

Bridge Culvert Inspection				
Bridge File Number	71434 -1 Bridge Culvert		Form Type	CUL1
Year Built	1979		Lot No.	2
Bridge or Town Name	NORTH STAR		Inspector Name	Russel Vanderschaaf
Located Over	BUCHANAN CREEK, 8.10.44, WATERCRS-ST		Inspector Class	BR CLS B
Located On	35:06 C1 32.509		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	16-Nov-2011
Legal Land Location	NW SEC 20 TWP 90 RGE 23 W5M		Data Entry By	Theresa Lacusta
Longitude, Latitude	-117:38:40, 56:49:36		Data Entry Date	13-Dec-2011
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Eric Carcoux
Contract Main. Area	CMA04		Review Date	12-Dec-2011
Clear Roadway/Skew	10.2 /		Dept. Reviewer Name	Steve Pasquan
AADT/Year	1,950 / 2010 (A)		Dept. Review Date	10-Jan-2012
Road Classification	RAU-210-110		Follow-Up By	
Detour Length (km)	5			

**Bridge Culvert Information**

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	4390	4841	SPE	39.6	152X51	3.0	ELLIPSE
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone		Gas	
Power	6 wire o/h along East ditch.		Municipal
Others		Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Entrances both directions.
Vertical Alignment		8	8	
Roadway Width (m)	10.200			
Embankment		4	3	Gully at SW 10m x 5m x 1.5m deep @ bottom of slope.
Sideslope ( :1)	4.0			
(Height of Cover(m) : 1.5)				
Guardrail (Y/N)	Yes			
<b>Approach Road / Embankment General Rating</b>		<b>7</b>	<b>7</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 : )				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Cutoff Wall		X	X	
Bevel End		6	6	
Heaving (mm)	250			
Invert Above/Below Stream Bed		BELOW		
Above/Below (mm)	400			
Scour Protection		4	3	Gully on S side 10 x 5 x 1.5 m deep.-photo Visible through snow.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		4	3	Gully on S. side.
Beavers (Y/N)	Yes			Dam across channel 4m u/s.
<b>Upstream End General Rating</b>		<b>4</b>	<b>3</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 4390, Rise (mm): 4841, Type: SPE)				
Barrel Last Accessible Date	10-Feb-2010			Viewed from ends, water still running
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		7	N	Sag est. (16-Aug-2008) Covered with ice. Corrosion through bolts.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	0			
Percent Sag				
Sidewall		7	N	deflection inward.-10-Feb-2010
Measured Span (mm)	4241			
Measured At Ring No.	5			
Deflection (mm)				
Percent Deflection				
Floor		N	N	Covered with ice.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		5	N	D/S end of 4 and 5th section plates at 2:00 5-8mm separation in long seam. (16-Aug-2008)
Separation (mm)	0			
Longitudinal Seams		5	N	Roof seams in from d/s end pulling into bolts, are tipping.-10-Feb-2010  1N Stagger
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		4	N	Superficial rust on sidewalls. Alkalinity deposits though bolts. Pitting rust through bolts.-10-Feb-2010
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 4390, Rise (mm): 4841, Type: SPE)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	Yes			
Fish Passage Adequacy		7	5	(FISH 300mm IN LENGTH VISIBLE THRU ICE (1999-11-21) Drift blockage d/s bevel. Beaver dam u/s channel.
Baffle		N	N	
(Type : )				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
<b>Barrel General Rating</b>		<b>5</b>	<b>N</b>	GR was 5 on 10-Feb-2010
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		6	6	Minor construction damage top of d/s end.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		N	6	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>6</b>	<b>6</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		7	7	
Bank Stability		5	6	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			Dam u/s 4m across channel. Dam d/s 25m in centre of channel.
Beavers (Y/N)	Yes			

Structure Usage				
		Last	Now	Explanation of Condition
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>5</b>	<b>7</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	2012	Remove beaver dam at u/s.					
OTHER ACTION	2012	Repair scour South of u/s bevel.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>55.6/55.6</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>62.6/63.0</b>	Est. Repl. Yr	2025	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Monitor bolt tipping in roof.		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	Lisbeth Medina			
Next Inspection Date	16-Aug-2013		Previous Inspection Date	10-Feb-2010			
Inspection Cycle (Default) (months)	21						
Comment							