Bridge Inspection

Bridge File Number	70774 -1 Bridge	Form Type	PT TT
Year Built/Year Supstr	1928/1928	Lot No.	1
		Inspector Name	Jason Saly
Bridge or Town Name	ROSEDALE	Inspector Class	BR CLS A
Located Over	ROSEBUD RIVER, 3.33, WATERCRS-ST	Assistant Name	
Located On	10X:02 C1 1.206	Assistant Class	
Water Body Cl./Year		Inspection Date	06-Mar-2013
Navigabil. Cl./Year		Data Entry By	Marcia Chavez
Legal Land Location	NW SEC 18 TWP 28 RGE 19 W4M	Data Entry Date	27-Mar-2013
Longitude, Latitude	-112:40:01, 51:23:42	Reviewer Name	John O'Brien
Road Authority	Alberta Transportation (AIT)	Review Date	21-Mar-2013
Contract Main. Area	CMA21	Dept. Reviewer Name	Chris Black
Clear Roadway/Skew	4.9 /	Dept. Review Date	28-Mar-2013
AADT/Year	580 / 2011 (A)	Follow-Up By	
Road Classification	RLU-208-100		
Detour Length (km)	15		

Allowable Load (t):	Single	H 26 FLOOR BEAM	Semi	HS 39 L2L3	Train	CS3 52 L2L3	---> On Critical Spans --->Critical Member
Design Loading:		HS15					---> Primary Span

Posting Information

Required Load Posting (t)			Single	27	Semi	39	Truck Train	52
Posted Loading (t)			Single	24.0	Semi	34.0	Truck Train	40.0
Posted:	Lane	NB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N)	Yes
Posted:	Lane	SB	At Junction (Y/N)	Yes	In Advance (Y/N)	No	At Bridge (Y/N)	Yes
Remarks	(Bridge #7) Posting is dictated by BF 70514.							

Hazard Marker At Bridge (Y/N)	Yes
Remarks	
Other Sign Types	Stop if oncoming traffic on bridge, curve 35 km/hr, Railway crossing.

Utilities (Located at)

Utility Attachments			
Telephone	12.0m South.	Gas	11.0m West.
Power	3 wire crosses road 25m South.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road

		Last	Now	Explanation of Condition
Horizontal Alignment		4	4	Road at N. end makes right angle to cross railway track. Curves to S.
Vertical Alignment		7	7	Limited sight distance with reduced speed limit 35km/hr in N/B & S/B directions.
Roadway Width (m)	7.000			
Approach Bump		5	5	
Guardrail (Y/N)	Yes			Incorrect lap on exiting ends.
Guardrail		4	4	
Length (m)	15.600			
Current Standard (Y/N)	No			Insufficient post/spacing & length. Not Thrie Beam; not attached to bridge.
Termination Type	Turn Down			
Drainage		4	4	Erosion in SE ditch 0.9 x 2.0 x 12M.
Approach Road General Rating		**4**	**4**	

Superstructure				
Bridge Component		**Last**	**Now**	**Explanation of Condition**
(Primary Span : **PT, 2 Spans, Lengths(m): 6.1-24.4, A-Ident Number: A0034-26**)				
Special Features				
Special Feature			X	
(Type :)				
Special Feature			X	
(Type :)				
Wearing Surface/Deck Top Detail Ratings				
	N (%)	1 (%)	2 (%)	3 (%)
Last	0	0	0	0
Now	5.0	0.0	0.0	0.0
				Snow/dirt covered.
Wearing Surface/Deck Top		8	7	
(Material Type : **EKKI WOOD**)				
(Plank Thickness(mm) : **60**)				
(Plank Width(mm) : **190**)				
Deck Rideability		8	8	
Deck Joints		X	X	
Temperature (deg. C)	-12			
(Expansion Type :)				
(Fixed Type :)				
Gap Size (mm)	Gap Location			
Curbs/Wheel Guards		8	6	WG notched at batter posts. Crack in E wheel guard near midspan.
(Curb Type : **Standard**)				
(Type : **EKKI WOOD**)				
(Thickness(mm) : **150**)				
(Width(mm) : **245**)				
Bridge Rail		4	5	Double layer. (Missing 2 splice bolts on E. side. 29Sep2011) - Could not find missing splice bolts; no evidence of new bolts.
(Type : **GALVANIZED STEEL FLEX BEAM**)				
Bridge Rail Posts/Blocking		7	7	
(Type : **GALVANIZED POST STEEL;GALVANIZED POST STEEL**)				
Bridge Rail/Posts Coating		5	5	HSS blocking painted green.
(Type : **GALVANIZED**)				
Sidewalk		X	X	

Superstructure

Bridge Component		Last	Now	Explanation of Condition
(Primary Span : **PT, 2 Spans, Lengths(m): 6.1-24.4, A-Ident Number: A0034-26**)				
Wide Load Damage (Y/N)	No			5 members have minor bends or dents (see UT 2011 report).
Top Chord		6	6	
Batter Posts		7	7	
Diagonals		6	6	
Verticals		4	4	Connections have pack rust btwn 2 lower gusset plates causing them to bulge.
Connections		4	4	
Floor Beams		6	6	
Bottom Chord		6	6	
Lateral Bracings		6	6	Total of 13 steel stringers/bay. 8 stringers are 110mm x 230mm. 5 new stringers are 100 x 200 between 110 x 230 stringer @ 360.
(No. of Stringers : **78**)				
Stringer Detail Ratings				
	N (count)	1 (count)	2 (count)	3 (count)
Last				
Now				
Stringers		3	3	Original stringers have possible section loss on top flange. Heavy corrosion with possible loss of section at top flanges. For details see 2011 UT report.
(Type : **STEEL**)				
(Width(mm) : **110**)				
(Depth(mm) : **230**)				
(Spacing(mm) : **445**)				
Paint Condition		3	3	Paint rusting in splash zone. Heavy corrosion at floor system.
(Colour Description : **GREEN**)				
(Colour Code : **14090**)				
Touchup Required (Y/N)	Yes			
Bearings		5	5	Corrosion has distorted clip angles. A1 P1
Temperature (deg. C)	-12			
(Expansion Type : **SLIDING PLATE**)				
(Fixed Type : **PINNED BEARING**)				
Functioning (Y/N)	No			
Sub Deck/Deck Underside		8	7	
(Material Type : **TREATED TIMBER**)				
(Plank Thickness(mm) : **100**)				
(Plank Width(mm) : **300**)				
Defects (Percent Area)	0			
Span Alignment Problems				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
Superstructure General Rating		**3**	**3**	

Superstructure

Bridge Component		Last	Now	Explanation of Condition
(Secondary Span : **TT**)				
Special Features				
Special Feature			X	
(Type :)				
Special Feature			X	
(Type :)				
Wearing Surface/Deck Top Detail Ratings				
	N (%)	1 (%)	2 (%)	3 (%)
Last	0	0	0	0
Now	0.0	0.0	0.0	0.0

Superstructure

Bridge Component	Last	Now	Explanation of Condition
(Secondary Span : **TT**)			
Wearing Surface/Deck Top	8	7	
(Material Type : **EKKI WOOD**)			
(Plank Thickness(mm) : **60**)			
(Plank Width(mm) : **190**)			
Deck Rideability	8	8	
Wheel Guards	7	7	
(Curb Type : **Standard**)			
(Type : **EKKI WOOD**)			
(Thickness(mm) : **150**)			
(Width(mm) : **245**)			
Bridge Rail	5	5	2 layer.
(Type : **GALVANIZED STEEL FLEX BEAM**)			
Bridge Rail Posts	5	5	Incorrect installation of posts/flat side.
(Type : **TREATED TIMBER;TREATED TIMBER**)			
Bridge Rail/Posts Coating	6	5	
(Type : **GALVANIZED**)			
(No. of Stringers : **11**)			
Stringer Detail Ratings			

	N (count)	1 (count)	2 (count)	3 (count)
Last	0	0	0	0
Now	0	0	0	0

Stringers	5	5	Crack in S6 at pier but stringer in place.
(Type : **TREATED TIMBER**)			
(Width(mm) : **150**)			
(Depth(mm) : **400**)			
(Spacing(mm) : **550**)			
Sub Deck/Deck Underside	8	7	
(Material Type : **TREATED TIMBER**)			
(Plank Thickness(mm) : **100**)			
(Plank Width(mm) : **300**)			
Defects (Percent Area)	0		
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) : **N**)			
(Extended Backwall Piles Spacing(mm) :)			
(Total Number of Caps/Corbels : **7:1**)			
Bearing Seats/Caps/Corbels Detail Ratings			

	N (count)	1 (count)	2 (count)	3 (count)
Last	0	0	0	0
Now	0	0	0	0

Bearing Seats/Caps/Corbels	8	8	(Caps & corbels recently replaced. 29Sep2011).
(Type : **TREATED TIMBER**)			
(Depth(mm) : **300**)			
(Width(mm) : **300**)			

Substructure						
Bridge Component					**Last**	**Now**	**Explanation of Condition**
Backwalls/Breastwalls					6	6	
Greatest Height (m)	2.60						
Wingwalls					6	6	
(Total Number of Bearing Piles : **8:5**)							
Piles Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	0			
Now	8	0	0	0			
Piles					5	5	Cracked piles banded & P5 gap shimmed. Piles at S abut are not visible.
Paint/Coating					X	X	
Abutment Stability					6	6	
Scour/Erosion					5	5	
Piers/Bents							
(Type : **PIER-COLUMN**)							
(Total Number of Caps/Corbels : **9**)							
Bearing Seats/Caps/Corbels Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	0			
Now	0	0	0	0			(Caps & corbels have been replaced. 29Sep2011).
Bearing Seats/Caps/Corbels					8	8	
(Type : **TREATED TIMBER**)							
(Depth(mm) : **300**)							
(Width(mm) : **300**)							
(Total Number of Bearing Piles : **12**)							2 rows of 6 piles plus a nose pile.
Piles Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	0			
Now	12	0	0	0			
Pier Shaft/Piles					6	N	Piles are sheathed in; visible from W end only.
Greatest Height (m)	4.10						
Bracing/Struts/Sheathing					6	6	
Nose Plate					6	6	
Paint/Coating					4	5	Minor rust at nose plate.
(Colour Description :)							
(Colour Code :)							
Pier Stability					6	6	
Scour					5	5	N hslp eroding behind pier; not a threat at time of inspection.
Debris (Y/N)	Yes						(Old piles exposed/left in streambed. Hook bolts and clip angles on S. headslope from subdeck change. 29Sep2011).
Substructure General Rating					**5**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel				
(U/S Direction : **W**)				Meandering stream. On 15 degree skew to bridge.
(D/S Direction : **E**)				
Alignment		5	5	
Bank Stability		5	5	
HWM (m below Top of Curb)	1.2			HWM Not visible. (Drift on pier cap 26-May-2011).
Drift (Y/N)	No			
Slope Protection		5	5	
(Type : **NATURAL; NATURAL**)				
Guidebank/Spurs		X	X	
Adequacy of Opening		5	5	
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**5**	**5**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
REPAIR/REPLACE BRIDGE RAIL	2013	Connect bridgerails to approach rails. Reset TT posts on approach span/S1 only when flexbeam is replaced/repaired. Add splice bolt if still missing.				
RETROFIT BRIDGE RAIL						
PATCH DECK						
REPLACE STRIP DECK						
REPLACE SUB DECK						
RESET/ PAINT BEARINGS						
REPAINT SUPERSTRUCTURE	2013	Truss, bearings and floor system; treat pack rust while painting.				
STRAIGHTEN/REPLACE MEMBERS	2013	Heat straighten U1L1E, U1L1W & U4L4E.				
WASHING						
CORE TIMBER CAPS/CORBELS						
REPAIR/REPLACE TIMBER CAPS						
REPAIR ABUTMENT SCOUR/EROSION						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION	2013	If not yet done.				
OTHER ACTION	2013	Level 2 to determine extent of section loss at stringers; replace if deficient or retrofit to protect flanges.				
OTHER ACTION	2013	Repair ditch erosion.				
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**27.8/35.9**	Est. Repl. Yr	2030	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection		Department Comments	

Maintenance Reviewed By		Date		Estimated Total	0
Proposed Long-Term Strategy	2006.12.29 Timber substructure should be good for 10+ years. Super good for 20+ years. Issue will be corrosion (joints). With normal maintenance bridge good until 2025.				
On 3-Year Program (Y/N)					
Proposed Action					
Previous Inspector's Name	Wayne Cappellani	Previous Assistant's Name	Chris Black		
Next Inspection Date	06-Dec-2014	Previous Inspection Date	29-Sep-2011		
Inspection Cycle (Default) (months)	21				
Comment					

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
REPAIR/REPLACE BRIDGE RAIL	2013	Connect bridgerails to approach rails. Reset TT posts on approach span/S1 only when flexbeam is replaced/repaired. Add splice bolt if still missing.	Defer until replacement	2023		
RETROFIT BRIDGE RAIL						
PATCH DECK						
REPLACE STRIP DECK						
REPLACE SUB DECK						
RESET/ PAINT BEARINGS						
REPAINT SUPERSTRUCTURE	2013	Truss, bearings and floor system; treat pack rust while painting.	Defer until replacement	2023		
STRAIGHTEN/REPLACE MEMBERS	2013	Heat straighten U1L1E, U1L1W & U4L4E.	Defer until replacement based on 2011 Level II inspection.	2023		
WASHING						
CORE TIMBER CAPS/CORBELS						
REPAIR/REPLACE TIMBER CAPS						
REPAIR ABUTMENT SCOUR/EROSION						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION	2013	If not yet done.	Defer, low priority			
OTHER ACTION	2013	Level 2 to determine extent of section loss at stringers; replace if deficient or retrofit to protect flanges.	Defer until replacement based on 2011 Level II inspection.	2023		
OTHER ACTION	2013	Repair ditch erosion.	Defer until replacement	2023		
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**27.8/35.9**	Est. Repl. Yr	2030	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection		Department Comments	Scheduled for replacement in 2023. DA

Maintenance Reviewed By	Darron Ahlstedt	Date	30-Apr-2013	Estimated Total	0
Proposed Long-Term Strategy	2006.12.29 Timber substructure should be good for 10+ years. Super good for 20+ years. Issue will be corrosion (joints). With normal maintenance bridge good until 2025.				
On 3-Year Program (Y/N)					

Proposed Action			
Previous Inspector's Name	Wayne Cappellani	Previous Assistant's Name	Chris Black
Next Inspection Date	06-Dec-2014	Previous Inspection Date	29-Sep-2011
Inspection Cycle (Default) (months)	21		
Comment			