

Bridge Inspection							
Bridge File Number	74452 -1 Bridge			Form Type	DT SG		
Year Built/Year Supstr	1957/1956			Lot No.	3		
Bridge or Town Name	FORT SASK			Inspector Name	Shane Hall		
Located Over	LOCAL ROAD;NORTH SASKATCHEWAN RIVER, 6, WATERCRS-ST;TRAIL-PED			Inspector Class	BR CLS A		
Located On	15:04 C1 4.718			Assistant Name			
Water Body Cl./Year				Assistant Class			
Navigabil. Cl./Year				Inspection Date	13-Dec-2011		
Legal Land Location	SW SEC 31 TWP 54 RGE 22 W4M			Data Entry By	Theresa Lacusta		
Longitude, Latitude	-113:14:12, 53:42:27			Data Entry Date	30-Jan-2012		
Road Authority	Alberta Transportation (AIT)			Reviewer Name	Eric Carcoux		
Contract Main. Area	CMA09			Review Date	19-Jan-2012		
Clear Roadway/Skew	9.8 /			Dept. Reviewer Name	Brent Herrick		
AADT/Year	17,060 / 2010 (A)			Dept. Review Date	02-Feb-2012		
Road Classification	RAU-211.8-110			Follow-Up By			
Detour Length (km)	45						
Allowable Load (t):	Single	CS1 34 U4L4	Semi	CS2 59 U4L4	Train	CS3 72 U3U4	----> On Critical Spans ---->Critical Member
Design Loading:	HS20				----> Primary Span		

Posting Information												
Required Vert. Clearance Posting (m)												
Posted Vertical Clearance (Y/N)												
Posted:	Lane	NB	On Bridge (m)	5.1	In Advance (Y/N)	Yes	Lane	SB	On Bridge (m)	5.1	In Advance (Y/N)	Yes
Remarks	Posted on Local road under SP 2											
Required Load Posting (t)			Single		Semi		Truck Train					
Posted Loading (t)			Single		Semi		Truck Train					
Posted:	Lane	EB	At Junction (Y/N)		In Advance (Y/N)		At Bridge (Y/N)					
Posted:	Lane	WB	At Junction (Y/N)		In Advance (Y/N)		At Bridge (Y/N)					
Remarks	Not required.											
Hazard Marker At Bridge (Y/N)	Yes											
Remarks												
Other Sign Types												

Utilities (Located at)			
Utility Attachments	TELEPHONE UTILITIES-PHONE LINE; POWER UTILITIES-POWER LINE		
Telephone	3 conduits on North bottom chord.		Gas
Power			Municipal
Others	Light standards Light standard at SP 6 North side has 2 A/B not tight.-photo		Problem (Y/N) Yes
Remarks	Conduit not connected P1-North chord.		

Approach Road				
		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Intersections 200m East.
Vertical Alignment		7	7	Gradual crest curve.
Roadway Width (m)	11.000			Potholes - patches deteriorating West end.
Approach Bump		4	4	
Guardrail (Y/N)	Yes			Missing splice bolts @ NW, SW, and SE
Guardrail		4	4	Not thrie beam
Length (m)	99.000			
Current Standard (Y/N)	No			
Termination Type	Turned Down			
Drainage		6	6	Spall @ SW drain, 15 gap @ NE drain, no scour to date.

Approach Road					
			Last	Now	Explanation of Condition
Approach Road General Rating			7	7	
Superstructure					
Bridge Component			Last	Now	Explanation of Condition
(Primary Span : DT, 8 Spans, Lengths(m): 18.3-48.8-48.8-61-61-48.8-48.8-18.3, A-Ident Number: A0260-02;A0260-03;A0260-04;A0260-05;A0260-06;A0260-07;A0260-01;A0260-08)					
Special Features					
Special Feature				5	Anti-vibration braces installed transversely at mid length of BC.
(Type :)					
Special Feature				4	(Interspan Supports. 15% bolts too short. 1 missing. See UT 2006. All interspan supports @ P2, P4, P6 are cracked but not a concern as per discussion with AIT. 09/Sept/2006)
(Type :)					
Wearing Surface/Deck Top Detail Ratings					
		N (%)	1 (%)	2 (%)	3 (%)
Last					
Now					
Wearing Surface			5	4	Minor scaling on W.B.L. Up to .3mm transverse cracks @ few spots spalling 1.0m o/c all spans. Profile worn down. Wide transverse cracks and numerous shallow spalls in SP6, EBL.-photo
(Material Type : CONCRETE)					
(Thickness(mm) : 50)					
Deck Top			N	N	
Deck Rideability			7	7	
Deck Joints			3	3	
Temperature (deg. C)		-5			
(Expansion Type : GLAND (WABO-MAUER, TRANSFLEX, ETC);ARMOURED GLAND (WABO UNDER FINGER OR SLIDING PLATES))					P1 - 10mm ht difference across joint, 3 plowguards on WBL only gland torn, full length.-photo
(Fixed Type : GLAND (WABO-MAUER, TRANSFLEX, ETC))					
Gap Size (mm)		Gap Location			
87		Pier 1			
80		Pier 2			
80		Pier 3			
85		Pier 4			
115		Pier 5			
79		Pier 6			
Deck Drainage			3	3	PVC drains broken or leaking on Sp2, S3, 4 and 5. Joints leak as well.
Drains Clogged (Y/N)		No			
Curbs/Median			4	4	Scaling on top curbs. Vertical shrinkage cracks @ 400mm; seepage @ overhangs. C.J. caulking missing @ 10% lengths.
(Curb Type : Standard)					
Scaling (Percent Area)		5			NW approach curb is spalled.-photo
Bridge Rail			4	4	Missing connection bolt @ expansion sleeve, South rail.
(Type : GALVANIZED STEEL BRIDGE TUBE)					
Bridge Rail Posts			5	3	9 bent A/B Sp2 South and 2 at North. Minor collision damage South rail @ SP6, 1 B.R. post hit creating wide cracks in anchorage area in South curb.-photo Lower rail patched with W beam @ SP5 where collision damage ! 1 post created wide cracks and spalling in anchorage area.-photo
(Type : GALVANIZED POST STEEL;GALVANIZED POST STEEL)					
Bridge Rail/Posts Coating			5	5	
(Type : GALVANIZED)					
Sidewalk			X	X	

Superstructure				
Bridge Component		Last	Now	Explanation of Condition
(Primary Span : DT, 8 Spans, Lengths(m): 18.3-48.8-48.8-61-61-48.8-48.8-18.3, A-Ident Number: A0260-02;A0260-03;A0260-04;A0260-05;A0260-06;A0260-07;A0260-01;A0260-08)				
Top Chord		7	7	2% of bird screens missing. -09-Jun-2010
Diagonals		4	4	Open rivet holes -total of 7.-09-Jun-2010
Verticals		6	6	Span 4 U3-L4W top outside top rivet as 2mm corner crack and U7-L6W has 2mm corner crack at top inside top rivet.-09-Jun-2010
Connections		4	4	Span 7 U3-L4W has 1mm corner crack at top outside rivet and U5-L4E has 2mm corner crack at bottom inside bolt at U5.-09-Jun-2010
Floor Beams		5	5	
Bottom Chord		5	5	
Stringers		7	7	End of floor to top chord angle brackets have 27 top clip angles cracked and 2 bottom clip angles cracked, and 20 rivet heads popped off. See 2010 UT report for details. Inspected from headslope banks. L6SL7N @ S3 bowed & creaks. L0N-L1S @ S7 slightly loose. (Cracked clip angles & broken rivets @ end FB's. -09-Jun-2010
Diaphragms/Cross Frame		2	N	Could not confirm rating.
Paint Condition		4	4	Approx 5% paint failed/peeled.
(Colour Description :)				Silver.
(Colour Code :)				
Touchup Required (Y/N)	Yes			
Bearings		5	5	(Pier 6 DT bearing is overextended est 20mm.Pier 7 & pier 1 bearing anchor bolts bent. P7 - 10mm gap remaining before DT truss touches RB.) 09-Jun-2010
Temperature (deg. C)	-5			North AB bent to East.-09-Jun-2010
(Expansion Type : ROCKER BEARING)				
(Fixed Type : PINNED BEARING)				Nuts typically high and 3 missing. -09-Jun-2010
Coating Adequate (Y/N)	Yes			
Functioning (Y/N)	Yes			
Deck Underside		5	5	Random narrow transverse cracks with efflorescence staining.
Stains (Percent Area)	5			
(Snow Slots Filled :)				
Span Alignment Problems				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
Superstructure General Rating		2	2	G.R. carried over from 09-Jun-2010.

Superstructure						
Bridge Component		Last	Now	Explanation of Condition		
(Secondary Span : RB)						
Special Features						
Special Feature			X			
(Type :)						
Special Feature			X			
(Type :)						
Wearing Surface/Deck Top Detail Ratings						
	N (%)	1 (%)	2 (%)	3 (%)		
Last						
Now						
Wearing Surface				5	4	See main wearing surface comments.
(Material Type : CONCRETE)						
(Thickness(mm) : 50)						
Deck Top				N	N	
Deck Rideability				7	7	
Deck Joints				3	3	P1 torn gland.-photo P7 joint is 12mm high at East span 8.
Temperature (deg. C)		-5				
(Expansion Type : GLAND (WABO-MAUER, TRANSFLEX, ETC);ARMOURED GLAND (WABO UNDER FINGER OR SLIDING PLATES))						
(Fixed Type : GLAND (WABO-MAUER, TRANSFLEX, ETC))						
Gap Size (mm)		Gap Location				
75		Abutment 1 - West				
72		Abutment 2 - East				
87		Pier 1-West				
92		Pier 7-East				
Deck Drainage				6	6	
Drains Clogged (Y/N)		No				

Superstructure					
Bridge Component		Last	Now	Explanation of Condition	
(Secondary Span : RB)					
Curbs/Median		3	3	Spall at NW corner.-photo	
(Curb Type : Standard)					
Scaling (Percent Area)	5				
Bridge Rail		4	4	Span 8 - missing 3 exp bolts. Span 1 - loose nut @ 7th post.	
(Type : GALVANIZED STEEL BRIDGE TUBE)					
Bridge Rail Posts		4	4		
(Type : GALVANIZED POST STEEL;GALVANIZED POST STEEL)					
Bridge Rail/Posts Coating		5	5		
(Type : GALVANIZED)					
Sidewalk		X	X		
Girder/Beam					
Cover Plate		6	6	Slight sag in bottom flange of girder, both spans. S1 - G2 has double welded cover plate. S1 - G6 has one cover plate removed. S1 - Other girders have no cover plates.	
Flange		6	6		
Web		7	7		
Stiffeners		X	X		
Splice		X	X		
Weld		6	6		
Diaphragms/Cross Frame		7	7		
Paint Condition		5	5	Top coat peeling @ exterior faces. Silver.	
(Colour Description :)					
(Colour Code :)					
Touchup Required (Y/N)	No				
Bearings		4	4	Sheared P7 South bearing A/B on SG span. -photo Other A/B's are corroding.	
Temperature (deg. C)	-5				
(Expansion Type : ROCKER BEARING)					
(Fixed Type : PINNED BEARING)					
Coating Adequate (Y/N)	No				
Functioning (Y/N)	Yes				
Deck Underside		5	5	Transverse cracks & rust stain @ span 1 & 8.	
Stains (Percent Area)	2				
Span Alignment Problems					
Vertical (Y/N)	Yes			12mm misalignment of P7 joint.	
Horizontal (Y/N)	No				
Superstructure General Rating		3	4		
Substructure					
Bridge Component		Last	Now	Explanation of Condition	
Abutments					
Bearing Seats/Caps		6	6	A1 - 4 vert. cracks.	
(Type : CONCRETE)					
Backwalls/Breastwalls		6	6		
Wingwalls		6	6		
Piles		N	N	Buried	
Paint/Coating		5	5		
Abutment Stability		7	7		

Substructure				
Bridge Component		Last	Now	Explanation of Condition
Scour/Erosion		4	4	1m deep erosion holes at abut.1 -photo
Piers/Bents				
(Type : PIER-SOLID)				Pier ht 10.3m. Nov/05/2004
Bearing Seats/Caps		4	4	P1 - Wide delam crack at top center. Several spalls and delams.-photo
(Type : CONCRETE)				P4 - concrete erosion below nose plate. -09-Jun-2010 P5 - severe scaling @ U/S shaft with exposed rebar.-09-Jun-2010 P3 scaling and wide cracks South end. P7 - 250 settlement under concrete cap; .3mm vert crack. -09-Jun-2010(10mm gap remain @ DT TC next to RG. 09/Sept/2006)
(Total Number of Bearing Piles : 0:0:0:0:0:0)				7 piers Pier 5 has heavy spalling at both u/s and d/s ends.
Pier Shaft/Piles		3	3	
Bracing/Struts/Sheathing		X	X	
Nose Plate		7	7	
Paint/Coating		4	4	Tight corrosion.
(Colour Description :)				
(Colour Code :)				
Pier Stability		7	7	
Scour		N	N	Ice covered.
Debris (Y/N)	Yes			Minor scattered debris. Drift at P3.
Substructure General Rating		3	3	
Structure Usage				
		Last	Now	Explanation of Condition
Channel				
(U/S Direction : S)				Public roadway under span 2, pedestrain trail under span 7; no problems.
(D/S Direction : N)				
Alignment		8	8	
Bank Stability		8	8	
HWM (m below Top of Curb)				Minor drift at P3.
Drift (Y/N)	Yes			
Slope Protection		7	7	
(Type : NATURAL; NATURAL)				
Guidebank/Spurs		X	X	
Adequacy of Opening		8	8	
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		8	8	
Grade Separation				
Road Alignment		5	5	North / South road under S2 - DT span. Pedestrain / bike path under S7 - DT span. North / South road is gravel. Pedestrian / bike path is paved.
Traffic Safety Features		X	X	
Type	None			
Slope Protection		6	4	2mx1mx0.5m deep erosion hole at top of West headslope.-photo
(Type : NATURAL; NATURAL)				

Structure Usage				
		Last	Now	Explanation of Condition
Bank Stability		6	6	
Drainage		6	6	
Grade Separation General Rating		5	4	

Maintenance Recommendations						
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
REPAIR/REPLACE BRIDGE RAIL	2012	Tighten loose bridgerail bolts @ span 1 & install 4 new exp bolts @ span 8 & 4.				
GALVANIZE/PAINT BRIDGE RAIL						
RETROFIT BRIDGE RAIL						
SEAL CURBS						
PATCH DECK	2012	NW curb approx. 1.5m2. Repair delams in P6 @ EBL, approx 2m2.				
SEAL DECK						
OVERLAY DECK						
REPAIR/REPLACE DECK JOINTS	2012	Replace P3, P5 & P7 glands, replace 3 missing tiedown bolts & 12 loose bolts @ P5. Investigate 10mm height difference across P1. Replace sheared cover plate bolt @ P3 x 2 tighten loose bolts.				
RESET/ PAINT BEARINGS	2012	Install 3 missing anchor nuts and tighten loose nuts. Reset/paint bearings.				
REPAINT SUPERSTRUCTURE						
STRAIGHTEN/REPLACE MEMBERS	2012	Install 7 bolts and 20 headless rivets. Repair 4 cracked diagonals. Replace bottom sway brace Sp4--bay 10 L10W-L9E if not done.				
WASHING						
SHOTCRETE REPAIRS						
REPAIR ABUTMENT SCOUR/EROSION						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION						
OTHER ACTION	2012	Advise Telus of disjointed conduits.				
OTHER ACTION	2013	Rehab cracked/scaling pier caps.				
OTHER ACTION	2012	Install pigeon screens where missing, if not done.				
OTHER ACTION	2012	Repair 5 PVC down drains.				
OTHER ACTION	2012	Patch West approach ACP potholes @ jt & repave approaches to remove dip.				
OTHER ACTION	2012	Patch delam/spalled approach concrete drain curb.				
OTHER ACTION	2012	Replace cotter pin at span 8 tilt wall.				
OTHER ACTION	2012	Replace 27 top clip angles and 2 bottom clip angles at end floor beam to top chord angle brackets with alternate design.				
OTHER ACTION	2012	Repair collision damage on BR and curb at 2 locations.				
OTHER ACTION						
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Maintenance Recommendations							
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Structural Condition Rating (Last/Now) (%)	27.8/27.8	Sufficiency Rating (Last/Now) (%)	45.9/32.2	Est. Repl. Yr	2029	Maint. Req'd. (Y/N)	Yes
Special Comments for Next Inspection	Monitor erosion @ West headslope. AT advised of low rating -17-Jan-2012.			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	Randy Bredo			
Next Inspection Date	13-Sep-2013		Previous Inspection Date	09-Jun-2010			
Inspection Cycle (Default) (months)	21						
Comment							