

Bridge Culvert Inspection			
Bridge File Number	73178 -1 Bridge Culvert	Form Type	CULM
Year Built	1985	Lot No.	4
Bridge or Town Name	MANNVILLE	Inspector Name	Jason Saly
Located Over	TRIBUTARY TO VERMILION RIVER, 6.5.16, WATERCRS-ST	Inspector Class	BR CLS A
Located On	16:28 R1 18.796;16:28 L1 18.781	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	18-Jul-2012
Legal Land Location	NW SEC 22 TWP 50 RGE 8 W4M	Data Entry By	Marcia Chavez
Longitude, Latitude	-111:05:56, 53:19:44	Data Entry Date	09-Aug-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	John O'Brien
Contract Main. Area	CMA15	Review Date	28-Jul-2012
Clear Roadway/Skew	27.1 / -15 deg. (LHF)	Dept. Reviewer Name	Andrew Smikles
AADT/Year	6,970 / 2011 (A)	Dept. Review Date	13-Aug-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	-	2400	MP	74	125X26	2.8	ROUND
2	MAIN	-	2400	MP	76	125X26	2.8	ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone	North ditch and South ditch.	Gas	
Power		Municipal	
Others	Railway line 10 m from D/S end	Problem (Y/N)	Yes
Remarks	(Telus line exposed and laying in SE gully. 06Feb2008).		

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	
Vertical Alignment		8	8	
Roadway Width (m)	27.400			
Embankment		N	6	
Sideslope ( _:1)	5.0			
(Height of Cover(m) : 1.2)				
Guardrail (Y/N)	Yes			Guardrail on outside.
<b>Approach Road / Embankment General Rating</b>		<b>8</b>	<b>8</b>	

**Upstream End**

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

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		N	6	
Heaving (mm)	75			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	600			
Scour Protection		N	6	(Apron extends up to 6 m from end of pipe. 17-Mar-2006) - Well vegetated.
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>300</b> )				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>6</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2400, Type: MP)</b>				
Barrel Last Accessible Date	17-Dec-2010			East pipe. (Near U/S end 0.6 m silt/gravel turning to mud further inside barrel. 06Feb2008). Water too deep to enter; shape appears good from ends. Accessed only first few metres from S; water 1m deep at N end.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		5	N	(One location where equipment above dented pipe - area of 3 sq m. 17Dec2010).
Measured Rise (mm)	2400			
Measured At Ring No.				Sag estimated. Crown at U/S end torn slightly. Minor tear at D/S crown.
Sag (mm)	0			
Percent Sag	0			
Sidewall		7	N	
Measured Span (mm)	2400			
Measured At Ring No.	3			
Deflection (mm)	0			
Percent Deflection	0			
Floor		N	N	Covered in gravel.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	N	
Separation (mm)	100			
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
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2400, Type: MP)</b>				
Coating		5	N	(Couplers are corroding quicker than barrel. 17Dec2010). White staining at waterline.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		6	6	
Baffle		X	X	
<b>(Type : )</b>				
Waterway Adequacy		6	6	It appears farmer placed rock inside barrel to make it a cattlepass. 600 mm deep.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>5</b>	<b>N</b>	GR was 5 based on roof rating from 17Dec2010.

Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
<b>(Pipe # : 1, Span Type: Primary Span)</b>					
Direction		N		East structure.	
End Treatment (Concrete, Steel, Others, None)	STEEL				
Headwall		X	X		
Collar		X	X		
Wingwalls		X	X		
<b>(Shape : )</b>					
Cutoff Wall		X	X		
Bevel End		N	4	Bevel bent, minor tear near roof.	
Heaving (mm)	0				
Invert Above/Below Stream Bed	BELOW				
Above/Below (mm)	400				
Scour Protection		N	6	Well vegetated.	
<b>(Type : RIP RAP)</b>					
<b>(Avg. Rock Size(mm) : 300)</b>					
Scour/Erosion		N	6		
Beavers (Y/N)	No				
<b>Downstream End General Rating</b>		<b>7</b>	<b>4</b>		

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Direction		S		West structure.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		N	5	Bulging inward 200mm. Minor tear at E side.
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		N	6	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>300</b> )				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>5</b>	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2400, Type: MP)</b>				
Barrel Last Accessible Date	17-Dec-2010			W pipe. Viewed from ends; water 1.2m deep, shape appears good.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		7	N	(sag estimated. 17Dec2010).
Measured Rise (mm)	2400			
Measured At Ring No.				
Sag (mm)	0			
Percent Sag	0			
Sidewall		7	N	(17Dec2010)
Measured Span (mm)	2400			
Measured At Ring No.	3			
Deflection (mm)	0			
Percent Deflection	0			
Floor		N	N	Covered in gravel.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	N	
Separation (mm)	100			
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): 2400, Type: MP)				
Coating		5	N	(Couplers are corroding quicker than barrel. 17Dec2010). White staining at water interface.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		6	6	
Baffle		X	X	
(Type : )				
Waterway Adequacy		6	6	(600 mm deep. 06Feb2008) - Unconfirmed.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>7</b>	<b>N</b>	GR was 7 in 17Dec2010 based on roof & sidewall ratings.
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		N		West structure.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		N	5	
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		N	6	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		N	6	
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		5	5	Offset ~300 from RR culverts. Sharp bend to W at u/s.
Bank Stability		7	6	800x1200x6000 drainage gully at SE.
HWM (m below Top of Culvert)				(Recent HWM 1.5m above invert of West pipe - 1993.10.19). HWM not visible.
Drift (Y/N)	Yes			

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>5</b>	<b>5</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							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>55.6/55.6</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>58.6/56.6</b>	Est. Repl. Yr	2034	Maint. Req. (Y/N)	No
Special Comments for Next Inspection			Department Comments				
Maintenance Reviewed By			Date			Estimated Total	0
Proposed Long-Term Strategy	2005.01.18 Existing culvert is in good condition and should be ok until 2035. Proposed overlay consultant should review guardrail at this location.						
On 3-Year Program (Y/N)							
Proposed Action							
Previous Inspector's Name	Owen Salava		Previous Assistant's Name				
Next Inspection Date	18-Apr-2014		Previous Inspection Date	17-Dec-2010			
Inspection Cycle (Default) (months)	21						
Comment							