

Bridge Culvert Inspection			
Bridge File Number	71706 -1 Bridge Culvert	Form Type	CULM
Year Built	1969	Lot No.	1
Bridge or Town Name	BALZAC	Inspector Name	Garry Roberts
Located Over	NOSE CREEK, 2.13.32, WATERCRS-ST	Inspector Class	BR CLS A
Located On	2:18 L1 3.138;2:18 R1 3.139	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	20-Dec-2011
Legal Land Location	NW SEC 21 TWP 26 RGE 29 W4M	Data Entry By	Anne Roberts
Longitude, Latitude	-114:00:05, 51:14:27	Data Entry Date	29-Jan-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Joel Wozney
Contract Main. Area	CMA29	Review Date	23-Dec-2011
Clear Roadway/Skew	34.2 / -5 deg. (LHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	59,110 / 2010 (A)	Dept. Review Date	06-Feb-2012
Road Classification	RFD-616.6-130	Follow-Up By	
Detour Length (km)	1		

**Bridge Culvert Information**

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	PI./Slab Thickness	Shape
1	MAIN	5700	3700	RPP	134.1	152X51	4.0	PIPE ARCH
2	MAIN	5666	3658	RPP	134.1	152X51	4.0	PIPE ARCH
Special Features	CONC FLOOR							
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone	EAST OF SERVICE ROAD	Gas	
Power	Crosses road N. 100m - 6 wire and East row.	Municipal	
Others	Fiber Optics East row	Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		9	8	34m Hwy 2 N & S lanes and 8 m service road at East. Local road intersection 100 m North
Vertical Alignment		9	9	
Roadway Width (m)	42.000			
Embankment		7	7	
Sideslope (__:1)	4.0			
(Height of Cover(m) : 1.9)				
Guardrail (Y/N)	Yes			On west side SBL. At east service road
<b>Approach Road / Embankment General Rating</b>		<b>9</b>	<b>8</b>	

**Upstream End**

Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Direction		S		West end.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		6	6	Slab adjacent to collar settled-150mm Concrete shoulders are cracked but functional.
Wingwalls		X	X	
(Shape : )				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Cutoff Wall		N	N	Ice covered
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		6	7	ingrown
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>250</b> )				
Scour/Erosion		6	7	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>7</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 5700, Rise (mm): 3700, Type: RPP)</b>				
Barrel Last Accessible Date	20-Dec-2011			South culvert
<b>Special Features</b>				
Special Feature		7	7	Concrete floor and sidewalls to mid height.
(Type : <b>CONC FLOOR</b> )				
Special Feature				
(Type : )				
Roof		N	6	Shape looks good, 150 mm construction hole in R28
Measured Rise (mm)				Est.
Measured At Ring No.				
Sag (mm)	20			
Percent Sag				
Sidewall		N	7	Est.
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	20			
Percent Deflection				
Floor		N	N	Concrete floor
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	6	
Separation (mm)	0			
Longitudinal Seams		N	6	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				4N stagger
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		N	4	Scaling and pitting along longitudinal seams
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 5700, Rise (mm): 3700, Type: RPP)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
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>N</b>	<b>6</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		N		South pipe, east end.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		N	N	Ice
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	500			
Scour Protection		7	7	ingrown
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 250)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>7</b>	<b>7</b>	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		S		North pipe, west end.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		6	6	EXTENDED COLLAR SETTLED-200mm CRACKED BUT FUNCTIONAL
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		N	N	Ice

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	500			
Scour Protection		6	7	ingrown
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>250</b> )				
Scour/Erosion		6	7	
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 # : 2, Secondary Span, Location Code: MAIN, Span (mm): 5666, Rise (mm): 3658, Type: RPP)</b>				
Barrel Last Accessible Date	20-Dec-2011			North culvert
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		N	4	(8.6% roof deflection-1992 inspection) Unable to confirm deflection this inspection. Cracks in roof seam R1 at 9 bolts 100 mm construction hole R31
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		N	4	Cusping @ 9th plate from outlet, bulging inwards @ roof seam Bolt tipping and pulling through seam @ R 8, 12, 25, 26, 28, 29 South side wall
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	ice
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	5	
Separation (mm)	0			
Longitudinal Seams		N	4	110mm remaining steel @ R10 Cracks at lower South sidewall seam of R2, R6, R10, R11, R12
Total No. of Cracked Rings	2			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	110			4N stagger.
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	4	Heavy corrosion with pitting from soil side and active leakage at seams.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)				
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 5666, Rise (mm): 3658, Type: RPP)</b>				
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
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>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Direction		N		North culvert, east end.
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)	50			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	750			
Scour Protection		6	7	ingrown
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>250</b> )				
Scour/Erosion		6	7	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>6</b>	<b>7</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		5	5	Bends @ both ends
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM Not visible
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				

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

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	2017	Install top 1/2 liner or schedule replacement					
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
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>53.7/54.4</b>	Est. Repl. Yr	2020	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	Garry Roberts		Previous Assistant's Name				
Next Inspection Date	20-Sep-2013		Previous Inspection Date	01-Mar-2010			
Inspection Cycle (Default) (months)	21						
Comment							