

Bridge Culvert Inspection			
Bridge File Number	75607 -1 Bridge Culvert	Form Type	CULE
Year Built	1963	Lot No.	2
Bridge or Town Name	MARLBORO	Inspector Name	Todd Warshawski
Located Over	SUNDANCE CREEK, 8.11.107.30, WATERCRS-ST	Inspector Class	BR CLS B
Located On	16:04 R1 38.390;16:04 L1 37.460	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	09-Aug-2012
Legal Land Location	SW SEC 9 TWP 53 RGE 19 W5M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-116:44:30, 53:33:44	Data Entry Date	21-Aug-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA13	Review Date	21-Aug-2012
Clear Roadway/Skew	25 / -30 deg. (LHF)	Dept. Reviewer Name	Brent Herrick
AADT/Year	6,080 / 2011 (A)	Dept. Review Date	22-Aug-2012
Road Classification	RAD-412.4-120	Follow-Up By	
Detour Length (km)	1		

Bridge Culvert Information

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	U/S	-	3670	SP	35.6	152X51	2.8	ROUND
1	MAIN	-	3050	SP	61.7	152X51	2.8	ROUND
2	U/S	-	3670	SP	35.6	152X51	2.8	ROUND
2	MAIN	-	3050	SP	61.7	152X51	2.8	ROUND
Special Features	BARREL ELBOW							
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	Buried South r/w.	Gas	
Power	3 wires O/H South r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks	File tag on East pipe.		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	Crest to West.
Vertical Alignment		7	7	
Roadway Width (m)	25.000			EBL 12.5, WBL 12.5. Wide cracks in ACP over East pipe.-photo
Embankment		7	7	5:1 on N side.
Sideslope (__:1)	3.0			
(Height of Cover(m) : 2.5)				
Guardrail (Y/N)	Yes			1 guardrail on WBL North. 1 guardrail 20m South of EBL.
Approach Road / Embankment General Rating		7	7	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		N		East pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	
Collar		7	7	Few transverse cracks.

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	Under water
Bevel End		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	500			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		6	6	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 3670, Type: SP)				
Barrel Last Accessible Date	08-Mar-2007			East pipe. Viewed from ends, shape and condition appear ok.
Special Features				
Special Feature		N	N	11mm separation @ R6/R7. Upper section rated.-17-Nov-2008
(Type : BARREL ELBOW)				CIP concrete transition from 3670mm SP to 3050mm SP.
Special Feature				08/Mar/2007)
(Type :)				
Roof		N	N	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	0			
Percent Sag				
Sidewall		N	N	
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 3670, Type: SP)				
Coating		N	N	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		8	8	Riprap in channel at u/s end.
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel Extension General Rating		N	N	Rated "7" on 08/Mar/2007.

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3050, Type: SP)				
Barrel Last Accessible Date	28-Mar-1993			East pipe. Viewed from ends, shape and condition appear ok.
Special Features				
Special Feature		N	N	
(Type : BARREL ELBOW)				
Special Feature				
(Type :)				
Roof		N	N	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	0			
Percent Sag				
Sidewall		N	N	
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3050, Type: SP)				
Coating		N	N	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	Yes			(1.5m ponding. 08/Mar/2007)
Fish Passage Adequacy		9	9	
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		N	N	G.R. was "7" from 21/July/2005.
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		S		East pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	500			
Scour Protection		5	5	
(Type : NATURAL)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Downstream End General Rating		5	5	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		N		West pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	Several narrow cracks.
Collar		6	5	Undermined by settlement.-photo

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	
Bevel End		6	6	Large tree accross inlet.-photo
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	500			
Scour Protection		4	4	Small quantity of riprap
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		4	4	Settlement/erosion along collar.
Beavers (Y/N)	No			
Upstream End General Rating		4	4	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: U/S, Span (mm): , Rise (mm): 3670, Type: SP)				
Barrel Last Accessible Date	08-Mar-2007			West pipe. Viewed from ends, shape and condition appear ok.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	0			(Estimate only. 08/Mar/2007)
Percent Sag				
Sidewall		N	N	
Measured Span (mm)	3580			
Measured At Ring No.	10			(2.5%. 08/Mar/2007)
Deflection (mm)	90			
Percent Deflection	3			
Floor		N	N	Under water.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	
Separation (mm)				
Longitudinal Seams		N	N	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: U/S, Span (mm): , Rise (mm): 3670, Type: SP)				
Coating		N	N	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		9	9	
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel Extension General Rating		N	N	G.R. was "7" on 08/Mar/2007.

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3050, Type: SP)					
Barrel Last Accessible Date	08-Mar-2007			West pipe. Partially viewed from ends, elbow prevents full view. Section viewed appears good.	
Special Features					
Special Feature		N	N	("7" Barrel Transition. 08/Mar/2007)	
(Type : BARREL ELBOW)					
Special Feature					
(Type :)					
Roof		N	N	(Estimate only. 08/Mar/2007)	
Measured Rise (mm)					
Measured At Ring No.					
Sag (mm)	30				
Percent Sag					
Sidewall		N	N		
Measured Span (mm)					
Measured At Ring No.					
Deflection (mm)	0				
Percent Deflection					
Floor		N	N		
Bulge (mm)					
Measured At Ring No.					
Abrasion (Y/N)	No				
Circumferential Seams		N	N		
Separation (mm)					
Longitudinal Seams		N	N	(1N stagger. 08/Mar/2007)	
Total No. of Cracked Rings	0				
Total No. of Rings with Two Cracked Seams					
Min. Remaining Steel Between Cracks (mm)					
Proper Lap (Y/N)	No				
Longitudinal Stagger (Y/N)	Yes				

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3050, Type: SP)				
Coating		N	N	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		9	9	
Baffle		N	N	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		N	N	G.R. was "7" on 08/Mar/2007.

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary 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		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	500			
Scour Protection		5	5	
(Type : NATURAL)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Downstream End General Rating		5	5	

Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		6	6	
Bank Stability		6	6	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		6	6	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP	2013	Fill +riprap + west inlet. 30m3 CL2					
REMOVE DRIFT ACCUMULATION	2013	Remove drift and debris at inlets.					
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) (%)	55.6/55.6	Sufficiency Rating (Last/Now) (%)	57.5/57.4	Est. Repl. Yr	2040	Maint. Reqd. (Y/N)	Yes
Special Comments for Next Inspection	As this structure has not been accessed for 2 or more cycles, a Level 2 inspection is required as per Bim Manual Section 13.9.1.5. Based on observed site evaluations we are recommending that this be deferred to a later date.		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	Todd Warshawski		Previous Assistant's Name				
Next Inspection Date	09-May-2014		Previous Inspection Date	28-Sep-2010			
Inspection Cycle (Default) (months)	21						
Comment							