

Bridge Culvert Inspection				
Bridge File Number	79378 -1 Bridge Culvert		Form Type	CUL1
Year Built	1981		Lot No.	1
Bridge or Town Name	SPRUCE GROVE		Inspector Name	Eric Carcoux
Located Over	ATIM CREEK, 6.65.8, WATERCRS-ST		Inspector Class	BR CLS A
Located On	16:14 L1 17.715;16:14 R1 17.706		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	10-Aug-2012
Legal Land Location	NW SEC 8 TWP 53 RGE 27 W4M		Data Entry By	Theresa Lacusta
Longitude, Latitude	-113:57:17, 53:34:08		Data Entry Date	17-Sep-2012
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Stew Hagan
Contract Main. Area	CMA11		Review Date	13-Sep-2012
Clear Roadway/Skew	23.6 /		Dept. Reviewer Name	Brent Herrick
AADT/Year	28,500 / 2011 (A)		Dept. Review Date	18-Sep-2012
Road Classification	RAD-412.4-120		Follow-Up By	
Detour Length (km)	1			

**Bridge Culvert Information**

Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	PI./Slab Thickness	Shape
1	MAIN	1724	1901	SPE	96	152X51	3.0	ELLIPSE
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments				
Telephone			Gas	
Power	One wire on North side.		Municipal	
Others			Problem (Y/N)	No
Remarks	File tag U/S.			

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	Gradual curve. Good sight distance.
Vertical Alignment		8	8	
Roadway Width (m)	23.600			WBL 12.0, EBL 11.6
Embankment		7	7	
Sideslope ( _ :1)	5.0			
(Height of Cover(m) : 2.5)				
Guardrail (Y/N)	No			
<b>Approach Road / Embankment General Rating</b>		<b>8</b>	<b>8</b>	

**Upstream End**

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

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Bevel End		3	3	300mm hole in floor of bevel. West side of bevel bent by equipment. Bevel pushed out of shape, severely heaved. Bevel @ risk of uplift next flood. Torn SW.
Heaving (mm)	500			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	150			
Scour Protection (Type : <b>NONE</b> ) (Avg. Rock Size(mm) : )		4	4	Limited scour along toe of slope adjacent to the inlet.
Scour/Erosion		4	4	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>3</b>	<b>3</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1724, Rise (mm): 1901, Type: SPE)				
Barrel Last Accessible Date	07-Feb-1995			Water too deep to enter barrel or see much of it.
<b>Special Features</b>				
Special Feature (Type : )				
Special Feature (Type : )				
Roof		N	N	(Previous dimension suggest a 77mm sag or 4% which means R=6. 05/Mar/2007) Limited view from ends. Portion viewed showed no apparent problems.
Measured Rise (mm)	1824			
Measured At Ring No.				
Sag (mm)	118			
Percent Sag	6			
Sidewall		N	N	(Previous dimension suggest a 76mm deflection or 4.4% which means R=6. 05/Mar/2007) Limited view from ends. No problems observed within portion viewed.
Measured Span (mm)	1800			
Measured At Ring No.				
Deflection (mm)	114			
Percent Deflection	7			
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	(Water leaching through bolt holes, almost all bolts are covered with a red oxide. 2003/10/02)
Separation (mm)	0			
Longitudinal Seams		N	N	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	N	
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1724, Rise (mm): 1901, Type: SPE)				
Ponding (Y/N)	Yes			(1.3 excessive negative camber last 3 sections both ends. Ponding due to neg camber D/S invert cantilevered 3.0m. 05/Mar/2007)
Fish Passage Adequacy		3	3	Perched outlet.
Baffle (Type : )		N	N	
Waterway Adequacy		N	5	
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>4</b>	<b>4</b>	(G.R. carried forward since 07/Feb/1995)
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		N		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls (Shape : )		X	X	
Cutoff Wall		X	X	
Bevel End		4	4	Bevel excessively heaved causing ponding in barrel. (Bevel cantilevered 3.0m. Embankment fill sloughing around & above bevel due to scour. Large scour off D/S end of culvert. Fill missing from around ends of pipe. Pipe cantilevered over scour hole appx 1.0m deep x 7m x 12m.
Heaving (mm)	500			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	800			
Scour Protection (Type : RIP RAP) (Avg. Rock Size(mm) : 400)		4	4	Scour protection around D/S bevel end is insufficient. Clay backfill loss.
Scour/Erosion		4	4	Loss of fill around bevel end. Undermined.
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>4</b>	<b>4</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		6	6	
Bank Stability		5	5	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	NONE			Area d/s is flooded.-07-Oct-2010 Cuttings evident.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				

<b>Structure Usage</b>				
		<b>Last</b>	<b>Now</b>	<b>Explanation of Condition</b>
<b>Channel General Rating</b>		<b>5</b>	<b>6</b>	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP	2012	50m3 (25m3 each end)					
REMOVE DRIFT ACCUMULATION							
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION	2012	Dewater & perform Levell II inspection since barrel not thoroughly inspected since Feb 1995, if not done.					
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>44.4/44.4</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>49.3/37.0</b>	Est. Repl. Yr	2025	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	Kris Bosters		Previous Assistant's Name				
Next Inspection Date	10-May-2014		Previous Inspection Date	07-Oct-2010			
Inspection Cycle (Default) (months)	21						
Comment							