Bridge Culvert Inspection

Bridge File Number	13633 -1 Bridge Culvert	Form Type	CUL1
Year Built	1971	Lot No.	1
Bridge or Town Name	WINFIELD	Inspector Name	Owen Salava
Located Over	MUSKRAT CREEK, 6.132.2.12, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	13:04 C1 18.337	Assistant Class	
Water Body Cl./Year		Inspection Date	25-Jun-2012
Navigabil. Cl./Year		Data Entry By	Marcia Chavez
Legal Land Location	SW SEC 5 TWP 46 RGE 5 W5M	Data Entry Date	15-Jul-2012
Longitude, Latitude	-114:42:09, 52:56:17	Reviewer Name	John O'Brien
Road Authority	Alberta Transportation (AIT)	Review Date	05-Jul-2012
Contract Main. Area	CMA17	Dept. Reviewer Name	Andrew Smikles
Clear Roadway/Skew	9.1 / 30 deg. (RHF)	Dept. Review Date	19-Jul-2012
AADT/Year	1,000 / 2011 (A)	Follow-Up By	
Road Classification	RAU-209-110		
Detour Length (km)	2		

Bridge Culvert Information

Number of Culverts	1

Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	2700	SP	34.7	152X51		ROUND

Special Features	
Special Features Comment	

Utilities (Located at)

Utility Attachments			
Telephone	West r/w.	Gas	
Power	3 wires 20 m East r/w & 1 wire 30m North.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	Curve going south - limited sight distance. No passing SB.
Vertical Alignment		7	7	
Roadway Width (m)	9.100			
Embankment		7	7	Well vegetated - stable.
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2.3**)				
Guardrail (Y/N)	Yes			West side measured.
Approach Road / Embankment General Rating		**5**	**5**	

Upstream 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	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		N	5	Some pitting rust. Sides of bevel being pushed inwards, est 200mm.
Heaving (mm)	100			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		N	4	Asphalt around bevel all broken up. Riprap is pushing bevel upwards, very little rock.
(Type :)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	4	Eroding sides & top of embankment @ South end.
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): 2700, Type: SP**)				
Barrel Last Accessible Date	08-Dec-2000			Viewed from ends, barrel not accessible. 1.7m water to roof - shape looks OK.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	150			(5.7% roof, using last insp roof sag measurment. 97/03/24).
Percent Sag				
Sidewall		N	N	(Span 2695 at midspan. Water staining @ side West all through bolt holes @ 10 & 2 o'clock. 12/12/05)
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	Water.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	(Bottom side wall seams not seen. Sidewall seams cusping inward at ring #3. Est 75mm with 20mm gap at ring #5 . Not visible. 12/12/05)
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			
Coating		N	N	(Corrosion with some pitting at sidewall & bevel. 12/12/05)
Corrosion By Soil (Y/N)	Yes			
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): 2700, Type: SP**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	4	
Icing (Y/N)	Yes			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**4**	**4**	G.R. carried forward since 08Dec2000.

Downstream 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	
Bevel End		4	4	Some pitting rust. Bevel pushing inward. Est 200mm at NW corner.
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		5	5	Some 400 to 500mm rock visible at West.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **500**)				
Scour/Erosion		N	5	
Beavers (Y/N)	Yes			
Downstream End General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		5	5	
Bank Stability		5	5	
HWM (m below Top of Culvert)				(97/03/24) HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading				Unknown.
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**5**	**5**	

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	Dewater and inspect, looks like a lot. since barrel viewed.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**45.2/45.2**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	(Monitor cusping of sidewall. 02/16/08). It appears this site is constantly under high water. Recommend dewatering to complete thorough barrel inspection.	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	Owen Salava	Previous Assistant's Name	
Next Inspection Date	25-Mar-2014	Previous Inspection Date	24-Aug-2010
Inspection Cycle (Default) (months)	21		
Comment			

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	Dewater and inspect, looks like a lot. since barrel viewed.	Defer, monitor			
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**45.2/45.2**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	(Monitor cusping of sidewall. 02/16/08). It appears this site is constantly under high water. Recommend dewatering to complete thorough barrel inspection.	Department Comments	Continue to monitor on regular BIM schedule. AS

Maintenance Reviewed By	Andrew Smikles	Date	23-Aug-2012	Estimated Total	0
Proposed Long-Term Strategy					
On 3-Year Program (Y/N)					
Proposed Action					

Previous Inspector's Name	Owen Salava	Previous Assistant's Name	
Next Inspection Date	25-Mar-2014	Previous Inspection Date	24-Aug-2010
Inspection Cycle (Default) (months)	21		
Comment			