Bridge Culvert Inspection

Bridge File Number	09835 -1 Bridge Culvert	Form Type	CULM
Year Built	2001	Lot No.	4
Bridge or Town Name	RED DEER	Inspector Name	Jason Saly
Located Over	2ND ORDER TRIBUTARY TO PIPER CK, 3.81.1.2.2, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	595:02 C1 0.313	Assistant Class	
Water Body Cl./Year		Inspection Date	23-Nov-2011
Navigabil. Cl./Year		Data Entry By	Marcia Chavez
Legal Land Location	SW SEC 1 TWP 38 RGE 27 W4M	Data Entry Date	21-Dec-2011
Longitude, Latitude	-113:44:17, 52:13:49	Reviewer Name	John O'Brien
Road Authority	Alberta Transportation (AIT)	Review Date	15-Dec-2011
Contract Main. Area	CMA19	Dept. Reviewer Name	Andrew Smikles
Clear Roadway/Skew	12.1 /	Dept. Review Date	09-Jan-2012
AADT/Year	3,080 / 2010 (A)	Follow-Up By	
Road Classification	RCU-211.0-110		
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts	4							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1600	MP	26	125X26	2.8	ROUND
2	MAIN	-	1600	MP	26	125X26	2.8	ROUND
3	MAIN	-	1600	MP	26	125X26	2.8	ROUND
4	MAIN	-	1600	MP	26	125X26	2.8	ROUND

Special Features	
Special Features Comment	

Utilities (Located at)

Utility Attachments			
Telephone	In South ditch.	Gas	
Power	1 wire OH in North r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		9	8	Farm entrances 100m East & 50m West - North side.
Vertical Alignment		8	8	
Roadway Width (m)	12.100			Wide trans. cracks either side of pipe.
Embankment		7	7	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **1.3**)				
Guardrail (Y/N)	Yes			Minor creasing along flexbeam. 1 cracked timber guardrail post, S side.
Approach Road / Embankment General Rating		**8**	**8**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		8	8	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		8	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		8	N	
Beavers (Y/N)	No			
Upstream End General Rating		**8**	**8**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1600, Type: MP**)				
Barrel Last Accessible Date	22-Nov-2011			2nd from East.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		8	8	Rise could nto be measured due to ice.
Measured Rise (mm)				
Measured At Ring No.				Estimated.
Sag (mm)	30			
Percent Sag				
Sidewall		8	7	Span at S end=1640=40mm=2.5% Span at Midpipe=1630=30mm Span at N end=1635=35mm
Measured Span (mm)	1640			
Measured At Ring No.				
Deflection (mm)	40			
Percent Deflection	3			
Floor		8	N	Ice covered.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		8	7	
Separation (mm)	30			
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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1600, Type: MP**)				
Coating		8	7	Minor.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	Constantly 1/3 full of water.
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**8**	**7**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction		N		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		8	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		8	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		8	N	
Beavers (Y/N)	No			
Downstream End General Rating		**8**	**7**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		8	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		8	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		8	N	
Beavers (Y/N)	No			
Upstream End General Rating		**8**	**7**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1600, Type: MP**)				
Barrel Last Accessible Date	22-Nov-2011			E pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		8	8	Could not measure rise due to ice.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	30			Estimated.
Percent Sag				
Sidewall		8	7	Span at S end=1640=40mm=2.5% Span at Midpipe=1620=20mm Span at N end=1610=10mm
Measured Span (mm)	1640			
Measured At Ring No.				
Deflection (mm)	40			2.5%
Percent Deflection	3			
Floor		8	N	Ice covered.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		8	7	
Separation (mm)	25			
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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1600, Type: MP**)				
Coating		8	7	Minor.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**8**	**7**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		N		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		8	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		8	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		8	N	
Beavers (Y/N)	No			
Downstream End General Rating		**8**	**7**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Span Type: Secondary Span**)				
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		N	X	
Collar		N	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Span Type: Secondary Span**)				
Wingwalls		N	X	
(Shape :)				
Cutoff Wall		N	X	
Bevel End		N	7	
Heaving (mm)				
Invert Above/Below Stream Bed				
Above/Below (mm)				
Scour Protection		N	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		N	N	
Beavers (Y/N)	No			
Upstream End General Rating		**N**	**7**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1600, Type: MP**)				
Barrel Last Accessible Date	22-Nov-2011			3rd pipe from E.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	7	Could not measure rise due to ice.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	40			
Percent Sag				
Sidewall		N	7	Span at S end=1610=10mm Span at Midpipe=1650=50mm=3.1% Span at N end=1620=20mm
Measured Span (mm)	1650			
Measured At Ring No.				
Deflection (mm)	50			3.1%
Percent Deflection	3			
Floor		N	N	Ice covered.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	7	
Separation (mm)	28			
Longitudinal Seams		N	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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1600, Type: MP**)				
Coating		N	7	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		N	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		N	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**N**	**7**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Span Type: Secondary Span**)				
Direction		N		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		N	X	
Collar		N	X	
Wingwalls		N	X	
(Shape :)				
Cutoff Wall		N	X	
Bevel End		N	7	Not visible.
Heaving (mm)				
Invert Above/Below Stream Bed				
Above/Below (mm)				
Scour Protection		N	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		N	N	
Beavers (Y/N)	No			
Downstream End General Rating		**N**	**7**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Span Type: Secondary Span**)				
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		N	X	
Collar		N	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Span Type: Secondary Span**)				
Wingwalls		N	X	
(Shape :)				
Cutoff Wall		N	X	
Bevel End		N	7	Not visible.
Heaving (mm)				
Invert Above/Below Stream Bed				
Above/Below (mm)				
Scour Protection		N	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		N	N	
Beavers (Y/N)	No			
Upstream End General Rating		**N**	**7**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1600, Type: MP**)				
Barrel Last Accessible Date	22-Nov-2011			W pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	7	Rise could not be measured due to ice.
Measured Rise (mm)				
Measured At Ring No.				Estimated.
Sag (mm)	40			
Percent Sag				
Sidewall		N	7	Span at S end=1625=25mm Span at Midpipe=1645=45mm=2.8% Span at N end=1630=30mm
Measured Span (mm)	1645			
Measured At Ring No.				
Deflection (mm)	45			2.8%
Percent Deflection	3			
Floor		N	N	Ice covered.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	7	
Separation (mm)	20			
Longitudinal Seams		N	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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1600, Type: MP**)				
Coating		N	7	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		N	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		N	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**N**	**7**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Span Type: Secondary Span**)				
Direction		N		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		N	X	
Collar		N	X	
Wingwalls		N	X	
(Shape :)				
Cutoff Wall		N	X	
Bevel End		N	7	Not visible.
Heaving (mm)				
Invert Above/Below Stream Bed				
Above/Below (mm)				
Scour Protection		N	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		N	N	
Beavers (Y/N)	No			
Downstream End General Rating		**N**	**7**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		6	6	Serves as ditch drainage.
Bank Stability		6	6	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel Bottom Degrading/Aggrading				Unknown
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**6**	**6**	

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) (%)	**88.9/77.8**	**Sufficiency Rating (Last/Now) (%)**	**82.2/74.4**	Est. Repl. Yr	2050	Maint. Reqd. (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	Dave Lam	Previous Assistant's Name			
Next Inspection Date	23-Feb-2015	Previous Inspection Date	29-May-2005		
Inspection Cycle (Default) (months)	39				
Comment					