Bridge Culvert Inspection

Bridge File Number	73430 -1 Bridge Culvert	Form Type	CUL1
Year Built	1961	Lot No.	1
Bridge or Town Name	MEANDER RIVE	Inspector Name	Brian Pientsch
Located Over	SLAVEY CREEK, 9.10, WATERCRS-ST	Inspector Class	BR CLS A
Located On	35:18 C1 21.725	Assistant Name	Clem Guenette
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	10-Jan-2012
Legal Land Location	SE SEC 32 TWP 117 RGE 21 W5M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-117:31:54, 59:11:59	Data Entry Date	28-Feb-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA01	Review Date	26-Feb-2012
Clear Roadway/Skew	9.4 / 30 deg. (RHF)	Dept. Reviewer Name	David Morrison
AADT/Year	370 / 2011 (A)	Dept. Review Date	30-Mar-2012
Road Classification	RAU-209-110	Follow-Up By	
Detour Length (km)	999		

Bridge Culvert Information

Number of Culverts	1

Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1800	SP	65.8	152X51	3.0	ROUND

Special Features	STORM WATER DRAIN
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	In sag curve, no passing both directions. Poor sight distance to north. Grade approx 5%.
Vertical Alignment		6	6	
Roadway Width (m)	9.400			
Embankment		3	3	Slide 3m high approx 18m from West road shoulder. Height of cover is from bottom of manhole to shoulder. Manhole between hwy & CNR has ditch drains which are about 500mm higher than surrounding fill.
Sideslope (__:1)	3.0			
(Height of Cover(m) : **7.6**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**3**	**3**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	NONE			
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	N	(DAMAGED END - 2003/05/28)
Heaving (mm)	600			
Invert Above/Below Stream Bed	ABOVE			(MINIMAL COVER ON U/S 4m OF BARREL - 2003/05/28)
Above/Below (mm)	100			
Scour Protection		4	N	Slide 3m high on top of culvert. Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		4	4	Slide/erosion 3m high on top of culvert.
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): 1800, Type: SP**)				
Barrel Last Accessible Date	26-Jul-2001			Culvert flowing at full capacity at u/s end. 300mm free space at d/s end. 26-May-2010 Only 200mm free spave at u/s end.
Special Features				
Special Feature		N	N	Could not enter from d/s end. (Can't measure due to silt - 0010726) Manhole ditch drains to high & rusted thru-see photos, No change.
(Type : **STORM WATER DRAIN**)				
Special Feature				
(Type :)				
Roof		N	N	600mm x 200mm square hole close to manhole location.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	35			
Percent Sag				
Sidewall		N	N	Estimated sag - 01/07/26 Hole in roof at ring 25, near manhole cir., seam 11 - crack (Photo) 2003/05/28.
Measured Span (mm)	1265			
Measured At Ring No.				
Deflection (mm)	35			
Percent Deflection	2			
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	(Shape under railway 1960x1640, 6 cracked seam, railway section not rated-010726)(Barrel heaved in ditch @ manhole 500mm deep 01/07/26)
Separation (mm)	0			
Longitudinal Seams		N	N	(CORROSION BY SOIL & WATER-01/0726)
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		N	N	
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1800, Type: SP**)				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	Yes			(Lower half pitted rust. Negative camber under hwy & railway track. - 01/07/26) Ponding 1.5m @ d/s end.
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	4	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**4**	**4**	General rating carried forward from 2003/05/28.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		Note: This rating is for the CNR outlet.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	Full of water.
Heaving (mm)				
Invert Above/Below Stream Bed	ABOVE			Under water.
Above/Below (mm)	200			
Scour Protection		N	N	(Scour d/s of outlet. 10-May-2010)
(Type : **NONE**)				Not evident due to snow level.
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	N	(Scour d/s of outlet. 2003/05/10)- Not evident due to water level.
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	GR carried forward.

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		5	5	U/s channel makes 90 degree turn into culvert. 25m u/s of culvert.
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM not visible
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	Yes			
(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	2012	Replace culvert.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**29.9/29.9**	Est. Repl. Yr	2012	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Railway aware of pipe condition.-18-Mar-2005 Scheduled for replacement-18-Mar-2005 Design currently underway.-22-Nov-2006 Monitor slide at u/s end.	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	10-Oct-2013	Previous Inspection Date	26-May-2010		
Inspection Cycle (Default) (months)	21				
Comment					