

	GOVERNMENT OF NEWFOUNDLAND AND LABRADOR Department of Transportation and Infrastructure	BRIDGE INSPECTION REPORT B10072021-10	
Date: 10/5/2021	Inspected By: Mike Button	Category: Office - Bridge Office	
BRIDGE INFORMATION			
Site:	TCH-012 - BLACK BROOK BRIDGE (TCH)		
Route:	1	Overall Length:	27.1 m
Year Built:	1964	Est: No	Overall Width: 17.5 m
Year Last Rehab.:	1992	Est: No	Roadway Width: 16 m
Region:	CENTRAL EAST	Sidewalk Width:	0 m
Jurisdiction:	Provincial	Clearance to R.D. or N.W.L.:	11 m
Type of Structure:	01 - AASH to Girder	Max Depth of N.W.L.:	1 m
Purpose of Structure:	04 - Over Non-Navigable Waters	Spans:	
Type of Handrail:	01 - Aluminum Rail	<u>Span No.:</u>	<u>Length</u>
Roadway Surface:	02 - Asphalt	1	15.2
Alignment Vertical:	01 - Good	2	0
Alignment Horizontal:	01 - Good	3	0
Restrictions:	No	Span No.:	Length
		4	0
		5	0
		6	0
BRIDGE PHOTOS			
			
SUBSTRUCTURE			
Condition:	P3 - Poor	Bearings:	U - Uninspectable
		Bearing Seat:	U - Uninspectable
Comments:	- North abutment west (20% of abutment width) extension in fair condition, F1. Main eastern section (80% of abutment width) has medium horizontal & vertical cracks throughout. Past rehabs placed a superficial patch to seal the cracks but they have re-opened. Bearing seat has mild spalling under three girders on the east side of structure, F1. Abutment face has medium rust staining just under the bearing seat, F1. At roughly the center line of abutment at the rover level, large constructed opening present, at least 2m wide by 2m high. Northeast abutment corner has medium-heavy spalling with heavy efflorescence. - South abutment has medium horizontal & vertical cracks throughout. Past rehabs placed a superficial patch to seal the cracks but they have re-opened, F1. - Southeast corner of abutment is heavily cracked with heavy-severe efflorescence. Many areas about to spall or delaminate, P3. Abutment face has medium rust staining just under the bearing seat, F1. - All abutment bearings and bearing seats too high for inspection. - Northeast retaining structure and its footing has heavy alligator cracking with medium-heavy efflorescence throughout. Top portion of wingwall is totally disintegrated with an area (2.5m wide x 1m high) of vertical and horizontal rebar exposed, P3. - Southeast retaining structure has two large-wide vertical cracks with medium alligator cracking with efflorescence throughout, P3. - Both		

western retaining structures have mild alligator cracking throughout, F1. - Both eastern wingwalls have heavy alligator cracking with efflorescence. Old Construction joint opening up with spalling between the top of wingwall and curb, P3. - Both western wingwalls in fair condition, F1.

SUPERSTRUCTURE

Condition: F1 - Fair **Expansion Joints:** P3 - Poor
Comments: - Girders in fair condition with some leakage/efflorescence coming through the deck and running down the girder sides, indicating some cracking in the deck above. Bottom of deck has localized areas of spalling to exposed reinforcement, F1. - Efflorescence seen under and to the side of the south expansion joint from below. Suspect cracked seals or deteriorated concrete, P3. - Deck soffits have mild rust staining with minor cracking with efflorescence throughout.

DECK

Condition: F1 - Fair **Curbs:** F1 - Fair
Hand Rail: F1 - Fair **Roadway Condition:** F1 - Fair
Approach Rail: F1 - Fair
Comments: - Asphalt and structural handrails in fair condition. - Approach/exit rails in fair condition complete with hazard markers and connected to end blocks. - Curbs have mild alligator cracking throughout, F1.

HYDROLOGY

Water Velocity: 1.0 m/s **Ice Problem:** N - No Problem
Water Depth: Varies m **Scour Problem:** N - No Problem
Waterway: 01 - Adequate **Debris Problem:** N - No Problem
Comments: - Bedrock under north abutment should be monitored. Waterfall slamming into rock eroding rock and making cove like structures. May have been there since bridge was built.

REPLACEMENT/REHABILITATION

Next Rehab. Date: 2025 **Replacement Year:** 2030
Antic. Rehab. Cost: \$100000 **Replacement Cost:** \$2500000
Recommendations: - Superficial rehab only to chip out and repair bad concrete. Abutments and retaining structures need replacement within 5-10 years.

OBSERVATIONS

Overall Condition: P3 - Poor **Requires Further Inspection:** No
Additional Observations: - Abutments and retaining structures, P3. F1 remainder. - Turn off onto route 204 and enter community and drive up Black Brook Drive and park off highway behind guiderail. Go down under structure on southeast corner. - Hazards, steep slopes, cliffs (leading edges, stay back 6 feet) and slippery rocks under structure.

LEGEND:

Condition Definitions:

- 1 - *Good - [discontinued code].
- 2 - *Fair - [discontinued code].
- 3 - *Poor - [discontinued code].
- 4 - *Unsafe - [discontinued code].
- G - Good.

- F2 - Fair.
- F1 - Fair.
- P3 - Poor.
- P1 - Poor.
- P - Poor.

- C - Unsafe (Closed to Public).
- U - Uninspectable.
- I - Inapplicable.

Problem Definitions:

- N - No Problem.
- P - Possible Problem.
- K - Known Problem.
- NA - Not Applicable.

Category Definitions:

- Maint. - Maintenance.
- Eng. - Engineering.
- Office - Bridge Office.

PHOTO GUIDELINES:

Inspection Photos:

- Please provide photos using guidelines below:
- Any item which inspector feels should be documented by photograph
 - All items noted above as being P3, P1, P, or C
 - Any evidence of known ice, scour, debris, waterway problems

INSPECTION PHOTOS