Bridge Culvert Inspection

Bridge File Number	71327 -1 Bridge Culvert	Form Type	CULM
Year Built	1969	Lot No.	2
Bridge or Town Name	ISLAND LAKE	Inspector Name	Todd Warshawski
Located Over	2ND ORDER TRIBUTARY TO ATHABASCA RIVER, 8.11.75.1, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	2:44 C1 6.692	Assistant Class	
Water Body Cl./Year		Inspection Date	29-Mar-2013
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	NW SEC 19 TWP 69 RGE 24 W4M	Data Entry Date	15-Apr-2013
Longitude, Latitude	-113:39:32, 54:59:27	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	03-Apr-2013
Contract Main. Area	CMA10	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	10.3 /	Dept. Review Date	23-Apr-2013
AADT/Year	560 / 2012 (A)	Follow-Up By	
Road Classification	RAU-211.8-110		
Detour Length (km)	50		

Bridge Culvert Information

Number of Culverts	2

Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1200	MP	30	68X13	2.8	ROUND
2	MAIN	-	1200	MP	30	68X13	2.8	ROUND

Special Features	
Special Features Comment	Barrel lengths not confirmed, it is over 30m.

Utilities (Located at)

Utility Attachments			
Telephone	West r/w.	Gas	
Power	2 wires West r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Park access to North.
Vertical Alignment		6	6	Limited sight distance to south due to crest. No passing. Service road runs parallel to Hwy on west side.
Roadway Width (m)	10.300			
Embankment		7	7	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **3.5**)				
Guardrail (Y/N)	Yes			East side only.
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction		E		North pipe.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Cutoff Wall		X	X	
Bevel End		X	X	Removed during beaver dam removal.-Jul, 2011 Water covered
Heaving (mm)				
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	700			
Scour Protection		5	N	Snow covered
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		5	N	Snow covered
Beavers (Y/N)	No			
Upstream End General Rating		**5**	**5**	GR carried fwd from Jul, 2011.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP**)				
Barrel Last Accessible Date	14-Sep-1995			Barrel not accessible, ice 0.3 from crown.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	(8% deflection, sag est. 29/Mar/2006) Upstream end damaged from beaver dam removal. Damage to inlet from beaver dam removal.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	100			
Percent Sag	8			
Sidewall		N	4	Upstream barrel is unravelling due to bevel removal.
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	100			
Percent Deflection	8			
Floor		N	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	
Separation (mm)				
Longitudinal Seams		X	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		5	N	Pitting rust most of barrel.-Jul, 2011
Corrosion By Soil (Y/N)	No			
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): , Rise (mm): 1200, Type: MP**)				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)				
Fish Passage Adequacy		5	N	
Baffle		N	N	
(Type :)				
Waterway Adequacy		5	N	
Icing (Y/N)	Yes			Ice 0.3m from crown
Silting (Y/N)	No			
Drift (Y/N)	Yes			
Barrel General Rating		**4**	**4**	G.R. was "4" from 14/Sept/1995.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction		W		North pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		5	N	Buried in snow/ice.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	700			
Scour Protection		6	N	Snow covered
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	N	
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**5**	GR carried fwd from Jul, 2011

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		E		South pipe.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Bevel End		X	X	Removed with beaver dam removal.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		5	N	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		5	N	
Beavers (Y/N)	Yes			
Upstream End General Rating		**5**	**5**	GR carried fwd from Jul, 2011.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP**)				
Barrel Last Accessible Date	29-Mar-2013			
Special Features				
Special Feature				Only accessible for 5m u/s & d/s. Could not confirm previous measurements.
(Type :)				
Special Feature				
(Type :)				
Roof		4	N	Could not measure rise due to ice on floor.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		4	N	
Measured Span (mm)	1308			
Measured At Ring No.				
Deflection (mm)	108			
Percent Deflection	9			
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	
Separation (mm)				
Longitudinal Seams		X	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		4	4	Pitting rust lower 1/3.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
Barrel General Rating		**4**	**4**	GR carried fwd. 14-Sep-1995

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		W		South pipe
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		5	N	Bevel unsupported for 800mm. -Jul, 2011 Snow covered
Heaving (mm)	50			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	400			
Scour Protection		4	N	No rock in haunch and streambed areas. -Jul, 2011
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		4	N	400 mm x 1.5 x 2.0m long scour hole off end of bevel. -Jul, 2011
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	GR carried fwd from Jul, 2011.

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		8	8	
Bank Stability		7	7	Low banks, grass & marsh area.
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading				
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**7**	**8**	

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	Trim off unraveling/damaged upstream barrel ends.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**47.1/47.2**	Est. Repl. Yr	2020	Maint. Reqd. (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	Kris Bosters	Previous Assistant's Name	
Next Inspection Date	29-Dec-2014	Previous Inspection Date	07-Jul-2011
Inspection Cycle (Default) (months)	21		
Comment			