

Bridge Culvert Inspection				
Bridge File Number	07229 -1 Bridge Culvert		Form Type	CULM
Year Built	1964		Lot No.	1
Bridge or Town Name	BLUFFTON		Inspector Name	Owen Salava
Located Over	ANDERSON CREEK, 3.78.19, WATERCRS-ST		Inspector Class	BR CLS A
Located On	20:06 C1 12.492		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	09-Jul-2012
Legal Land Location	NW SEC 1 TWP 44 RGE 3 W5M		Data Entry By	Marcia Chavez
Longitude, Latitude	-114:18:57, 52:45:52		Data Entry Date	20-Aug-2012
Road Authority	Alberta Transportation (AIT)		Reviewer Name	John O'Brien
Contract Main. Area	CMA18		Review Date	30-Jul-2012
Clear Roadway/Skew	11 /		Dept. Reviewer Name	Andrew Smikles
AADT/Year	2,490 / 2011 (A)		Dept. Review Date	21-Aug-2012
Road Classification	RAU-211.8-110		Follow-Up By	
Detour Length (km)	3			

Bridge Culvert Information

Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	3495	3854	SPE	55.5	152X51	3.0	ELLIPSE
2	MAIN	3495	3854	SPE	55.5	152X51	3.0	ELLIPSE
Special Features								
Special Features Comment		Appears to be 5% VE, S3475 R3854.						

Utilities (Located at)

Utility Attachments				
Telephone	In r/w to West.		Gas	
Power	1 wire on East r/w 20m from c/l.		Municipal	
Others			Problem (Y/N)	No
Remarks				

Approach Road / Embankment

	Last	Now	Explanation of Condition
Horizontal Alignment	7	7	In sag curve, no passing. Poor sight distance.
Vertical Alignment	6	6	
Roadway Width (m)	11.000		
Embankment	4	6	Old erosion at SE ditch, well vegetated.
Sideslope (__:1)	3.0		
(Height of Cover(m) : 3)			
Guardrail (Y/N)	Yes		
Approach Road / Embankment General Rating	6	6	

Upstream End

Culvert Component	Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)			
Direction	W		South pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE		
Headwall	X	X	
Collar	N	3	This pad of concrete poured around inlets on sideslope. Voids underneath and several anchors are loose. Not effective in preventing heaving. Excessive heaving with likelihood of continuing.

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	
Bevel End		5	5	
Heaving (mm)	500			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	500			
Scour Protection		N	4	Large cracks, section btwn bevels has subsided.
(Type : CONCRETE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	4	
Beavers (Y/N)	No			
Upstream End General Rating		3	3	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 3495, Rise (mm): 3854, Type: SPE)				
Barrel Last Accessible Date	09-Jul-2012			South pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	6	
Measured Rise (mm)	3020			
Measured At Ring No.	8			
Sag (mm)	34			0.8%
Percent Sag	1			
Sidewall		N	6	Soil corrosion @ seams.
Measured Span (mm)	3579			
Measured At Ring No.	9			
Deflection (mm)	84			2.4%
Percent Deflection	2			
Floor		N	5	Barrel leaking through 90% seams.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	5	
Separation (mm)	0			
Longitudinal Seams		N	5	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
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): 3495, Rise (mm): 3854, Type: SPE)				
Coating		N	5	Minor superficial corrosion at sidewalls.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
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		N	5	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		E		South pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		N	3	Broken and cracked, bottom 1/2 missing.
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	
Bevel End		4	4	Undermined @ South haunch.
Heaving (mm)	100			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	800			
Scour Protection		N	3	
(Type : NONE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	3	Lack of protection resulted in a large scour hole, slumping banks & eroded along bevel. Large scour hole D/S 10m x 15 x 1.5m deep - photo. Concrete collar broken off at bottom 1/2.
Beavers (Y/N)	No			
Downstream End General Rating		3	3	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		W		North pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Collar		N	3	Thin slab with voids underneath. Collar not successful in preventing heaving. Separated from culvert, broken sections.
Wingwalls (Shape :)		X	X	
Cutoff Wall		N	N	
Bevel End		5	5	Excessive heaving.
Heaving (mm)	500			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	500			
Scour Protection		N	3	Cracked & broken away from bevel.
(Type : CONCRETE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	3	
Beavers (Y/N)	Yes			Beaver dam at inlet.
Upstream End General Rating		3	3	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 3495, Rise (mm): 3854, Type: SPE)				
Barrel Last Accessible Date	09-Jul-2012			North pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	5	
Measured Rise (mm)	3740			
Measured At Ring No.	7			
Sag (mm)	114			
Percent Sag	3			
Sidewall		N	5	Soil corrosion @ seams.
Measured Span (mm)	3605			
Measured At Ring No.	7			
Deflection (mm)	110			3.1%
Percent Deflection	3			
Floor		N	5	Barrel leaking through 90% seams.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	5	
Separation (mm)	0			

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 3495, Rise (mm): 3854, Type: SPE)					
Longitudinal Seams		N	5		
Total No. of Cracked Rings	0				
Total No. of Rings with Two Cracked Seams	0				
Min. Remaining Steel Between Cracks (mm)					
Proper Lap (Y/N)	No				
Longitudinal Stagger (Y/N)	Yes				
Coating		N	5	Minor superficial corrosion at sidewalls. Some floor scaling.	
Corrosion By Soil (Y/N)	Yes				
Corrosion By Water (Y/N)	Yes				
Camber POS/ZERO/NEG	NEG				
Ponding (Y/N)	No				
Fish Passage Adequacy		5	4	End perched 100mm.	
Baffle		X	X		
(Type :)					
Waterway Adequacy		7	7		
Icing (Y/N)	No				
Silting (Y/N)	No				
Drift (Y/N)	No				
Barrel General Rating		N	5		
Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Span Type: Secondary Span)					
Direction		E		North pipe.	
End Treatment (Concrete, Steel, Others, None)	CONCRETE				
Headwall		X	X		
Collar		N	3	Cracked and broken. Bottom 1/2 broken-off & missing.	
Wingwalls		X	X		
(Shape :)					
Cutoff Wall		N	N		
Bevel End		5	5	Minor undermining of haunch.	
Heaving (mm)	100				
Invert Above/Below Stream Bed	ABOVE				
Above/Below (mm)	800				
Scour Protection		N	3	Lack of scour protection has resulted in a large scour hole and slumping banks.	
(Type : NONE)					
(Avg. Rock Size(mm) :)					
Scour/Erosion		N	3	Large scour hole D/S 10.0 m x 15.0m x 1.5 m deep - photo.	
Beavers (Y/N)	No				
Downstream End General Rating		3	3		

Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		5	5	Curves U/S + D/S.
Bank Stability		5	5	Bank scour 50 m D/S of culvert.
HWM (m below Top of Culvert)	1.6			Large drift on inlet.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			At U/S.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		5	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	2012	Remove existing concrete first.					
REPAIR SEAMS							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	55.6/55.6	Sufficiency Rating (Last/Now) (%)	56.4/49.7	Est. Repl. Yr	2024	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Collar ineffective as is for preventing heaving therefore replace with current std. D/S scour not a serious concern but might be brought up to std.		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	09-Apr-2014		Previous Inspection Date	08-Dec-2010			
Inspection Cycle (Default) (months)	21						
Comment							