

Bridge Inspection									
Bridge File Number	75335 N-1 Bridge				Form Type	SG			
Year Built/Year Supstr	1962/1962				Lot No.	2			
Bridge or Town Name	RED DEER				Inspector Name	Owen Salava			
Located Over	RED DEER RIVER, 3, WATERCRS-ST				Inspector Class	BR CLS A			
Located On	2:24 R1 30.779				Assistant Name				
Water Body Cl./Year					Assistant Class				
Navigabil. Cl./Year					Inspection Date	19-Mar-2013			
Legal Land Location	NE SEC 13 TWP 38 RGE 28 W4M				Data Entry By	Marcia Chavez			
Longitude, Latitude	-113:51:44, 52:16:05				Data Entry Date	28-Mar-2013			
Road Authority	Alberta Transportation (AIT)				Reviewer Name	John O'Brien			
Contract Main. Area	CMA19				Review Date	23-Mar-2013			
Clear Roadway/Skew	12.2 / 10 deg. (RHF)				Dept. Reviewer Name	Chris Black			
AADT/Year	46,200 / 2011 (A)				Dept. Review Date	09-Apr-2013			
Road Classification	RFD-412.4-130				Follow-Up By				
Detour Length (km)	1								
Allowable Load (t):	Single	CS1 45 GIRDER	Semi	CS2 52 GIRDER	Train	CS3 62	----> On Critical Spans ----> Critical Member		
Design Loading:	HS20						----> Primary Span		
Posting Information									
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.								
Hazard Marker At Bridge (Y/N)	No								
Remarks	Not required.								
Other Sign Types	"No fishing off bridge"								
Utilities (Located at)									
Utility Attachments									
Telephone	Yes - bottom chord clamp.				Gas				
Power					Municipal				
Others					Problem (Y/N)	No			
Remarks									
Approach Road									
			Last	Now	Explanation of Condition				
Horizontal Alignment			7	7					
Vertical Alignment			7	7					
Roadway Width (m)	12.000				ACP ravelling at S jnt.				
Approach Bump			6	6	None @ NW. Minor accident damage to SW & SE with split block and leaning detached post.				
Guardrail (Y/N)			Yes						
Guardrail			5	5					
Length (m)			99.000						
Current Standard (Y/N)			Yes						
Termination Type			Turn Down						
Drainage			6	6					
Approach Road General Rating			7	7					

Superstructure						
Bridge Component		Last		Now		Explanation of Condition
(Primary Span : <b>WG, 4 Spans, Lengths(m): 39.6-50-50-39.6, A-Ident Number: A0373-01</b> )						
<b>Special Features</b>						
Special Feature				X		
(Type : )						
Special Feature				X		
(Type : )						
<b>Wearing Surface/Deck Top Detail Ratings</b>						
	N (%)	1 (%)	2 (%)	3 (%)	Snow at curbs.	
<b>Last</b>	0	0	0	0		
<b>Now</b>	5.0	0.0	0.0	0.0		
Wearing Surface				4	4	Wearing in travel lane wheelpath & along jnts. Transverse cracks at 2.3. 2 isolated pot holes in S1, ~0.1%.
(Material Type : <b>CONCRETE - CONVENTIONAL CHIP SEAL COAT</b> )						
(Thickness(mm) : <b>50</b> )						
Deck Top				N	N	Transverse deck cracks, potholes in S1.
Deck Rideability				7	7	
Deck Joints				3	3	Joint plumbing at SE allows water to escape and erode hslp. Fingers appear in acceptable alignment. Large erosion gully undermining concrete surface drainage trough @ SE - photo.
Temperature (deg. C)		-13				
(Expansion Type : <b>FINGER PLATES</b> )						
(Fixed Type : )						
Gap Size (mm)		Gap Location				
56		N. abut				
63		S. abut				
Deck Drainage				4	4	Finger joint plumbing leaks & erodes headslope at N & S and corrodes bearings.
Drains Clogged (Y/N)		No				
Curbs/Median				5	N	(Heavy scaling East curb near center of bridge at 2 locations. 19Dec2011) - Snow covered. Stains on backsides.
(Curb Type : <b>Standard</b> )						
Scaling (Percent Area)		1				
Bridge Rail				6	6	Retrofit rail installed, 200x300 HSS. Parapet spall at NE back rail anchorage. Accident damage to 2 posts at NE, near A2. Bridgerail post base void of grout, typical 30%. Panels 9 & 11 from SE, panels 29 & 32 from SW and panel 11 from NE all have accident damage behind retrofit rail. Insufficient threads.
(Type : <b>GALVANIZED STEEL VERTICAL BAR</b> )						
Bridge Rail Posts				4	4	
(Type : <b>GALVANIZED POST STEEL;GALVANIZED POST STEEL</b> )						
Bridge Rail/Posts Coating				7	7	
(Type : <b>GALVANIZED</b> )						
Sidewalk				X	X	
<b>Girder/Beam</b>						
Cover Plate				X	X	CIF repairs, fatigue damage, out-of-plane distortion cracks repaired in 2011.
Flange				7	7	
Web				7	7	(Corrosion section loss arrested at field splices. 19Dec2011).
Stiffeners				7	7	
Splice				5	5	
Weld				7	7	
Diaphragms/Cross Frame				7	7	

Superstructure				
Bridge Component		Last	Now	Explanation of Condition
(Primary Span : <b>WG, 4 Spans, Lengths(m): 39.6-50-50-39.6, A-Ident Number: A0373-01</b> )				
Paint Condition		4	4	Superficial corrosion on 50% bottom flanges. Some peeling on exterior webs; extensive blistering. Light green.
(Colour Description : )				
(Colour Code : )				
Touchup Required (Y/N)	Yes			
Bearings		4	4	Grout deteriorated @ abuts center bearing @ N abut, E bearing at S abut. Missing anchor bolts. Abut bearings show pitting @ bearing surfaces, 20% of abut bearings - photos. Fixed: P2.  9Pier grout pads repaired in 2011. 19Dec2011).
Temperature (deg. C)	-13			
(Expansion Type : <b>ROCKER BEARING</b> )				
(Fixed Type : <b>PINNED BEARING</b> )				
Coating Adequate (Y/N)	No			
Functioning (Y/N)	Yes			
Deck Underside		4	4	Moderate efflorescence @ transverse cracks @ ext. (S1 has isolated area of heavy stains. 19Dec2011).
Stains (Percent Area)	1			
<b>Span Alignment Problems</b>				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
<b>Superstructure General Rating</b>		<b>4</b>	<b>4</b>	(bearings)
Substructure				
Bridge Component		Last	Now	Explanation of Condition
<b>Abutments</b>				
Bearing Seats/Caps		7	7	Cracks with efflorescence. Debris on A1 seat.
(Type : <b>CONCRETE</b> )				
Backwalls/Breastwalls		7	7	
Wingwalls		4	4	(Spall at NW. 19Dec2011) - Rating carried forward.
Piles		N	N	
Paint/Coating		X	X	
Abutment Stability		7	7	
Scour/Erosion		4	4	Gully undermining trough at S abut.
<b>Piers/Bents</b>				
(Type : <b>PIER-SOLID</b> )				Cracks have been caulked.
Bearing Seats/Caps		7	7	
(Type : <b>CONCRETE</b> )				Minor vertical cracks & staining, 95% caulked.
(Total Number of Bearing Piles : <b>0:0:0</b> )				
Pier Shaft/Piles		6	6	
Bracing/Struts/Sheathing		X	X	Pier extends across both structures.
Nose Plate		X	X	
Paint/Coating		X	X	
(Colour Description : )				
(Colour Code : )				
Pier Stability		8	8	
Scour		N	N	
Debris (Y/N)	No			
<b>Substructure General Rating</b>		<b>6</b>	<b>6</b>	

Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel</b>				
(U/S Direction : <b>W</b> )				
(D/S Direction : <b>E</b> )				
Alignment		8	8	
Bank Stability		7	7	
HWM (m below Top of Curb)				HWM not visible.
Drift (Y/N)	Yes			
Slope Protection		5	5	Erosion @ SE corner, minor. Class II @ bank, concrete slope protection on North headslope. Natural @ top 1/2 of South headslope.
(Type : <b>CONCRETE; NATURAL; CONCRETE; RIP RAP</b> )				
Guidebank/Spurs		X	X	
Adequacy of Opening		8	8	
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>5</b>	<b>5</b>	

Maintenance Recommendations							
Inspector Recommendations		Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
REPAIR/REPLACE BRIDGE RAIL		2013	Replace 2 retrofit deformable posts.				
GALVANIZE/PAINT BRIDGE RAIL							
RETROFIT BRIDGE RAIL							
SEAL CURBS							
PATCH DECK		2013	Potholes in right lane on S1.				
SEAL DECK							
OVERLAY DECK							
REPAIR/REPLACE DECK JOINTS		2013	Repair joint plumbing leaks.				
RESET/ PAINT BEARINGS		2013	Install 2 new anchor bolts, blast and paint all bearings.				
REPAINT SUPERSTRUCTURE		2013	Assess painting alternates.				
STRAIGHTEN/REPLACE MEMBERS							
WASHING		2013	Deck jnts, troughs and abut seats.				
SHOTCRETE REPAIRS							
REPAIR ABUTMENT SCOUR/EROSION							
PLACE ADDITIONAL RIP RAP							
REMOVE DRIFT ACCUMULATION							
OTHER ACTION		2013	Repair A1 erosion.				
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>		<b>55.6/55.6</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>54.6/54.6</b>	Est. Repl. Yr	2040	Maint. Req'd. (Y/N) Yes
Special Comments for Next Inspection	(At next Lvl 2 monitor for out-of-plane distortion cracks and bottom lateral gussets for fatigue cracks. 19Dec2011).			Department Comments			
Maintenance Reviewed By				Date			
Proposed Long-Term Strategy							
On 3-Year Program (Y/N)							
Proposed Action							
Previous Inspector's Name	Ed Kowal		Previous Assistant's Name				
Next Inspection Date	19-Dec-2014		Previous Inspection Date		19-Dec-2011		
Inspection Cycle (Default) (months)	21						
Comment							