

Bridge Culvert Inspection			
Bridge File Number	78015 -1 Bridge Culvert	Form Type	CULM
Year Built	1993	Lot No.	4
Bridge or Town Name	HAY LAKES	Inspector Name	Owen Salava
Located Over	TRIBUTARY TO BITTERN LAKE, 20.1, WATERCRS-ST	Inspector Class	BR CLS A
Located On	616:10 C1 22.392	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	20-Feb-2013
Legal Land Location	SW SEC 16 TWP 48 RGE 22 W4M	Data Entry By	Marcia Chavez
Longitude, Latitude	-113:09:36, 53:08:04	Data Entry Date	14-Mar-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	John O'Brien
Contract Main. Area	CMA16	Review Date	28-Feb-2013
Clear Roadway/Skew	11.3 / 17 deg. (RHF)	Dept. Reviewer Name	Chris Black
AADT/Year	200 / 2011 (A)	Dept. Review Date	14-Mar-2013
Road Classification	RCU-209-110	Follow-Up By	
Detour Length (km)	6		

Bridge Culvert Information

Number of Culverts	3							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2100	1400	FP	43	68X13	2.8	ARCH
2	MAIN	2100	1400	FP	43	68X13	2.8	ARCH
3	MAIN	2100	1400	FP	43	68X13	2.8	ARCH
Special Features	VERT STEEL STRUTS							
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone		Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

	Last	Now	Explanation of Condition
Horizontal Alignment	7	7	Field entrance to NE.
Vertical Alignment	8	8	
Roadway Width (m)	11.300		
Embankment	8	8	
Sideslope (__:1)	3.0		
(Height of Cover(m) : 2.5)			
Guardrail (Y/N)	No		
Approach Road / Embankment General Rating	7	7	

Upstream End

Culvert Component	Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)			
Direction	N		West pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL		
Headwall	X	X	
Collar	X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				At S.B.
Above/Below (mm)	0			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Upstream End General Rating		7	7	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2100, Rise (mm): 1400, Type: FP)				
Barrel Last Accessible Date	20-Feb-2013			
Special Features				
Special Feature			7	New Feb 2013.
(Type : VERT STEEL STRUTS)				
Special Feature				
(Type :)				
Roof		3	3	
Measured Rise (mm)	1200			Near R2/3 coupler.
Measured At Ring No.	2			
Sag (mm)	200			14.2%
Percent Sag	14			
Sidewall		5	5	
Measured Span (mm)	40			
Measured At Ring No.	2			
Deflection (mm)	140			6.3%
Percent Deflection	6			
Floor		5	5	Localized approx 25mm for most of pipe.
Bulge (mm)	60			
Measured At Ring No.	5			
Abrasion (Y/N)	No			
Circumferential Seams		6	6	
Separation (mm)	60			
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)				

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2100, Rise (mm): 1400, Type: FP)				
Coating		5	5	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		3	5	Increase due to steel struts.
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		S		West pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				At S.B.
Above/Below (mm)	0			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Downstream End General Rating		N	7	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		N		Center
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	5	Bend at NE shoulder.
Heaving (mm)	0			
Invert Above/Below Stream Bed				At S.B.
Above/Below (mm)	0			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Upstream End General Rating		7	5	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 2100, Rise (mm): 1400, Type: FP)				
Barrel Last Accessible Date	20-Feb-2013			Location marked in culvert.
Special Features				
Special Feature			7	New Feb 2013.
(Type : VERT STEEL STRUTS)				
Special Feature				
(Type :)				
Roof		3	3	
Measured Rise (mm)	1220			
Measured At Ring No.	3			
Sag (mm)	180			12.9%
Percent Sag	13			
Sidewall		5	5	
Measured Span (mm)	2225			
Measured At Ring No.	4			
Deflection (mm)	125			
Percent Deflection	6			
Floor		5	5	Some bulge along most of length.
Bulge (mm)	50			
Measured At Ring No.	3			
Abrasion (Y/N)	No			
Circumferential Seams		6	6	
Separation (mm)	60			
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)				

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 2100, Rise (mm): 1400, Type: FP)				
Coating		5	5	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		3	5	Increase due to steel struts.

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
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		X	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				At S.B.
Above/Below (mm)	0			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Downstream End General Rating		N	7	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Span Type: Secondary Span)				
Direction		N		East pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Span Type: Secondary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				At streambed.
Above/Below (mm)	0			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Upstream End General Rating		7	7	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): 2100, Rise (mm): 1400, Type: FP)				
Barrel Last Accessible Date	20-Feb-2013			
Special Features				
Special Feature			7	New Feb 2013.
(Type : VERT STEEL STRUTS)				
Special Feature				
(Type :)				
Roof		3	3	
Measured Rise (mm)	1210			At R2/3 coupler.
Measured At Ring No.	3			
Sag (mm)	190			13.6%
Percent Sag	14			
Sidewall		5	5	
Measured Span (mm)	2230			
Measured At Ring No.	4			
Deflection (mm)	130			6.2%
Percent Deflection	6			
Floor		5	5	Minor center bulge most of length.
Bulge (mm)	30			
Measured At Ring No.	4			
Abrasion (Y/N)	No			
Circumferential Seams		6	6	
Separation (mm)	60			
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)				

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): 2100, Rise (mm): 1400, Type: FP)				
Coating		5	5	
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		3	5	Increase due to steel struts.

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Span Type: Secondary Span)				
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		X	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				At S.B.
Above/Below (mm)	0			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Downstream End General Rating		N	7	

Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		7	7	

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) (%)	33.3/55.6	Sufficiency Rating (Last/Now) (%)	55.8/65.6	Est. Repl. Yr	2033	Maint. Req. (Y/N)	No
Special Comments for Next Inspection	No action for sag, pipes are strutted - monitor.		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	Owen Salava		Previous Assistant's Name				
Next Inspection Date	20-May-2016		Previous Inspection Date	01-Mar-2010			
Inspection Cycle (Default) (months)	39						
Comment							