

Bridge Culvert Inspection			
Bridge File Number	13694 -2 Bridge Culvert	Form Type	CULM
Year Built	2001	Lot No.	4
Bridge or Town Name	LUNDBRECK	Inspector Name	Garry Roberts
Located Over	COW CREEK, 2.12.37.3.1, WATERCRS-ST	Inspector Class	BR CLS A
Located On	22:06 C1 11.646	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	16-Jun-2012
Legal Land Location	SW SEC 35 TWP 8 RGE 2 W5M	Data Entry By	Erin Roberts
Longitude, Latitude	-114:10:54, 49:41:29	Data Entry Date	16-Jul-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Joel Wozney
Contract Main. Area	CMA26	Review Date	27-Jun-2012
Clear Roadway/Skew	13.7 / -30 deg. (LHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	2,360 / 2011 (A)	Dept. Review Date	17-Jul-2012
Road Classification	RAU-211.8-110	Follow-Up By	
Detour Length (km)	10		

**Bridge Culvert Information**

Number of Culverts	3							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	5400	3000	SCA	19.6	400X150	5.0	ARCH
2	MAIN	-	3300	MPB	19.6	125X26	2.8	ROUND
3	MAIN	-	3300	MPB	19.6	125X26	2.8	ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments	TELEPHONE UTILITIES-PHONE LINE; POWER UTILITIES-POWER LINE		
Telephone	East r/w, fibre optic East r/w.	Gas	West Row
Power	1 wire 20m West, 1 wire 20m North & 2 wire 100m East.	Municipal	
Others		Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

	Last	Now	Explanation of Condition
Horizontal Alignment	8	8	Road access @ SW - farm access @ NE.
Vertical Alignment	8	8	
Roadway Width (m)	11.300		
Embankment	7	7	
Sideslope (__:1)	3.0		
(Height of Cover(m) : 1.2)			
Guardrail (Y/N)	Yes		Attached to bridge & @ standard. Double layer flexbeam on bridge.
<b>Approach Road / Embankment General Rating</b>	<b>8</b>	<b>8</b>	

**Upstream End**

Culvert Component	Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)			
Direction	W		West end center span.
End Treatment (Concrete, Steel, Others, None)	CONCRETE		
Headwall	6	6	Wide crack - 4mm wide
Collar	X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Wingwalls		7	7	Gabions.
(Shape : )				
Cutoff Wall		N	N	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1500			
Scour Protection		7	7	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>350</b> )				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>6</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 5400, Rise (mm): 3000, Type: SCA)</b>				
Barrel Last Accessible Date	16-Jun-2012			Center span
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		8	8	Some efflorescent staining @ bolt holes in roof.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		8	8	
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		N	N	Rock within 1800mm of roof
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		8	8	
Separation (mm)	20			
Longitudinal Seams		8	8	Vertical gap.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	Yes			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 5400, Rise (mm): 3000, Type: SCA)</b>				
Coating		7	7	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		N	N	(Old rock baffles buried in rock.)
(Type : )				
Waterway Adequacy		6	6	Rock to 1800mm from roof. Large drift accumulation at D/S
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
<b>Barrel General Rating</b>		<b>8</b>	<b>8</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Direction		E		East end centre span.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	Medium crack with leaching. Hairline cracking with leaching.
Collar		X	X	
Wingwalls		7	7	Gabions.
(Shape : )				
Cutoff Wall		N	N	Buried
Bevel End		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1500			
Scour Protection		8	8	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>300</b> )				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>7</b>	<b>7</b>	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Direction		W		West end South span.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	Wide crack with leaching. Narrow-medium cracks, some with leaching.
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Wingwalls		7	7	Gabions.
(Shape : )				
Cutoff Wall		N	N	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		8	8	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>350</b> )				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>7</b>	<b>7</b>	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3300, Type: MPB)</b>				
Barrel Last Accessible Date	16-Jun-2012			South span
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		8	8	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		8	8	
Measured Span (mm)	3355			
Measured At Ring No.	2			
Deflection (mm)	55			
Percent Deflection	1			
Floor		N	N	500mm rock
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		8	8	Foam filled.
Separation (mm)	60			
Longitudinal Seams		X	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3300, Type: MPB)				
Coating		7	7	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type : )				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>8</b>	<b>8</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		E		East end South span
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		8	8	
Collar		X	X	
Wingwalls		7	7	Gabions
(Shape : )				
Cutoff Wall		N	N	
Bevel End		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		8	8	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>7</b>	<b>7</b>	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Span Type: Secondary Span)				
Direction		W		West End North Pipe
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	Medium width crack
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 3, Span Type: Secondary Span)</b>				
Wingwalls		7	7	Gabions
(Shape : )				
Cutoff Wall		N	N	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		8	8	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>350</b> )				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>7</b>	<b>7</b>	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3300, Type: MPB)</b>				
Barrel Last Accessible Date	16-Jun-2012			North Pipe Handles low flows
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		8	8	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		8	8	
Measured Span (mm)	3345			
Measured At Ring No.	2			
Deflection (mm)	45			
Percent Deflection	1			
Floor		8	8	50% visible. U/S end rock covered.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		8	8	
Separation (mm)	25			
Longitudinal Seams		X	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3300, Type: MPB)</b>				
Coating		7	7	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
<b>(Type : )</b>				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>8</b>	<b>8</b>	

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 3, Span Type: Secondary Span)</b>				
Direction		E		East End North Pipe
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	wide crack
Collar		X	X	
Wingwalls		7	7	Gabions
<b>(Shape : )</b>				
Cutoff Wall		N	N	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		8	8	
<b>(Type : RIP RAP)</b>				
<b>(Avg. Rock Size(mm) : 300)</b>				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>7</b>	<b>7</b>	

Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		5	5	90 deg curves D/S
Bank Stability		6	6	
HWM (m below Top of Culvert)				NO HWM VISIBLE
Drift (Y/N)	Yes			

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	AGGRADING			
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							
REMOVE DRIFT ACCUMULATION							
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>88.9/88.9</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>74.1/74.1</b>	Est. Repl. Yr	2063	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	Garry Roberts		Previous Assistant's Name				
Next Inspection Date	16-Mar-2014		Previous Inspection Date	07-Oct-2010			
Inspection Cycle (Default) (months)	21						
Comment							