Bridge Culvert Inspection

Bridge File Number	77266 -1 Bridge Culvert	Form Type	CUL1
Year Built	1970	Lot No.	1
Bridge or Town Name	WRENTHAM	Inspector Name	Jon Davies
Located Over	MIDDLE COULEE, 11.9.4, WATERCRS-ST	Inspector Class	BR CLS B
Located On	36:02 C1 18.774	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	06-Dec-2011
Legal Land Location	NW SEC 2 TWP 6 RGE 17 W4M	Data Entry By	Anne Roberts
Longitude, Latitude	-112:12:09, 49:26:55	Data Entry Date	14-Jan-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Garry Roberts
Contract Main. Area	CMA24	Review Date	18-Dec-2011
Clear Roadway/Skew	10.8 /	Dept. Reviewer Name	Tim Davies
AADT/Year	540 / 2010 (A)	Dept. Review Date	18-Jan-2012
Road Classification	RAU-211.8-110	Follow-Up By	
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	2316	2560	SPE	30.5	152X51	2.8	ELLIPSE
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		9	9	Rise to N
Vertical Alignment		7	7	
Roadway Width (m)	10.800			
Embankment		3	3	4m long by 1.5m DP x 2 m wide erosion hole at South side of D/S barrel- starts just behind the bevel West end. U/S East end has 3 m long x 2 m wide x 1 m deep erosion hole of embankment.
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2.2**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**7**	**7**	

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	4	Damage at crown extending down bevel side. Dent pushed in 300 mm.
Heaving (mm)	500			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		N	4	Rip rap not complete at South side bevel.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		N	4	
Beavers (Y/N)	No			
Upstream End General Rating		**6**	**4**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2316, Rise (mm): 2560, Type: SPE**)				
Barrel Last Accessible Date	06-Dec-2011			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	6	
Measured Rise (mm)	2484			
Measured At Ring No.	3			
Sag (mm)	76			
Percent Sag	3			
Sidewall		N	3	Cracked seams
Measured Span (mm)	2411			
Measured At Ring No.	3			
Deflection (mm)	95			
Percent Deflection	4			
Floor		N	N	300 mm of water and ice.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	6	longit seam.]
Separation (mm)	20			
Longitudinal Seams		N	3	90mm remaining steel @ ring 3 South wall seam Rings 2,3,4 have cracks on south wall longit seam.
Total No. of Cracked Rings	3			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	90			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	4	Corrosion with some pitting at floor & @ lower haunches and bevel end floors.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2316, Rise (mm): 2560, Type: SPE**)				
Fish Passage Adequacy		4	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	4	(HWM to top of pipe at U/S end) 24 June 2010 D/S is scouring at side of bevel and South side of barrel
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**3**	**3**	

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		3	5	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	500			
Scour Protection		3	3	No rock or fill at sides of bevel Approx 16m diameter scour hole
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		3	3	[D/S 12 x 18 x 0.5 m, scour hole is well rip rapped] 10 May 2008 Erosion hole 4m long by 1.5m wide x 1.5m deep @ South side of barrel
Beavers (Y/N)	No			
Downstream End General Rating		**3**	**3**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		5	5	2 channels-1 aligns well with pipe 1 @ 45 deg to pipe
Bank Stability		N	4	Some erosion on the banks at u/s and d/s.
HWM (m below Top of Culvert)	0.0			HWM not visible
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		**5**	**5**	GR carried forward

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2012	Repair scour at stream, sides of bevel and South side of barrel. Est 30m3 clay and 50m3 class 2 rock				
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) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**35.4/39.7**	Est. Repl. Yr	2015	Maint. Reqd. (Y/N)	Yes

Special Comments for Next 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	Tom Carey	Previous Assistant's Name			
Next Inspection Date	06-Sep-2013	Previous Inspection Date	24-Jun-2010		
Inspection Cycle (Default) (months)	21				
Comment					