

Bridge Culvert Inspection				
Bridge File Number	75616 -1 Bridge Culvert		Form Type	CULM
Year Built	1963		Lot No.	2
Bridge or Town Name	LEDUC		Inspector Name	Todd Warshawski
Located Over	TRIBUTARY TO WHITEMUD CREEK, 6.95.3, WATERCRS-ST		Inspector Class	BR CLS B
Located On	2:30 R1 32.308;2:30 L1 32.319		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	19-Apr-2013
Legal Land Location	SE SEC 22 TWP 49 RGE 25 W4M		Data Entry By	Theresa Lacusta
Longitude, Latitude	-113:33:53, 53:14:21		Data Entry Date	30-Apr-2013
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Eric Carcoux
Contract Main. Area	CMA11		Review Date	29-Apr-2013
Clear Roadway/Skew	22 /		Dept. Reviewer Name	Brent Herrick
AADT/Year	27,420 / 2012 (A)		Dept. Review Date	01-May-2013
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	MAIN	2677	1700	CPE	56.4			ELLIPSE
2	MAIN	2677	1700	CPE	56.4			ELLIPSE
Special Features		STORM WATER DRAIN						
Special Features Comment								

**Utilities (Located at)**

Utility Attachments				
Telephone	West r/w.		Gas	
Power			Municipal	
Others	Fibre optics West r/w.		Problem (Y/N)	No
Remarks	BF tag on NE pipe			

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	Curve to north.
Vertical Alignment		9	9	
Roadway Width (m)	22.000			NBL 11.0, SBL 11.0.
Embankment		9	9	
Sideslope (__:1)	4.0			
(Height of Cover(m) : 1.2)				
Guardrail (Y/N)	Yes			Rail/FLEAT end is too low on SE. Missing/broken spacer blocks on E rail.
<b>Approach Road / Embankment General Rating</b>		<b>8</b>	<b>8</b>	

**Upstream End**

Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		E		North pipe.
End Treatment (Concrete, Steel, Others, None)		CONCRETE		
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		5	5	Spalling, exposed rebar on crown.
Heaving (mm)	150			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		7	7	Very little rock, well vegetated.
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>200</b> )				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>5</b>	<b>5</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2677, Rise (mm): 1700, Type: CPE)</b>				
Barrel Last Accessible Date	19-Apr-2013			
<b>Special Features</b>				
Special Feature		X	X	Storm drain is in South pipe.
(Type : <b>STORM WATER DRAIN</b> )				
Special Feature				
(Type : )				
Roof		7	7	Rise not measured due to ice.
Measured Rise (mm)	1693			Sag est less than 1%.
Measured At Ring No.				
Sag (mm)	0			
Percent Sag	0			
Sidewall		7	7	
Measured Span (mm)	2672			
Measured At Ring No.	13			
Deflection (mm)	0			
Percent Deflection	0			
Floor		7	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		4	4	Minor soil infiltration @ few joints.
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, Primary Span, Location Code: MAIN, Span (mm): 2677, Rise (mm): 1700, Type: CPE)				
Coating		X	X	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		N	X	
(Type : )				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>7</b>	<b>7</b>	

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		W		North pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		6	6	
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	250			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>6</b>	<b>6</b>	

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)	CONCRETE			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		7	6	
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		7	7	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>200</b> )				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>7</b>	<b>6</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 2677, Rise (mm): 1700, Type: CPE)</b>				
Barrel Last Accessible Date	19-Apr-2013			
<b>Special Features</b>				
Special Feature				Storm water drain at culv. cl in median.
(Type : )				
Special Feature				
(Type : )				
Roof		7	7	Rebar attaching R1 to bevel end. (22mm rebar detached from bevel end @ West end. Spall @ West end of barrel exposing rebar.-
Measured Rise (mm)	1696			
Measured At Ring No.				
Sag (mm)	0			Rise not measured due to ice.
Percent Sag	0			Sag est less than 1 %.
Sidewall		7	7	
Measured Span (mm)	2637			
Measured At Ring No.	17			
Deflection (mm)	0			
Percent Deflection	0			
Floor		7	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		4	4	Minor infiltration.
Separation (mm)	40			
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
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 2677, Rise (mm): 1700, Type: CPE)</b>				
Coating		X	X	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
<b>(Type : )</b>				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>7</b>	<b>7</b>	

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Direction		W		South pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
<b>(Shape : )</b>				
Cutoff Wall		X	X	
Bevel End		7	4	Attachment bracket broken
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	275			
Scour Protection		7	7	
<b>(Type : RIP RAP)</b>				
<b>(Avg. Rock Size(mm) : 200)</b>				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>7</b>	<b>4</b>	

Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		8	8	
Bank Stability		8	8	
HWM (m below Top of Culvert)	0.8			Ice level, April, 2013
Drift (Y/N)	No			

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	AGGRADING			Buildup of soils/grass at outlet
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>8</b>	<b>8</b>	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP							
REMOVE DRIFT ACCUMULATION	2013	Remove buildup at outlets.					
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION	2013	Raise SE terminal end, replace missing/broken spacer blocks.					
OTHER ACTION	2013	Reattach SW bevel brace.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>77.8/77.8</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>72.2/69.9</b>	Est. Repl. Yr	2040	Maint. Req. (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	Shane Hall		Previous Assistant's Name				
Next Inspection Date	19-Jan-2015		Previous Inspection Date	14-Jul-2011			
Inspection Cycle (Default) (months)	21						
Comment							