

Bridge Culvert Inspection			
Bridge File Number	73493 -1 Bridge Culvert	Form Type	CULM
Year Built	1962	Lot No.	4
Bridge or Town Name	NORDEGG	Inspector Name	Owen Salava
Located Over	BIGHORN RIVER, 6.172, WATERCRS-ST	Inspector Class	BR CLS A
Located On	11:04 C1 27.723	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	07-Feb-2012
Legal Land Location	NW SEC 19 TWP 39 RGE 16 W5M	Data Entry By	Marcia Chavez
Longitude, Latitude	-116:18:05, 52:22:13	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	13.7 / 0 deg.	Dept. Reviewer Name	Andrew Smikles
AADT/Year	840 / 2010 (A)	Dept. Review Date	09-Mar-2012
Road Classification	RAU-213.4-120	Follow-Up By	
Detour Length (km)	300		

Bridge Culvert Information								
Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	6100	SP	83.5	152X51	6.2	ROUND
2	MAIN	-	6100	SP	83.5	152X51	6.2	ROUND
Special Features		FLOOR ABR PLATES, SHOTCRETE BEAM						
Special Features Comment		Concrete seam repair in pipe.						

Utilities (Located at)			
Utility Attachments			
Telephone	West r/w.	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	In middle of "S" curve. Intersection 80m SE. Limited sight distance. No passing.
Vertical Alignment		5	5	
Roadway Width (m)	13.700			
Embankment		5	5	W slope.
Sideslope (__:1)	1.0			
(Height of Cover(m) : 8)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		5	5	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		W		North culvert.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	
Collar		6	6	Crack near bevel end.
Wingwalls		X	X	
(Shape :)				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Cutoff Wall		N	N	Buried.
Bevel End		5	5	Superficial rust at normal flow height.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	900			
Scour Protection		7	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 800)				
Scour/Erosion		7	N	
Beavers (Y/N)	No			
Upstream End General Rating		5	5	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 6100, Type: SP)				
Barrel Last Accessible Date	07-Feb-2012			
Special Features				
Special Feature		6	6	
(Type : FLOOR ABR PLATES)				
Special Feature				
(Type :)				
Roof		6	6	(At 2/3 L 5832 to top of fish baffle. 04May2010). Unable to measure due to ice.
Measured Rise (mm)	5832			
Measured At Ring No.				
Sag (mm)	0			
Percent Sag	0			
Sidewall		6	6	Not measured. Unable to access 1/2 height.
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		6	N	(Galvanize missing on bottom plates due to abrasion. 04May2010). Ice covered.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		6	6	Missing bolts at 3 plate overlap.
Separation (mm)	0			
Longitudinal Seams		6	6	Double crest bolts throughout. 1N
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		6	6	Superficial rust.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 6100, Type: SP)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		6	6	
Baffle		6	N	(Superficial rust - photo. 04May2010). Ice covered.
(Type : WEIR)				
Waterway Adequacy		8	7	(Floor covered with cobbles. 04May2010). Ice covered.
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
Barrel General Rating		6	6	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		E		North culvert.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	
Collar		6	6	
Wingwalls (Shape :)		X	X	
Cutoff Wall		N	N	Buried.
Bevel End		5	5	Superficial rust at flow line from abrasion.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	800			
Scour Protection (Type : RIP RAP) (Avg. Rock Size(mm) : 800)		5	5	Snow covered.
Scour/Erosion		5	N	Large erosion pool, (approx 2m deep, estimate - photos. 04May2010).
Beavers (Y/N)	No			
Downstream End General Rating		5	5	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		W		South culvert.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	
Collar		7	7	Minor cracking.
Wingwalls (Shape :)		X	X	
Cutoff Wall		N	N	Buried.

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Bevel End		6	6	Superficial rust at flow line. (Some bolts missing in longitudinal seams near the invert. 04May2010).
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		7	N	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 800)				
Scour/Erosion		7	N	
Beavers (Y/N)	No			
Upstream End General Rating		6	6	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 6100, Type: SP)				
Barrel Last Accessible Date	07-Feb-2012			
Special Features				
Special Feature		6	6	4 beams: 3 South wall, 1 North.
(Type : SHOTCRETE BEAM)				
Special Feature				
(Type :)				
Roof		6	6	6009 to gravel bottom @ 2/3 L. Estimate.
Measured Rise (mm)	6009			
Measured At Ring No.				
Sag (mm)	0			
Percent Sag	0			
Sidewall		6	6	Unable to measure, too high.
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		6	N	(Galvanize missing on bottom plates due to abrasion. 04May2010) - Ice covered. Abrasion gouges @ 5 & 7 o'clock along length - photo.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		6	6	Missing bolts at 3 plate overlap.
Separation (mm)	0			
Longitudinal Seams		6	6	Double crest bolts throughout. 1N
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		6	6	Superficial rust.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 6100, Type: SP)				
Ponding (Y/N)	No			
Fish Passage Adequacy		6	6	High velocities.
Baffle		X	X	
(Type :)				
Waterway Adequacy		8	8	
Icing (Y/N)	Yes			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
Barrel General Rating		6	6	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		E		South culvert.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	
Collar		6	6	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	
Bevel End		5	5	Some minor abrasion.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1000			
Scour Protection		5	5	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 800)				
Scour/Erosion		5	N	(Large scour pool at outlet - photo. Approx 1.5m deep, estimate. 04May2010) - Snow covered.
Beavers (Y/N)	No			
Downstream End General Rating		5	5	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		5	5	Flow hitting between pipes - photo.
Bank Stability		7	7	Vertical rock faces U/S and D/S.
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			Some large debris in channel.
Channel Bottom Degrading/Aggrading	DEGRADING			
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							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	66.7/66.7	Sufficiency Rating (Last/Now) (%)	67.2/63.7	Est. Repl. Yr	2030	Maint. Req. (Y/N)	No
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	Owen Salava		Previous Assistant's Name				
Next Inspection Date	07-Nov-2013		Previous Inspection Date	04-May-2010			
Inspection Cycle (Default) (months)	21						
Comment							