Bridge Culvert Inspection

Bridge File Number	77392 -1 Bridge Culvert	Form Type	CUL1
Year Built	1971	Lot No.	2
Bridge or Town Name	WHITECOURT	Inspector Name	Eric Carcoux
Located Over	TRIBUTARY TO MCLEOD RIVER, 8.11.107.4, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	32:10 C1 25.982	Assistant Class	
Water Body Cl./Year		Inspection Date	14-Oct-2012
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SW SEC 13 TWP 59 RGE 13 W5M	Data Entry Date	19-Dec-2012
Longitude, Latitude	-115:49:05, 54:05:56	Reviewer Name	Stew Hagan
Road Authority	Alberta Transportation (AIT)	Review Date	12-Dec-2012
Contract Main. Area	CMA12	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	8.2 / 15 deg. (RHF)	Dept. Review Date	21-Dec-2012
AADT/Year	1,950 / 2011 (A)	Follow-Up By	
Road Classification	RAU-209-110		
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2920	3230	SPE	129.8	152X51		ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	West r/w.	Gas	
Power	1 wire East r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks	BF tag installed @ top of U/S bevel roof.		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	
Vertical Alignment		6	6	
Roadway Width (m)	8.200			
Embankment		N	5	Roadway shoulder pavement longitudinal cracking.
Sideslope (__:1)	2.5			
(Height of Cover(m) : **11**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		3	3	Extended collar settlement and breaking up. Shoulder slabs pushed in.
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		3	4	Both tops of bevel bent inwards up to 300mm.
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		5	5	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Upstream End General Rating		**3**	**3**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2920, Rise (mm): 3230, Type: SPE**)				
Barrel Last Accessible Date	15-Dec-2007			Water 1m deep, viewed from ends, looks good.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		3	N	(U/S rock, ring 12 rock. 20/July/2007) Floor iced over. (D/S end upward deflection. Calculation based on previous inspection measurement. Deflection within 4% tolerance. Sag: -117. -3.5%. 15/Dec/2007) Sag similar to deflection at u/s end.
Measured Rise (mm)	3347			
Measured At Ring No.				
Sag (mm)	117			
Percent Sag	4			
Sidewall		3	N	(Span 2982 @ R18, 2.7%. 2003/11/25) (Shape looks ok. Due to torn section - photo 7. Ring 12-2981, D/S-2740. Deflection is inward at U/S end. Average 2640 span at ends so 280 deflection @ R12 or 9.6%. Deflection: -381. -13.0%. 15/Dec/2007) First ring torn at 3 & 9 o'clock where collar is pushing in.
Measured Span (mm)	2539			
Measured At Ring No.	1			
Deflection (mm)	381			
Percent Deflection	13			
Floor		N	N	(Covered with rock from U/S to half length of barrel - photo 8. 20/July/2007)
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	N	(Minor superficial rust lower 1/2 - photos 9 & 10. 20/July/2007) (Corrosion through bolt hole. 15/Dec/2007)
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	Yes			Ponding 600mm.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2920, Rise (mm): 3230, Type: SPE**)				
Fish Passage Adequacy		7	3	Hanging outlet
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	4	Large scour hole D/S end - photo
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**3**	**3**	GR carried over from 15-Dec-2010

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		4	4	Both tops of bevels pushed inwards, 200mm.
Heaving (mm)	400			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		N	3	
(Type : **NONE**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	3	20m long, 15m wide scour hole.
Beavers (Y/N)	No			
Downstream End General Rating		**3**	**3**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		N	5	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	NONE			Beaver dam 1.8m high 40m U/S.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**4**	**7**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2013	10m3 (estimated) to be placed D/S.				
REMOVE DRIFT ACCUMULATION						
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**36.7/30.9**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Monitor R1	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	Kris Bosters	Previous Assistant's Name			
Next Inspection Date	14-Jul-2014	Previous Inspection Date	15-Dec-2010		
Inspection Cycle (Default) (months)	21				
Comment					