-beam or Girder	Local Agency Bridge Nbr.:	Culvert: N/A
NBI Deck: 6 Super: 6 Sub: 7 Chan: N Culv: N		Postings:
	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 92.4
Traffic: 0 - Not Required	
Vertical: 0 - Not Required	

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	09/09/2016	22038 SF	21382	215	441	0
		Migrated Values		22038 SF	21382	215	441	0
	Notes: 6 sq. ft. spall off the bottom of the deck at the center bay over the north slope paving. With exposed rebar. 2016 Numerous transverse cracks with efflorescence in the bottom of the deck. 2010-16 Water / salt saturation with rust staining on under side of deck. 2011-16 Minor cracking and isolated delams. / spalls. 2011-16 Recommend chaining the deck in 201-16.							
510	- Wearing Surfaces	Routine	09/09/2016	17760 SF	15984	0	1776	0
		Migrated Values		17760 SF	15984	0	1776	0
	Notes: Low Slump Overlay with Uncoated Rebar Notes: Scarified deck 1" and placed 2.5" LS overlay in 1986. Combined unsound wearing surface is between 2% and 10 % of total deck area. 2011-14 Resealing of cracks recommended. 2011-16							
107	Steel Open Girder/Beam	Routine	09/09/2016	2359 LF	2353	6	0	0
		Migrated Values		2359 LF	2353	6	0	0
	Notes: WS has little or no deterioration. 2012 S.side beam ends have corrosion present, flaking off in areas. 2013-16 Cleaning, prep and paint recommended at beam ends and bearings. 2014-16							
515	- Steel Protective Coating	Routine	09/09/2016	31576 SF	31353	0	223	0
		Migrated Values		31576 SF	31353	0	223	0
	Notes: 5,250 SF = Diaphragms. 26,326 SF = Beams. S. side beam ends has moderate paint failure. 2013-14 CS-3 = Protective coating is failing, primer coat is mostly intact. 2016							
205	Reinforced Concrete Column	Routine	09/09/2016	8 EA	8	0	0	0
		Migrated Values		8 EA	8	0	0	0
	Notes: Minor cracking, leaching or staining. 2012-16 No delams or spalls. 2012-16							
215	Reinforced Concrete Abutment	Routine	09/09/2016	230 LF	40	190	0	0
		Migrated Values		230 LF	40	190	0	0
	Notes: Minor to moderate deterioration. 2012-16 Minor to moderate cracking, leaching or staining. 2012-16 Minor delams / spalls present. 2011-16 There is a 1" separation between the N. abutment and the NE. wing wall at the cork joint. 2004-14							

BRIDGE 62523 DALE ST OVER BNSF RR

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
234	Reinforced Concrete Pier Cap	Routine	09/09/2016	190 LF	190	0	0	0
		Migrated Values		190 LF	190	0	0	0
Notes: Minor map cracking is present at pier cap ends. 2016								
300	Strip Seal Expansion Joint	Routine	09/09/2016	187 LF	187	0	0	0
		Migrated Values		187 LF	187	0	0	0
Notes: Reconstructed expansion joints in 1986.								
301	Pourable Joint Seal	Routine	09/09/2016	79 LF	79	0	0	0
		Migrated Values		79 LF	79	0	0	0
Notes: Resealing of joints recommended. 2014-16								
311	Movable Bearing	Routine	09/09/2016	34 EA	14	20	0	0
		Migrated Values		34 EA	14	20	0	0
Notes: Rust and corrosion present at abut bearings. 2011-16 Bearing maintenance recommended. 2011-16								
313	Fixed Bearing	Routine	09/09/2016	6 EA	6	0	0	0
		Migrated Values		6 EA	6	0	0	0
Notes: Rusty bearings. 2010-16								
321	Reinforced Concrete Approach Slab	Routine	09/09/2016	3360 SF	156	3200	4	0
		Migrated Values		3360 SF	156	3200	4	0
Notes: Moderate cracking of the approach panels. 2014 Cracks sealed in August of 2016. NE approach has a 4 sf spall. 2013-116 Approaches have settled. 2014-16								
330	Metal Bridge Railing	Routine	09/09/2016	472 LF	472	0	0	0
		Migrated Values		472 LF	472	0	0	0
Notes: R & R concrete parapet and metal railing. 2006 NE cap missing. 2011-13								
515	Steel Protective Coating	Routine	09/09/2016	1416 SF	1133	283	0	0
		Migrated Values		1416 SF	1133	283	0	0
Notes: CS-2 = chalking and fading of finish coat is present. 2016								
331	Reinforced Concrete Bridge Railing	Routine	09/09/2016	472 LF	472	0	0	0
		Migrated Values		472 LF	472	0	0	0
Notes: R & R concrete parapet and metal railing. 2006 Bridge rail cracking present. 2011-14 109 LF of unsealed cracks are present. (hairline width) 2016								
800	Critical Deficiencies or Safety Hazards	Routine	09/09/2016	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	09/09/2016	3008 LF	3008	0	0	0
		Migrated Values		3008 LF	3008	0	0	0
Notes: Moderate crack density and size. 2014 Need additional photos of crack width and density. 2012-13 Cracks were sealed in August of 2016.								

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ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
855	Secondary Members (Superstructure)	Routine	09/09/2016	1 EA	0	1	0	0
		Migrated Values		1 EA	0	1	0	0
	Notes: Several concrete diaphragms have spalls from jackhammer damage at the south and north abutments.						2006-14	
	Minor to moderate delams. / spalls at the abut diaphragms.		2011-14					
	90 steel diaphragms present.		2016					
856	Secondary Members (Substructure)	Routine	09/09/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Crash strut between columns.		2016					
883	Concrete Shear Cracking	Routine	09/09/2016	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	09/09/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Slope paving cracking at N.side abut.		2011-16					
	Recommend sealing top joint of the slope paving.		2014-16					
893	Guardrail	Routine	09/09/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Posted speed does NOT exceed 40 MPH.		2014					
894	Deck & Approach Drainage	Routine	09/09/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Use this element to rate the condition, function, and adequacy of the drainage system.							
895	Sidewalk, Curb, & Median	Routine	09/09/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: New curb and a widened concrete walk were completed in 2006.							
	There are a few hairline transverse cracks in the walk.		2008-14					
	SW side L. crack one panel.		2010-14					
	Cracks were sealed in August of 2016.							
	1 SF spall - NE corner.		2016					
899	Miscellaneous Items	Routine	09/09/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
900	Protected Species	Routine	09/09/2016	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 in 2016.							

General Notes: Bridge load rating done by TKDA - 2011

58. Deck NBI: Moderate deterioration, crack sealing recommended. 2014

36A. Brdg Railings NBI:

36B. Transitions NBI: Posted speed does NOT exceed 40 MPH. 2014

36C. Appr Guardrail NBI:

36D. Appr Guardrail Terminal NBI:

59. Superstructure NBI: Moderate deterioration. 2014

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ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
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Beam ends and bearing maintenance recommended. 2014

60. Substructure NBI: Minor isolated deterioration. 2012

61. Channel NBI:

62. Culvert NBI:

71. Waterway Adeq NBI:

72. Appr Roadway
Alignment NBI:

Inventory Notes:

Joe Grau

Inspector's Signature

Glenn Pagel

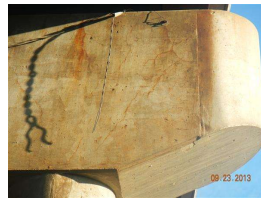
Reviewer's Signature



1. 9-23-13 001.jpg



2. 9-23-13 002.jpg



3. 9-23-13 003.jpg



4. 9-23-13 004.jpg



5. 9-23-13 005.jpg



6. 9-23-13 006.jpg



7. 9-23-13 007.jpg



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10. 9-23-13 010.jpg



11. 9-23-13 011.jpg



12. 9-23-13 012.jpg



13. 9-23-13 013.jpg



14. 9-23-13 014.jpg



15. 9-23-13 015.jpg



16. 9-23-13 016.jpg



17. 9-23-13 017.jpg



18. 9-23-13 018.jpg



19. 9-23-13 019.jpg



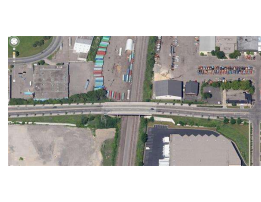
20. 9-23-13 020.jpg



21. 9-23-13 021.jpg



22. 9-23-13 022.jpg



23. 2013 google view_4.png



24. 2014 Deckview_1.JPG



25. 2014 Elevation view_3.JPG



26. Center bay N end.JPG



27. Center bay S end.JPG



28. SE corner dirt and weed encroachment.JPG



29. Slope paving N end.JPG



30. Spall with exposed rebar center bay S end.JPG



31. SW corner.JPG