

Bridge Culvert Inspection				
Bridge File Number	77593 -1 Bridge Culvert		Form Type	CUL1
Year Built	1967		Lot No.	1
Bridge or Town Name	NORDEGG		Inspector Name	Owen Salava
Located Over	SIDE CREEK, 6.161.2.3.1, WATERCRS-ST		Inspector Class	BR CLS A
Located On	734:16 C1 51.929		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	02-Dec-2010
Legal Land Location	SW SEC 29 TWP 37 RGE 14 W5M		Data Entry By	Marcia Chavez
Longitude, Latitude	-115:58:04, 52:12:34		Data Entry Date	03-Jan-2011
Road Authority	Alberta Transportation (AIT)		Reviewer Name	John O'Brien
Contract Main. Area	CMA18		Review Date	16-Dec-2010
Clear Roadway/Skew			Dept. Reviewer Name	Chris Black
AADT/Year	60 / 2009 (A)		Dept. Review Date	12-Jan-2011
Road Classification	RLU-208G-90		Follow-Up By	
Detour Length (km)	150			

Bridge Culvert Information								
Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	PI./Slab Thickness	Shape
1	MAIN	-	2438	SP	28	152X51	3.0	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone		Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		4	4	Curve both directions. Sag curve, limited sight distance.
Vertical Alignment		5	5	
Roadway Width (m)	7.000			
Embankment		5	5	
Sideslope (__:1)	2.0			
(Height of Cover(m) : 2.5)				
Guardrail (Y/N)	No			
<b>Approach Road / Embankment General Rating</b>		<b>4</b>	<b>4</b>	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Bevel End		6	6	
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		6	N	Snow covered.
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>250</b> )				
Scour/Erosion		6	N	
Beavers (Y/N)	No			(Logs caught on roof / embankment of bevel due to recent high water - photo. 22Nov2005).
<b>Upstream End General Rating</b>		<b>6</b>	<b>6</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2438, Type: SP)				
Barrel Last Accessible Date	22-Nov-2005			Unsafe ice. Viewed from ends, shape OK.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		4	N	(Unable to measure rise due to rocks in barrel floor. Est 190mm sag. 22Nov2005).
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	190			(7.8% sag. 22Nov2005).
Percent Sag	8			
Sidewall		3	N	(Span 2600 ring #6 (worst). 22Nov2005).
Measured Span (mm)	2670			
Measured At Ring No.	6			
Deflection (mm)	232			(9.5% deflection. 22Nov2005).
Percent Deflection	10			
Floor		N	N	(Rocks covered floor. 22Nov2005).
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	N	
Separation (mm)	0			
Longitudinal Seams		2	N	(R4 N side 90mm (8 o'clock), S side 75mm (3 o'clock). R5 S side 54mm (4 o'clock). R6 N side 57mm (8 o'clock), S side 47mm (3 o'clock). R7 N side 53mm (9 o'clock), S side 35mm (4 o'clock). R8 N side 38mm (9 o'clock). R9 cracked 7 bolt, S side 37mm (4 o'clock). 60mm long vertical crack at bolt hole. No change since June 29/05 inspection. 22Nov2005).
Total No. of Cracked Rings	6			
Total No. of Rings with Two Cracked Seams	4			
Min. Remaining Steel Between Cracks (mm)	35			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		6	6	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2438, Type: SP)				
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type : )				
Waterway Adequacy		3	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
<b>Barrel General Rating</b>		<b>2</b>	<b>2</b>	Based on long. seams but could be 1 if cracks have grown. GR carried forward from 22Nov2005.
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		E		
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)	0			
Invert Above/Below Stream Bed				At streambed.
Above/Below (mm)	0			
Scour Protection		3	N	(Washed away by recent high water. 22Nov2005).
(Type : <b>NONE</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		3	N	(Small scour hole, bank erosion beside bevel caused by high water. 22Nov2005).
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>3</b>	<b>N</b>	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		6	6	(Eroded by high water - photo. 22Nov2005).
Bank Stability		3	N	
HWM (m below Top of Culvert)				(0.6m above U/S bevel crown. 22Nov2005).
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>4</b>	<b>4</b>	GR carried forward.

Maintenance Recommendations													
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	Structural Condition Rating (Last/Now) (%)	Sufficiency Rating (Last/Now) (%)	23.3/31.5	Est. Repl. Yr	2012	Maint. Req. (Y/N)	No
SHOTCRETE REPAIRS													
PLACE ADDITIONAL RIP RAP	2011	Repair East embankment erosion (Class II / 30m3), if not done.											
REMOVE DRIFT ACCUMULATION	2011	If not done.											
INSTALL CONCRETE/STEEL LINING													
INSTALL STRUTS													
INSTALL CONCRETE COLLAR/CUTOFF													
REPAIR SEAMS	2011	Concrete beam.											
OTHER ACTION	2011	Lvl 2 barrel inspection.											
OTHER ACTION													
OTHER ACTION													
OTHER ACTION													
OTHER ACTION													
Special Comments for Next Inspection	Inspect yearly until seams are repaired. Emailed R. Shalagan at AT of condition 29Jun2005. Re-issue LRA to RS 18Dec2010.												
Maintenance Reviewed By	Date												
Proposed Long-Term Strategy	Estimated Total 0												
On 3-Year Program (Y/N)													
Proposed Action													
Previous Inspector's Name	Dave Lam		Previous Assistant's Name										
Next Inspection Date	02-Mar-2014		Previous Inspection Date		22-Nov-2005								
Inspection Cycle (Default) (months)	39												
Comment													

**Maintenance Recommendations**

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2011	Repair East embankment erosion (Class II / 30m3), if not done.	To operations			
REMOVE DRIFT ACCUMULATION	2011	If not done.	To operations			
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS	2011	Concrete beam.	Defer, repairs programmed	2012		
OTHER ACTION	2011	Lvl 2 barrel inspection.	Defer, repairs programmed	2012		
OTHER ACTION						
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>23.3/31.5</b>	Est. Repl. Yr	2012	Maint. Req. (Y/N) No
Special Comments for Next Inspection	Inspect yearly until seams are repaired. Emailed R. Shalagan at AT of condition 29Jun2005. Re-issue LRA to RS 18Dec2010.		Department Comments	Currently programmed for replacement in 2018. AS		
Maintenance Reviewed By	Andrew Smikles		Date	13-Feb-2012	Estimated Total	0
Proposed Long-Term Strategy						
On 3-Year Program (Y/N)						
Proposed Action						
Previous Inspector's Name	Dave Lam		Previous Assistant's Name			
Next Inspection Date	02-Mar-2014		Previous Inspection Date	22-Nov-2005		
Inspection Cycle (Default) (months)	39					
Comment						