Bridge Culvert Inspection

Bridge File Number	84567 -1 Bridge Culvert	Form Type	CUL1
Year Built	1990	Lot No.	2
Bridge or Town Name	WATERCOURSE CULVERT ON PROVINCIAL HIGHWAY 2 NEAR CALGARY	Inspector Name	Garry Roberts
		Inspector Class	BR CLS A
Located Over	NOSE CREEK, 2.13.32, WATERCRS-ST	Assistant Name	
Located On	2:15 L1 39.870;2:15 R1 39.773	Assistant Class	
Water Body Cl./Year		Inspection Date	15-Jan-2013
Navigabil. Cl./Year		Data Entry By	Kelsey Roberts
Legal Land Location	NW SEC 2 TWP 25 RGE 1 W5M	Data Entry Date	02-Feb-2013
Longitude, Latitude	-114:02:46, 51:06:15	Reviewer Name	Tom Carey
Road Authority	Alberta Transportation (AIT)	Review Date	22-Jan-2013
Contract Main. Area	DEERFOOT/STONEY	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	22 /	Dept. Review Date	04-Feb-2013
AADT/Year	138,280 / 2011 (A)	Follow-Up By	
Road Classification	RFD-616.6-130		
Detour Length (km)	1		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2440	3353	BP	100			SQUARE
Special Features		STORM WATER DRAIN						
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	In area	Gas	
Power	In area	Municipal	
Others	Street Lights	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment			7	Located in gentle curve approx 800m South of Beddington and 100m North of sign bridge 77199 ZS1
Vertical Alignment			8	
Roadway Width (m)	22.000			
Embankment			8	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2.3**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating			**7**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		East end not visible. Suspect pipe connects underground to storm water drain.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall			X	
Collar			X	
Wingwalls			X	
(Shape :)				
Cutoff Wall			X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End			X	
Heaving (mm)				
Invert Above/Below Stream Bed				
Above/Below (mm)				
Scour Protection			8	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion			8	
Beavers (Y/N)				
Upstream End General Rating			**8**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2440, Rise (mm): 3353, Type: BP**)				
Barrel Last Accessible Date	15-Jan-2013			
Special Features				
Special Feature			7	Median drain and ladder and 900 dia. storm drain at South side. East ditch drain and ladder and 1500 dia. storm drain at North side-both with spalling.
(Type : **STORM WATER DRAIN**)				
Special Feature			4	
(Type : **STORM WATER DRAIN**)				
Roof			4	Minor hairline cracks. 2 full depth patches with form rods protruding down 200mm. Unfilled areas around form. Remainder of roof rates 7.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall			7	2440 throughout 900mm dia. storm drain enters at South sidewall approx. 12m from D/S end.
Measured Span (mm)	2440			
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor			N	Silt and gravel covered
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams			8	Construction joints only.
Separation (mm)	0			
Longitudinal Seams			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)				
Coating			X	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)				
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): 2440, Rise (mm): 3353, Type: BP**)				
Fish Passage Adequacy			7	
Baffle			X	
(Type :)				
Waterway Adequacy			7	Silting to 1.3m.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating			**4**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall			8	
Collar			X	
Wingwalls			X	
(Shape :)				
Cutoff Wall			X	
Bevel End			X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			Est.
Above/Below (mm)	300			
Scour Protection			7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion			7	
Beavers (Y/N)	No			
Downstream End General Rating			**7**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment			6	U/S end connects to storm drain system. D/S empties into Nose Creek.
Bank Stability			7	
HWM (m below Top of Culvert)				No visible HWM
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading				
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating			**6**	

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	2013	Remove forms and hanger rods and patch roof at D/S extension.				
OTHER ACTION	2015	Repair spalls at East ditch drain and storm pipe (approx. 1.5m2)				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**/44.4**	**Sufficiency Rating (Last/Now) (%)**	**/56.9**	Est. Repl. Yr	2080	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		Previous Assistant's Name			
Next Inspection Date	15-Oct-2014	Previous Inspection Date			
Inspection Cycle (Default) (months)	21				
Comment					