

Bridge Culvert Inspection				
Bridge File Number	73241 -1 Bridge Culvert		Form Type	CUL1
Year Built	1964		Lot No.	1
Bridge or Town Name	CARSTAIRS		Inspector Name	Owen Salava
Located Over	CARSTAIRS CREEK, 3.33.21, WATERCRS-ST		Inspector Class	BR CLS A
Located On	580:02 C1 26.193		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	27-Oct-2011
Legal Land Location	SE SEC 6 TWP 30 RGE 1 W5M		Data Entry By	Marcia Chavez
Longitude, Latitude	-114:07:30, 51:31:58		Data Entry Date	29-Nov-2011
Road Authority	Alberta Transportation (AIT)		Reviewer Name	John O'Brien
Contract Main. Area	CMA29		Review Date	14-Nov-2011
Clear Roadway/Skew	9.1 /		Dept. Reviewer Name	Chris Black
AADT/Year	1,420 / 2010 (A)		Dept. Review Date	25-Jan-2012
Road Classification	RLU-209-110		Follow-Up By	
Detour Length (km)	6			

Bridge Culvert Information								
Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	PI./Slab Thickness	Shape
1	MAIN	1738	1920	SPE	63.4	152X51	3.0	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone	South r/w.	Gas	
Power	3 wires 10m North of easement.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		9	9	No passing.
Vertical Alignment		7	7	
Roadway Width (m)	9.000			
Embankment		5	5	20m long x 2m deep x 8m wide ditch scour @ SW. Grassed in.
Sideslope ( __:1)	2.0			
(Height of Cover(m) : 11)				
Guardrail (Y/N)	Yes			
<b>Approach Road / Embankment General Rating</b>		<b>7</b>	<b>7</b>	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		N		
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		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	0			
Scour Protection		7	7	Willow bushes around bevel.
(Type : <b>NATURAL</b> )				
(Avg. Rock Size(mm) : )				
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
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1738, Rise (mm): 1920, Type: SPE)				
Barrel Last Accessible Date	27-Oct-2011			
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		5	5	
Measured Rise (mm)	1836			
Measured At Ring No.	7			
Sag (mm)	84			
Percent Sag	4			
Sidewall		N	3	Cracked seams (see longit. seams).
Measured Span (mm)	1800			
Measured At Ring No.	7			
Deflection (mm)	62			
Percent Deflection	3			
Floor		N	N	600mm avg depth of water.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		6	6	
Separation (mm)	0			
Longitudinal Seams		N	3	
Total No. of Cracked Rings	4			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	70			70mm remaining steel @ R17 E lower sidewall seam. Crack @ E lower longit. sidewall seam @ R11,13,15,17.
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		4	4	Rusting at lower seams, no perforations. Side and floor plates rusting.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	Yes			Gradual increasing depth towards D/S.

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1738, Rise (mm): 1920, Type: SPE)					
Fish Passage Adequacy		X	6		
Baffle		X	X		
(Type : )					
Waterway Adequacy		4	4	Evidence of inadequate pipe size due to vertical cut bank @ D/S embankment - photo. Silt gets deeper towards D/S.	
Icing (Y/N)	No				
Silting (Y/N)	Yes				
Drift (Y/N)	No				
<b>Barrel General Rating</b>		<b>3</b>	<b>3</b>		
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		5	5		
Heaving (mm)	0				
Invert Above/Below Stream Bed	BELOW				
Above/Below (mm)	100				
Scour Protection		6	5	Degraded by cattle.	
(Type : <b>NATURAL</b> )					
(Avg. Rock Size(mm) : )					
Scour/Erosion		6	5		
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		
Bank Stability		5	5	Vertical cut banks.	
HWM (m below Top of Culvert)				HWM not visible.	
Drift (Y/N)	No				
Channel Bottom Degrading/Aggrading	AGGRADING			D/S.	
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						

Structural Condition Rating (Last/Now) (%)	33.3/33.3	Sufficiency Rating (Last/Now) (%)	42.7/42.6	Est. Repl. Yr	2020	Maint. Req'd. (Y/N)	No
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Special Comments for Next Inspection: No growth of cracks since 30Oct2002; no action at this time.

Maintenance Reviewed By	Date	Estimated Total
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Proposed Long-Term Strategy

On 3-Year Program (Y/N)

Proposed Action

Previous Inspector's Name	Dave Lam	Previous Assistant's Name
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Next Inspection Date	27-Jan-2015	Previous Inspection Date	24-Sep-2009
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Inspection Cycle (Default) (months)	39
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Comment

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REPAIR SEAMS						
OTHER ACTION						
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>42.7/42.6</b>	Est. Repl. Yr	2020	Maint. Req. (Y/N)	No
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Special Comments for Next Inspection	No growth of cracks since 30Oct2002; no action at this time.	Department Comments	Currently programmed in PMA for replacement in 2017. DA
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Maintenance Reviewed By	Darron Ahlstedt	Date	29-Oct-2012	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	27-Jan-2015	Previous Inspection Date	24-Sep-2009		
Inspection Cycle (Default) (months)	39				
Comment					