Bridge Inspection

Bridge File Number	01097 -1 Bridge	Form Type	TH TT
Year Built/Year Supstr	1909/1907	Lot No.	2
		Inspector Name	Paul Carter
Bridge or Town Name	FORT MACLEOD	Inspector Class	BR CLS A
Located Over	OLDMAN RIVER, 2.12, WATERCRS-ST	Assistant Name	
Located On	811:02 C1 0.793	Assistant Class	
Water Body Cl./Year		Inspection Date	20-Jan-2010
Navigabil. Cl./Year		Data Entry By	Jill Potts
Legal Land Location	SE SEC 13 TWP 9 RGE 26 W4M	Data Entry Date	11-May-2011
Longitude, Latitude	-113:23:53, 49:43:55	Reviewer Name	Garry Roberts
Road Authority	Alberta Transportation (AIT)	Review Date	20-Mar-2010
Contract Main. Area	CMA26	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	5 /	Dept. Review Date	20-May-2011
AADT/Year	1,240 / 2010 (A)	Follow-Up By	
Road Classification	RCU-208-110		
Detour Length (km)	12		

Allowable Load (t):	Single	H 25 STRINGER	Semi	HS 40 U1L1	Train	CS3 62	---> On Critical Spans --->Critical Member
Design Loading:		HS20					---> Primary Span

Posting Information

Required Vert. Clearance Posting (m)											
Posted Vertical Clearance (Y/N)				Yes							
Posted:	Lane	NB	On Bridge (m)	4.4	In Advance (Y/N)	Yes	Lane	SB	On Bridge (m)	4.4	In Advance (Y/N)	Yes
Remarks	Measured 4.58 both ends.										

Required Load Posting (t)			Single	25	Semi	40	Truck Train	
Posted Loading (t)			Single	25.0	Semi	40.0	Truck Train	62.0
Posted:	Lane	NB	At Junction (Y/N)	Yes	In Advance (Y/N)	Yes	At Bridge (Y/N)	Yes
Posted:	Lane	SB	At Junction (Y/N)	No	In Advance (Y/N)	Yes	At Bridge (Y/N)	Yes
Remarks								

Hazard Marker At Bridge (Y/N)	Yes
Remarks	Installed 400mm too low.
Other Sign Types	Narrow bridge, stop if oncoming traffic, max 30 km/hr, one lane.

Utilities (Located at)

Utility Attachments	TELEPHONE UTILITIES-PHONE LINE		
Telephone	West @ bottom chord.	Gas	East 30m from c/l.
Power	10m East, 50m East & West of c/l.	Municipal	Water station at NE
Others	Multiple lines both sides.	Problem (Y/N)	No
Remarks			

Approach Road

		Last	Now	Explanation of Condition
Horizontal Alignment		5	4	Sharp turn both ends, adequate for posted speeds.
Vertical Alignment		6	6	
Roadway Width (m)	7.600			{Asphalt settled, minor bump. July 22, 2009 UT report}
Approach Bump		5	4	
Guardrail (Y/N)	Yes			Incorrect splice lap at SW wing end, but flared from lane Not thriebeam
Guardrail		5	7	
Length (m)	22.000			
Current Standard (Y/N)	No			
Termination Type	Turn Down			
Drainage		6	7	
Approach Road General Rating		**5**	**4**	

Superstructure			
Bridge Component	**Last**	**Now**	**Explanation of Condition**
(Primary Span : **TH, 4 Spans, Lengths(m): 53.3-53.3-53.3-8.5, A-Ident Number: A0108-03;A0108-01;A0108-02**)			
Special Features			
Special Feature		X	{Dwydag strengthening. July 22, 2009 UT report}
(Type :)			
Special Feature		X	
(Type :)			
Wearing Surface/Deck Top Detail Ratings			
N (%) / 1 (%) / 2 (%) / 3 (%)			
Last: 0 / 0 / 0 / 0			
Now			
Wearing Surface/Deck Top	5	5	Lagged in @ ends.
(Material Type : **UNTREATED TIMBER**)			
(Plank Thickness(mm) : **75**)			
(Plank Width(mm) : **300**)			
Deck Rideability	6	7	
Deck Joints	X	X	
Temperature (deg. C)			
(Expansion Type :)			
(Fixed Type :)			
Gap Size (mm) / Gap Location			
Curbs/Wheel Guards	5	4	{Minor plow damage, still functional. July 22, 2009 UT report}
(Curb Type : **Standard**)			
(Type : **TREATED TIMBER**)			
(Thickness(mm) : **100**)			
(Width(mm) : **300**)			
Bridge Rail	4	4	{Missing 67 splice bolts, 3 rail blocks & 2 post bolts missing nuts. 3 layer & 2 row steel wire. July 22, 2009 UT report} U bolts holding cable broken @ one location. No steel end posts.
(Type : **GALVANIZED STEEL FLEX BEAM**)			
Bridge Rail Posts/Blocking	4	4	
(Type : **POST STEEL;POST STEEL**)			
Bridge Rail/Posts Coating	5	7	
(Type : **PAINT**)			
Sidewalk	X	X	

Superstructure

Bridge Component		Last	Now	Explanation of Condition
(Primary Span : **TH, 4 Spans, Lengths(m): 53.3-53.3-53.3-8.5, A-Ident Number: A0108-03;A0108-01;A0108-02**)				
Wide Load Damage (Y/N)	Yes			{U9L9W span 1 has minor local bend @ wheelguard height, 25mm. Minor notches @ North portal @ span 3 & South portal @ span 2. Sway bracing @ U2, U3, U5, U6, U7, U8. S1-U2U2, U3U3, U5U5 bowed. S3-U9LW8 dented. S1-U9L9W, S3-U8L8W dented. Span 1 bent 25mm to 175mm. Span 3 U8L8 & U9L8W 40mm local bends at East truss. Strengthened with 2-75 x 75 angle floor beams. S3-U1L2W missing 1 tie plate bolt. July 22, 2009 UT report} Dwydag rods in bottom chords. {5 - 205 x 165 @ 800. 6 - 250 x 120 @ 770 + 2 channels. Original spacing left. July 22, 2009 UT report} 13 stringer/bay x 10 bays x 3 spans
High Load Damage (Y/N)	No			
Top Chord		7	7	
Batter Posts		7	7	
Sway Bracings		5	5	
Diagonals		6	5	
Verticals		4	5	
Portals		6	5	
Connections		5	5	
Floor Beams		7	7	
Bottom Chord		7	7	
(No. of Stringers : **130;130;130**)				
Stringer Detail Ratings				

	N (count)	1 (count)	2 (count)	3 (count)
Last				
Now				

Stringers		6	7	
(Type : **STEEL**)				
(Width(mm) : **200**)				
(Depth(mm) : **510**)				
(Spacing(mm) : **774**)				
Paint Condition		5	6	{Isolated areas of minor surface corrosion. July 22, 2009 UT report} green
(Colour Description : **GREEN**)				
(Colour Code : **503-113**)				
Touchup Required (Y/N)	No			
Bearings		6	7	{Exp. @ S1@P1, S2@P2, S3@P3. Fully, 3/4 U/S, 3/4 U/S. 1/2 D/S. 1/2 D/S. July 22, 2009 UT report}
Temperature (deg. C)	31			
(Expansion Type : **ROLLER NEST BEARING**)				
(Fixed Type : **STEEL SLIDING PLATES WITH BRONZE PLATE IN BETWEEN;PINNED BEARING**)				
Functioning (Y/N)	Yes			
Sub Deck/Deck Underside		5	5	{Laminated 50 x 100 subdeck @ Span 1. Some deteriorated @ span #1 laminated subdeck, splits plus 1 with end rot @ SW, some too short. July 22, 2009 UT report}
(Material Type : **TREATED TIMBER**)				
(Plank Thickness(mm) : **100**)				
(Plank Width(mm) : **300**)				
Defects (Percent Area)	2			
Span Alignment Problems				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
Superstructure General Rating		**4**	**5**	

Superstructure

Bridge Component		Last	Now	Explanation of Condition
(Secondary Span : **TT**)				
Special Features				
Special Feature			X	
(Type :)				
Special Feature			X	
(Type :)				

Superstructure

Bridge Component		Last	Now	Explanation of Condition
(Secondary Span : **TT**)				
Wearing Surface/Deck Top Detail Ratings				
	N (%)	1 (%)	2 (%)	3 (%)
Last	0	0	0	0
Now				
Wearing Surface/Deck Top		5	4	{Lagged in @ ends. Heavily checked & abrasive wear. July 22, 2009 UT report}
(Material Type : **UNTREATED TIMBER**)				
(Plank Thickness(mm) : **75**)				
(Plank Width(mm) : **300**)				
Deck Rideability		6	7	
Wheel Guards		5	5	Scraped but functional.
(Curb Type : **Standard**)				
(Type : **TREATED TIMBER**)				
(Thickness(mm) : **100**)				
(Width(mm) : **300**)				
Bridge Rail		4	5	Single layer. 8 missing bolts @ splices.
(Type : **GALVANIZED STEEL FLEX BEAM**)				
Bridge Rail Posts		6	6	
(Type : **TREATED TIMBER;TREATED TIMBER**)				
Bridge Rail/Posts Coating		6	6	
(Type : **GALVANIZED**)				
(No. of Stringers : **12**)				{Angle and cable bracing @ mid span. 2nd from East twisted. Varies, new stringers were added, 4 stringers doubled up. 400 to 800 mm spacing. July 22, 2009 UT report}
Stringer Detail Ratings				
	N (count)	1 (count)	2 (count)	3 (count)
Last	0	0	0	0
Now				
Stringers		5	6	
(Type : **TREATED TIMBER**)				
(Width(mm) : **200**)				
(Depth(mm) : **510**)				
(Spacing(mm) : **400**)				
Sub Deck/Deck Underside		5	5	
(Material Type : **TREATED TIMBER**)				
(Plank Thickness(mm) : **100**)				
(Plank Width(mm) : **300**)				
Defects (Percent Area)	2			
Span Alignment Problems				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
Superstructure General Rating		**5**	**5**	

Substructure

Bridge Component		Last	Now	Explanation of Condition
Abutments				
(Extended Backwall Piles (Y/N) : **Y**)				
(Extended Backwall Piles Spacing(mm) : **2000**)				

Substructure						
Bridge Component					**Last**	**Now**	**Explanation of Condition**
(Total Number of Caps/Corbels : **1:1**)							Concrete abut. at South
Bearing Seats/Caps/Corbels Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	0			
Now							
Bearing Seats/Caps/Corbels					6	6	
(Type : **TREATED TIMBER**)							
(Depth(mm) : **300**)							
(Width(mm) : **300**)							
Backwalls/Breastwalls					5	5	{Timbers separating. July 22, 2009 UT report}
Greatest Height (m)	1.40						
Wingwalls					5	5	
(Total Number of Bearing Piles : **5:5**)							T.T piles N. abut
Piles Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	0			
Now							
Piles					6	6	
Paint/Coating					X	X	
Abutment Stability					7	7	
Scour/Erosion					7	7	
Piers/Bents							
(Type : **PIER-SOLID**)							{Top of pier 1 and 2 have medium to heavy scaling. July 22, 2009 UT report}
(Total Number of Caps/Corbels : **1:1:1**)							
Bearing Seats/Caps/Corbels Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	0			
Now							
Bearing Seats/Caps/Corbels					4	4	
(Type : **CONCRETE**)							
(Total Number of Bearing Piles : **0:0:0**)							{Cracked but functional. Wide cracks in random checked pattern and vertical wide cracks below anchor bolts, 4mm to 8mm wide cracks. July 22, 2009 UT report}
Piles Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	0			
Now							
Pier Shaft/Piles					5	5	
Greatest Height (m)	5.20						
Bracing/Struts/Sheathing					X	X	
Nose Plate					6	7	
Paint/Coating					4	4	{Surface corrosion @ nose plates. No coating at piers. July 22, 2009 UT report}
(Colour Description :)							blue
(Colour Code :)							
Pier Stability					7	7	
Scour					6	N	
Debris (Y/N)	Yes						Minor drift at p 2

Substructure				
Bridge Component		**Last**	**Now**	**Explanation of Condition**
Substructure General Rating		**4**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel				
(U/S Direction : **W**)				{Flows against north bank @ high water. July 22, 2009 UT report}
(D/S Direction : **E**)				
Alignment		4	5	
Bank Stability		5	5	{Spurs and rock @ NW & SE. July 22, 2009 UT report}
HWM (m below Top of Curb)	4.0			((2.1m below top stringers South side - 97/01/08)) (Water-deck 6.1m (Water to deck 6.5m. 97/01/08) Minor drift
Drift (Y/N)	Yes			
Slope Protection		5	5	
(Type : **RIP RAP; RIP RAP**)				
Guidebank/Spurs		7	7	4 rock spurs u/s
Adequacy of Opening		6	7	
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**4**	**5**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
REPAIR/REPLACE BRIDGE RAIL	2012	{67 flexbeam splice bolts, 3 blocks. July 22, 2009 UT report}				
RETROFIT BRIDGE RAIL						
SEAL CURBS						
PATCH DECK						
OVERLAY DECK						
REPLACE STRIP DECK						
REPLACE SUB DECK	2012	{Replace rotted planks. July 22, 2009 UT report}				
RESET/ PAINT BEARINGS						
REPAINT SUPERSTRUCTURE						
STRAIGHTEN/REPLACE MEMBERS	2011	{Straighten U9L9W, U7L7, U3U3 on span 3 and U8L8W plus U9L8W on span 1. July 22, 2009 UT report}				
WASHING						
SHOTCRETE REPAIRS						
CORE TIMBER CAPS/CORBELS						
REPAIR/REPLACE TIMBER CAPS						
REPAIR ABUTMENT SCOUR/EROSION						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION						
OTHER ACTION	2012	{Raise hazard markers. July 22, 2009 UT report}				
OTHER ACTION	2012	{Epoxy seal pier top. July 22, 2009 UT report}				
OTHER ACTION	2012	{Patch approach ACP. July 22, 2009 UT report}				
OTHER ACTION	2012	{Add bolt at splice plates U1L2W span 1 & 2. July 22, 2009 UT report}				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/55.6**	**Sufficiency Rating (Last/Now) (%)**	**40.3/37.3**	Est. Repl. Yr	2034	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection		Department Comments	

Maintenance Reviewed By		Date		Estimated Total	0
Proposed Long-Term Strategy					
On 3-Year Program (Y/N)					

Proposed Action			
Previous Inspector's Name	Garry Roberts	Previous Assistant's Name	
Next Inspection Date	20-Apr-2013	Previous Inspection Date	19-Jan-2010
Inspection Cycle (Default) (months)	39		
Comment			