

Bridge Inspection											
Bridge File Number	76474 -1 Bridge					Form Type	TH SG PSR				
Year Built/Year Supstr	1951/1951					Lot No.	2				
Bridge or Town Name	GRANDE CACHE					Inspector Name	Brian Pientsch				
Located Over	SMOKY RIVER, 8.10.58, WATERCRS-ST					Inspector Class	BR CLS A				
Located On	40:36 C1 0.027					Assistant Name	Russel Vanderschaaf				
Water Body Cl./Year						Assistant Class	BR CLS B				
Navigabil. Cl./Year						Inspection Date	22-Aug-2012				
Legal Land Location	SW SEC 5 TWP 57 RGE 8 W6M					Data Entry By	Theresa Lacusta				
Longitude, Latitude	-119:09:53, 53:53:28					Data Entry Date	29-Oct-2012				
Road Authority	Alberta Transportation (AIT)					Reviewer Name	Eric Carcoux				
Contract Main. Area	CMA05					Review Date	22-Oct-2012				
Clear Roadway/Skew	7.6 / 0 deg.					Dept. Reviewer Name	David Morrison				
AADT/Year	1,220 / 2011 (A)					Dept. Review Date	15-Jan-2013				
Road Classification	RAU-209-110					Follow-Up By					
Detour Length (km)	75										
Allowable Load (t):	Single	H 31 STRINGER			Semi	HS 51 GIRDER		Train	CS3 66 GIRDER		----> 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)	6.0	In Advance (Y/N)	Yes	Lane	SB	On Bridge (m)	6.0	In Advance (Y/N)	Yes
Remarks Measured 6.15m all 4 corners whee portal meets curved gusset plate.												

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)	Yes
Remarks	Minor damage at SE.
Other Sign Types	Narrow bridge, info, Smoky River,road narrows,curve,bump,slippery when wet.

Utilities (Located at)			
Utility Attachments	TELEPHONE UTILITIES-PHONE LINE		
Telephone		Gas	
Power	Along west side of bridge.		Municipal
Others	4w O/H east of bridge		Problem (Y/N) No
Remarks			

Approach Road				
		Last	Now	Explanation of Condition
Horizontal Alignment		4	4	At bottom and around curve 8% grade.
Vertical Alignment		4	4	
Roadway Width (m)	9.000			Road narrows from 11.8 to 7.6 @ bridge. ACP is 20mm low at South approach.
Approach Bump		4	4	
Guardrail (Y/N)	Yes			Not thrie beam.
Guardrail		4	5	
Length (m)	38.000			
Current Standard (Y/N)	No			
Termination Type	TURNED DOWN			
Drainage		6	6	
Approach Road General Rating		4	4	

Superstructure					
Bridge Component		Last	Now	Explanation of Condition	
(Primary Span : TH, 3 Spans, Lengths(m): 24.4-76.2-16.8, A-Ident Number: A0569-01;A0162-01)					
Special Features					
Special Feature			7	Underslung beams at stringers.	
(Type :)					
Special Feature			X		
(Type :)					
Wearing Surface/Deck Top Detail Ratings					
	N (%)	1 (%)	2 (%)	3 (%)	Partly gravel covered.
Last	90	0	0	0	
Now	10.0	0.0	0.0	1.0	
Wearing Surface/Deck Top			4	3	5% of board ends are loose due to cracks/wear.-photo Stripdeck at about 2 are 100% loose. Strip deck heavily worn.-photo
(Material Type : COPPER CHROMATE ARSENATE TREATED TIMBER)					
(Plank Thickness(mm) : 75)					
(Plank Width(mm) : 300)					
Deck Rideability			7	5	
Deck Joints			5	4	Joint @ P1 rattles under traffic, think due to dywidag bars hitting floor beam.
Temperature (deg. C)		20			
(Expansion Type : SLIDING PLATES)					
(Fixed Type :)					
Gap Size (mm)		Gap Location			
25		Pier 1			
Curbs/Wheel Guards			N	4	Snowplow damage/scrapes.
(Curb Type : Standard)					
(Type : TREATED TIMBER)					
(Thickness(mm) : 150)					
(Width(mm) : 300)					
Bridge Rail			7	7	
(Type : GALVANIZED STEEL BOX BEAM TYPE 1)					
Bridge Rail Posts/Blocking			7	7	
(Type : GALVANIZED POST STEEL;GALVANIZED POST STEEL)					
Bridge Rail/Posts Coating			6	6	
(Type : GALVANIZED)					
Sidewalk			X	X	

Superstructure							
Bridge Component		Last		Now		Explanation of Condition	
(Primary Span : TH, 3 Spans, Lengths(m): 24.4-76.2-16.8, A-Ident Number: A0569-01;A0162-01)							
Wide Load Damage (Y/N)	Yes				Bridge plaque missing at SE end. Bracket damaged. Refer to 2009 UT report. U9L9W 100mm x 10mm dent. Heavy corrosion at stringer top flanges. Undderslung beams at midpoint of stringers.		
High Load Damage (Y/N)	No						
Top Chord			7	7			
Batter Posts			7	7			
Sway Bracings			7	7			
Diagonals			7	7			
Verticals			4	4			
Portals			7	7			
Connections			5	5			
Floor Beams			5	5			
Bottom Chord			6	5			
(No. of Stringers : 110)							
Stringer Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last							
Now							
Stringers			4	4			
(Type : STEEL)							
(Width(mm) : 180)							
(Depth(mm) : 410)							
(Spacing(mm) : 710)							
Paint Condition			3	3	Top coat is worn off exposing 40% of primer and 10% rusted on sides and top. Heavy corrosion at floor system (photo).		
(Colour Description : BLUE)							
(Colour Code : 15182)							
Touchup Required (Y/N)	No						
Bearings			4	4	S. bearings over extended (photo). Truss jammed tight against concrete span and rivetted girder span. - photo		
Temperature (deg. C)	20						
(Expansion Type : NEOPRENE STRIP BEARING;SLIDING PLATE)							
(Fixed Type : PINNED BEARING)							
Functioning (Y/N)	No						
Sub Deck/Deck Underside			6	6			
(Material Type : TREATED TIMBER)							
(Plank Thickness(mm) : 200)							
(Plank Width(mm) : 500)							
Defects (Percent Area)	0						
Span Alignment Problems							
Vertical (Y/N)	No						
Horizontal (Y/N)	No						
Superstructure General Rating			4	4			
Superstructure							
Bridge Component		Last		Now		Explanation of Condition	
(Secondary Span : RG)							
Special Features							
Special Feature				X			
(Type :)							
Special Feature				X			
(Type :)							

Superstructure					
Bridge Component		Last	Now	Explanation of Condition	
(Secondary Span : RG)					
Wearing Surface/Deck Top Detail Ratings					
	N (%)	1 (%)	2 (%)	3 (%)	Partly gravel covered.
Last	80	0	0	5	
Now	10.0	0.0	0.0	50.0	
Wearing Surface (Material Type : TREATED TIMBER) (Thickness(mm) : 75)			3	3	50% of boards at abut 2 are loose due to cracks/wear.-heavily worn.-photo
Deck Top			X	X	
Deck Rideability			7	7	
Deck Joints Temperature (deg. C) 20 (Expansion Type : SLIDING PLATES) (Fixed Type :) Gap Size (mm) Gap Location			N	7	Buffer angle at North abut.
Deck Drainage Drains Clogged (Y/N) No			6	6	
Curbs/Median (Curb Type : Standard) Scaling (Percent Area)			N	4	Wheelguards TT 150 x 300 mm. Snow plow scrapes/damage.
Bridge Rail (Type : GALVANIZED STEEL BOX BEAM TYPE 1)			7	7	Posts have 20% paint failure.
Bridge Rail Posts (Type : GALVANIZED POST STEEL;GALVANIZED POST STEEL)			7	7	
Bridge Rail/Posts Coating (Type : GALVANIZED)			4	4	
Sidewalk			X	X	
Girder/Beam					
Cover Plate			4	4	Heavy corrosion at top flange. Corrosion causing approx. 10mm bulging of cover plates.
Flange			4	4	
Web			5	5	
Stiffeners			5	5	
Splice			5	5	
Weld			X	X	
Diaphragms/Cross Frame			6	6	
Paint Condition (Colour Description : BLUE) (Colour Code : 15182) Touchup Required (Y/N) No			3	3	Rusted at 90% of flange edges - photo.

Superstructure					
Bridge Component		Last	Now	Explanation of Condition	
(Secondary Span : RG)					
Bearings		5	5		
Temperature (deg. C)	20				
(Expansion Type : NEOPRENE STRIP BEARING;SLIDING PLATE)					
(Fixed Type : PINNED BEARING)					
Coating Adequate (Y/N)	No				
Functioning (Y/N)	Yes				
Deck Underside		6	6	200x500mm TT subdeck.	
Stains (Percent Area)	50				
Span Alignment Problems					
Vertical (Y/N)	No				
Horizontal (Y/N)	No				
Superstructure General Rating		4	4		

Superstructure					
Bridge Component		Last	Now	Explanation of Condition	
(Secondary Span : FC)					
Special Features					
Special Feature			7	Dywidage bars. Lateral post tentioning.	
(Type :)					
Special Feature			X		
(Type :)					
Wearing Surface/Deck Top Detail Ratings					
	N (%)	1 (%)	2 (%)	3 (%)	Partly gravel covered.
Last	90	0	0	0	
Now	10.0	0.0	0.0	0.0	
Wearing Surface		5	5	Scaling and isolated spalls. Edge chipping along cold joint.	
(Material Type : CONCRETE)					
(Thickness(mm) : 50)					
Lateral Connection Problem (Y/N)	No				
Deck Top		N	N		
Deck Rideability		6	6		
Deck Joints		N	4	Protection angle at South abut. missing 60mm long asection at centre.	
Temperature (deg. C)	20				
(Expansion Type : SLIDING PLATES)					
(Fixed Type :)					
Gap Size (mm)	Gap Location				
10	Pier 1				
Deck Drainage		6	6		
Drains Clogged (Y/N)	No				
Curbs/Median		N	5		
(Curb Type : Standard)					
Scaling (Percent Area)	3				

Superstructure							
Bridge Component				Last	Now	Explanation of Condition	
(Secondary Span : FC)							
Bridge Rail				N	4	5 COMPRESSION RINGS DEFORMED ON W RAIL, S. end. 1 bent front a-b West curb post 7. under gravel	
(Type : GALVANIZED STEEL BOX BEAM TYPE 1)							
Bridge Rail Posts				N	4		
(Type : GALVANIZED POST STEEL;GALVANIZED POST STEEL)							
Bridge Rail/Posts Coating				N	5		
(Type : GALVANIZED)							
Sidewalk				X	X		
Girder Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	1			
Now	0	0	0	1			
Girders				3	3	Typical FC chamfer cracks.	
Cracking (Y/N)	Yes						
Spalling (Percent Area)	10						
(Number Of Girders : 5)							
Diaphragms/Cross Frame				4	4	End diaphragms have spalled on 1,2,3,& 5, due to dywidag bearing plate pressure (photo).	
Bearings				5	5	Shoe plates rusted.	
Temperature (deg. C)	2						
(Expansion Type : NEOPRENE STRIP BEARING;SLIDING PLATE)							
(Fixed Type : PINNED BEARING)							
Coating Adequate (Y/N)	No						
Functioning (Y/N)	Yes						
Deck Underside				6	6		
Stains (Percent Area)	5						
Span Alignment Problems							
Vertical (Y/N)	No						
Horizontal (Y/N)	No						
Superstructure General Rating				3	3		
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 : 10:1)							
Bearing Seats/Caps/Corbels Detail Ratings							
	N (count)	1 (count)	2 (count)	3 (count)			
Last	0	0	0	1		N abut. 2 vertical medium cracks with leaching heavy build up of dirt, salt & debris on abut. Seat. Severe scaling between G2,3, 350mm wide x 2m long.(Photo) Loss of concrete & rebar showing. 10 caps-corbels abut. 1. Abut. 2 has 4m2 spall under G2-G3. Random cracks and scaling abut. 2.	
Now	0	0	0	1			
Bearing Seats/Caps/Corbels				3	3	H-iron caps and corbels and TT caps all 305x305 at abut. 1.	
(Type : CONCRETE)							
(Depth(mm) : 300)							
(Width(mm) : 1100;300)							
Backwalls/Breastwalls				5	5	2 vertical cracks through backwall.	
Greatest Height (m)	2.00						
Wingwalls				6	6		

Substructure								
Bridge Component		Last	Now	Explanation of Condition				
(Total Number of Bearing Piles : 18:12)				Abut 1-18. Abut 2-piles not visible.				
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			5	5				
Scour/Erosion			7	7				
Piers/Bents								
(Type : PIER-COLUMN)								
(Total Number of Caps/Corbels : 37:37)								
Bearing Seats/Caps/Corbels Detail Ratings								
	N (count)	1 (count)	2 (count)	3 (count)				
Last	0	0	0	0				
Now								
Bearing Seats/Caps/Corbels			5	5				
(Type : STEEL)								
(Total Number of Bearing Piles : 28:28)								
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)		5.00						
Bracing/Struts/Sheathing			4	4	Angle has fallen off the top of the sheathing on the north side of the N. pier (photo). Tear on NE corner pier 2 (photo).			
Nose Plate			5	5				
Paint/Coating			3	3	Heavy corrosion at pier steel sheathing.			
(Colour Description :)								
(Colour Code :)								
Pier Stability			7	7				
Scour			N	N	P2 is being undermined.-underwater			
Debris (Y/N)		Yes		Old piles in channel.				
Substructure General Rating			3	3				
Structure Usage								
		Last	Now	Explanation of Condition				
Channel								
(U/S Direction : W)				Curve to the west.				
(D/S Direction : E)				Eroding close to S. approach embankment.				
Alignment			4	4				
Bank Stability			5	5				
HWM (m below Top of Curb)				NW corner. No HWM visible.				
Drift (Y/N)		Yes						
Slope Protection			5	5				
(Type : RIP RAP; RIP RAP; RIP RAP)								

Structure Usage				
		Last	Now	Explanation of Condition
Guidebank/Spurs		5	5	
Adequacy of Opening		5	5	
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		4	4	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
REPAIR/REPLACE BRIDGE RAIL							
GALVANIZE/PAINT BRIDGE RAIL							
RETROFIT BRIDGE RAIL							
SEAL CURBS							
PATCH DECK							
SEAL DECK							
OVERLAY DECK							
REPAIR/REPLACE DECK JOINTS							
REPLACE STRIP DECK	2013	Replace strip deck.					
REPLACE SUB DECK							
RESET/ PAINT BEARINGS	2013	Reset.					
REPAINT SUPERSTRUCTURE							
STRAIGHTEN/REPLACE MEMBERS	2013	Inspect and repair cover plate welds Sp.3, V9L9W					
WASHING	2013						
SHOTCRETE REPAIRS							
CORE TIMBER CAPS/CORBELS							
REPAIR/REPLACE TIMBER CAPS							
REPAIR ABUTMENT SCOUR/EROSION							
PLACE ADDITIONAL RIP RAP	2013	Armour U/S road embankment. Carried forward from 2007					
REMOVE DRIFT ACCUMULATION							
OTHER ACTION	2013	Repair approx. 4M2 abut 2 spalls.					
OTHER ACTION	2013	Replace bridge plaque , repair bracket					
OTHER ACTION	2013	Repair pier 2					
OTHER ACTION	2013	Install anchor bolt in SW bearing.					
Structural Condition Rating (Last/Now) (%)	33.3/33.3	Sufficiency Rating (Last/Now) (%)	28.4/28.3	Est. Repl. Yr	2023	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Bridge scheduled for replacement 2013/2014. Monitor cracking on S1G3.		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	Brian Pientsch		Previous Assistant's Name	Russel Vanderschaaf			
Next Inspection Date	22-May-2014		Previous Inspection Date	15-Dec-2010			

Inspection Cycle (Default) (months)	21
Comment	