

Bridge Culvert Inspection			
Bridge File Number	01924 -1 Bridge Culvert	Form Type	CULM
Year Built	1983	Lot No.	2
Bridge or Town Name	DARWELL	Inspector Name	Kris Bosters
Located Over	TRIBUTARY TO STURGEON RIVER, 6.65.26, WATERCRS-ST	Inspector Class	BR CLS A
Located On	633:02 C1 18.582	Assistant Name	Brian Cote
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	20-Jul-2012
Legal Land Location	SE SEC 14 TWP 54 RGE 5 W5M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-114:37:11, 53:39:51	Data Entry Date	13-Aug-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA12	Review Date	31-Jul-2012
Clear Roadway/Skew	9.7 /	Dept. Reviewer Name	Brent Herrick
AADT/Year	440 / 2011 (A)	Dept. Review Date	16-Aug-2012
Road Classification	RCU-209-110	Follow-Up By	
Detour Length (km)	20		

Bridge Culvert Information

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1800	MP	34	68X13	3.5	ROUND
2	MAIN	-	1800	MP	34	68X13	3.5	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South r/w.	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks	File tag North, U/S.		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	No passing EB, farm entrance to East.
Vertical Alignment		7	7	
Roadway Width (m)	9.700			
Embankment		N	7	
Sideslope (__:1)	3.0			
(Height of Cover(m) : 2.1)				
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	
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		N	3	Bevel tip bent up and in, will catch drift and impeded drainage.
Heaving (mm)	150			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		4	4	Void under bevel end, U/S - photo
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		4	4	Bevel undermining due to damage.
Beavers (Y/N)	No			
Upstream End General Rating		4	3	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1800, Type: MP)				
Barrel Last Accessible Date	02-Feb-2009			Water too deep, viewed from ends.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	Looking D/S in pipe . Roof appears to be in good shape although some negative camber.
Measured Rise (mm)	1550			
Measured At Ring No.				Near c/l.
Sag (mm)	250			
Percent Sag	14			
Sidewall		N	N	Measured U/S & D/S, ice prevented further access. Retain previous measurements. U/S 1791, D/S 1791.-02-feb-2009
Measured Span (mm)	2020			
Measured At Ring No.				
Deflection (mm)	220			
Percent Deflection	12			
Floor		N	N	Water too deep.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		4	4	Separation at seam with soil infiltration - photo #3.-02-Feb-2009 estimated
Separation (mm)	170			
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 on lower 1/2.
Corrosion By Soil (Y/N)	Yes			
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): 1800, Type: MP)				
Camber POS/ZERO/NEG	NEG			Moderately negative ~ 250mm.
Ponding (Y/N)	No			
Fish Passage Adequacy		7	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		3	3	G.R. carried over from 24/Nov/2005.

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		N	5	
Heaving (mm)	300			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		N	4	Void under bevel
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 250)				
Scour/Erosion		N	4	Settlement along bevel.
Beavers (Y/N)	No			
Downstream End General Rating		5	4	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		N		East pipe.
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
(Pipe # : 2, Span Type: Secondary Span)				
Bevel End		N	5	
Heaving (mm)	150			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		N	5	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		N	5	
Beavers (Y/N)	No			
Upstream End General Rating		4	5	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1800, Type: MP)				
Barrel Last Accessible Date	02-Oct-2002			Water too deep to access, viewed from ends.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	Roof appears to be in good shape, although moderate negative camber.
Measured Rise (mm)	1607			
Measured At Ring No.				Near c/l.
Sag (mm)	193			
Percent Sag	11			
Sidewall		N	N	Rating based on separated circumferential seam, would be "4" - photo #5.-02-Feb-2009
Measured Span (mm)	1980			
Measured At Ring No.				Near c/l.
Deflection (mm)	180			
Percent Deflection	10			
Floor		N	N	Water covered.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		4	4	Separation at seam about 12m from U/S (North) with soil infiltration - photo #5.-02-Feb-2009
Separation (mm)	150			
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 1/2 - photo #4.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			Moderate negative camber estimate~200mm.

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1800, Type: MP)				
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		3	3	G.R. carried over from 24/Nov/2005 based on roof and sidewall.

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary 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		N	5	East corner slightly bent.
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		N	5	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 250)				
Scour/Erosion		N	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		7	7	
Bank Stability		N	7	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading				
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	2012	Cutoff damaged barrel section.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	33.3/33.3	Sufficiency Rating (Last/Now) (%)	51.3/49.2	Est. Repl. Yr	2020	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	(Monitor pipe deflections, consider struts if condition worsens.-24-Nov-2005 Culvert located 500m West of 70116.		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	Jacob Oresile		Previous Assistant's Name				
Next Inspection Date	20-Oct-2015		Previous Inspection Date	02-Feb-2009			
Inspection Cycle (Default) (months)	39						
Comment							