

Bridge Culvert Inspection				
Bridge File Number	73273 -1 Bridge Culvert		Form Type	CULM
Year Built	1960		Lot No.	1
Bridge or Town Name	DUNVEGAN		Inspector Name	Brian Pientsch
Located Over	TRIBUTARY TO BOUCHER CREEK, 8.10.77.2, WATERCRS-ST		Inspector Class	BR CLS A
Located On	2:68 C1 7.217		Assistant Name	Lisbeth Medina
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	24-Feb-2010
Legal Land Location	SW SEC 27 TWP 80 RGE 4 W6M		Data Entry By	Theresa Lacusta
Longitude, Latitude	-118:32:55, 55:57:40		Data Entry Date	08-Mar-2010
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Arnold Assenheimer
Contract Main. Area	CMA04		Review Date	08-Mar-2010
Clear Roadway/Skew	13 / -60 deg. (LHF)		Dept. Reviewer Name	Steve Pasquan
AADT/Year	2,710 / 2008 (A)		Dept. Review Date	06-Apr-2010
Road Classification			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	-	1200	MP	53	68X13	2.8	ROUND
2	MAIN	-	1200	MP	53	68X13	2.8	ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments				
Telephone	Buried cable along East ditch.		Gas	
Power			Municipal	
Others			Problem (Y/N)	Yes
Remarks	Telus cable across d/s bevel end-North pipe and South pipe.			

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Form Ent. Slight sag curve 1000m of sight dist.
Vertical Alignment		8	8	
Roadway Width (m)	13.000			
Embankment		2	2	3:1 @ South pipe., 4:1 @ North pipe. Embankment failure 6m from Hwy d/s end of North pipe. (40m wide, 100m up channel).
Sideslope ( :1)	3.0			
(Height of Cover (m) : 4)				
Guardrail (Y/N)	No			
<b>Approach Road / Embankment General Rating</b>		<b>2</b>	<b>2</b>	

**Upstream End**

Culvert Component	Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>			
Direction	W		North pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL		
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		3	3	Damage at 11:00 minor dent. Bevel not attached to barrel @ top. 60mm separation.
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	50			
Scour Protection		3	3	
(Type : <b>NONE, NATURAL</b> )				
(Avg. Rock Size (mm) : )				
Scour/Erosion		3	3	Erosion along N. edge of bevel 2m long. 1.0m wide. Scoured beneath bevel & water accesses pipe through floor.-02-May-2008
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>3</b>	<b>3</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): - , Rise (mm): 1200, Type: MP)</b>				
Barrel Last Accessible Date	24-Feb-2010			North pipe. -60 skew under embankment, -45 skew on
<b>Special Features</b>				
Special Feature				berels north structure
(Type : )				
Special Feature				
(Type : )				
Roof		6	5	@ CL.
Measured Rise (mm)	1118			
Measured At Ring No.				
Sag (mm)	82			
Percent Sag	7			
Sidewall		3	3	@ CL. Large bulge 520mm x 450mm(photo). Smaller cut 500mm X 70mm at 3 o'clock at CL
Measured Span (mm)	1309			
Measured At Ring No.				
Deflection (mm)	109			
Percent Deflection	9			
Floor		2	2	Holes and perforations along floor. Pieces of rusted floor heaving up.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		3	3	820mm scour behind pipe CL. Infiltration @ CL.
Separation (mm)	250			
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): -, Rise (mm): 1200, Type: MP)				
Coating		3	3	Perforations and section loss along floor(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		2	2	D/S end cantilevered over scour & erosion.
Baffle		X	X	
(Type : )				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>3</b>	<b>3</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		E		North 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	4	Unsupported for 0.8m. 350mm above water.
Heaving (mm)	50			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1500			
Scour Protection		3	3	Scour hole at end of bevel 6m x 4m. Undermining around bevel 0.8 x 0.8m. (3m x 6m slump S of bevel.-May 2, 2008)
(Type : <b>NATURAL, NONE</b> )				
(Avg. Rock Size (mm) : )				
Scour/Erosion		3	3	Couldn't tell-covered with snow.
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>3</b>	<b>3</b>	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		W		South pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
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		2	2	Detached from pipe.
Heaving (mm)				
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		3	3	2m x 4m hole @ bevel.
(Type : <b>NONE, NATURAL</b> )				
(Avg. Rock Size (mm) : )				
Scour/Erosion		3	3	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>2</b>	<b>2</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): -, Rise (mm): 1200, Type: MP)</b>				
Barrel Last Accessible Date	14-Nov-2005			South pipe.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		N	5	@cl. d/s 15m of pipe detached.
Measured Rise (mm)	1111			
Measured At Ring No.				
Sag (mm)	89			
Percent Sag	7			
Sidewall		N	3	@ cl
Measured Span (mm)	1350			
Measured At Ring No.				
Deflection (mm)	150			
Percent Deflection	12			
Floor		N	3	Severe corrosion and perforations on floor.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		2	2	(320mm gap behind pipe d/s coupler has come apart(photo). Perforations through circum. seams. 15m d/s section detached.
Separation (mm)	250			
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): 1200, Type: MP)				
Coating		N	2	Perforations and section loss along floor.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		2	2	D/S end 1.5m above stream.
Baffle		X	X	
(Type : )				
Waterway Adequacy		2	2	D/S channel erosion extensive, d/s section of pipe detached.
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>2</b>	<b>2</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		E		South pipe.
End Treatment (Concrete, Steel, Others, None)		STEEL		
Headwall		X	X	
Collar		X	X	
Wingwalls (Shape : )		X	X	
Cutoff Wall		X	X	
Bevel End		2	2	Detached from pipe, (located 45m d/s.-May 2, 2008.)
Heaving (mm)				
Invert Above/Below Stream Bed Above/Below (mm)				
Scour Protection (Type : <b>NATURAL, NONE</b> ) (Avg. Rock Size (mm) : )		2	2	Large scour & erosion channel at end of pipe. Bevel end lost to under mining. Roadway embankment is eroding. Slump d/s, slump area 40m x 100m.(photo).
Scour/Erosion		2	2	
Beavers (Y/N)		No		
<b>Downstream End General Rating</b>		<b>2</b>	<b>2</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		6	6	Severe erosion in d/s channel. Major slumping. Channel eroding d/s south pipe approx. 100m.
Bank Stability		2	2	SCOUR HOLE 0.8M DEEP X 2M WIDE AT APPROX. 10M FROM NORTH D/S END PIPE.
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			@ D/S END OF NORTH PIPE.
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>2</b>	<b>2</b>	

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	2010	Replacement					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>22.2/22.2</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>0.0/0.0</b>	Est. Repl. Yr	2010	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Monitor erosion of embankments. Low rating advisory sent March 2, 2010		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	Jordan Evans			
Next Inspection Date	24-Nov-2011		Previous Inspection Date	02-May-2008			
Inspection Cycle (Default) (months)	21						
Comment							