Bridge Culvert Inspection

Bridge File Number	78010 -1 Bridge Culvert	Form Type	CULM
Year Built/Lined	1975/1997	Lot No.	1
Bridge or Town Name	GAGE	Inspector Name	Russel Vanderschaaf
Located Over	TRIBUTARY TO ISLAND CREEK, 8.10.80.2.3, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	64:06 C1 13.126	Assistant Class	
Water Body Cl./Year		Inspection Date	03-Nov-2011
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SW SEC 36 TWP 82 RGE 4 W6M	Data Entry Date	13-Dec-2011
Longitude, Latitude	-118:29:47, 56:08:46	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	20-Nov-2011
Contract Main. Area	CMA04	Dept. Reviewer Name	Steve Pasquan
Clear Roadway/Skew	9.8 /	Dept. Review Date	10-Jan-2012
AADT/Year	1,030 / 2010 (A)	Follow-Up By	
Road Classification	RAU-210-110		
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts	4

Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1200	MP	24	68X13	2.8	ROUND
3	MAIN	-	914	MP	18.3	68X13	2.8	ROUND
4	MAIN	-	914	MP	18.3	68X13	2.8	ROUND
5	MAIN FULL LINER	-	675	CP	21.3			ROUND

Special Features	
Special Features Comment	

Utilities (Located at)

Utility Attachments			
Telephone		Gas	
Power	3 line power-East	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	
Vertical Alignment		8	8	(500 x 500 x 500mm role in embankment above u/s end of pipe 3.- May 2, 2008)
Roadway Width (m)	9.800			
Embankment		N	7	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **1**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**8**	**8**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Secondary Span**)				
Direction		E		South Pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Secondary Span**)				
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		6	6	Small dent at 12 o'clock.
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		N	7	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	7	
Beavers (Y/N)	No			
Upstream End General Rating		**6**	**6**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP**)				
Barrel Last Accessible Date	04-Nov-2011			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		6	6	
Measured Rise (mm)	1192			at c/l
Measured At Ring No.				
Sag (mm)	8			
Percent Sag	1			
Sidewall		6	6	
Measured Span (mm)	1204			at c/l
Measured At Ring No.				
Deflection (mm)	49			Small construction bulge at 10 o'clock approx. 8m from d/s end.
Percent Deflection	1			
Floor		7	6	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	4	Separation @ 4m from d/s end.
Separation (mm)	50			
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, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP**)				
Coating		6	6	Staining.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		N	5	(200mm drop d/s.-MAY 2, 2008)
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**6**	**6**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, 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		6	5	Bevel end bent at 12 o'clock.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		N	5	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	5	
Beavers (Y/N)	No			
Downstream End General Rating		**6**	**5**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Span Type: Secondary Span**)				
Direction		E		(2nd from North 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		N	3	Deep pitting rust - lower 1/2 of pipe. Extensive rust in lower 1/2 of pipe.-photo
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		6	6	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	6	Grass growing into bevel.
Beavers (Y/N)	No			
Upstream End General Rating		**3**	**3**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 914, Type: MP**)				
Barrel Last Accessible Date				Viewed from ends. Pipe inaccessible.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		N	N	
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		N	3	Rusted hole u/s (photo) (700mm x 2500mm) Visible from end.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	Split seam visible ~ 2m from u/s end.
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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 914, Type: MP**)				
Coating		3	3	Rusted hole u/s.(700mm x 900mm) 700x1200 u/s. Severe pitting rust d/s end.-photo
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		6	6	
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		**N**	**3**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Span Type: Secondary Span**)				
Direction		W		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		N	4	Pitting & scaling rust.
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		N	5	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	5	
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Span Type: Secondary Span**)				
Direction		E		(north pipe)
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Span Type: Secondary Span**)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		4	3	Hole in floor (400x600)-photo
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	150			
Scour Protection		6	6	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
Upstream End General Rating		**4**	**3**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 914, Type: MP**)				
Barrel Last Accessible Date				Viewed from ends. Shape appears adequate. Pipe inaccessible
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		N	N	
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		N	3	Rustedf hole at u/s end (400mm x 600mm) Visible from end.
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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 914, Type: MP**)				
Coating		3	3	Deep pitting rust throughout & cracks in crests of corrugation near d/s end and u/s end. Hole in u/s end.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		6	6	
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**N**	**3**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **4, Span Type: Secondary Span**)				
Direction		W		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	X	
Bevel End		N	4	Pitting & Scaling rust - 300 x 100 mm hole N side of invert. Small dent at 12 o'clock.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		N	4	Erosion at bevel
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	4	Erosion at bevel
Beavers (Y/N)	No			
Downstream End General Rating		**3**	**4**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **5, Span Type: Secondary Span**)				
Direction		E		(2nd from south pipe)
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **5, Span Type: Secondary Span**)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		N	5	Pitting rust on floor.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		N	6	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
Upstream End General Rating		**4**	**5**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **5, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 675, Type: CP**)				
Barrel Last Accessible Date				Viewed from d/s end. Shape appears good. Pipe inaccessible
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
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)				
Circumferential Seams		X	X	
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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **5, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 675, Type: CP**)				
Coating		X	X	Concrete pipe.
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)				
Camber POS/ZERO/NEG	NEG			Approx 150mm of sag. Viewed from ends.
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	100mm drop @ connections u/s and d/s.
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**N**	**N**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **5, Span Type: Secondary Span**)				
Direction		W		(2nd from 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		4	5	Pitting rust on floor.
Heaving (mm)	0			
Invert Above/Below Stream Bed				(@ SB-May 2, 2008)
Above/Below (mm)	0			
Scour Protection		N	6	Covered with snow.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	5	
Bank Stability		7	6	
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**	**5**	

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	Complete Level 2 and Assessment				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**66.7/33.3**	**Sufficiency Rating (Last/Now) (%)**	**60.5/45.3**	Est. Repl. Yr	2013	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	Brian Pientsch	Previous Assistant's Name	Lisbeth Medina		
Next Inspection Date	03-Aug-2013	Previous Inspection Date	24-Feb-2010		
Inspection Cycle (Default) (months)	21				
Comment					