

Bridge Culvert Inspection				
Bridge File Number	07408 -1 Bridge Culvert		Form Type	CULM
Year Built	1959		Lot No.	1
Bridge or Town Name	WABAMUN		Inspector Name	Wade Nanninga
Located Over	TRIBUTARY TO MINK CREEK, 6.120.1.1, WATERCRS-ST		Inspector Class	BR CLS A
Located On	16:12 L1 42.266;16:12 R1 42.247		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	07-Aug-2012
Legal Land Location	NW SEC 10 TWP 53 RGE 3 W5M		Data Entry By	Theresa Lacusta
Longitude, Latitude	-114:21:42, 53:34:12		Data Entry Date	20-Aug-2012
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Eric Carcoux
Contract Main. Area	CMA11		Review Date	20-Aug-2012
Clear Roadway/Skew	24.5 /		Dept. Reviewer Name	Brent Herrick
AADT/Year	13,120 / 2011 (A)		Dept. Review Date	22-Aug-2012
Road Classification	RAD-412.4-120		Follow-Up By	
Detour Length (km)	1			

Bridge Culvert Information

Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1510	SP	90.2	152X51	2.8	ROUND
2	MAIN	2610	2877	SPE	84.6	152X51	2.8	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments				
Telephone	South r/w		Gas	
Power	7 O/H lines North r/w.		Municipal	
Others			Problem (Y/N)	No
Remarks	File tag on West pipe U/S.			

Approach Road / Embankment

	Last	Now	Explanation of Condition
Horizontal Alignment	7	7	Entrance East. In sag curve East of RR 33. Grade in both directions.
Vertical Alignment	7	7	
Roadway Width (m)	24.500		WBL 12.7m, EBL 11.6m.
Embankment	8	8	
Sideslope (__:1)	3.0		
(Height of Cover(m) : 5)			
Guardrail (Y/N)	No		
Approach Road / Embankment General Rating	7	7	

Upstream End

Culvert Component	Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Secondary Span)			
Direction	N		West barrel.
End Treatment (Concrete, Steel, Others, None)	STEEL		
Headwall	X	X	
Collar	X	X	
Wingwalls	X	X	
(Shape :)			

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Secondary Span)				
Cutoff Wall		X	X	
Bevel End		4	4	Bevel is heaving with 1300mm dam across inlet.
Heaving (mm)	400			
Invert Above/Below Stream Bed	BELOW			Could not confirm.
Above/Below (mm)	1600			
Scour Protection		7	6	Some rock visible, slopes are grassed.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		7	6	
Beavers (Y/N)	Yes			Dam across inlet (1300mm high) and 2.5 x 25m dam 20m U/S.
Upstream End General Rating		4	4	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1510, Type: SP)				
Barrel Last Accessible Date	06-Oct-2003			Could only enter first 5 rings due to depth of water. Could not view d/s 3/4 of barrel.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	(Calculates at 39mm. Calculated at 2.5%. 11/Mar/2007)
Measured Rise (mm)	1471			
Measured At Ring No.				
Sag (mm)	104			
Percent Sag	7			
Sidewall		N	N	(110mm rip in East sidewall, probably from installation. Crack in sidewall 63mm left, ring 25 - photo. 06/Oct/2003)
Measured Span (mm)	1535			
Measured At Ring No.				(Calculates at 25mm. Calculated at 1.7%. 11/Mar/2007)
Deflection (mm)	106			
Percent Deflection	7			
Floor		N	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	(Cracks @ R19, 21, 23, 25, 28 & 29, one side only. Max 63mm between cracks - photo. 06/Oct/2003) (Change number of cracked rings from 4 to 6 based on comment from 07/June/2005 report. 11/Mar/2007)
Total No. of Cracked Rings	6			
Total No. of Rings with Two Cracked Seams				(06/Oct/2003)
Min. Remaining Steel Between Cracks (mm)	63			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		N	4	(Ten perforations up to 25mm at lower 1/4 points. 98/06/09) (Pitting on floor, 5 to 7 o'clock. 06/Oct/2003)
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			A few spall perforations visible in floor.

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1510, Type: SP)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	Yes			1000mm
Fish Passage Adequacy		4	4	Beaver dam in pipe at U/S end ~ 0.7 high x 1.0m wide x 2.0m long. Debris reduces passage.
Baffle		N	N	
(Type :)				
Waterway Adequacy		4	4	Debris reduced waterway.
Icing (Y/N)				Drift at both ends.
Silting (Y/N)				
Drift (Y/N)	Yes			
Barrel General Rating		3	3	(Previous G.R. carried forward from 06/Oct/2003)

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Secondary Span)				
Direction		S		West culvert. Water to 300mm from crown.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		N	N	(Bevel is unsupported for 1.5m. 07/June/2005)
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	500			
Scour Protection		N	N	(D/S scour hole. 15m W x 15m L x 1m deep. 07/June/2005)
(Type : NATURAL)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	N	(Scour off D/S end, bevel is hanging. Loss of fill around bevel end. 07/June/2005)
Beavers (Y/N)	No			
Downstream End General Rating		3	3	(G.R. carried forward from 07/June/2005)

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Primary Span)				
Direction		N		East culvert.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Primary Span)				
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	600			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1600			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		7	7	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Primary Span, Location Code: MAIN, Span (mm): 2610, Rise (mm): 2877, Type: SPE)				
Barrel Last Accessible Date	07-Aug-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		6	5	
Measured Rise (mm)	2720			
Measured At Ring No.	17			
Sag (mm)	157			
Percent Sag	6			
Sidewall		6	6	
Measured Span (mm)	2510			
Measured At Ring No.	17			
Deflection (mm)	100			
Percent Deflection	4			
Floor		5	5	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	6	
Separation (mm)	0			
Longitudinal Seams		6	6	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				1N stagger.
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		4	4	Pitting along floor.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Primary Span, Location Code: MAIN, Span (mm): 2610, Rise (mm): 2877, Type: SPE)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Pipe is about 2000mm above streambed.
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			Beaver dam u/s.
Silting (Y/N)	No			
Drift (Y/N)	Yes			
Barrel General Rating		6	5	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Primary Span)				
Direction		S		East culvert.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	2000			
Scour Protection		7	7	
(Type : NATURAL)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		7	7	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		6	6	
Bank Stability		6	6	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	NONE			Beaver dam at inlet of primary culvert. Beaver dam 20m U/S.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				

Structure Usage				
		Last	Now	Explanation of Condition
Channel General Rating		6	6	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP							
REMOVE DRIFT ACCUMULATION	2012	Remove drift from u/s bevel.					
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION	2012	Dewater, inspect and assess.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	33.3/33.3	Sufficiency Rating (Last/Now) (%)	31.9/31.9	Est. Repl. Yr	2012	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Monitor cracked rings on West pipe.		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	Kris Bosters		Previous Assistant's Name				
Next Inspection Date	07-May-2014		Previous Inspection Date	07-Oct-2010			
Inspection Cycle (Default) (months)	21						
Comment							