Bridge Culvert Inspection

Bridge File Number	76193 -1 Bridge Culvert	Form Type	CUL1
Year Built	1966	Lot No.	2
Bridge or Town Name	SLAVE LAKE	Inspector Name	Wade Nanninga
Located Over	TRIBUTARY TO OTAUWAU RIVER, 8.11.80.16.1, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	2:46 C1 38.772	Assistant Class	
Water Body Cl./Year		Inspection Date	28-Mar-2013
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SE SEC 14 TWP 72 RGE 4 W5M	Data Entry Date	16-Apr-2013
Longitude, Latitude	-114:29:29, 55:14:07	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	12-Apr-2013
Contract Main. Area	CMA06	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	10.7 / 20 deg. (RHF)	Dept. Review Date	23-Apr-2013
AADT/Year	2,370 / 2012 (A)	Follow-Up By	
Road Classification	RAU-210-110		
Detour Length (km)	200		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1810	SP	87.8	152X51		ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	North r/w.	Gas	
Power	3 wires South r/w bdry.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	
Vertical Alignment		7	7	
Roadway Width (m)	10.500			
Embankment		4	N	Gully above d/s end. 3m wide x 2m deep x 15m long.-photo-13-Jul-2011
Sideslope (__:1)	3.0			
(Height of Cover(m) : **12.8**)				Snow covered
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		N	6	
Heaving (mm)	100			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	50			
Scour Protection		6	5	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	5	
Beavers (Y/N)	Yes			Dam on inlet.
Upstream End General Rating		**6**	**5**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1810, Type: SP**)				
Barrel Last Accessible Date	28-Mar-2013			0.8m ice/water
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	7	
Measured Rise (mm)	1830			
Measured At Ring No.	22			
Sag (mm)	1			
Percent Sag	0			
Sidewall		N	7	Barrel has lateral sweep, not straight.
Measured Span (mm)	1780			
Measured At Ring No.	22			
Deflection (mm)	49			
Percent Deflection	3			
Floor		N	N	Perforations in 5 rings. Cracks on longitudinal seams within floor arc. 90mm steel remaining within 105 degree ACR.-21-Aug-2009
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		N	5	4 nuts missing on roof position between ring 21 & 22.
Separation (mm)	0			
Longitudinal Seams		N	N	Rings 18, 20, 22 & 26 have cracked East seams with ring #20 having 90mm of steel left - photo.-21-Aug-2009
Total No. of Cracked Rings	4			
Total No. of Rings with Two Cracked Seams	0			Under ice
Min. Remaining Steel Between Cracks (mm)	90			
Proper Lap (Y/N)	No			1N Stagger
Longitudinal Stagger (Y/N)	Yes			
Coating		N	N	Perforation holes found at 5 o'clock in rings 1-5 from North end. All are <1"D and below.-21-Aug-2009
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1810, Type: SP**)				
Fish Passage Adequacy		4	4	300mm drop off outlet.
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**6**	**3**	GR corrected & carried fwd from 21-Aug-2009

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		5	5	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		4	4	Bevel cantilevered 1.6 m.
(Type : **NONE**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		4	4	Scour hole est 1.5 m x 10 m x 10 m.
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		5	5	
Bank Stability		4	4	D/S bank near vertical.
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			Dam at inlet.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**4**	**4**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION	2013	Inlet				
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) (%)	**66.7/33.3**	**Sufficiency Rating (Last/Now) (%)**	**52.6/35.1**	Est. Repl. Yr	2015	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Monitor cracked rings for further worsening in future inspections. Monitor scour until repalcement.(Assessment completed 21-Mar-2001 by MPA. Recommends replacement.) CUlvert tentatively scheduled for replacement in 2011. Current inspection cycle adequate until deflects worsens or replaced.	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	Eric Carcoux	Previous Assistant's Name			
Next Inspection Date	28-Dec-2014	Previous Inspection Date	13-Jul-2011		
Inspection Cycle (Default) (months)	21				
Comment					