Bridge Culvert Inspection

Bridge File Number	70225 -1 Bridge Culvert	Form Type	CULM
Year Built/Lined	1963/1994	Lot No.	4
Bridge or Town Name	NORTH STAR	Inspector Name	Russel Vanderschaaf
Located Over	2ND ORDER TRIBUTARY TO BUCHANAN CREEK, 8.10.44.3.1, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	35:06 C1 39.267	Assistant Class	
Water Body Cl./Year		Inspection Date	16-Nov-2011
Navigabil. Cl./Year		Data Entry By	Lisa Fairhurst
Legal Land Location	NW SEC 10 TWP 91 RGE 23 W5M	Data Entry Date	16-Dec-2011
Longitude, Latitude	-117:37:29, 56:53:01	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	12-Dec-2011
Contract Main. Area	CMA04	Dept. Reviewer Name	Steve Pasquan
Clear Roadway/Skew	10.2 /	Dept. Review Date	10-Jan-2012
AADT/Year	1,950 / 2010 (A)	Follow-Up By	
Road Classification	RAU-210-110		
Detour Length (km)	5		

Bridge Culvert Information

Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2130	1550	RPP	25	152X51	3.5	PIPE ARCH
3	MAIN FULL LINER	-	1200	SSP	30.5			ROUND
Special Features		CONC FLOOR						
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		7	7	Entrances both directions.
Vertical Alignment		8	8	
Roadway Width (m)	10.200			
Embankment		7	7	
Sideslope (__:1)	3.5			
(Height of Cover(m) : **2**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**7**	**7**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
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**
(Pipe # : **1, Span Type: Primary Span**)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		5	5	150mm bend in South side of bevel.
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		5	5	Concrete floor above stream bed.-May 15, 2008
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		5	5	CONCRETE FLOOR ABOVE STREAMBED-May 15, 2008
Beavers (Y/N)	No			
Upstream End General Rating		**5**	**5**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2130, Rise (mm): 1550, Type: RPP**)				
Barrel Last Accessible Date	16-Nov-2011			(North pipe)
Special Features				
Special Feature			5	
(Type : **CONC FLOOR**)				
Special Feature				
(Type :)				
Roof		5	5	Concrete floor unable to measure rise. 3rd ring from d/s end bulged approx. 20mm.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	30			
Percent Sag				
Sidewall		7	6	
Measured Span (mm)	2180			
Measured At Ring No.	4			
Deflection (mm)	50			
Percent Deflection	2			
Floor		6	6	Concrete floor. Cracking (med) and scaling.(50%) Rated based on 50% visibility.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	6	
Separation (mm)	0			
Longitudinal Seams		5	5	Poor nesting of plats near roof, 3rd ring from D/S end (10mm gap).
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)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2130, Rise (mm): 1550, Type: RPP**)				
Coating		3	4	Heavy corrosion Alkaling deposits through bolts at 12 o'clock.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			Approx. 400mm.
Ponding (Y/N)	No			
Fish Passage Adequacy		N	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**5**	**5**	

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		6	6	Small dent on northside of bevel.
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		5	6	No problems visible through snow.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **200**)				
Scour/Erosion		5	6	
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**6**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Span Type: Secondary Span**)				
Direction		W		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		N	X	
Collar		N	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Span Type: Secondary Span**)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		N	6	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
Upstream End General Rating		**7**	**6**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: SSP**)				
Barrel Last Accessible Date	10-Feb-2010			Viewed from ends - shape looks good.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	N	near c/l.-May 15, 2008 Ice covered.
Measured Rise (mm)	1200			
Measured At Ring No.				
Sag (mm)	0			
Percent Sag	0			
Sidewall		6	N	
Measured Span (mm)	1194			near c/l. (10 Feb 2010)
Measured At Ring No.				
Deflection (mm)	6			
Percent Deflection	0			deflection inward.
Floor		N	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		X	X	
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 # : **3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: SSP**)				
Coating		X	X	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type :)				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**7**	**N**	GR was '7' on 10 Feb 2010

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **3, Span Type: Secondary Span**)				
Direction		E		South pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		N	X	
Collar		N	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		N	6	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **200**)				
Scour/Erosion		N	6	
Beavers (Y/N)	No			
Downstream End General Rating		**7**	**6**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	5	CURVES AT BOTH ENDS Culverts far apart, stream runs through pipe 3
Bank Stability		4	4	8mx2mx2m slump South d/s bank.

Structure Usage				
		Last	**Now**	**Explanation of Condition**
HWM (m below Top of Culvert)	0.3			Debris on d/s farmers fence (10 Feb 2010)
Drift (Y/N)	No			
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						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**58.8/59.9**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection	Monitor d/s erosion	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					