Bridge Culvert Inspection

Bridge File Number	76367 -1 Bridge Culvert	Form Type	CUL1
Year Built	1967	Lot No.	2
Bridge or Town Name	NORDEGG	Inspector Name	Owen Salava
Located Over	TRIBUTARY TO NORTH SASKATCHEWAN RIVER, 6.177.1, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	11:04 C1 9.172	Assistant Class	
Water Body Cl./Year		Inspection Date	07-Feb-2012
Navigabil. Cl./Year		Data Entry By	Marcia Chavez
Legal Land Location	NE SEC 1 TWP 38 RGE 18 W5M	Data Entry Date	06-Mar-2012
Longitude, Latitude	-116:26:23, 52:14:37	Reviewer Name	John O'Brien
Road Authority	Alberta Transportation (AIT)	Review Date	22-Feb-2012
Contract Main. Area	CMA18	Dept. Reviewer Name	Andrew Smikles
Clear Roadway/Skew	13.3 / 30 deg. (RHF)	Dept. Review Date	09-Mar-2012
AADT/Year	840 / 2010 (A)	Follow-Up By	
Road Classification	RAU-213.4-120		
Detour Length (km)	300		

Bridge Culvert Information

Number of Culverts	1

Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2489	1752	RP	54.3	152X51	3.5	PIPE ARCH

Special Features	CONC FLOOR
Special Features Comment	

Utilities (Located at)

Utility Attachments			
Telephone	East r/w.	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	In-between two curves limiting sight distance.
Vertical Alignment		7	7	
Roadway Width (m)	13.300			
Embankment		7	7	
Sideslope (__:1)	2.5			
(Height of Cover(m) : **4**)				
Guardrail (Y/N)	Yes			South side only.
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	
Collar		7	7	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		7	7	Minor superficial rust.
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		4	4	(Concrete being undermined & wide 10mm cracks. 05May2010).
(Type : **CONCRETE**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		4	4	
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): 2489, Rise (mm): 1752, Type: RP**)				
Barrel Last Accessible Date	07-Feb-2012			
Special Features				
Special Feature		3	3	Sections of concrete floor missing.
(Type : **CONC FLOOR**)				
Special Feature				
(Type :)				
Roof		7	7	
Measured Rise (mm)	1735			
Measured At Ring No.	4			
Sag (mm)	17			
Percent Sag	0			
Sidewall		7	7	Damage to corrugation, minor abrasion. Superficial rust.
Measured Span (mm)	2510			
Measured At Ring No.	4			
Deflection (mm)	21			
Percent Deflection	0			
Floor		5	5	Approx 60% of concrete floor gone exposing culvert floor, surface corrosion.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		7	7	
Separation (mm)	0			
Longitudinal Seams		7	7	
Total No. of Cracked Rings	0			Stagger 1N roof & upper walls only.
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		6	6	Superficial rust.
Corrosion By Soil (Y/N)	No			
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): 2489, Rise (mm): 1752, Type: RP**)				
Fish Passage Adequacy		3	3	Very steep with large turbulance weirs; perched.
Baffle		7	7	H-pile installed across bottom @ 2.5m intervals. Does not protect floor, spaced too far apart - photo.
(Type : **WEIR**)				
Waterway Adequacy		5	5	Built up behind HP baffles.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		**7**	**7**	

Downstream 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	
Bevel End		5	5	Minor superficial rust, minor damage from abrasion.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1500			
Scour Protection		3	3	Bed is degrading taking away streambed at outlet. 2.0m x 4m x 5m scour hole - photo.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		3	3	
Beavers (Y/N)	No			
Downstream End General Rating		**3**	**3**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		5	5	Some vertical banks D/S of culvert.
HWM (m below Top of Culvert)				HWM not visible. Small drift 100mm diameter.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**7**	**7**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2012	Class 3, 30m3 @ D/S.				
REMOVE DRIFT ACCUMULATION						
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2012	Replace concrete floor.				
OTHER ACTION	2012	Repair concrete slope protection @ U/S, 5m3.				
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**77.8/77.8**	**Sufficiency Rating (Last/Now) (%)**	**53.1/53.1**	Est. Repl. Yr	2030	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	Owen Salava	Previous Assistant's Name	
Next Inspection Date	07-Nov-2013	Previous Inspection Date	05-May-2010
Inspection Cycle (Default) (months)	21		
Comment			

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2012	Class 3, 30m3 @ D/S.	Programmed and completed	2012		
REMOVE DRIFT ACCUMULATION						
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2012	Replace concrete floor.	Programmed and completed	2012		
OTHER ACTION	2012	Repair concrete slope protection @ U/S, 5m3.	Programmed and completed	2012		
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**77.8/77.8**	**Sufficiency Rating (Last/Now) (%)**	**53.1/53.1**	Est. Repl. Yr	2030	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection		Department Comments	DA

Maintenance Reviewed By	Darron Ahlstedt	Date	05-Nov-2012	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	05-May-2010
Inspection Cycle (Default) (months)	21		
Comment			