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|---|--|--|------------------------------|
|    | GOVERNMENT OF<br>NEWFOUNDLAND<br>AND LABRADOR<br>Department of Transportation and Infrastructure   | <b>BRIDGE INSPECTION REPORT</b><br><b>B12042023-2</b>                                |                              |
| <b>Date:</b> 11/3/2022  | <b>Inspected By:</b> M Button  | <b>Category:</b> Office - Bridge Office  |                              |
| <b>BRIDGE INFORMATION</b>   |  |  |                              |
| <b>Site:</b>  | 4-109 - LLOYD'S RIVER BRIDGE   |  |                              |
| <b>Route:</b>   |  | <b>Overall Length:</b>   | 103.3 m                      |
| <b>Year Built:</b>  | 1978   | <b>Est: No</b>   | <b>Overall Width:</b> 10.6 m |
| <b>Year Last Rehab.:</b>  |  | <b>Est: No</b>   | <b>Roadway Width:</b> 9.5 m  |
| <b>Region:</b>  | WEST COAST/NORTHERN  | <b>Sidewalk Width:</b>   | 0 m                          |
| <b>Jurisdiction:</b>  | Provincial   | <b>Clearance to R.D. or N.W.L.:</b>  | 3 m                          |
| <b>Type of Structure:</b>   | 08 - Steel Bridge  | <b>Max Depth of N.W.L.:</b>  | 0.7 m                        |
| <b>Purpose of Structure:</b>  | 03 - Over Navigable Waters   | <b>Spans:</b>  |                              |
| <b>Type of Handrail:</b>  | 01 - Aluminum Rail   | <b>Span No.:</b>   | <b>Length</b>                |
| <b>Roadway Surface:</b>   | 01 - Concrete  | 1  | 30.9                         |
| <b>Alignment Vertical:</b>  | 01 - Good  | 2  | 30.9                         |
| <b>Alignment Horizontal:</b>  | 01 - Good  | 3  | 30.9                         |
| <b>Restrictions:</b>  | No   | <b>Span No.:</b>   | <b>Length</b>                |
|   |  | 4  | 0                            |
|   |  | 5  | 0                            |
|   |  | 6  | 0                            |
| <b>BRIDGE PHOTOS</b>  |  |  |                              |
|  |  |  |                              |
| <b>SUBSTRUCTURE</b>   |  |  |                              |
| <b>Condition:</b>   | F1 - Fair  | <b>Bearings:</b>   | F1 - Fair                    |
|   |  | <b>Bearing Seat:</b>   | F1 - Fair                    |
| <b>Comments:</b>  | - Both abutments & sets of wingwalls have light map cracking with isolated areas of rust staining. Bearing seats have light scaling. Bearings in fair condition with light cracking. - Area of deck and ballast wall under expansion joints has rust stains with visible delaminations. - Both piers have light concrete erosion from the waterline progressing up at least 1m.  |  |                              |
| <b>SUPERSTRUCTURE</b>   |  |  |                              |
| <b>Condition:</b>   | P3 - Poor  | <b>Expansion Joints:</b>   | P - Poor                     |
| <b>Comments:</b>  | - Both expansion joints have severe damage and are missing part of the seal strip and armor plating. Concrete end dams have moderate spalling and disintegration with visible asphalt patches, P. - Most deck drains torn off from ice impacts. - Exterior deck soffit has spalls around locations where deck drains were torn off by ice impacts. - Interior deck soffit in good condition. - Area of deck and ballast wall under expansion joints has rust stains with visible delaminations. - A steel girder at the north abutment has rust stratification of the bottom flange. All girders |  |                              |

have formed a patina, F1. - Girder ends and diaphragms under the south abutment have moderate to severe rust formation with some section loss noticeable. - Some diaphragms have rust spalling. Superstructure F1 overall but with many P3 areas.

**DECK**

**Condition:** F1 - Fair **Curbs:** P3 - Poor  
**Hand Rail:** F1 - Fair **Roadway Condition:** P3 - Poor  
**Approach Rail:** P - Poor

**Comments:** - Exposed concrete deck showing signs of wear. Isolated small pot holes throughout. Large pothole on the north end. Construction joint caused by expansion joint elimination over the piers opening and suspected to be leaking onto the piers below. - Structure rail in fair condition with isolated tears likely from snow ploughs. - Curbs have moderate disintegration throughout, especially on their exteriors (fascia of bridge deck) P3. - No end blocks. - Guiderail system has numerous rotten or cracked off posts, with severe damage to flex rail, P. - Asphalt on approaches has moderate to severe cracking with isolated pot holes.

**HYDROLOGY**

**Water Velocity:** 0 m/s **Ice Problem:** K - Known Problem  
**Water Depth:** 0 m **Scour Problem:** P - Possible Problem  
**Waterway:** 02 - InAdequate **Debris Problem:** P - Possible Problem  
**Comments:** - Bridge has insufficient clearance when the river generates ice dams. Most to all deck drains have been torn off.

**REPLACEMENT/REHABILITATION**

**Next Rehab. Date:** 2024 **Replacement Year:** 2045  
**Antic. Rehab. Cost:** \$1,000,000 **Replacement Cost:** \$10,000,000  
**Recommendations:** - Repave approaches. Complete deck repairs. Waterproof and pave the bridge deck. Replace expansion joints, curbs, structure rail and guiderail. Install end blocks and connect to new guiderail. Install new hazard markers. Brush clear approaches. Repair deck soffit concrete around deck drains. Install all new deck drains higher than the steel girders with a proper detail as to not spray steel girders with salt. Complete isolated concrete repairs. Remove sand and debris from the bridge deck and abutment bearing seats. Consider converting to semi-integral

**OBSERVATIONS**

**Overall Condition:** F1 - Fair **Requires Further Inspection:** No  
**Additional Observations:** - Bridge F1 overall with several deficient areas.

**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**