Bridge Culvert Inspection

Bridge File Number	70047 -1 Bridge Culvert	Form Type	CUL1
Year Built	1959	Lot No.	4
Bridge or Town Name	CAYLEY	Inspector Name	Garry Roberts
Located Over	TRIBUTARY TO MOSQUITO CREEK, 2.12.12.12.6, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	2:10 L1 32.294;2:10 R1 32.361	Assistant Class	
Water Body Cl./Year		Inspection Date	26-Jan-2010
Navigabil. Cl./Year		Data Entry By	Erin Roberts
Legal Land Location	SE SEC 7 TWP 17 RGE 28 W4M	Data Entry Date	04-Mar-2010
Longitude, Latitude	-113:49:41, 50:24:43	Reviewer Name	Tom Carey
Road Authority	Alberta Transportation (AIT)	Review Date	02-Feb-2010
Contract Main. Area	CMA27	Dept. Reviewer Name	Lorenz Bohnert
Clear Roadway/Skew	22 / -45 deg. (LHF)	Dept. Review Date	08-Mar-2010
AADT/Year	10,500 / 2008 (A)	Follow-Up By	
Road Classification	RFD-412.4-130		
Detour Length (km)	1		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	1960	2260	SPE	79.2	152X51	4.0	ELLIPSE
Special Features		STORM WATER DRAIN						
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	West ditch	Gas	Sour gas 20m north
Power	Directly over culvert mainline	Municipal	
Others	Fibre optics west r/w	Problem (Y/N)	No
Remarks	Major transmission line above pipe - 12 wires		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	Curve to south - 300m. Hill 300m south
Vertical Alignment		7	6	
Roadway Width (m)	22.000			
Embankment		7	7	
Sideslope (__:1)	3.0			
(Height of Cover (m) : **2**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		West end.
End Treatment (Concrete, Steel, Others, None)	STEEL			
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		5	6	MINOR DAMAGE @ SOUTH
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	50			
Scour Protection		N	6	
(Type : **RIP RAP**)				
(Avg. Rock Size (mm) : **250**)				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
Upstream End General Rating		**5**	**6**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 1960, Rise (mm): 2260, Type: SPE**)				
Barrel Last Accessible Date	26-Jan-2010			
Special Features				
Special Feature		7	7	In Ring 17
(Type : **STORM WATER DRAIN**)				
Special Feature				
(Type :)				
Roof		6	6	Hole in roof 150mm dia. - 3m from d/s
Measured Rise (mm)	2195			
Measured At Ring No.	18			
Sag (mm)	65			
Percent Sag	2			
Sidewall		6	5	
Measured Span (mm)	2000			
Measured At Ring No.	20			
Deflection (mm)	40			
Percent Deflection	2			
Floor		4	N	Ice covered
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	4	Missing 8 bolts at R30-31 and 5 bolts at R10-11. Several others with loose or missing bolta
Separation (mm)	0			
Longitudinal Seams		5	4	Nut/bolt missing at random/usually at3 ply corners. Bolts only hand tight, not all are torqued down, @ upper longit. @ 20% seams. 12mm gap between plates at 2 o'clock. 1N stagger
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)	Yes			
Coating		4	4	Rusting at floor bolts/corrosion at bolts roof and walls (water and soil) superficial corrosion on floor & @ roof exterior @ u/s.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 1960, Rise (mm): 2260, Type: SPE**)				
Fish Passage Adequacy		X	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		8	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**5**	**4**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		East end.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		N	6	BEVEL PROJECTS 300 mm FROM FILL @ N
(Type : **RIP RAP**)				
(Avg. Rock Size (mm) : **200**)				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
Downstream End General Rating		**7**	**6**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		6	6	Curves N 90 deg @ W No defined channel @ u/s
Bank Stability		8	7	
HWM (m below Top of Culvert)				Hwm not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**6**	**6**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP						
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) (%)	**55.6/44.4**	**Sufficiency Rating (Last/Now) (%)**	**65.5/56.9**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection	shape is still good despite seam defects, (GR Jan 26, 2010)	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	Jason Rusu	Previous Assistant's Name			
Next Inspection Date	26-Oct-2011	Previous Inspection Date	13-Dec-2007		
Inspection Cycle (Default) (months)	21				
Comment					