Bridge Culvert Inspection

Bridge File Number	76479 -1 Bridge Culvert	Form Type	CUL1
Year Built	1966	Lot No.	1
Bridge or Town Name	JOUSSARD	Inspector Name	Russel Vanderschaaf
Located Over	TRIBUTARY TO LESSER SLAVE RIVER, 8.11.80.55, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	2:50 C1 43.573	Assistant Class	
Water Body Cl./Year		Inspection Date	12-Feb-2013
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SW SEC 10 TWP 74 RGE 14 W5M	Data Entry Date	13-Apr-2013
Longitude, Latitude	-116:04:25, 55:23:47	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	07-Apr-2013
Contract Main. Area	CMA06	Dept. Reviewer Name	
Clear Roadway/Skew	10.5 / 0 deg.	Dept. Review Date	
AADT/Year	1,800 / 2012 (A)	Follow-Up By	
Road Classification	RAU-210-110		
Detour Length (km)	50		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2905	3203	SPE	41.5	152X51	3.5	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South r/w.	Gas	
Power	6 wires North r/w.	Municipal	
Others	Supernet fiber optic in North row.	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	
Vertical Alignment		8	8	
Roadway Width (m)	10.500			
Embankment		7	7	No evident problems. Quad trail cut into North embankment.-photo
Sideslope (__:1)	3.0			
(Height of Cover(m) : **3.2**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**7**	**7**	

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	Bevel end pushed in and catching drift.-photo
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		N	N	Erosion along SE side of bevel.-30-Mar-2011 Snow covered
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		N	N	Erosion 2m x 0.6m along SW side of bevel.-30-Mar-2011
Beavers (Y/N)	Yes			Beaver dam 10m U/S end of culvert,-photo. -30-Mar-2011 Snow covered
Upstream End General Rating		**3**	**3**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2905, Rise (mm): 3203, Type: SPE**)				
Barrel Last Accessible Date	12-Feb-2013			Ice 27m from crown
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		6	6	
Measured Rise (mm)	3081			
Measured At Ring No.	8			
Sag (mm)	122			
Percent Sag	4			
Sidewall		3	3	Cracked sidewall seam.
Measured Span (mm)	3099			Min. span measurements @ R2 & R14= 2851 & 2846 respectively.
Measured At Ring No.	6			
Deflection (mm)	193			
Percent Deflection	7			
Floor		3	N	Perforations in floor.-photo
Bulge (mm)	0			
Measured At Ring No.	7			
Abrasion (Y/N)	Yes			
Circumferential Seams		6	6	
Separation (mm)	0			
Longitudinal Seams		3	3	Rings 5-10 have cracks on West wall. Ring 7 has 80mm left - photo.
Total No. of Cracked Rings	6			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	80			1N stagger.
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		4	4	Rust on lower 1/3. Pitting. Perforations on D/S bevel at 4:00, 10mm dia. Perforations at 7:00 position rings 2 & 3.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			Alkaline deposits through roof and side bolts.
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2905, Rise (mm): 3203, Type: SPE**)				
Fish Passage Adequacy		3	7	Due to inlet blockage.
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
Barrel General Rating		**3**	**3**	

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		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		4	7	Rate based on 20% visibility
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	750			
Scour Protection		7	N	Snow covered
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		5	N	Snow covered
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**7**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		4	6	
HWM (m below Top of Culvert)				HWM not visible
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			@ u/s end
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**4**	**7**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION	2013	Remove beaverdam and drift.				
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2013	Repalace				
OTHER ACTION	2013	Repair u/s bevel				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**26.0/48.0**	Est. Repl. Yr	2015	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Monitor cracked seams. Monitor erosion along SW side of u/s bevel end. Preliminary design complete Jan 2013.	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	Shane Hall	Previous Assistant's Name	
Next Inspection Date	12-Nov-2014	Previous Inspection Date	18-Jul-2012
Inspection Cycle (Default) (months)	21		
Comment			