Bridge Culvert Inspection

Bridge File Number	75099 -1 Bridge Culvert	Form Type	CUL1
Year Built	1972	Lot No.	2
Bridge or Town Name	PINCHER CREE	Inspector Name	Calvin Roberts
Located Over	TRIBUTARY TO CASTLE RIVER, 2.12.35.3, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	507:02 C1 21.727	Assistant Class	
Water Body Cl./Year		Inspection Date	27-Nov-2012
Navigabil. Cl./Year		Data Entry By	Lauren Korte
Legal Land Location	SE SEC 17 TWP 6 RGE 1 W5M	Data Entry Date	13-Dec-2012
Longitude, Latitude	-114:05:32, 49:28:15	Reviewer Name	Garry Roberts
Road Authority	Alberta Transportation (AIT)	Review Date	01-Dec-2012
Contract Main. Area	CMA26	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	9.8 / -20 deg. (LHF)	Dept. Review Date	27-Dec-2012
AADT/Year	920 / 2011 (A)	Follow-Up By	
Road Classification	RCU-209-110		
Detour Length (km)	5		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2030	2240	SPE	67.7	152X51	2.8,2.8,2.8	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South ROW.	Gas	
Power	North ROW and 60m West.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	In a curve.
Vertical Alignment		6	6	Road rises to the West & East. 4 Lane including taper, Beauvais Lake turnoff.
Roadway Width (m)	14.500			
Embankment		7	7	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **5.8**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**5**	**5**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction				South.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		X	X	Beveled end removed after flood.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		3	3	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		3	3	Erosion 2m along both sides and 1.5 m deep with water running under bevel.
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): 2030, Rise (mm): 2240, Type: SPE**)				
Barrel Last Accessible Date	27-Nov-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		4	4	Small hole 3rd ring from U/S East side hole size is 10mm-with some soil side rusting.
Measured Rise (mm)	2045			
Measured At Ring No.	10			
Sag (mm)	195			
Percent Sag	8			
Sidewall		4	4	Small hole 2nd ring from U/S, West side. 130mm long tear in west side R10.
Measured Span (mm)	2194			
Measured At Ring No.	10			
Deflection (mm)	164			
Percent Deflection	8			
Floor		5	5	
Bulge (mm)	0			
Measured At Ring No.	10			
Abrasion (Y/N)	No			
Circumferential Seams		6	6	
Separation (mm)	0			
Longitudinal Seams		5	5	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	0			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		4	4	Corrosion with some pitting in the floor. Isolated soil side staining at upper seams.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2030, Rise (mm): 2240, Type: SPE**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**4**	**4**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction				North.
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	Bevel is hanging 1.5m.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		3	3	Most of the riprap washed D/S. Scoured around the beveled end - see photo.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		3	3	Bank has eroded- scour hole 1.5m deep 10m wide and 15m long.
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	6	Minor erosion D/S.
Bank Stability		5	5	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**7**	**6**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2013	Place rip rap around the D/S and U/S ends- approx 20m³ Cl 1 and Cl 2.				
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) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**50.6/49.8**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection		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			
Next Inspection Date	27-Feb-2016	Previous Inspection Date	12-Sep-2009		
Inspection Cycle (Default) (months)	39				
Comment					