

Bridge Culvert Inspection			
Bridge File Number	71139 -1 Bridge Culvert	Form Type	CULM
Year Built	1978	Lot No.	4
Bridge or Town Name	CARDSTON	Inspector Name	Jon Davies
Located Over	TRIBUTARY TO BOUNDARY CREEK, 24.1, WATERCRS-ST	Inspector Class	BR CLS B
Located On	2:02 C1 0.828	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	12-Oct-2011
Legal Land Location	SW SEC 2 TWP 1 RGE 26 W4M	Data Entry By	Erin Roberts
Longitude, Latitude	-113:22:31, 49:00:18	Data Entry Date	19-Nov-2011
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Garry Roberts
Contract Main. Area	CMA25	Review Date	10-Nov-2011
Clear Roadway/Skew	12 / 9 deg. (RHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	660 / 2010 (A)	Dept. Review Date	21-Nov-2011
Road Classification	RAU-213-120	Follow-Up By	
Detour Length (km)	56		

Bridge Culvert Information

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1830	MP	34.1	75X25	2.8	ROUND
2	MAIN	-	2130	MP	29.3	75X25	2.8	ROUND
Special Features	CONC FLOOR							
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	West ditch	Gas	
Power	1 wire North 200 m.	Municipal	
Others	Fibre optics @ East r/w	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

	Last	Now	Explanation of Condition
Horizontal Alignment	8	8	
Vertical Alignment	7	7	
Roadway Width (m)	12.000		
Embankment	7	7	
Sideslope (__:1)	3.5		
(Height of Cover(m) : 1.8)			
Guardrail (Y/N)	Yes		
Approach Road / Embankment General Rating	7	7	

Upstream End

Culvert Component	Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Secondary Span)			
Direction	W		West invert. - North Pipe
End Treatment (Concrete, Steel, Others, None)	STEEL		
Headwall	X	X	
Collar	X	X	
Wingwalls	X	X	
(Shape :)			

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Secondary Span)				
Cutoff Wall		X	X	
Bevel End		7	6	
Heaving (mm)	100			
Invert Above/Below Stream Bed				at S/B
Above/Below (mm)	0			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		7	6	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1830, Type: MP)				
Barrel Last Accessible Date	12-Oct-2011			North pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		5	5	
Measured Rise (mm)	1710			
Measured At Ring No.	3			
Sag (mm)	120			
Percent Sag	7			
Sidewall		5	5	
Measured Span (mm)	1965			
Measured At Ring No.	3			
Deflection (mm)	135			
Percent Deflection	7			
Floor		7	7	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	120mm horizontal gap U/S seam, 50 mm vertical gap D/S seam. 130mm at D/S South sidewall
Separation (mm)	130			
Longitudinal Seams		X	X	
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)				
Longitudinal Stagger (Y/N)				
Coating		5	5	Moderate corrosion at haunches and floor
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1830, Type: MP)				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	300mm water fall @ d/s end
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		5	5	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Secondary Span)				
Direction		E		East invert. - North Pipe
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	6	
Heaving (mm)	100			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	400			
Scour Protection		6	5	Scour hole not completely rock lined 3m x 2m x 1m deep
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 350)				
Scour/Erosion		6	5	
Beavers (Y/N)	No			
Downstream End General Rating		6	5	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Primary Span)				
Direction		W		WEST - South pipe Cattle pass
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
(Pipe # : 2, Span Type: Primary Span)				
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				At stream bed.
Above/Below (mm)	0			
Scour Protection		7	7	CONCRETE FLOOR EXTENDS OUT FOR 4.0m
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		7	7	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2130, Type: MP)				
Barrel Last Accessible Date	12-Oct-2011			South Pipe
Special Features				
Special Feature		6	6	Some transverse cracks-long cracks throughout
(Type : CONC FLOOR)				
Special Feature				Used as cattle pass
(Type :)				
Roof		6	6	Rise estimated with concrete floor
Measured Rise (mm)	2010			
Measured At Ring No.	2			
Sag (mm)	120			
Percent Sag	5			
Sidewall		6	5	
Measured Span (mm)	2270			
Measured At Ring No.	2			
Deflection (mm)	140			
Percent Deflection	7			
Floor		N	N	Concrete floor
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	7	
Separation (mm)	80			
Longitudinal Seams		X	X	
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)				
Longitudinal Stagger (Y/N)				
Coating		7	7	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2130, Type: MP)				
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	Handles drainage
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		6	5	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Primary Span)				
Direction		E		East - South Pipe
End Treatment (Concrete, Steel, Others, None)	STEEL			
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	ABOVE			
Above/Below (mm)	1000			
Scour Protection		6	6	CONCRETE FLOOR EXTENDS OUT 8.0 m.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 350)				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
Downstream End General Rating		6	6	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		5	5	Meanders through valley with numerous cutbanks.
Bank Stability		5	5	
HWM (m below Top of Culvert)	1.5			No visible HWM
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		5	5	

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) (%)	55.6/55.6	Sufficiency Rating (Last/Now) (%)	60.3/59.4	Est. Repl. Yr	2027	Maint. Req. (Y/N)	No
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	12-Jul-2013		Previous Inspection Date	20-Jan-2010			
Inspection Cycle (Default) (months)	21						
Comment							