Bridge Culvert Inspection

Bridge File Number	74864 -1 Bridge Culvert	Form Type	CUL1
Year Built	1958	Lot No.	3
Bridge or Town Name	CARBON	Inspector Name	Owen Salava
Located Over	TRIBUTARY TO KNEEHILLS CREEK, 3.46.11, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	21:14 C1 7.875	Assistant Class	
Water Body Cl./Year		Inspection Date	17-Sep-2012
Navigabil. Cl./Year		Data Entry By	Marcia Chavez
Legal Land Location	NW SEC 6 TWP 29 RGE 23 W4M	Data Entry Date	03-Oct-2012
Longitude, Latitude	-113:14:09, 51:27:27	Reviewer Name	John O'Brien
Road Authority	Alberta Transportation (AIT)	Review Date	27-Sep-2012
Contract Main. Area	CMA20	Dept. Reviewer Name	Andrew Smikles
Clear Roadway/Skew	11.1 /	Dept. Review Date	16-Oct-2012
AADT/Year	1,840 / 2011 (A)	Follow-Up By	
Road Classification	RAU-211.8-110		
Detour Length (km)	6		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2314	2552	SPE	39	152X51		ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone		Gas	
Power	3 wires East r/w 30 m from c/l.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	Approaches 60m North, both sides. Hills both sides - limited sight distance. No passing SBL.
Vertical Alignment		6	6	
Roadway Width (m)	11.100			
Embankment		7	7	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2.1**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		E		
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	
Heaving (mm)	50			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		4	4	Some 250 mm rock at sides - most eroded away leaving insufficient size and quantity pit run at SB and sides.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		4	4	1m of undermining under bevel.
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): 2314, Rise (mm): 2552, Type: SPE**)				
Barrel Last Accessible Date	17-Sep-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		6	6	Numerous dents with corrosion from construction.
Measured Rise (mm)	2630			
Measured At Ring No.	9			
Sag (mm)	78			3.5%
Percent Sag	3			
Sidewall		6	6	Numerous rock dents in upper sidewall from construction. 1 small rip @ ring 8, North side - minor corrosion @ dents.
Measured Span (mm)	2400			
Measured At Ring No.	8			3.6%
Deflection (mm)	86			
Percent Deflection	4			
Floor		N	6	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	7	
Separation (mm)	0			
Longitudinal Seams		7	7	
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			1N Stagger
Longitudinal Stagger (Y/N)	Yes			
Coating		5	5	Superficial corrosion on floor and bevels. Alkalai stains at bolt holes.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2314, Rise (mm): 2552, Type: SPE**)				
Fish Passage Adequacy		5	5	D/S end slightly perched.
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**6**	**6**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		4	4	Rock scoured out at sides of banks, SB and 0.5 m under bevel.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		4	4	6m wide x 20m long x 1m scour. 100mm rock displaced from SB.
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		4	4	Stream aligns at South side of U/S bevel. Bend in channel at D/S end - 20 m West. Steep cut at D/S.
Bank Stability		5	5	Scour 1 m deep at D/S Channel.
HWM (m below Top of Culvert)				Not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**4**	**4**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2012	20m3 class I at ends.				
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) (%)**	**61.9/61.9**	Est. Repl. Yr	2025	Maint. Reqd. (Y/N)	Yes

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	Dave Lam	Previous Assistant's Name			
Next Inspection Date	17-Jun-2014	Previous Inspection Date	11-Nov-2010		
Inspection Cycle (Default) (months)	21				
Comment					