

Bridge Culvert Inspection			
Bridge File Number	13047 -1 Bridge Culvert	Form Type	CUL1
Year Built	1960	Lot No.	
Bridge or Town Name	DRUMHELLER	Inspector Name	Wayne Cappellani
Located Over	TRIBUTARY TO MICHICHI CREEK, 3.35.3, WATERCRS-ST	Inspector Class	BR CLS A
Located On	849:04 C1 2.620	Assistant Name	Chris Black
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	28-Sep-2011
Legal Land Location	NW SEC 19 TWP 29 RGE 18 W4M	Data Entry By	Wayne Cappellani
Longitude, Latitude	-112:32:11, 51:29:52	Data Entry Date	10-Sep-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Wayne Cappellani
Contract Main. Area	CMA21	Review Date	10-Sep-2012
Clear Roadway/Skew	9 /	Dept. Reviewer Name	Wayne Cappellani
AADT/Year	100 / 2011 (A)	Dept. Review Date	10-Sep-2012
Road Classification	RLU-208G-90	Follow-Up By	
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	2004	2235	SPE	41.5	152X51	2.8	ELLIPSE
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone		Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks	No utilities found.		

**Approach Road / Embankment**

	Last	Now	Explanation of Condition
Horizontal Alignment	9	8	Limited sight distance on both sides.
Vertical Alignment	5	4	Culvert in sag curve.
Roadway Width (m)	9.000		
Embankment	4	4	Erosion above outlet.
Sideslope ( __:1)	2.0		
(Height of Cover(m) : 5.8)			
Guardrail (Y/N)	No		
<b>Approach Road / Embankment General Rating</b>	<b>4</b>	<b>4</b>	

**Upstream 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	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Bevel End		6	5	(Some hollow areas under U/S end of pipe. 30-Nov-2004). Seepage through bottom rows of bolts for U/S half of pipe.
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		6	4	Severe erosion 1.5M x 2.0M x 0.5M section under & sides of beveled end.
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>200</b> )				
Scour/Erosion		6	4	Severe erosion 1.5M x 2.0 M x 0.5 M section under beveled end.
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>4</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2004, Rise (mm): 2235, Type: SPE)				
Barrel Last Accessible Date	28-Sep-2011			
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		5	5	5.7%.
Measured Rise (mm)	2107			
Measured At Ring No.	6			
Sag (mm)	128			
Percent Sag	6			
Sidewall		3	3	Perforations in R16 at 8o'clock. 10 isolated locations 5 to 40mm dia. holes. Man made/drilled holes in N. sidewall @ 4 o'clock. 40 mm dia. holes in S. sidewall @ 11 o'clock. 4.2%
Measured Span (mm)	2088			
Measured At Ring No.	6			
Deflection (mm)	106			
Percent Deflection	4			
Floor		6	5	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	6	
Separation (mm)	0			
Longitudinal Seams		7	6	1N.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		3	3	Soil side corrosion visible on top of pipe @ ends. Corrosion product and alkali through bottom row of bolts. 10 perforations in R16 at 8o'clock. Drilled holes in N. sidewall & S. sidewall.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2004, Rise (mm): 2235, Type: SPE)				
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Invert above S/B.
Baffle		X	X	
(Type : )				
Waterway Adequacy		4	4	Flows full. Large d/s scour.
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>3</b>	<b>3</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		5	4	3.8M section undermined & perched @ D/S end.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		3	3	(Rocks 350 mm to 400 mm dia has been moved 13.0 m D/S of bevel 10-May-2010). 20 m wide X 22 m long scour hole. Scour extend 3.8 M back into road embankment due to swirling at outlet. Water level @ invert height. . 3.8 M length undermined.
(Type : <b>NONE</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		3	3	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>3</b>	<b>3</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		5	5	Sharp bend U/S.
Bank Stability		4	4	Eroded to vertical D/S.
HWM (m below Top of Culvert)	0.5			Grass caught on long. seam bolts in R6 & R8.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>4</b>	<b>4</b>	

Maintenance Recommendations									
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #			
SHOTCRETE REPAIRS									
PLACE ADDITIONAL RIP RAP	2012	30cu m Class II @ D/S							
REMOVE DRIFT ACCUMULATION									
INSTALL CONCRETE/STEEL LINING									
INSTALL STRUTS									
INSTALL CONCRETE COLLAR/CUTOFF									
REPAIR SEAMS									
OTHER ACTION	2012	50cu m of clay seal for D/S.							
OTHER ACTION	2020	Recommend install guardrail due to steep slopes on both embankment, height of cover.							
OTHER ACTION	2012	Repair/seal drilled holes in R5 and perforations in R16 with expandable sprayed foam.							
OTHER ACTION	2012	Gout void under U/S bevel end.							
OTHER ACTION									
OTHER ACTION									
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>33.3/33.3</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>26.4/24.5</b>	Est. Repl. Yr	2024	Maint. Req. (Y/N)	Yes		
Special Comments for Next Inspection	Check if corrosion problem increases/more perforations.			Department Comments					
Maintenance Reviewed By				Date			Estimated Total	0	
Proposed Long-Term Strategy	2003.03.18 Replace culvert in 2020.								
On 3-Year Program (Y/N)									
Proposed Action									
Previous Inspector's Name	Owen Salava			Previous Assistant's Name					
Next Inspection Date	28-Dec-2014			Previous Inspection Date	10-May-2011				
Inspection Cycle (Default) (months)	39								
Comment									