

Bridge Culvert Inspection				
Bridge File Number	71384 -1 Bridge Culvert		Form Type	CUL1
Year Built	1976		Lot No.	1
Bridge or Town Name	COLD LAKE		Inspector Name	Wade Nanninga
Located Over	MARIE CREEK, 7.7, WATERCRS-ST		Inspector Class	BR CLS A
Located On	55:18 C1 32.002		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	09-Apr-2012
Legal Land Location	NW SEC 17 TWP 63 RGE 2 W4M		Data Entry By	Lisa Fairhurst
Longitude, Latitude	-110:16:48, 54:27:25		Data Entry Date	25-Apr-2012
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Eric Carcoux
Contract Main. Area	CMA08		Review Date	25-Apr-2012
Clear Roadway/Skew	13.4 /		Dept. Reviewer Name	Brent Herrick
AADT/Year	4,300 / 2011 (A)		Dept. Review Date	04-May-2012
Road Classification	RAU-213.4-120		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	-	4095	SP	67.1	152X51	3.5	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone	Plowed in both ditches.		Gas
Power	2 wires OH 30m North of c/l.		Municipal
Others			Problem (Y/N) No
Remarks	BF tag installed @ top of North end roof.		

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Farm entrance both ways Crest curve to east, no passing.
Vertical Alignment		7	7	
Roadway Width (m)	13.400			
Embankment		5	5	
Sideslope (__:1)	2.5			
(Height of Cover(m) : 7.5)				
Guardrail (Y/N)	Yes			
<b>Approach Road / Embankment General Rating</b>		<b>7</b>	<b>7</b>	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		N		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		5	5	Shoulder slabs have separated and dropped 250mm.
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		N	N	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Bevel End		7	7	
Heaving (mm)	150			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	800			
Scour Protection		5	5	2.0m crown to water.
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>350</b> )				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>5</b>	<b>5</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : <b>1, Primary Span, Location Code: MAIN, Span (mm):</b>				<b>, Rise (mm): 4095, Type: SP</b> )
Barrel Last Accessible Date	09-Dec-2002			Viewed from ends, shape looks good. Water too deep.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		N	N	(Particularly noticeable at point D/S where culvert extended. Creases and torched bolt holes at 5th ring from U/S north. 01/03/21) Sag estimated.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	135			
Percent Sag	5			
Sidewall		N	N	(Measured span 4.315 near c/l. 01/03/21) (Sidewall is wavy and shape non-consistent.) 14Jul10
Measured Span (mm)	4315			
Measured At Ring No.				
Deflection (mm)	220			(Sidewall 5.1%. 01/03/21)
Percent Deflection	5			
Floor		N	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	(Many loose or missing bolts throughout barrel. Est 5% - rated what's visible/accessible. 16/Nov/2006)
Separation (mm)	0			
Longitudinal Seams		N	N	(Ice is above springline this inspection. 2002/12/04) (Numerous loose bolts or missing nuts / bolts. 16/Nov/2006)
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			2N stagger
Coating		N	N	(Rust leeching near D/S end, middle of plate. Some rusting at water interface - upper barrel in good condition. Leakage into pipe from roof at R3. 2002/12/09)
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 4095, Type: SP)				
Fish Passage Adequacy		8	8	
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>4</b>	<b>4</b>	G.R. carried forward from 16/Nov/2006 but last barrel access was 09/Dec/2002.
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		S		0.5m crown to water
End Treatment (Concrete, Steel, Others, None)		STEEL		
Headwall		X	X	
Collar		X	X	
Wingwalls (Shape : )		X	X	
Cutoff Wall		X	X	
Bevel End		N	N	
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1200			
Scour Protection (Type : <b>RIP RAP</b> ) (Avg. Rock Size(mm) : <b>350</b> )		7	7	
Scour/Erosion		7	7	No evident problems.
Beavers (Y/N)		No		
<b>Downstream End General Rating</b>		<b>6</b>	<b>6</b>	GR carried fwd.
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		8	8	
Bank Stability		8	8	
HWM (m below Top of Culvert)				HWM not visible.
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>8</b>	<b>8</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	Dewater & perform Level II to determine condition & extent of loose/missing bolts. (If not done)					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>44.4/44.4</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>59.3/59.2</b>	Est. Repl. Yr	2020	Maint. Req. (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	Shane Hall		Previous Assistant's Name				
Next Inspection Date	09-Jan-2014		Previous Inspection Date	14-Jul-2010			
Inspection Cycle (Default) (months)	21						
Comment							