

Bridge Culvert Inspection				
Bridge File Number	76427 S-1 Bridge Culvert		Form Type	CULE
Year Built	1966		Lot No.	1
Bridge or Town Name	WATERCOURSE CULVERT ON PROVINCIAL HIGHWAY 63 12 KM S OF WAND		Inspector Name	Eric Carcoux
			Inspector Class	BR CLS A
Located Over	TRIBUTARY TO LA BICHE RIVER, 8.11.55.4, WATERCRS-ST		Assistant Name	
			Assistant Class	
Located On	63:02 C1 32.000		Inspection Date	13-Jan-2012
Water Body Cl./Year			Data Entry By	Theresa Lacusta
Navigabil. Cl./Year			Data Entry Date	22-Jan-2012
Legal Land Location	SE SEC 27 TWP 70 RGE 17 W4M		Reviewer Name	Arnold Assenheimer
Longitude, Latitude	-112:30:36, 55:05:06		Review Date	16-Jan-2012
Road Authority	Alberta Transportation (AIT)		Dept. Reviewer Name	Brent Herrick
Contract Main. Area	CMA07		Dept. Review Date	02-Feb-2012
Clear Roadway/Skew	10.6 / -10 deg. (LHF)		Follow-Up By	
AADT/Year	3,790 / 2010 (A)			
Road Classification	RAU-211.8-110			
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	U/S	-	1200	MP	10	68X13	2.0	ROUND
1	MAIN	1724	1901	SPE	63.4	152X51	2.8	ELLIPSE
1	D/S	-	2000	MP	22	125X26	2.8	ROUND
2	MAIN	-	1800	SSP	102			ROUND
Special Features		VERT STEEL STRUTS						
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone	Telus West r/w.	Gas	
Power	3 lines 18m East.	Municipal	
Others	Shaw fibre optics East r/w.	Problem (Y/N)	No
Remarks			

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Curve to north commences 200 m North of culvert. Passing allowed.
Vertical Alignment		8	8	
Roadway Width (m)	10.600			
Embankment		4	4	Erosion gulleys in E slope, NE ditch minor erosion. Slope stability monitors installed. Cracking end settlement in ACP over pipe.-photo
Sideslope (__:1)	3.0			
(Height of Cover(m) : 6.9)				
Guardrail (Y/N)	Yes			East side only.
Approach Road / Embankment General Rating		7	7	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		E		
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Collar		X	X	
Wingwalls (Shape :)		X	X	
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	500			
Scour Protection (Type : RIP RAP) (Avg. Rock Size(mm) : 300)		5	5	
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Upstream End General Rating		5	5	Piping possible from U/S. Informed AIT.-28-Apr-2008

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 1200, Type: MP)				
Barrel Last Accessible Date	13-Jan-2012			Overflow pipe
Special Features				
Special Feature (Type :)				
Special Feature (Type :)				
Roof		4	4	@ mid length
Measured Rise (mm)	1100			
Measured At Ring No.				
Sag (mm)	100			
Percent Sag	8			
Sidewall		4	4	@ mid length
Measured Span (mm)	1310			
Measured At Ring No.				
Deflection (mm)	110			
Percent Deflection	9			
Floor		7	7	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	7	
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 # : 1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 1200, Type: MP)				
Coating		7	7	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Higher than S.B
Baffle		X	X	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel Extension General Rating		4	4	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1724, Rise (mm): 1901, Type: SPE)				
Barrel Last Accessible Date	13-Jan-2012			
Special Features				
Special Feature		4	5	Temporary struts-modified for broken seam.
(Type : VERT STEEL STRUTS)				
Special Feature				
(Type :)				
Roof		2	2	Damaged ring at cl-fill infiltrating.
Measured Rise (mm)				
Measured At Ring No.				Est , not measured due to heavy silt deposit.
Sag (mm)				
Percent Sag				
Sidewall		2	2	(Ring 8 from D/S end. 16/Aug/2006)
Measured Span (mm)	2050			
Measured At Ring No.				cl
Deflection (mm)	326			
Percent Deflection	19			
Floor		N	N	(Possibility of piping. Local sag in D/S 1/3 L. 16/Aug/2006)
Bulge (mm)	0			Floor ice covered.
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		3	3	
Separation (mm)	150			
Longitudinal Seams		6	6	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				1N stagger.
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): 1724, Rise (mm): 1901, Type: SPE)				
Coating		4	4	Pitting and scaling along lower 1/3.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Inlet higher than S.B.
Baffle		X	X	
(Type :)				
Waterway Adequacy		3	5	Overflow
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		2	2	

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 1, Primary Span, Location Code: D/S, Span (mm): , Rise (mm): 2000, Type: MP)					
Barrel Last Accessible Date		13-Jan-2012			
Special Features					
Special Feature					
(Type :)					
Special Feature					
(Type :)					
Roof		7	6	Ice on floor sag est.	
Measured Rise (mm)					
Measured At Ring No.					
Sag (mm)	100				
Percent Sag	5				
Sidewall		N	6		
Measured Span (mm)		2100			
Measured At Ring No.					
Deflection (mm)	100				
Percent Deflection	5				
Floor		N	N	Ice covered.	
Bulge (mm)					
Measured At Ring No.					
Abrasion (Y/N)					
Circumferential Seams		N	7		
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 # : 1, Primary Span, Location Code: D/S, Span (mm): , Rise (mm): 2000, Type: MP)				
Coating		7	7	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		N	N	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Siltting (Y/N)	No			
Drift (Y/N)	No			
Barrel Extension General Rating		N	6	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary 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		7	7	
Heaving (mm)				
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		7	7	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		E		South pipe
End Treatment (Concrete, Steel, Others, None)	NONE			
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		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		3	5	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		3	5	
Beavers (Y/N)	No			
Upstream End General Rating		3	5	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1800, Type: SSP)				
Barrel Last Accessible Date	13-Jan-2012			Accessed u/s half only. Ice to 100mm from crown @ d/s.
Special Features				
Special Feature				Water 100mm from crown @ d/s.
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	Ice on floor - shape looks good.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		N	7	@ cl
Measured Span (mm)	1820			
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		N	N	Ice covered.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	7	Welds
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 # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1800, Type: SSP)				
Coating		7	7	weathering steel
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		N	N	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		N	7	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		W		Ice too 100 below crown.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed				
Above/Below (mm)				
Scour Protection		5	N	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		5	N	
Beavers (Y/N)	No			
Downstream End General Rating		5	5	GR carried fwd from 04-Jul-2011
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		4	4	Enters u/s end @ 45 degrees
Bank Stability		6	4	4mx4mx1.5m high scour on SE bank.
HWM (m below Top of Culvert)				HWM not visible
Drift (Y/N)	Yes			

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		4	4	

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	Advise of MC1 of road settlement and monitor surface.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	22.2/22.2	Sufficiency Rating (Last/Now) (%)	22.4/30.6	Est. Repl. Yr	2050	Maint. Req'd. (Y/N)	Yes
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Special Comments for Next Inspection	Monitor deflection annually. LRA sent July 6, 2011.	Department Comments
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Maintenance Reviewed By		Date	Estimated Total	0
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Proposed Long-Term Strategy

On 3-Year Program (Y/N)

Proposed Action

Previous Inspector's Name	Wade Nanninga	Previous Assistant's Name
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Next Inspection Date	13-Oct-2013	Previous Inspection Date	04-Jul-2011
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Inspection Cycle (Default) (months)	21
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Comment

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	Advise of MC1 of road settlement and monitor surface.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	22.2/22.2	Sufficiency Rating (Last/Now) (%)	22.4/30.6	Est. Repl. Yr	2050	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Monitor deflection annually. LRA sent July 6, 2011.		Department Comments	(May 30/12) Replacement Sched Yr 2013			
Maintenance Reviewed By			Date			Estimated Total	0
Proposed Long-Term Strategy							
On 3-Year Program (Y/N)							
Proposed Action							
Previous Inspector's Name	Wade Nanninga		Previous Assistant's Name				
Next Inspection Date	13-Oct-2013		Previous Inspection Date	04-Jul-2011			
Inspection Cycle (Default) (months)	21						
Comment							