

Bridge Culvert Inspection			
Bridge File Number	71569 -1 Bridge Culvert	Form Type	CUL1
Year Built	1962	Lot No.	1
Bridge or Town Name	CARBON	Inspector Name	Owen Salava
Located Over	TRIBUTARY TO KNEEHILLS CREEK, 3.46.9, WATERCRS-ST	Inspector Class	BR CLS A
Located On	575:04 C1 0.762	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	26-Jan-2011
Legal Land Location	SW SEC 30 TWP 29 RGE 23 W4M	Data Entry By	Marcia Chavez
Longitude, Latitude	-113:13:45, 51:30:33	Data Entry Date	04-Mar-2011
Road Authority	Alberta Transportation (AIT)	Reviewer Name	John O'Brien
Contract Main. Area	CMA21	Review Date	03-Feb-2011
Clear Roadway/Skew	8.4 / 20 deg. (RHF)	Dept. Reviewer Name	Chris Black
AADT/Year	1,060 / 2009 (A)	Dept. Review Date	07-Mar-2011
Road Classification	RCU-208-110	Follow-Up By	
Detour Length (km)	6		

**Bridge Culvert Information**

Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	1727	2692	CPE	62.5			ELLIPSE
Special Features								
Special Features Comment	Corrugation profile or plate thickness not applicable.							

**Utilities (Located at)**

Utility Attachments			
Telephone	South ditch.	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks	Fibre optic cable @ N ditch.		

**Approach Road / Embankment**

	Last	Now	Explanation of Condition
Horizontal Alignment	6	6	Limited sight distance.
Vertical Alignment	6	6	Bottom of sag curve.
Roadway Width (m)	8.350		
Embankment	7	7	Steep 2:1 on bottom step.
Sideslope ( __:1)	3.0		
(Height of Cover(m) : 5)			
Guardrail (Y/N)	Yes		On N side. One poor lap with splice @ end of beam. Many post holes not filled.
<b>Approach Road / Embankment General Rating</b>	<b>6</b>	<b>6</b>	

**Upstream End**

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

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Bevel End		X	X	No bevel - vertically ellipsed. Concrete rings.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		N	N	Snow covered.
(Type : )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>6</b>	G.R. carried forward.
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1727, Rise (mm): 2692, Type: CPE)</b>				
Barrel Last Accessible Date	26-Jan-2011			41 concrete rings @ 1.5m. Ring label from South to North.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		3	3	R15,19,23,25 have cracks. Long. cracks in roof @ R15-27. R15-16 have 2 & 4 cracks over 600mm width. R17-21 have wider cracks @ crown with 2,3,4,2,2 cracks respectively. R22-25 have long cracks over 450mm width of crown with 4,3,3,3 cracks respt. R26 has 1 long crack @ crown from lift pocket to S seam.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	10			
Percent Sag				
Sidewall		6	6	R27 has 2 thin long cracks near shoulder @ W wall. R28 1 thin long. crack @ W. wall.
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		4	N	Foam filler seems to be missing over wetted section of invert (not visible). Minor vertical displacement so wonder if joints displaced. Soil infiltration 2nd seam from S end.
Separation (mm)	40			
Longitudinal Seams		X	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		X	X	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)				
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1727, Rise (mm): 2692, Type: CPE)				
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type : )				
Waterway Adequacy		8	8	
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		S		
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		X	X	No bevel.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		4	N	(Rocks did not provide protection of outlet. 20Feb2008).
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>200</b> )				
Scour/Erosion		N	N	(Scour hole 300mm from outlet. 22L X 20W X 1D. 04Oct2007). Snow covered.
Beavers (Y/N)	Yes			Unable to confirm.
<b>Downstream End General Rating</b>		<b>4</b>	<b>4</b>	GR carried forward from 20Feb2008.
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		7	7	U/S channel has vegetation.
Bank Stability		7	7	
HWM (m below Top of Culvert)				Grass on fence at inlet.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	NONE			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>7</b>	<b>7</b>	

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	2012	Pressure grout seam, 2nd from S end & connect last 5 rings.					
OTHER ACTION	2012	De-water barrel. Inspect circular seams at floor. Assess affect of cracks on load capacity. Design repair if required. Assessment.					
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>33.3/33.3</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>55.6/55.0</b>	Est. Repl. Yr	2020	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Assume concrete rings reinforced with thin mesh. Monitor cracks. No change from Feb 2008 inspection markings on walls.		Department Comments				
Maintenance Reviewed By			Date			Estimated Total	0
Proposed Long-Term Strategy	2004.05.30 Monitor roof cracks on normal BIM. Repair if required. Culvert should be good until 2037.						
On 3-Year Program (Y/N)							
Proposed Action							
Previous Inspector's Name	Bryan Wai		Previous Assistant's Name				
Next Inspection Date	26-Apr-2014		Previous Inspection Date	20-Feb-2008			
Inspection Cycle (Default) (months)	39						
Comment							