



City of Afton, Minnesota
3033 St. Croix Trail S. • Afton, MN 55001



BRIDGE INSPECTION

Report

For
2014 Bridge
Inspections

City of Afton, Minnesota

.....
WSB Project No. 01856-17

*I hereby certify that this report was prepared by me
or under my direct supervision and that I am a duly
Licensed Professional Engineer under the laws of the
State of Minnesota.*

November 15th, 2014

Ashley Slominski, PE

Date

License No. 50489



701 Xenia Avenue South, Suite 300
Minneapolis, MN 55416

Tel: (763) 541-4800 · Fax: (763) 541-1700
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2014 BRIDGE INSPECTION SUMMARY

Local Agency: City of Afton, Minnesota

Bridge Number of those inspected:	
L8167	TRADG PT TR S (22) over STREAM
L8170	VALLEY CRK TR (53) over VALLEY CRK (TRIBUTARY)

The following are maintenance recommendations or inspection findings to be aware of:

Maintenance or Important Inspection Findings:
<ul style="list-style-type: none">▶ L8167: No maintenance or important findings.▶ L8170: Deterioration has not increased since previous inspection; however, consideration should be given to replacing the structure. Bridge is considered structurally deficient and has Sufficiency Rating of 30.6.

Load Posting and Rating Report for the City required: Yes No

List Bridges: None

MINNESOTA DEPARTMENT OF TRANSPORTATION
 06/24/2014
 BRIDGE INSPECTIONS DUE BY FEB 15, 2015
 CITY OF AFTON

AGCY		SORTED BY INSPECTION DATE									
BR NO	BR NO TOWNSHIP	ROUTE	REF POINT	FACILITY CARRIED	FEATURE INTERSECTED	YEAR BUILT	SUFF RATE	DEF STATU	LAST INSP DATE	INSP FREQ	NEXT INSP DUE DATE
L8167		MUN 22	003+00.950	TRADG PT TR S (22)	STREAM	1920	86.1	ADEQ	10/23/2013	12	10/23/2014
L8170		MUN 53	001+00.050	VALLEY CRK TR (53)	VALLEY CRK (TRIBUTARY)	1920	43.4	S.D.	10/23/2013	12	10/23/2014

2 BRIDGE INSPECTIONS DUE BY FEB 15, 2015

MINNESOTA DEPARTMENT OF TRANSPORTATION
LOAD POSTING AND RATING REPORT

CITY OF AFTON

Date: 11-15-2014

Page: 1

POSTED OR RESTRICTED BRIDGES

NBR	FACILITY CARRIED	FEATURE INTERSECTED	S	U	C	E	V	A	ELEM	FHWA	LOAD POSTING	LOAD POSTING	REQUIRED LOAD POSTING	REQUIRED TRAFFIC CONTROL SIGNS	ELEM	YEAR BUILT	RATING DATE
											V	S	D		CS 5		
L8170	VALLEY CRK TR (53)	VALLEY CRK (TRIBUTARY)	4	6	N	4	N	4	N	363	24	40	40			1920	05-14-2012
L8173	26(PUTNAM BD S)	VALLEY CREEK	7	5	N	5	N	5	N		33					1924	05-14-2012

2 POSTED OR RESTRICTED BRIDGE(S)

2 TOTAL BRIDGES

**2014 ROUTINE
BRIDGE INSPECTION REPORT**



**BRIDGE # L8167
TRADG PT TR S (22) over STREAM**

DISTRICT: Metro

COUNTY: Washington

CITY/TOWNSHIP: Afton

Date(s) of Inspection: 10/10/2014

Equipment Used:

Owner: City or Municipal Highway Agency

Inspected By: Slominski, Ashley

Report Written By: Ashley Slominski

Report Reviewed By: Ashley Slominski

Final Report Date: 10/26/2014

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



Table of Contents

<u>SECTION</u>	<u>PAGE</u>
SI&A	1
ADDITIONAL ROADWAYS	2
ROUTINE INSPECTION DATA	3
PICTURES	5
THUMBNAIL PICTURES	9
CULVERT	10
SCOUR POA	11
CHANNEL X-SECTION	12
CHANNEL	13
STRUCTURAL ASSESSMENT REPORT - ROUTINE	15
MAINTENANCE	17

MnDOT Structure Inventory Report

Bridge ID: L8167

TRADG PT TR S (22)

over STREAM

Date: 10/26/2014

GENERAL	
Agency Br. No.	
District	Metro
Maint. Area	Crew
County	082 - Washington
City	Afton
Township	
Desc. Loc.	0.1 MI S OF JCT CSAH 18
Sect., Twp., Range	28 - 028N - 20W
Latitude	Deg 44 Min 53 Sec 17.72
Longitude	Deg 92 Min 48 Sec 47.32
Custodian	04 - City or Municipal Highway Agency
Owner	04 - City or Municipal Highway Agency
BMU Agreement	
Year Built	1920
MN Year Reconstructed	1957
FHWA Year Reconstructed	
MN Temporary Status	
Bridge Plan Location	0 - NO PLAN
Date Opened to Traffic	
On-Off System	0 - OFF
Legislative District	57B

STRUCTURE	
Service On	1 - Highway
Service Under	5 - Waterway
Main Span Type	
8 - Masonry	12 - Arch
Main Span Detail	
Appr. Span Type	
Appr. Span Detail	
Skew	0
Culvert Type	10'ARCH & BOX
Barrel Length	29 ft.
Cantilever ID	

NUMBER OF SPANS			
MAIN: 1	APPR: 0	TOTAL: 1	
Main Span Length	10.0	ft.	
Structure Length	12.0	ft.	
Deck Width (Out-to-Out)	0.0	ft.	
Deck Material	N - Not Applicable		
Wear Surf Type	6 - Bituminous		
Wear Surf Install Year			
Wear Course/Fill Depth	1.50	ft.	
Deck Membrane	0 - None		
Deck Rebars	N - Not Applicable (no deck)		
Deck Rebars Install Year			
Structure Area (Out-to-Out)	348	sq. ft.	
Roadway Area (Curb-to-Curb)		sq. ft.	
Sidewalk Width	Lt 0.00	ft.	Rt 0.00
Curb Height	Lt 0.00	ft.	Rt 0.00
Rail Type	Lt 00		Rt 00

ROADWAY	
Bridge Match ID (TIS)	0
Roadway O/U Key	Route On Structure
Route Sys	10 - MUN Number 22
Roadway Name or Description	MUN 22
Level of Service	1 - MAINLINE
Roadway Type	2 - 2-way traffic
Control Section (TH Only)	
Reference Point	003+00.950
Detour Length	4.0 mi
Lanes	On 2 Under 0
ADT	568 Year 1986
HCA DT	0 ADTT 0 %
Functional Class	09 - Rural - Local

RDWY DIMENSIONS			
If Divided	NB-EB	SB-WB	
Roadway Width	26.00	ft.	ft.
Vertical Clearance		ft.	ft.
Max. Vert. Clear.		ft.	ft.
Horizontal Clear.		ft.	ft.
Lateral Clearance		ft.	ft.
Appr. Surface Width	26.0	ft.	
Bridge Roadway Width	0.0	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)	0 - UNKNOWN
Pier Foundation	N - N/A
(Material/Type)	N - N/A
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	1 - Object Markers
Vertical	N - Not Applicable

INSPECTION	
Userkey	128
Unofficial Structurally Deficient	N
Unofficial Functionally Obsolete	N
Unofficial Sufficiency Rating	87.1
Routine Inspection Date	10/10/2014
Routine Inspection Frequency	12
Inspector Name	WSB & Associates
Status	A - Open

NBI CONDITION RATINGS	
Deck	N - Not Applicable
Unsound Deck %	
Superstructure	N - Not Applicable
Substructure	N - Not Applicable
Channel	6 - Bank slump; minor damage
Culvert	5 - Mod. to major deterioration

NBI APPRAISAL RATINGS	
Structure Evaluation	5
Deck Geometry	N
Underclearances	N
Water Adequacy	7 - Slight Chance of Overtop
Approach Alignment	8 - Equal to present desirabl

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

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

WATERWAY	
Drainage Area (sq. mi.)	
Waterway Opening	16 sq. ft.
Navigation Control	0 - No nav. control on waterw
Pier Protection	
Nav. Clr. (ft.)	Vert. ft. Horiz. ft.
Nav. Vert. Lift Bridge Clear. (ft.)	
MN Scour Code	E - CULVERT Year 1994

CAPACITY RATINGS	
Design Load	0 - Other/Unknown
Operating Rating	2 - AS HS 27.0
Inventory Rating	2 - AS HS 18.0
Posting VEH:	SEMI: DBL:
Rating Date	11/05/1997
MnDOT Permit Codes	
A:	N - N/A
B:	N - N/A
C:	N - N/A

MnDOT Structure Inventory Report

Additional Roadways

Bridge ID: L8167

TRADG PT TR S (22) over STREAM

Date: 10/26/2014

MnDOT BRIDGE INSPECTION REPORT

10/26/2014

Inspector: WSB & Associates

BRIDGE L8167 TRADG PT TR S (22) OVER STREAM

ROUTINE INSP. DATE: 10/10/2014

County: Washington Location: 0.1 MI S OF JCT CSAH 18 Length: 12.0 ft.
 City: Afton Route: 10 - MUN 22 Ref. Pt.: 003+00.950 Deck Width: 0.0 ft.
 Township: Control Section: Rdwy. Area/ Pct. Unsnd: sq. ft. / %
 Section: 28 Township: 028N Range: 20W Maint. Area: Paint Area/ Pct. Unsnd: sq. ft. / %
 Span Type: 8 - Masonry 19 - Culvert (includes Local Agency Bridge Nbr.: Culvert: 10'ARCH &BOX
 List: frame culverts) Postings:
 NBI Deck: N Super: N Sub: N Chan: 6 Culv: 5
 Open, Posted, Closed: A - Open
 MN Scour Code: E - CULVERT

Appraisal Ratings - Approach: 8 Waterway: 7 Unofficial Structurally Deficient N
 Required Bridge Signs - Load Posting: 0 - Not Required Traffic: 0 - Not Required Unofficial Functionally Obsolete N
 Horizontal: 1 - Object Markers Vertical: N - Not Applicable Unofficial Sufficiency Rating 87.1

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
241	Reinforced Concrete Culvert	2	Routine	10/10/2014	8 LF	0	8	0	0	N/A
			Routine	10/23/2013	8 LF	0	8	0	0	N/A
	<input type="checkbox"/> Requires Monitoring		<input type="checkbox"/> Monitored							
	Notes: [2012 - 2014] - Minor Cracking									

243	Masonry, Other or Combination Material Culvert	2	Routine	10/10/2014	20 LF	4	0	16	0	N/A
			Routine	10/23/2013	20 LF	4	0	16	0	N/A
	<input type="checkbox"/> Requires Monitoring		<input type="checkbox"/> Monitored							
	Notes: [2010] Some stones and grout missing. [2012] Masonry arch needs tuck pointing. [2013] Masonry has recently been repaired and tuckpointed. [2014] Repairs and tuck points have held up.									

387	Reinforced Concrete Wingwall	2	Routine	10/10/2014	4 EA	0	4	0	0	N/A
			Routine	10/23/2013	4 EA	0	4	0	0	N/A
	<input type="checkbox"/> Requires Monitoring		<input type="checkbox"/> Monitored							
	Notes: [2012 - 2014] Minor Cracking									

964	Critical Finding Smart Flag	2	Routine	10/10/2014	1 EA	1	0	N/A	N/A	N/A
			Routine	10/23/2013	1 EA	1	0	N/A	N/A	N/A
	<input type="checkbox"/> Requires Monitoring		<input type="checkbox"/> Monitored							
	Notes: DO NOT DELETE THIS CRITICAL FINDING SMART FLAG.									

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
981	Signing	2	Routine	10/10/2014	4 EA	4	0	0	0	0
			Routine	10/23/2013	4 EA	4	0	0	0	0

 Requires Monitoring Monitored

Notes: [2007] End markers added
 [2014] Object markers located at all 4 corners.

987	Roadway over Culvert	2	Routine	10/10/2014	1 EA	1	0	0	N/A	N/A
			Routine	10/23/2013	1 EA	1	0	0	N/A	N/A

 Requires Monitoring Monitored

Notes: [2014] Longitudinal crack down middle and transverse crack at midspan.

General Notes: [2012] Masonry arch requires repair including replacing missing blocks and tuckpointing.
 [2013] Masonry has recently been repaired and tuckpointed.
 [2014] Repairs and tuck points holding up and no maintenance issues required at time of inspection.

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: [2013] Masonry has recently been repaired and tuckpointed.
 [2014] Culvert is structurally sound but has extensive weathering/scaling.

71. Waterway Adeq NBI:

72. Appr Roadway
Alignment NBI:

Inventory Notes:

Ashley Slominski
 Inspector's Signature

Ashley Slominski
 Reviewer's Signature

Pictures



Photo 1 - North Approach (Looking South)



Photo 2 - Top of Roadway. Long. crack down middle with transverse crack at mid span.

Pictures



Photo 3 - South Approach (Looking North)



Photo 4 - West Elevation (Looking East)

Pictures



Photo 5 - Looking inside arch. (Looking East)



Photo 6 - Looking inside arch. (Looking East)

Pictures



Photo 7 - Southwest corner of extension.



Photo 8 - East elevation (Looking West)



1. P1050820.JPG



2. P1050821.JPG



3. P1050822.JPG



4. P1050823.JPG



5. P1050824.JPG



6. P1050825.JPG



7. P1050826.JPG



8. P1050827.JPG

Culvert

Bridge No.: L8167

Culvert

<i>Item</i>	<i>Description</i>	<i>Condition</i>	<i>Comments</i>
Culvert Overall:	NBI Item 62	<u>5</u>	[2013] Masonry has recently been repaired and tuckpointed. [2014] Culvert is structurally sound but has extensive weathering/scaling.

MnDOT Scour Code: E - CULVERT

Waterway Inspection

Item No.	Yes, No, NA or Not Visible	Description
1.	<u>No</u>	Is there a significant build-up of debris?
2.	<u>No</u>	Is there erosion of the embankment around the headwalls?
3.	<u>Yes</u>	Is there any indication of cracking or settlement of the culvert barrel or headwalls?
4.	<u>No</u>	Is there shifting of the channel alignment or erosion of the stream banks? Also are there cracks in the soil of the banks parallel to the stream?
5.	<u>No</u>	Do scour measurements indicate that the streambed is below the bottom of the cutoff walls at the ends of the culvert?
6.	<u>No</u>	Is there evidence of distress in the roadway or approaches such as cracks in the pavement and sags in the guardrail or roadway? Also, is there cracking, erosion, or failure of the side slopes at or adjacent to the culvert?
7.	<u>No</u>	Is there an indication of "piping" of water along the outside of the culvert such as cavities adjacent to the barrel?
8.	<u>No</u>	Is the culvert without a bottom and scour measurements indicate that the streambed is below the plan streambed elevations?
9.	<u>NA</u>	Has the riprap or other scour protection been damaged or otherwise made ineffective?
10.	<u>NA</u>	If the culvert was designed to be buried (fill inside the culvert), is the material still in the barrel?

Notes:

- Streambed sounding data is to be documented.
- Soundings of the streambed should be done at each end of the culvert. If Items #5 or #8 are "Yes", then a streambed profile of the scoured area should be done.
- If "Yes" is the answer to any items on the checklist, notify the Program Administrator for further instructions.

Comments: Dry creekbed.

Completed On 10/09/2012 By BRL

Scour POA

Bridge No.: L8167

Scour POA

1. Is POA on File? _____
2. Date of most recent POA: _____
3. Here is a link to MnDOT's Bridge Scour website for other resources:
 - <http://www.dot.state.mn.us/bridge/hydraulics/scour.html>
 - The Scour POA should be kept in the bridge file and/or uploaded to SIMS using the "Inspection Files" tab.

Implementation

Scour POAs are required to be implemented by FHWA.

1. Is this POA being implemented? _____

Channel Section

Upstream

Custom Label	Location	Elevation

Distance Measured From:

Elev. of Ref. Pt:

Depth to Water Surface:

WS Elev:

Vertical Datum:

Comments:

Downstream

Custom Label	Location	Elevation

Distance Measured From:

Elev. of Ref. Pt:

Depth to Water Surface:

WS Elev:

Vertical Datum:

10. _____ Have the scour countermeasures been damaged or otherwise made ineffective?

Notes:

- Streambed sounding data is to be documented.

- Per MnDOT Bridge Inspection Manual Section 2.2.5, at bridges that require x-sections, take channel x-sections, along the upstream and/or downstream face of the bridge.

- If "Yes" is the answer to any items on the checklist, notify the Program Administrator for further instructions.

Comments:

Completed On _____ By _____



BRIDGE STRUCTURAL ASSESSMENT REPORT

PURPOSE:

This report is a structural assessment of the structure and its ability to carry loads based on conditions identified in the attached bridge inspection report. The assessment is only a cursory review intended to provide guidance as to the relative hazards for structural conditions and deficiencies identified. This report is mandatory for all fracture critical bridges and is completed by the MnDOT Bridge Office upon receipt of the 7 Day FC Report; however, it is an OPTIONAL tool for agencies to utilize at their discretion for all other inspection types.

BRIDGE NO.: L8167	BRIDGE OWNER: City or Municipal Highway Agency
DATE INSPECTED: 10/10/2014	STRUCTURE TYPE: Masonry Culvert (includes frame culverts)
FACILITY CARRIED: TRADG PT TR S (22)	FEATURES INTERSECTED: STREAM
TYPE OF INSPECTION: <input checked="" type="checkbox"/> ROUTINE <input type="checkbox"/> FRACTURE CRITICAL <input type="checkbox"/> PINNED ASSEMBLY: <input type="checkbox"/> SPECIAL: <input type="checkbox"/> DAMAGE: <input type="checkbox"/> OTHER:	
<u>Check all that apply:</u>	
Redundancy: <input type="checkbox"/> Load Path <input type="checkbox"/> Structural <input type="checkbox"/> Internal	Connection Type: <input type="checkbox"/> Riveted <input type="checkbox"/> Bolted <input type="checkbox"/> Welded <input type="checkbox"/> Other:

- Was a critical finding identified during this inspection or upon structural review? Yes No
 - If selected "Yes" above, state briefly the finding(s):
- If a critical finding was identified, what is the current status? Pending
 Resolved
 N/A
 - Briefly state actions taken:
- Does the condition of any bridge component indicate impaired function? Examples of bridge components with impaired function include elements that are: frozen or immovable, out-of-plumb or misaligned, distorted or structurally deformed, excessively deteriorated, cracked, broken, eroded or scoured. Yes No

a) If selected "Yes" above, state briefly the component(s) and condition(s):

4. Does the overall condition of the bridge, or any of its components mentioned in Question 3, suggest the need for detailed structural analysis and/or a revised load rating? Yes No

a) If selected "Yes", state the reason for this recommendation and indicate a proposed timeframe in accordance with State of Minnesota Rule 8810.9500 (Subpart 2):

5. Based on the structural assessment of these findings, recommendations include:

- Repair/Maintenance Monitoring Plan
 Other Increased Inspection Frequency

Explain recommended actions:

6. Other comments:

Bridge Office Reviewer

Maintenance

Element	Source Code	Work Code	Description	P/R	Priority	Work Order #	Year Due	Last Viewed	Entered	Start Date	Completed
---------	-------------	-----------	-------------	-----	----------	--------------	----------	-------------	---------	------------	-----------

2014 ROUTINE
BRIDGE INSPECTION REPORT



BRIDGE # L8170
VALLEY CRK TR (53) over VALLEY CRK (TRIBUTARY)

DISTRICT: Metro

COUNTY: Washington

CITY/TOWNSHIP: Afton

Date(s) of Inspection: 10/10/2014

Equipment Used:

Owner: City or Municipal Highway Agency

Inspected By: Slominski, Ashley

Report Written By: Ashley Slominski

Report Reviewed By: Ashley Slominski

Final Report Date: 10/26/2014

MnDOT Bridge Office
3485 Hadley Avenue North
Oakdale, MN 55128



Table of Contents

<u>SECTION</u>	<u>PAGE</u>
SI&A	1
ADDITIONAL ROADWAYS	2
ROUTINE INSPECTION DATA	3
PICTURES	6
THUMBNAIL PICTURES	13
CULVERT	14
SCOUR POA	15
CHANNEL	16
CHANNEL X-SECTION	18
STRUCTURAL ASSESSMENT REPORT - ROUTINE	19
MAINTENANCE	21

MnDOT Structure Inventory Report

Bridge ID: L8170

VALLEY CRK TR (53)

over VALLEY CRK (TRIBUTARY)

Date: 10/26/2014

GENERAL	
Agency Br. No.	
District	Metro
Maint. Area	Crew
County	082 - Washington
City	Afton
Township	
Desc. Loc.	1.1 MI E OF JCT CR 71
Sect., Twp., Range	16 - 028N - 20W
Latitude	Deg 44 Min 54 Sec 48.7
Longitude	Deg 92 Min 49 Sec 8.12
Custodian	04 - City or Municipal Highway Agency
Owner	04 - City or Municipal Highway Agency
BMU Agreement	
Year Built	1920
MN Year Reconstructed	
FHWA Year Reconstructed	
MN Temporary Status	
Bridge Plan Location	0 - NO PLAN
Date Opened to Traffic	
On-Off System	0 - OFF
Legislative District	57B

STRUCTURE	
Service On	1 - Highway
Service Under	5 - Waterway
Main Span Type	
3 - Steel	01 - Beam Span
Main Span Detail	
Appr. Span Type	
Appr. Span Detail	
Skew	20 R
Culvert Type	
Barrel Length	ft.
Cantilever ID	

NUMBER OF SPANS		
MAIN: 1	APPR: 0	TOTAL: 1
Main Span Length	13.5	ft.
Structure Length	15.5	ft.
Deck Width (Out-to-Out)	22.7	ft.
Deck Material	1 - Concrete Cast-in-Place	
Wear Surf Type	6 - Bituminous	
Wear Surf Install Year		
Wear Course/Fill Depth	1.50	ft.
Deck Membrane	0 - None	
Deck Rebars	N - Not Applicable (no deck)	
Deck Rebars Install Year		
Structure Area (Out-to-Out)	352	sq. ft.
Roadway Area (Curb-to-Curb)	334	sq. ft.
Sidewalk Width	Lt 0.00	ft. Rt 0.00
Curb Height	Lt 0.00	ft. Rt 0.00
Rail Type	Lt 02	Rt 02

ROADWAY	
Bridge Match ID (TIS)	0
Roadway O/U Key	Route On Structure
Route Sys	10 - MUN Number 53
Roadway Name or Description	MUN 53
Level of Service	1 - MAINLINE
Roadway Type	2 - 2-way traffic
Control Section (TH Only)	
Reference Point	001+00.050
Detour Length	3.0 mi
Lanes	On 2 Under 0
ADT	125 Year 1986
HCA DT	0 ADTT 0 %
Functional Class	09 - Rural - Local

RDWY DIMENSIONS			
If Divided	NB-EB	SB-WB	
Roadway Width	21.20	ft.	ft.
Vertical Clearance		ft.	ft.
Max. Vert. Clear.		ft.	ft.
Horizontal Clear.		ft.	ft.
Lateral Clearance		ft.	ft.
Appr. Surface Width	24.0	ft.	
Bridge Roadway Width	21.2	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)	0 - UNKNOWN
Pier Foundation	N - N/A
(Material/Type)	N - N/A
Historic Status	5 - Not eligible

PAINT	
Year Painted	2020
Unsound Paint %	100
Painted Area	sq. ft.
Primer Type	0 - Other - non 3309
Finish Type	L - Other (Unknown)

BRIDGE SIGNS	
Posted Load	2 - Vehicle & Semi
Traffic	0 - Not Required
Horizontal	1 - Object Markers
Vertical	N - Not Applicable

INSPECTION	
Userkey	128
Unofficial Structurally Deficient	Y
Unofficial Functionally Obsolete	N
Unofficial Sufficiency Rating	30.6
Routine Inspection Date	10/10/2014
Routine Inspection Frequency	12
Inspector Name	WSB & Associates
Status	B - Open, Posting Required

NBI CONDITION RATINGS	
Deck	5 - Fair Condition
Unsound Deck %	
Superstructure	4 - Poor Condition
Substructure	6 - Satisfactory Condition
Channel	5 - Bank eroded; Major damage
Culvert	N - Not Applicable

NBI APPRAISAL RATINGS	
Structure Evaluation	4
Deck Geometry	4
Underclearances	N
Water Adequacy	7 - Slight Chance of Overtop
Approach Alignment	7 - Better than present minor

SAFETY FEATURES	
Bridge Railing	0 - SUBSTANDARD
GR Transition	0 - SUBSTANDARD
Appr. Guardrail	0 - SUBSTANDARD
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	78 sq. ft.
Navigation Control	0 - No nav. control on waterway
Pier Protection	
Nav. Clr. (ft.)	Vert. ft. Horiz. ft.
Nav. Vert. Lift Bridge Clear. (ft.)	
MN Scour Code	E - CULVERT Year 2006

CAPACITY RATINGS		
Design Load	0 - Other/Unknown	
Operating Rating	1 - LF (LF)	HS 15.0
Inventory Rating	1 - LF (LF)	HS 9.0
Posting VEH: 24	SEMI: 40	DBL: 40
Rating Date	05/14/2012	

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

MnDOT Structure Inventory Report

Additional Roadways

Bridge ID: L8170

VALLEY CRK TR (53) over VALLEY CRK (TRIBUTARY)

Date: 10/26/2014

MnDOT BRIDGE INSPECTION REPORT

10/26/2014

Inspector: WSB & Associates

BRIDGE L8170 VALLEY CRK TR (53) OVER VALLEY CRK (TRIBUTARY) ROUTINE INSP. DATE: 10/10/2014

County: Washington Location: 1.1 MI E OF JCT CR 71 Length: 15.5 ft.
 City: Afton Route: 10 - MUN 53 Ref. Pt.: 001+00.050 Deck Width: 22.7 ft.
 Township: Control Section: Rdwy. Area/ Pct. Unsnd: 334 sq. ft. / %
 Section: 16 Township: 028N Range: 20W Maint. Area: Paint Area/ Pct. Unsnd: sq. ft. / 100%
 Span Type: 3 - Steel 02 - Stringer/Multi-beam or Local Agency Bridge Nbr.: Culvert: N/A
 List: Girder Postings: 24 40 40
 NBI Deck: 5 Super: 4 Sub: 6 Chan: 5 Culv: N

Open, Posted, Closed: B - Open, Posting Required
 MN Scour Code: E - CULVERT
 Appraisal Ratings - Approach: 7 Waterway: 7 Unofficial Structurally Deficient Y
 Required Bridge Signs - Load Posting: 2 - Vehicle & Semi Traffic: 0 - Not Required Unofficial Functionally Obsolete N
 Horizontal: 1 - Object Markers Vertical: N - Not Applicable Unofficial Sufficiency Rating 30.6

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
013	Bituminous Overlay (Concrete Deck)	2	Routine	10/10/2014	352 SF	0	352	0	0	0
			Routine	10/23/2013	352 SF	0	352	0	0	0

Requires Monitoring Monitored

Notes: [2012] Some cracking and minor deterioration.
 [2014] Cracks at bridge joint that have been sealed. Cracks at Northeast corner due to settlement.

107	Painted Steel Girder or Beam	2	Routine	10/10/2014	120 LF	0	0	0	90	30
			Routine	10/23/2013	120 LF	0	0	0	90	30

Requires Monitoring Monitored

Notes: [2009] Girders show section loss near abutments.
 [2010] Entire bottom flange of S Facia Girder is severely deteriorated. N Facia Girder is badly corroded at each abutment. 2nd girder from N. is warped into a reverse curve. 3rd girder from N. has bent bottom flange.
 [2012] Steel beam corrosion is continuing.
 [2013] Steel beam corrosion is continuing.
 [2014] North fascia girder corrosion is full length.

215	Reinforced Concrete Abutment	2	Routine	10/10/2014	50 LF	45	5	0	0	N/A
			Routine	10/23/2013	50 LF	45	5	0	0	N/A

Requires Monitoring Monitored

Notes: [2010] Vertical crack in SE abutment wall.
 [2014] SE crack in abutment wall is 1/16" - 1/8" wide. Does not appear to be getting worse.

313	Fixed Bearing	2	Routine	10/10/2014	16 EA	16	0	0	N/A	N/A
			Routine	10/23/2013	16 EA	16	0	0	N/A	N/A

Requires Monitoring Monitored

Notes: [2010] No noticable problems.
 [2014] Bearing devices are not visible. Bearing areas in good condition.

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
320	Concrete Approach Slab-Bituminous Wearing Surface	2	Routine	10/10/2014	2 EA	0	2	0	0	N/A
			Routine	10/23/2013	2 EA	2	0	0	0	N/A
			<input type="checkbox"/> Requires Monitoring			<input type="checkbox"/> Monitored				
Notes: [2014] Both approaches have slight settlement at all 4 corners of the bridge.										
331	Reinforced Concrete Bridge Railing	2	Routine	10/10/2014	30 LF	22	3	5	0	N/A
			Routine	10/23/2013	30 LF	22	3	5	0	N/A
			<input type="checkbox"/> Requires Monitoring			<input type="checkbox"/> Monitored				
Notes: 2005 Approx 1.5' overburden within 8" of top of railing. [2010] SW corner is broken off. [2014] Spalling at bottom fascia on the North Elevation.										
361	Scour Smart Flag	2	Routine	10/10/2014	1 EA	1	0	0	N/A	N/A
			Routine	10/23/2013	1 EA	1	0	0	N/A	N/A
			<input type="checkbox"/> Requires Monitoring			<input type="checkbox"/> Monitored				
Notes: G - Foundation unknown. Evaluation and/or screening required. [2007] Conc. floor through bridge - no scour. [2014] Incorrect scour code "E-Culvert". Needs review.										
387	Reinforced Concrete Wingwall	2	Routine	10/10/2014	4 EA	2	2	0	0	N/A
			Routine	10/23/2013	4 EA	2	2	0	0	N/A
			<input type="checkbox"/> Requires Monitoring			<input type="checkbox"/> Monitored				
Notes: [2012] NE wing shows surface wear. SE wing has vertical crack. No shifting or tilting noted. [2014] NE wingwall spalling has no change. SE wingwall crack is 1/8" - 1/16" wide approximately 15feet south of bridge. Does not appear to be getting worse.										
964	Critical Finding Smart Flag	2	Routine	10/10/2014	1 EA	1	0	N/A	N/A	N/A
			Routine	10/23/2013	1 EA	1	0	N/A	N/A	N/A
			<input type="checkbox"/> Requires Monitoring			<input type="checkbox"/> Monitored				
Notes: DO NOT DELETE THIS CRITICAL FINDING SMART FLAG.										
981	Signing	2	Routine	10/10/2014	1 EA	1	0	0	0	0
			Routine	10/23/2013	1 EA	1	0	0	0	0
			<input type="checkbox"/> Requires Monitoring			<input type="checkbox"/> Monitored				
Notes: [2007] New end markers added. [05/14/2012] Load Posting Required: 24T/40T/40T. NBI 41: Status coded 'B - Open, Posting Required'. Agency to notify MnDOT BADMU when signs are installed. [2014] Posted correctly at both approaches.										

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
984	Deck & Approach Drainage	2	Routine	10/10/2014	1 EA	0	1	0	N/A	N/A
			Routine	10/23/2013	1 EA	0	1	0	N/A	N/A

 Requires Monitoring Monitored

Notes: [2014] Settlement at all 4 corners.

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

 Requires Monitoring Monitored

Notes: [2012-2014] Slopes are very steep. Minor erosion has occurred. There is no traffic barrier.

General Notes: [2012] Bridge was load rated in 2012 and recently posted.
 [2013] Replacement of the structure should be considered.
 [2014] Incorrect scour code of E-Culvert. Needs to be reviewed. Deterioration does not appear to be getting worse, however consideration should be given to replacing the structure.

58. Deck NBI: [2014] Unable to see top of deck due to bituminous overlay. Deck has moderate delamination and spalling.

36A. Brdg Railings NBI:

36B. Transitions NBI:

36C. Appr Guardrail NBI:

36D. Appr Guardrail
Terminal NBI:

59. Superstructure NBI: [2014] Superstructure has advanced deterioration. Members is misaligned and there is significant section loss of the beams.

60. Substructure NBI:

61. Channel NBI: [2013] Channel is typically dry and was dry at time of inspection.

62. Culvert NBI:

71. Waterway Adeq NBI:

72. Appr Roadway
Alignment NBI: [2014] Minor sight distance problems with no speed reduction for those traveling West.

Inventory Notes:

Ashley Slominski

Inspector's Signature

Ashley Slominski

Reviewer's Signature

Pictures



Photo 1 - East Approach (Looking West)



Photo 2 - East Approach (Looking West). Load Posted at 24T-40T-40T.

Pictures



Photo 3 - West Approach (Looking East). Load Posted at 24T-40T-40T.



Photo 4 - Top of Roadway.

Pictures



Photo 5 - Northeast corner with bituminous cracking due to settlement.



Photo 6 - North Elevation (Looking South)

Pictures



Photo 7 - Northeast corner. Railing spalled and bituminous fill crumbling below on ground.



Photo 8 - Southeast corner 1/16" to 1/8" wide crack.

Pictures



Photo 9 - Northeast Wingwall. Consists of large spall approximately 1" to 2" deep.



Photo 10 - Southeast Wingwall 1/8" - 3/16" vertical crack approximately 15 feet south of bridge.

Pictures



Photo 11 - South Elevation (Looking North)



Photo 12 - Southwest Wingwall 1/16" vertical crack at wingwall and abutment.

Pictures



Photo 13 - Botom of deck.



Photo 14 - Northeast corner.



1. P1050804.JPG



2. P1050805.JPG



3. P1050806.JPG



4. P1050808.JPG



5. P1050809.JPG



6. P1050810.JPG



7. P1050811.JPG



8. P1050813.JPG



9. P1050814.JPG



10. P1050815.JPG



11. P1050816.JPG



12. P1050817.JPG



13. P1050818.JPG



14. P1050819.JPG

Scour POA

Bridge No.: L8170

Scour POA

1. Is POA on File? _____
2. Date of most recent POA: _____
3. Here is a link to MnDOT's Bridge Scour website for other resources:
 - <http://www.dot.state.mn.us/bridge/hydraulics/scour.html>
 - The Scour POA should be kept in the bridge file and/or uploaded to SIMS using the "Inspection Files" tab.

Implementation

Scour POAs are required to be implemented by FHWA.

1. Is this POA being implemented? _____

10. _____ Have the scour countermeasures been damaged or otherwise made ineffective?

Notes:

- Streambed sounding data is to be documented.

- Per MnDOT Bridge Inspection Manual Section 2.2.5, at bridges that require x-sections, take channel x-sections, along the upstream and/or downstream face of the bridge.

- If "Yes" is the answer to any items on the checklist, notify the Program Administrator for further instructions.

Comments:

Completed On _____ By _____

Channel Section

Upstream

Custom Label	Location	Elevation
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Downstream

Custom Label	Location	Elevation
--------------	----------	-----------

Distance Measured From:

Elev. of Ref. Pt:

Depth to Water Surface:

WS Elev:

Vertical Datum:

Comments:

Distance Measured From:

Elev. of Ref. Pt:

Depth to Water Surface:

WS Elev:

Vertical Datum:



BRIDGE STRUCTURAL ASSESSMENT REPORT

PURPOSE:

This report is a structural assessment of the structure and its ability to carry loads based on conditions identified in the attached bridge inspection report. The assessment is only a cursory review intended to provide guidance as to the relative hazards for structural conditions and deficiencies identified. This report is mandatory for all fracture critical bridges and is completed by the MnDOT Bridge Office upon receipt of the 7 Day FC Report; however, it is an OPTIONAL tool for agencies to utilize at their discretion for all other inspection types.

BRIDGE NO.: L8170	BRIDGE OWNER: City or Municipal Highway Agency
DATE INSPECTED: 10/10/2014	STRUCTURE TYPE: Steel Stringer/Multi-beam or Girder
FACILITY CARRIED: VALLEY CRK TR (53)	FEATURES INTERSECTED: VALLEY CRK (TRIBUTARY)
TYPE OF INSPECTION: <input checked="" type="checkbox"/> ROUTINE <input type="checkbox"/> FRACTURE CRITICAL <input type="checkbox"/> PINNED ASSEMBLY: <input type="checkbox"/> SPECIAL: <input type="checkbox"/> DAMAGE: <input type="checkbox"/> OTHER:	
<u>Check all that apply:</u>	
Redundancy: <input type="checkbox"/> Load Path <input type="checkbox"/> Structural <input type="checkbox"/> Internal	Connection Type: <input type="checkbox"/> Riveted <input type="checkbox"/> Bolted <input type="checkbox"/> Welded <input type="checkbox"/> Other:

- Was a critical finding identified during this inspection or upon structural review? Yes No
 - If selected "Yes" above, state briefly the finding(s):
- If a critical finding was identified, what is the current status? Pending
 Resolved
 N/A
 - Briefly state actions taken:
- Does the condition of any bridge component indicate impaired function? Examples of bridge components with impaired function include elements that are: frozen or immovable, out-of-plumb or misaligned, distorted or structurally deformed, excessively deteriorated, cracked, broken, eroded or scoured. Yes No

a) If selected "Yes" above, state briefly the component(s) and condition(s):

4. Does the overall condition of the bridge, or any of its components mentioned in Question 3, suggest the need for detailed structural analysis and/or a revised load rating? Yes No

a) If selected "Yes", state the reason for this recommendation and indicate a proposed timeframe in accordance with State of Minnesota Rule 8810.9500 (Subpart 2):

5. Based on the structural assessment of these findings, recommendations include:

- Repair/Maintenance Monitoring Plan
 Other Increased Inspection Frequency

Explain recommended actions:

6. Other comments:

Bridge Office Reviewer

Maintenance

Element	Source Code	Work Code	Description	P/R	Priority	Work Order #	Year Due	Last Viewed	Entered	Start Date	Completed
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