

Level 2 Inspection - Concrete Deck							
Bridge File Number	75932 -1 Bridge			Form Type	CDK		
Year Built/Year Supstr	1966/1966			Lot No.			
Bridge or Town Name	COCHRANE			Inspector Name	Jason Saly		
Located Over	1:08 R1 0.001;1:08 L1 0.002			Inspector Class	BR CLS A		
Located On	22:14 L1 40.736;22:14 R1 40.736			Assistant Name			
Water Body Cl./Year				Assistant Class			
Navigabil. Cl./Year				Inspection Date	30-May-2012		
Legal Land Location	SW SEC 35 TWP 24 RGE 4 W5M			Data Entry By	Jason Saly		
Longitude, Latitude	-114:28:01, 51:05:12			Data Entry Date	27-Feb-2013		
Road Authority	Alberta Transportation (AIT)			Reviewer Name	Paul Carter		
Contract Main. Area	CMA28			Review Date	28-Feb-2013		
Clear Roadway/Skew	9.1 /			Dept. Reviewer Name	Tim Davies		
AADT/Year	9,690 / 2011 (A)			Dept. Review Date	25-Mar-2013		
Road Classification	RAU-209-110			Follow-Up By			
Detour Length (km)	9			Visual Inspection?	Y		
				CSE Testing?	Y		
				Chloride Testing?	N		
Allowable Load (t):	Single	CS1 50 GIRDER	Semi	CS2 64 GIRDER	Train	CS3 82 GIRDER	----> On Critical Spans ---->Critical Member
Design Loading:	HS20						----> Primary Span
(Primary Span : RB , Spans: 1,2,3,4 , Lengths(m): 13.4-26.8-26.8-13.4)							
(Total Length : 13.4-26.8-26.8-13.4 = 80.4)							

Concrete Deck Inspection

		Last	Now	Explanation of Condition			
Wearing Surface							
Polymer? (Y/N)			Y				
ACP? (Y/N)			N				
Chip Seal Coat? (Y/N)			Y				
	Type	Year Installed	Avg. Total Thickness (mm)		Area (m²)		
Seal Coat	CONVENTIONAL CHIP SEAL COAT	1994			735.2		
Polymer Rating (% Area)							
	9-7	6/5	4	3	2/1	N/X	
Last							
Now	0	0	0	0	0	100	
ACP Rating (% Area)							
	9-7	6/5	4	3	2/1	N/X	
Last							
Now	0	0	0	0	0	100	
Chip Seal Coat Rating (% Area)							
	9-7	6/5	4	3	2/1	N/X	
Last							
Now	0	90	10	0	0	0	
Polymer Total Debonded /Lost Area (m²)						94	
ACP Total Debonded /Lost Area (m²)						X	
ACP Average Measured Depth (mm)						X	
ACP Crack Frequency (m/m²)						X	
Chip Seal Coat Total Lost Area (m²)						17	
Concrete Overlay							
Overlay? (Y/N)			Y				
(Span Type : RB)							
(Span Numbers : 1, 2, 3, 4)							
(Overlay type : CONCRETE (HIGH DENSITY))							
(Area(m²) : 735.2)							

Gravel along the gutters.

There are transverse cracks reflecting through the chip seal coat. Minor loss of chips along the deck joints.

Concrete Deck Inspection						
	Last	Now	Explanation of Condition			
(Year Installed : 1984)						
(Thickness(mm) : 50)						
(Average Cylinder Strength(Mpa) :)						
Overlay Rating (% Area)						
	9-7	6/5	4	3	2/1	N/X
Last						
Now	0	0	0	0	0	100
Total Crack Length - Medium/Wide (m)						N
Total Scaled Area - Light (m ²)						N
Total Scaled Area -Moderate/Heavy/Severe (m ²)						N
Debonded Area (m ²)						0
Spalled Area (m ²)						N
Patched Area (m ²)						N
Average Measured Cover Depth (mm)						129
Standard Deviation of Measured Cover Depth (mm)						13

Covered by an epoxy overlay and a chip seal coat wearing surface.

Deck				
(Span Type : RB)				
(Span Numbers : 1, 2, 3, 4)				
(Deck Type : CONCRETE (CLASS C))				
(Area(m ²) : 735.2)				
(Year Constructed : 1966)				
(Year Widened :)				
(Thickness(mm) : 150)				
(Average Cylinder Strength(MPa) :)				

	Type	Size	Design Cover (mm)	Spacing (mm)
Long. Reinforcing	REINFORCING STEEL			
Trans. Reinforcing	REINFORCING STEEL			

Deck Top Rating (% Area)						
	9-7	6/5	4	3	2/1	N/X
Last						
Now	0	0	0	0	0	100
Total Crack Length - Medium/Wide (m)						N
Total Scaled Area - Light (m ²)						N
Total Scaled Area - Moderate/Heavy/Severe (m ²)						N
Delaminated Area (m ²)						N
Spalled Area (m ²)						N
Patched Area (m ²)						N
Average Measured Cover Depth (mm)						N
Standard Deviation of Measured Cover Depth (mm)						N

Deck Underside Rating (% Area)						
	9-7	6/5	4	3	2/1	N/X
Last						
Now	0	90	10	0	0	0
Total Stained Area - Moderate (m ²)						10
Total Stained Area - Heavy/Severe (m ²)						0
Total Crack Length - Medium/Wide (m)						150
% of Medium/Wide Cracks Stained						80

There are transverse cracks in the deck underside and many of the cracks are stained. There is staining and scaling along the undersides of the deck and curbs. There is minor spalling along the top flanges. There is spalling in the deck underside at the northwest and southeast corners. Slight sag along the centre span. Minor corrosion along the bottom flanges along with some high load scrapes.

Edge Elements	
Curbs? (Y/N)	Y
Parapets? (Y/N)	N
Medians? (Y/N)	N
Sidewalks? (Y/N)	N

Concrete Deck Inspection												
		Last	Now	Explanation of Condition								
Curbs												
(Type : CONCRETE)												
(Total Length(m) : 160.8)												
(Height(mm) :)												
(Width(mm) :)												
(Average Cylinder Strength(MPa) :)												
Reinforcement Type			Size		Design Cover (mm)			Spacing (mm)				
Curb Rating (% Length)							There is gravel build-up along the tops of the curbs. There are transverse cracks visible.					
	9-7	6/5	4	3	2/1	N/X						
Last												
Now	45	5	0	0	0	50						
Total Crack Length - Medium/Wide (m)										36		
Total Scaled Length - Light (m)										2		
Total Scaled Length - Moderate/Heavy/Severe (m)										0		
Delaminated Length (m)										0		
Spalled Length (m)										0.1		
Patched Length (m)										0		
Average Measured Cover Depth (mm)										119		
Standard Deviation of Measured Cover Depth (mm)										8		
Deck Joints												
(Type : FINGER PLATES)												
(Number of Joints : 2)												
(Expansion / Fixed? : EXPANSION)												
(Location : A1, A2)												
% Inspected					100			The fingers along the joints have a vertical miss-alignment (up to 10mm) and are almost tight together. Joint plumbing is full of debris, water is leaking past onto abutment seats. Water is leaking past curb cover plates.				
% Joints Leaks					100							
% Joint Length Leaks					15							
Superstructure Damage Rating					4							
Substructure Damage Rating					6							
Level 1 Joint Rating					4							
CSE Testing												
Testing Date		30-May-2012			Previous Testing Date		14-Aug-2007					
Weather Information												
Temperature (°C)		13										
Conditions		Sunny										
Equipment Information												
Test Equipment Make and Model		Corexco CDL - 200 EA/512										
Electrical Ground Location and Type		1DJ, South abutment										
Measurement Locations Information												
Origin for Data		south east										
		Number			Length of Each (m)			Length of Last (m)				
X Increments (Length)		66			1.219			1.200				
Y Increments (Width)		9			1.219			1.200				
CSE Results												
Span Numbers		1,2,3,4										
Span Type		RB										
Wearing Surface		CONVENTIONAL CHIP SEAL COAT, CONCRETE (HIGH DENSITY)										
Testing Year	% Deck Area 0 to -0.1 V	% Deck Area < -0.1 to -0.2 V	% Deck Area < -0.2 to -0.3 V	% Deck Area < -0.3 to -0.4 V	% Deck Area < -0.4 V	Avg. Deck Reading (V)	Std. Dev. Deck Reading	Avg. Curb Reading (V)	Std. Dev. Curb Reading			
2012	0.0	5.3	50.5	36.1	8.1	-0.304	0.084	-0.490	0.065			

CSE Testing									
2007	0.0	4.0	44.0	42.0	11.0	-0.322	0.089	-0.494	0.062
2002	0.0	7.0	40.0	43.0	9.0	-0.315	0.088	-0.458	0.070
CSE Prediction Model Optimum 5 year Rehab Start Year			2017						
Comments									

Maintenance Recommendations										
Inspector Recommendations	Year	Inspector Comments			Department Comments			Target Year	Est. Cost	Cat #
SEAL CURBS										
PATCH DECK										
SEAL DECK										
OVERLAY DECK										
REPAIR/REPLACE DECK JOINTS										
WASHING										
OTHER ACTION										
CRACK REPAIRS/TREATMENT										
PATCH CURBS/PARPETS										
OTHER ACTION										
OTHER ACTION										
OTHER ACTION										
Structural Condition Rating (%)	55.6	Sufficiency Rating (%)			55.0			Est Repl Year	2028	
Level 1 Insp Date	13-Feb-2012	Next Level 1 Insp Date			13-Nov-2013		Current Level 1 Insp Cycle (Default) (Months)			21
Special Comments for Next Insp										
Snooper? (Y/N)	No	Lift? (Y/N)	No	Traffic Control? (Y/N)	Yes	Boat? (Y/N)	No	Ladder? (Y/N)	No	
Other Special Requirements Comments										
Previous Level 2 Inspector's Name	Jason Saly			Previous Level 2 Insp Date	14-Aug-2007					
Next Level 2 Insp Date	30-May-2016			Discontinue Level 2 Insp? (Y/N)	No					
Level 2 Insp Previously Completed	12			Level 2 Insp Cycle (Default) (Months)	48					
Detailed Report/Diagram? (Y/N)	Yes									
Level 2 Insp Comments	Steel rail median is in good condition on the bridge, but there are 4 damaged posts at the south approach.									
Next Level 2 Inspection/Test	Concrete Deck Insp? (Y/N)		No	CSE Testing? (Y/N)		No	Chloride Testing? (Y/N)		No	
Department Reviewer Comments										