Bridge Inspection

Bridge File Number	73173 -1 Bridge	Form Type	TH
Year Built/Year Supstr	1971/1948	Lot No.	1
		Inspector Name	Owen Salava
Bridge or Town Name	SUNDRE	Inspector Class	BR CLS A
Located Over	JAMES RIVER, 3.95, WATERCRS-ST	Assistant Name	
Located On	734:12 C1 33.750	Assistant Class	
Water Body Cl./Year		Inspection Date	29-Nov-2010
Navigabil. Cl./Year		Data Entry By	Marcia Chavez
Legal Land Location	SE SEC 10 TWP 33 RGE 9 W5M	Data Entry Date	28-Feb-2011
Longitude, Latitude	-115:11:33, 51:48:47	Reviewer Name	John O'Brien
Road Authority	Alberta Transportation (AIT)	Review Date	22-Feb-2011
Contract Main. Area	CMA18	Dept. Reviewer Name	Chris Black
Clear Roadway/Skew	6.7 / 0 deg.	Dept. Review Date	01-Mar-2011
AADT/Year	100 / 2009 (A)	Follow-Up By	
Road Classification	RCU-208G-90		
Detour Length (km)	50		

Allowable Load (t):	Single	CS1 40 STRINGER	Semi	CS2 60 U2L3	Train	CS3 74 U2L3	---> 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)	4.7	In Advance (Y/N)	Yes	Lane	SB	On Bridge (m)	4.7	In Advance (Y/N)	Yes
Remarks	Measured 4.89m both ends. Advanced NB has bullet hole through "7" making it illegible @ Red Deer River Crossing										

Required Load Posting (t)			Single		Semi		Truck Train	
Posted Loading (t)			Single		Semi		Truck Train	
Posted:	Lane	NB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N)	No
Posted:	Lane	SB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N)	No
Remarks	Not required. Minor damage to sign & bracket at N portal. Cracked bracket at S portal.							

Hazard Marker At Bridge (Y/N)	Yes
Remarks	At varying heights. Increased sign height aids in visibility due to vertical curves
Other Sign Types	Narrow Bridge, Max 1 Truck on Bridge, Stop if Oncoming Traffic, Max 20 - Logging Trucks; "James River".

Utilities (Located at)

Utility Attachments			
Telephone		Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road

		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	In sag curve with limited sight distance in both directions.
Vertical Alignment		4	4	
Roadway Width (m)	7.000			(S approach has large potholes. 28May2008).
Approach Bump		4	6	
Guardrail (Y/N)	No			No guardrail, height above water and vertical alignment contribute to potential hazard.
Guardrail		X	X	
Length (m)				
Current Standard (Y/N)	No			
Termination Type	None			
Drainage		4	4	Windrows at north, erosion channel NW, SW & SE. Drains to bridge.
Approach Road General Rating		**2**	**2**	Potential safety hazard.

Superstructure

Bridge Component	Last	Now	Explanation of Condition
(Primary Span : **TH, 1 Spans, Lengths(m): 34.1, A-Ident Number: A0664-02**)			
Special Features			
Special Feature		X	
(Type :)			
Special Feature		X	
(Type :)			
Wearing Surface/Deck Top Detail Ratings			
	N (%) / 1 (%) / 2 (%) / 3 (%)		
Last	60 / 0 / 0 / 0		Snow covered.
Now	100.0 / 0.0 / 0.0 / 0.0		
Wearing Surface/Deck Top	4	N	(25mm worn in wheelpaths, ends starting to rot. 23Jun2010).
(Material Type : **UNTREATED TIMBER**)			
(Plank Thickness(mm) : **75**)			
(Plank Width(mm) : **300**)			
Deck Rideability	5	5	
Deck Joints	X	X	
Temperature (deg. C) -8			
(Expansion Type :)			
(Fixed Type :)			
Gap Size (mm) / Gap Location			
Curbs/Wheel Guards	N	N	(2 wheelguards are splintered. "L" bolts are ineffective - photo. 1 spacer block split & dislodged at NE corner. 23Jun2010). Snow covered.
(Curb Type : **Standard**)			
(Type : **TREATED TIMBER**)			
(Thickness(mm) : **100**)			
(Width(mm) : **300**)			
Bridge Rail	2	2	(32 rail to truss hooked bolts are missing. 23Jun2010). Minor damage on W truss rail @ midpoint. Hole in another W panel near N end. There are no railings past batter posts.
(Type : **LATTICE**)			
Bridge Rail Posts/Blocking	2	2	3 steel posts are missing. Truss member used as support for panels. Rusting.
(Type : **POST STEEL;POST STEEL**)			
Bridge Rail/Posts Coating	4	4	10% paint failure. Dirty.
(Type : **PAINT**)			
Sidewalk	X	X	

Superstructure				
Bridge Component		**Last**	**Now**	**Explanation of Condition**
(Primary Span : **TH, 1 Spans, Lengths(m): 34.1, A-Ident Number: A0664-02**)				
Wide Load Damage (Y/N)	Yes			Both portals (minor). U6L7E has 30mm dent. U3m2E cracked at m2E. U4L3W has 30mm bend near L3. U6U6 has 20mm dent & both portals have high load gouges. Bay 3 & 4 missing lower bracing bolts at mid-point. Top bracing has headless rivet at U5W. Batter post has broken clip angle at L7E.
High Load Damage (Y/N)	Yes			
Top Chord		7	7	
Batter Posts		5	5	
Sway Bracings		7	7	
Diagonals		4	4	
Verticals		7	7	
Portals		4	4	
Connections		4	4	
Floor Beams		7	7	
Bottom Chord		7	7	
(No. of Stringers : **91**)				
Stringer Detail Ratings				
	N (count)	1 (count)	2 (count)	3 (count)
Last				
Now				
Stringers		7	7	
(Type : **STEEL**)				
(Width(mm) : **125**)				
(Depth(mm) : **300**)				
(Spacing(mm) : **557**)				
Paint Condition		4	5	5% peeling between primer and top coat and also peeling on any mill scale. Rust on 2% predominantliy floor system. Green.
(Colour Description :)				
(Colour Code :)				
Touchup Required (Y/N)	No			
Bearings		7	7	Truss jammed into abutment timbers. N abut at L7. S abut at L0. Covered with gravel & snow.
Temperature (deg. C)	-8			
(Expansion Type : **ROLLER NEST BEARING**)				
(Fixed Type : **PINNED BEARING**)				
Functioning (Y/N)	Yes			
Sub Deck/Deck Underside		6	6	Laminated.
(Material Type : **TREATED TIMBER**)				
(Plank Thickness(mm) : **105**)				
(Plank Width(mm) : **50**)				
Defects (Percent Area)	0			
Span Alignment Problems				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
Superstructure General Rating		**4**	**4**	

Substructure				
Bridge Component		**Last**	**Now**	**Explanation of Condition**
Abutments				
(Extended Backwall Piles (Y/N) : **Y**)				
(Extended Backwall Piles Spacing(mm) : **1500**)				

Substructure

Bridge Component		Last	Now	Explanation of Condition
(Total Number of Caps/Corbels : **11:11**)				8 - 310 x 94 HP corbel & 1 - 310 x 94 HP full length caps in front, 2 short. HP 310 x 94 cap in back at each abut. No stiffeners in corbels above caps.
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		7	7	
(Type : **STEEL**)				
(Depth(mm) : **310**)				
(Width(mm) : **310**)				
Backwalls/Breastwalls		6	6	
Greatest Height (m)	4.50			
Wingwalls		7	7	
(Total Number of Bearing Piles : **8:8**)				With steel capital - typical. 14 / abutment with steel capital. 2 rows of 7 / abutments.
Piles Detail Ratings				
	N (count)	1 (count)	2 (count)	3 (count)
Last	0	0	0	0
Now	0	0	0	0
Piles		6	6	
Paint/Coating		X	X	
Abutment Stability		5	5	
Scour/Erosion		4	N	(Erosion scar along S abut & extends behind NW wingwall. Erosion gully at S breastwall. 23Jun2010).
Piers/Bents				
(Type :)				
(Total Number of Caps/Corbels :)				
Bearing Seats/Caps/Corbels Detail Ratings				
	N (count)	1 (count)	2 (count)	3 (count)
Last				
Now				
Bearing Seats/Caps/Corbels		X	X	
(Type :)				
(Total Number of Bearing Piles :)				
Piles Detail Ratings				
	N (count)	1 (count)	2 (count)	3 (count)
Last				
Now				
Pier Shaft/Piles		X	X	
Greatest Height (m)				
Bracing/Struts/Sheathing		X	X	
Nose Plate		X	X	
Paint/Coating		X	X	
(Colour Description :)				
(Colour Code :)				
Pier Stability		X	X	
Scour		X	X	
Debris (Y/N)	Yes			Old piles at S abut. Debris stuck in wheelguard at L3E.

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

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel				
(U/S Direction : **E**)				River is on a skew and bridge is square.
(D/S Direction : **W**)				
Alignment		5	5	
Bank Stability		4	N	(Some erosion E of bridge on the S & N banks. 23Jun2010).
HWM (m below Top of Curb)	2.9			Could not confirm HWM Minor drift.
Drift (Y/N)	Yes			
Slope Protection		4	N	(Erosion of S bank under bridge (photo). 23Jun2010).
(Type : **RIP RAP; RIP RAP**)				
Guidebank/Spurs		X	X	
Adequacy of Opening		6	6	
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**4**	**4**	GR carried forward from 23Jun2010.

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
REPAIR/REPLACE BRIDGE RAIL	2011	Install 3 steel end posts, approach rail & 2 ply flexbeam across truss.				
RETROFIT BRIDGE RAIL						
SEAL CURBS	2011	Replace split blocking & add hook bolts.				
PATCH DECK						
SEAL DECK						
OVERLAY DECK						
REPLACE STRIP DECK						
REPLACE SUB DECK						
RESET/ PAINT BEARINGS						
REPAINT SUPERSTRUCTURE						
STRAIGHTEN/REPLACE MEMBERS	2011	Replace U3m2E, heat straighten U4L3W, U6U6 & U6L7E, and replace clip angle at L7E.				
WASHING	2011					
SHOTCRETE REPAIRS						
CORE TIMBER CAPS/CORBELS						
REPAIR/REPLACE TIMBER CAPS						
REPAIR ABUTMENT SCOUR/EROSION						
PLACE ADDITIONAL RIP RAP	2011	ClassII / 60m3.				
REMOVE DRIFT ACCUMULATION						
OTHER ACTION	2011	Install missing bolt in lower X bracing @ midspan (3).				
OTHER ACTION	2011	Grade South approach.				
OTHER ACTION	2011	Install guardrail and attach to batter posts				
OTHER ACTION	2011	Replace NB advanced clearance sign, the S portal bracket & both portal signs.				
OTHER ACTION	2011	Grind notches smooth along U1U1 & U6U6.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**50.0/50.0**	**Sufficiency Rating (Last/Now) (%)**	**44.9/44.9**	Est. Repl. Yr	2023	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Photos from June 2010 UT included as additional attachement. LRA sent by email 25Feb2011.	Department Comments	

Maintenance Reviewed By		Date		Estimated Total	0
Proposed Long-Term Strategy	2006.01.17 With normal maintenance bridge should be good until 2035.				
On 3-Year Program (Y/N)					
Proposed Action					
Previous Inspector's Name	Owen Salava	Previous Assistant's Name	Bryce Clayton		
Next Inspection Date	28-Feb-2014	Previous Inspection Date	23-Jun-2010		
Inspection Cycle (Default) (months)	39				
Comment					