

Bridge Culvert Inspection				
Bridge File Number	73489 -1 Bridge Culvert		Form Type	CUL1
Year Built	1960		Lot No.	1
Bridge or Town Name	NORDEGG		Inspector Name	Owen Salava
Located Over	GONIKA CREEK, 6.171.2, WATERCRS-ST		Inspector Class	BR CLS A
Located On	11:04 C1 36.555		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	07-Feb-2012
Legal Land Location	SE SEC 10 TWP 40 RGE 16 W5M		Data Entry By	Marcia Chavez
Longitude, Latitude	-116:12:58, 52:25:38		Data Entry Date	02-Mar-2012
Road Authority	Alberta Transportation (AIT)		Reviewer Name	John O'Brien
Contract Main. Area	CMA18		Review Date	22-Feb-2012
Clear Roadway/Skew	13.4 / 0 deg.		Dept. Reviewer Name	Andrew Smikles
AADT/Year	840 / 2010 (A)		Dept. Review Date	21-Mar-2012
Road Classification	RAU-213.4-120		Follow-Up By	
Detour Length (km)	300			

Bridge Culvert Information								
Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	PI./Slab Thickness	Shape
1	MAIN	2019	2226	SPE	56.1	152X51	3.5	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone	North r/w.		Gas
Power	4 wire O/H South r/w.		Municipal
Others			Problem (Y/N) No
Remarks			

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	Built in-between two curves 1/2 km apart. Hill to NE with limited sight distance. No passing EBL @ pipe.
Vertical Alignment		5	5	
Roadway Width (m)	13.400			
Embankment		4	4	Scour @ D/S into embankment - photo.
Sideslope ( __:1)	3.0			
(Height of Cover(m) : 4)				
Guardrail (Y/N)	No			
<b>Approach Road / Embankment General Rating</b>		<b>5</b>	<b>5</b>	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		N		
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		6	6	Superficial rust.
Heaving (mm)	300			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection (Type : <b>NONE</b> )		N	N	(Scour along bottom of bevel and sides causing piping to ring 4 - photo. 31/May/2007) Not visible due to snow/ice.
(Avg. Rock Size(mm) : )				
Scour/Erosion		N	N	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>3</b>	<b>3</b>	G.R. carried forward from 31May2007.
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2019, Rise (mm): 2226, Type: SPE)				
Barrel Last Accessible Date	07-Feb-2012			
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		5	5	(Water is piping in through first 4 rings. 31May2007).
Measured Rise (mm)	2085			
Measured At Ring No.	5			
Sag (mm)	141			
Percent Sag	6			
Sidewall		3	3	Due to cracked seams.
Measured Span (mm)	2130			
Measured At Ring No.	5			
Deflection (mm)	111			
Percent Deflection	5			
Floor		N	5	Slight abrasion, minor.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		6	6	5th ring separating due to loose bolts but no infiltration.
Separation (mm)	0			
Longitudinal Seams		3	3	R19 & 20 seams not properly nested. Cracks @ 4 o'clock position stable. R5-105mm @ 4 o'clock. R7-110mm @ 10 o'clock. R9-80mm @ 4 o'clock. R13-101mm @ 4 o'clock. Cracks have no growth since 31May2007. Drilled at crack ends.
Total No. of Cracked Rings	4			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	80			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			1N.
Coating		5	5	Minor surface rust & abrasion bottom barrel.
Corrosion By Soil (Y/N)				
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): 2019, Rise (mm): 2226, Type: SPE)				
Fish Passage Adequacy		3	3	1.5m drop @ outlet - photo.
Baffle		X	X	
(Type : )				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
<b>Barrel General Rating</b>		<b>3</b>	<b>3</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		S		
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	Minor superficial rust. 1.4m beveled end exposed and cantilevered over streambed & hanging 1.5m.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1500			
Scour Protection		3	3	
(Type : <b>NONE</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		3	3	10m x 10m x 1.5m scour hole - photo.
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>3</b>	<b>3</b>	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		5	5	Sharp turn U/S into inlet.
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)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>5</b>	<b>5</b>	



Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP	2012	50m3 class II @ D/S.	Defer, replacement programmed	2015			
REMOVE DRIFT ACCUMULATION							
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION	2012	Grout U/S bevel to stop piping 1m3.	Defer, replacement programmed	2015			
OTHER ACTION	2012	10m3 class 1m @ U/S bevel.	Defer, replacement programmed	2015			
OTHER ACTION	2012	Repair embankment @ D/S 30m3 pitrun.	Defer, replacement programmed	2015			
OTHER ACTION							
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OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>33.3/33.3</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>32.5/32.5</b>	Est. Repl. Yr	2020	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Monitor cracks at regular inspection cycle.		Department Comments	Currently programmed to be replaced in 2015.			
Maintenance Reviewed By	Andrew Smikles		Date	31-Oct-2012	Estimated Total	0	
Proposed Long-Term Strategy	Culvert should be good at least until 2020. RS						
On 3-Year Program (Y/N)	Y						
Proposed Action	Drill 10mm hole at the end crack to stop propagation. Continue to montior cracks on regular BIM cycle. CB						
Previous Inspector's Name	Owen Salava		Previous Assistant's Name				
Next Inspection Date	07-Nov-2013		Previous Inspection Date	04-May-2010			
Inspection Cycle (Default) (months)	21						

Comment	
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