Bridge Culvert Inspection

Bridge File Number	00559 -1 Bridge Culvert	Form Type	CUL1
Year Built	1963	Lot No.	2
Bridge or Town Name	FORT SASK	Inspector Name	Wade Nanninga
Located Over	TRIBUTARY TO NORTH SASKATCHEWAN RIVER, 6.69, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	825:02 C1 3.194	Assistant Class	
Water Body Cl./Year		Inspection Date	19-May-2011
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SE SEC 8 TWP 55 RGE 22 W4M	Data Entry Date	08-Jun-2011
Longitude, Latitude	-113:13:47, 53:44:10	Reviewer Name	Arnold Assenheimer
Road Authority	Alberta Transportation (AIT)	Review Date	30-May-2011
Contract Main. Area	CMA09	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	9.8 / 40 deg. (RHF)	Dept. Review Date	14-Jun-2011
AADT/Year	3,500 / 2010 (A)	Follow-Up By	
Road Classification	RCU-209-110		
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1500	SP	37.8	152X51	3.0	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	West r/w.	Gas	
Power	7 lines along east r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks	BF tag installed at u/s end.		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Stratotech park entrance & road ~20m south. No passing both directions.
Vertical Alignment		8	8	
Roadway Width (m)	9.800			
Embankment		2	3	Slide on SE corner of pipe, 4m from to road was noted @ 1998 inspection. - photo. Est height of cover.
Sideslope (__:1)	1.5			
(Height of Cover(m) : **3**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**2**	**3**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		Culverts from industrial park drain into u/s end.
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		5	5	
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		N	4	Bevel unsupported fro 0.5m.
(Type : **NONE**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	4	
Beavers (Y/N)	No			
Upstream End General Rating		**4**	**4**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1500, Type: SP**)				
Barrel Last Accessible Date	14-May-2011			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		6	6	
Measured Rise (mm)	1530			
Measured At Ring No.	7			
Sag (mm)	30			
Percent Sag	2			
Sidewall		6	6	
Measured Span (mm)	1480			
Measured At Ring No.	7			1.3%
Deflection (mm)	20			
Percent Deflection	1			
Floor		N	5	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	6	
Separation (mm)	0			
Longitudinal Seams		7	7	
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	4	Pitting rust on floor & @ bolt holes.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1500, Type: SP**)				
Fish Passage Adequacy		4	4	Hanging outlet.
Baffle		X	X	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**6**	**6**	

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		4	4	Bevel is cantilevered 1.5 m - photo.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1000			
Scour Protection		N	3	Large scour hole @ outlet. Approx 2m deep x 8m wide. Outlet hanging.
(Type : **NONE**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	3	
Beavers (Y/N)	No			
Downstream End General Rating		**3**	**3**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		4	4	Meandering with signs of bank sloughing.
Bank Stability		2	3	Vertical banks d/s and @ SE.
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**2**	**3**	

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	2011	Repair slide at SE corner.				
OTHER ACTION	2011	Place additional rock riprap, 10m3 outlet				
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**66.7/66.7**	**Sufficiency Rating (Last/Now) (%)**	**33.7/36.1**	Est. Repl. Yr	2021	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Shorten inspection cycle to 12 months until sideslope is repaired. Site is scheduled for extension in next 3 years.	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	Dave Lam	Previous Assistant's Name			
Next Inspection Date	19-Aug-2014	Previous Inspection Date	12-Mar-2008		
Inspection Cycle (Default) (months)	39				
Comment					