

Bridge Culvert Inspection			
Bridge File Number	70946 -1 Bridge Culvert	Form Type	CUL1
Year Built	1990	Lot No.	1
Bridge or Town Name	VERMILION	Inspector Name	Owen Salava
Located Over	GRIZZLY BEAR CREEK, 5.11, WATERCRS-ST	Inspector Class	BR CLS A
Located On	619:06 C1 11.670	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	07-Nov-2012
Legal Land Location	SW SEC 29 TWP 48 RGE 5 W4M	Data Entry By	Marcia Chavez
Longitude, Latitude	-110:42:30, 53:09:41	Data Entry Date	20-Nov-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	John O'Brien
Contract Main. Area	CMA15	Review Date	14-Nov-2012
Clear Roadway/Skew	9.7 / 30 deg. (RHF)	Dept. Reviewer Name	Andrew Smikles
AADT/Year	510 / 2011 (A)	Dept. Review Date	26-Nov-2012
Road Classification	RCU-209-110	Follow-Up By	
Detour Length (km)	15		

**Bridge Culvert Information**

Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	4090	4515	SPE	96.3	152X51	4.0	ELLIPSE
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone		Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	Field access to NE & SE.
Vertical Alignment		6	6	Long steep grade in both directions. Limited sight distance but passing allowed in valley.
Roadway Width (m)	9.700			
Embankment		8	8	
Sideslope (__:1)	2.5			
(Height of Cover(m) : 8.5)				
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
Direction		N		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		5	5	Vertical cracks have developed in headwall. Wide 7mm @ crown - photo.
Collar		N	N	Snow covered.
Wingwalls		X	X	
(Shape : )				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Cutoff Wall		N	N	
Bevel End		6	6	Heaving estimated.
Heaving (mm)	800			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	600			
Scour Protection		N	5	Snow covered - partially.
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>350</b> )				
Scour/Erosion		N	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
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 4090, Rise (mm): 4515, Type: SPE)</b>				
Barrel Last Accessible Date	21-Feb-2000			(1930mm from crown to ice. 21Feb2000). Design 4090 x 4515. Viewed from ends & appears W wall at 1/3 L might be cracked. Slushy ice.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		N	N	Est roof sag @ 8%. (Roof slightly flattening beginning @ 20mm in from both ends. Numerous swallow nests attached to roof of pipe. 00/02/21)
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag	8			
Sidewall		N	N	(Span 4430mm. 8% deflection. Covered with ice. 00/02/21)
Measured Span (mm)	4430			
Measured At Ring No.				
Deflection (mm)	340			
Percent Deflection	8			
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	West wall at 1/3 L might be cracked. (No cracks in visible seams. 00/02/21)
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	Yes			
Longitudinal Stagger (Y/N)	Yes			
Coating		6	6	
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): 4090, Rise (mm): 4515, Type: SPE)				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		8	8	
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>4</b>	<b>4</b>	G.R. carried forward since 21/Feb/2000.
Downstream 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	
Bevel End		7	7	
Heaving (mm)	600			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1100			
Scour Protection		N	7	Snow covered - partially.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 350)				
Scour/Erosion		N	7	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>7</b>	<b>7</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		6	6	U/S entry at 60 degree corner.
Bank Stability		7	5	Vertical bank erosion just beyond NE rock riprap.
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
<b>Channel General Rating</b>		<b>6</b>	<b>6</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	2013	Dewater & Lvl 2 inseption.					
OTHER ACTION							
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>59.0/58.4</b>	Est. Repl. Yr	2029	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Monitor roof sag & sidewall deflection and look for cracks. Monitor u/s bank erosion with photo looking u/s.		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	Owen Salava		Previous Assistant's Name				
Next Inspection Date	07-Feb-2016		Previous Inspection Date	27-Jan-2010			
Inspection Cycle (Default) (months)	39						
Comment							