

Bridge Culvert Inspection			
Bridge File Number	13703 -1 Bridge Culvert	Form Type	CULM
Year Built	1977	Lot No.	1
Bridge or Town Name	GLEICHEN	Inspector Name	Jon Davies
Located Over	CROWFOOT CREEK, 2.13.14, WATERCRS-ST	Inspector Class	BR CLS B
Located On	1:14 R1 13.888;1:14 L1 13.922	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	16-Feb-2012
Legal Land Location	SW SEC 7 TWP 24 RGE 22 W4M	Data Entry By	Erin Roberts
Longitude, Latitude	-113:04:28, 51:01:37	Data Entry Date	18-Mar-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Garry Roberts
Contract Main. Area	CMA30	Review Date	27-Feb-2012
Clear Roadway/Skew	24.8 / -10 deg. (LHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	5,940 / 2010 (A)	Dept. Review Date	22-Mar-2012
Road Classification	RAD-412.4-120	Follow-Up By	
Detour Length (km)	1		

**Bridge Culvert Information**

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	3350	SP	76.8	152X51	4.0	ROUND
2	MAIN	-	2200	MP	69.8	125X26	2.8	ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone	WEST DITCH	Gas	
Power		Municipal	
Others	Fibre optics @ East RW	Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

	Last	Now	Explanation of Condition
Horizontal Alignment	7	7	GRADUAL CURVE 400 m TO THE NORTH. IN SAG SURVE WITH LIMITED SIGHT DISTANCE TO SOUTH.
Vertical Alignment	6	6	
Roadway Width (m)	24.800		
Embankment	7	7	5:1 West side.
Sideslope (__:1)	4.0		
(Height of Cover(m) : 1.2)			
Guardrail (Y/N)	Yes		
<b>Approach Road / Embankment General Rating</b>	<b>6</b>	<b>6</b>	

**Upstream End**

Culvert Component	Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>			
Direction	W		WEST END NORTH BARREL.
End Treatment (Concrete, Steel, Others, None)	CONCRETE		
Headwall	5	6	Wide cracks lower South side
Collar	5	5	BREAKING UP @ TOE @ South settlement up to 500mm.
Wingwalls	X	X	
(Shape : )			

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Cutoff Wall		N	N	
Bevel End		7	7	Fenceline crosses over bevel end
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1000			
Scour Protection		7	7	ingrown
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 600)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>7</b>	<b>7</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3350, Type: SP)</b>				
Barrel Last Accessible Date	16-Feb-2012			THIS STRUCTURE TAKES ALL OF PRESENT FLOW. NORTH PIPE
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		N	6	Minor distortion @ new to old splice @ Ring 10 to 11. Est
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	160			
Percent Sag	5			
Sidewall		N	5	Inward. Tear & patch & ring #3 & #10.
Measured Span (mm)	3327			
Measured At Ring No.	12			
Deflection (mm)	23			
Percent Deflection	1			
Floor		N	N	Ice covered.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	6	
Separation (mm)	10			
Longitudinal Seams		N	5	West section is staggered 1N.
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)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	6	SUPERFICIAL RUST BELOW WATERLINE. Some alkali & corrosion @ bolts.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3350, Type: SP)				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type : )				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>N</b>	<b>5</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		E		EAST END OF 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		6	5	HAS PUSHED IN FROM BOTH SIDES 200 m
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1100			
Scour Protection		5	5	20mx20m scour hole-lined with large rocks
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 800)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>6</b>	<b>5</b>	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		W		WEST END OF SOUTH PIPE.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		7	7	ROCK IS LARGELY SHALE & FLAT ROCK. Lots-ingrown
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>600</b> )				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>7</b>	<b>7</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2200, Type: MP)</b>				
Barrel Last Accessible Date	16-Feb-2012			
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		3	3	(Measured approx 1/3 distance from U/S No change since last inspection) 19- Aug-2008
Measured Rise (mm)	1968			
Measured At Ring No.				
Sag (mm)	232			
Percent Sag	11			
Sidewall		3	3	Measured approx 1/3 distance from u/s
Measured Span (mm)	2441			
Measured At Ring No.	14			
Deflection (mm)	241			
Percent Deflection	11			
Floor		N	N	Ice covered.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	6	
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		N	5	Corrosion at waterline with minor pitting.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2200, Type: MP)				
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type : )				
Waterway Adequacy		7	7	
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
(Pipe # : 2, Span Type: Secondary Span)				
Direction		E		EAST END OF SOUTH PIPE.
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	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	800			
Scour Protection		5	5	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 800)				
Scour/Erosion		5	5	20mx20m scour lined with large rocks
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>5</b>	<b>5</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		7	7	
Bank Stability		7	7	Bank is stable
HWM (m below Top of Culvert)				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)				
<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	Consider level 2 inspection at a low water ice free time. Then revision to rating and estimated year of replacement could be possible.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>33.3/33.3</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>54.0/54.0</b>	Est. Repl. Yr	2016	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	Jason Rusu		Previous Assistant's Name				
Next Inspection Date	16-Nov-2013		Previous Inspection Date	08-Aug-2010			
Inspection Cycle (Default) (months)	21						
Comment							