

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                             |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------|-----------------|----------------------------------------------------------------------------------------------------------------|---------------------|------|---|------------------------------------------------------------|---|-----------------|-------------|--|-------------------------|--|
| Bridge No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SQ-3145                                                                     | Road Name         | Ashlu River FSR |                                                                                                                |                     |      |   |                                                            |   | Inspection Date | 2014-08-14  |  |                         |  |
| STA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Forest District                                                             |                   |                 |                                                                                                                |                     |      |   | Access Notes                                               |   |                 |             |  |                         |  |
| 0.0 km                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sea to Sky Natural Resource District                                        |                   |                 |                                                                                                                |                     |      |   | At intersection of Squamish River Road and Ashlu River FSR |   |                 |             |  |                         |  |
| Bridge Length                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Stream Crossing                                                             |                   |                 |                                                                                                                |                     |      |   | Inspected By                                               |   |                 |             |  |                         |  |
| 87 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Squamish River                                                              |                   |                 |                                                                                                                |                     |      |   | M. Hanson / D. Harrison                                    |   |                 |             |  |                         |  |
| UTM Zone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Easting                                                                     |                   |                 |                                                                                                                |                     |      |   | Northing                                                   |   |                 |             |  |                         |  |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 478940                                                                      |                   |                 |                                                                                                                |                     |      |   | 5529153                                                    |   |                 |             |  |                         |  |
| No. Spans                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                             | Installation Date |                 |                                                                                                                | Current Load Rating |      |   | Deck Width                                                 |   |                 | Project No. |  | Anticipated Replacement |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                             | 1981              |                 |                                                                                                                | 68 Tonnes           |      |   | 4250 mm                                                    |   |                 | 2014 2725   |  | 2041                    |  |
| Span / Length (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                                                                           | 8.6               | 2               | 27.0                                                                                                           | 3                   | 34.5 | 4 | 14.2                                                       | 5 |                 | 6           |  | 7                       |  |
| Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4 span bridge (3 steel spans and one log stringer span) with a timber deck. |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
| <p>Excellent: New or almost new condition and properly installed</p> <p>Good: Structurally sound, in good repair and have minimal wear</p> <p>Fair: Structurally sound, but show moderate wear or preliminary indications of rot or corrosion</p> <p>Poor: Structurally unsound, major items in need of repair or replacement, or bridge load rating should be reduced</p> <p><b>Abutment, spans, piers numbered from left bank, facing downstream / girders numbered from upstream to downstream.</b></p> |                                                                             |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
| <b>Approaches</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                             |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Approach Road                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Fair                                                                        |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Alignment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Fair                                                                        |                   |                 | T-intersection at left end approach.                                                                           |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Visibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Poor                                                                        |                   |                 | Limited visibility at both approaches due to grade of approach roads and camber of bridge.                     |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Signage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Poor                                                                        |                   |                 | <p>Bridge ahead signs missing at both approaches.</p> <p>Load posting sign at left approach only.</p>          |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Delineators                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Good                                                                        |                   |                 | Delineators present at all four corners.                                                                       |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Fenders                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Fair                                                                        |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Overall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Poor                                                                        |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
| <b>Deck - Span 1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                             |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Running Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Good                                                                        |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Deck Ties                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Fair                                                                        |                   |                 | Substandard deck tie spacing; varies from 300 to 600 mm. Ties may be moving due to substandard nail spacing.   |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Nails                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fair                                                                        |                   |                 | Timber planks nailed at substandard spacing.                                                                   |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Curb Rails and Risers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Poor                                                                        |                   |                 | <p>Cedar logs as curbs both upstream and downstream.</p> <p>Downstream log is pushed outwards (downstream)</p> |                     |      |   |                                                            |   |                 |             |  |                         |  |
| Overall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Poor                                                                        |                   |                 |                                                                                                                |                     |      |   |                                                            |   |                 |             |  |                         |  |

|                         |         |                                                                                                                                                                                                                                            |                 |                 |            |
|-------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|------------|
| Bridge No.              | SQ-3145 | Road Name                                                                                                                                                                                                                                  | Ashlu River FSR | Inspection Date | 2014-08-14 |
| Deck - Spans 2-4        |         |                                                                                                                                                                                                                                            |                 |                 |            |
| Running Surface         | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Deck Ties               | Fair    | Spans 2 and 4 have creosote treated ties, span 3 ties are CCA treated.                                                                                                                                                                     |                 |                 |            |
| Nails                   | Fair    | Timber planks nailed at substandard spacing, however running deck functional.                                                                                                                                                              |                 |                 |            |
| Deck to Girder Bolts    | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Curb Rails and Risers   | Poor    | All curbs and risers sounded and cored in multiple locations; severe rot and impact damage noted in 4 curb rails (Left end of Span 2 and Right end of Span 4).                                                                             |                 |                 |            |
| Hardware                | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Overall                 | Poor    |                                                                                                                                                                                                                                            |                 |                 |            |
| Superstructure - Span 1 |         |                                                                                                                                                                                                                                            |                 |                 |            |
| Log Stringers           | Fair    | All stringers sounded and cored at ends (cored 1 m from left abutment and at Pier 1). Decay noted in center of stringers 1 and 4, both with at least 300 mm of sound annulus wood remaining.<br><br>Minor sapwood rot noted throughout all |                 |                 |            |
| Overall                 | Fair    |                                                                                                                                                                                                                                            |                 |                 |            |
| Superstructure - Span 2 |         |                                                                                                                                                                                                                                            |                 |                 |            |
| Girders                 | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Bracing                 | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Diaphragms              | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Hardware                | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Overall                 | Good    | All weathering steel in good condition.                                                                                                                                                                                                    |                 |                 |            |
| Superstructure - Span 3 |         |                                                                                                                                                                                                                                            |                 |                 |            |
| Girders                 | Good    | Possible crack in girder 1 at Pier 2 half joint horizontal stiffener, unable to confirm without conducting non-destructive tests.                                                                                                          |                 |                 |            |
| Bracing                 | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Diaphragms              | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Hardware                | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Overall                 | Good    | All weathering steel in good condition.                                                                                                                                                                                                    |                 |                 |            |
| Superstructure - Span 4 |         |                                                                                                                                                                                                                                            |                 |                 |            |
| Girders                 | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Bracing                 | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Diaphragms              | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Hardware                | Good    |                                                                                                                                                                                                                                            |                 |                 |            |
| Overall                 | Good    | All weathering steel in good condition.                                                                                                                                                                                                    |                 |                 |            |

|                      |         |                                                                                                                                                                                                  |                 |                 |            |
|----------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|------------|
| Bridge No.           | SQ-3145 | Road Name                                                                                                                                                                                        | Ashlu River FSR | Inspection Date | 2014-08-14 |
| Abutment - Left      |         |                                                                                                                                                                                                  |                 |                 |            |
| Ballast Wall         | Fair    | Cedar log ballast wall; outer heartwood rot noted throughout.                                                                                                                                    |                 |                 |            |
| Fill                 | Good    |                                                                                                                                                                                                  |                 |                 |            |
| Log/Timber Crib      | Fair    | Cedar logs sounded and cored in multiple locations. Approximately 20 - 30 mm of sapwood rot noted in stretcher logs 2 and 5 (wall is 5 logs tall).<br><br>No visual movement noted in crib wall. |                 |                 |            |
| Riprap               | Fair    |                                                                                                                                                                                                  |                 |                 |            |
| Tiebacks             | Fair    | Centre heartwood rot in majority of cedar log tiebacks; limited decay noted in outer heartwood.                                                                                                  |                 |                 |            |
| Wingwall             | Fair    |                                                                                                                                                                                                  |                 |                 |            |
| Overall              | Fair    |                                                                                                                                                                                                  |                 |                 |            |
| Abutment - Right     |         |                                                                                                                                                                                                  |                 |                 |            |
| Ballast Wall         | Fair    | Cedar log ballast wall; sapwood rot noted throughout.                                                                                                                                            |                 |                 |            |
| Caps or Sills        | Fair    | Painted steel I-girder.                                                                                                                                                                          |                 |                 |            |
| Fill                 | Good    |                                                                                                                                                                                                  |                 |                 |            |
| Piles and Posts      | Good    | Painted steel pipe piles.                                                                                                                                                                        |                 |                 |            |
| Riprap               | Good    |                                                                                                                                                                                                  |                 |                 |            |
| Tiebacks             | Good    | Wire rope tiebacks.                                                                                                                                                                              |                 |                 |            |
| Wingwall             | Fair    | Cedar log wall.                                                                                                                                                                                  |                 |                 |            |
| Overall              | Fair    |                                                                                                                                                                                                  |                 |                 |            |
| Pier - 1             |         |                                                                                                                                                                                                  |                 |                 |            |
| Bearings             | Good    | Minor squeezing on Span 2 upstream bearing.                                                                                                                                                      |                 |                 |            |
| Caps                 | Poor    | Advanced rot noted in Span 1 timber still; minor bulging noted below stringer 1.                                                                                                                 |                 |                 |            |
| Hardware             | Fair    | Loose nut on Span 2 anchor bolt.                                                                                                                                                                 |                 |                 |            |
| Wall                 | Fair    | Cast-in-place concrete wall; sections on right face with exposed aggregate and poor consolidation.<br><br>Unable to inspect pier wall below water line.                                          |                 |                 |            |
| Overall              | Poor    |                                                                                                                                                                                                  |                 |                 |            |
| Pier - 2             |         |                                                                                                                                                                                                  |                 |                 |            |
| Bearings             | Good    |                                                                                                                                                                                                  |                 |                 |            |
| Bracing or Sheathing | Good    |                                                                                                                                                                                                  |                 |                 |            |
| Caps                 | Fair    | Minor delamination on upstream face of concrete cap.<br><br>Debris accumulation and some vegetation growth along top of cap.                                                                     |                 |                 |            |
| Piles/Posts          | Good    | Steel pipe piles - Steel sheathing limited access for inspection.                                                                                                                                |                 |                 |            |
| Overall              | Fair    |                                                                                                                                                                                                  |                 |                 |            |
| Pier - 3             |         |                                                                                                                                                                                                  |                 |                 |            |
| Bearings             | Good    |                                                                                                                                                                                                  |                 |                 |            |
| Bracing or Sheathing | Good    |                                                                                                                                                                                                  |                 |                 |            |
| Caps                 | Fair    | Concrete cap in fair condition; steel cap in good condition.                                                                                                                                     |                 |                 |            |
| Piles/Posts          | Good    | Steel pipe piles - Steel sheathing limited access for inspection.                                                                                                                                |                 |                 |            |
| Overall              | Fair    |                                                                                                                                                                                                  |                 |                 |            |

|                                      |         |           |                      |                 |            |
|--------------------------------------|---------|-----------|----------------------|-----------------|------------|
| Bridge No.                           | SQ-3145 | Road Name | Ashlu River FSR      | Inspection Date | 2014-08-14 |
| <b>Hazards</b>                       |         |           |                      |                 |            |
| High Water                           |         | NO        |                      |                 |            |
| Scour                                |         | NO        |                      |                 |            |
| Ice                                  |         | NO        |                      |                 |            |
| Debris                               |         | YES       | Debris jam at piers. |                 |            |
| Aggradation                          |         | NO        |                      |                 |            |
| <b>Channel</b>                       |         |           |                      |                 |            |
| Estimated Present Water Level Depth  |         | 2.5 m     |                      |                 |            |
| Estimated Present Water Level Width  |         | 60 m      |                      |                 |            |
| Estimated High Water Level Clearance |         | 4 m       |                      |                 |            |

| Bridge No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SQ-3145                                                                                          | Road Name | Ashlu River FSR     | Inspection Date | 2014-08-14 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------|---------------------|-----------------|------------|
| <b>Repair Description and Cost Estimate</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                  |           |                     |                 |            |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Description                                                                                      | Priority  | Cost Estimate       |                 |            |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Install load posting sign at right approach.                                                     | High      | \$500.00            |                 |            |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Install bridge ahead signs at both approaches.                                                   | High      | \$500.00            |                 |            |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Reset Span 1 downstream curb log.                                                                | High      | \$1,000.00          |                 |            |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Replace 4 sections of timber curb (see report).                                                  | High      | \$2,500.00          |                 |            |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Perform dye penetrant testing at the location of a possible crack in span 3 girder 1 half joint. | Medium    | \$2,000.00          |                 |            |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Replace log stringer approach span and timber sill.                                              | Medium    | \$90,000.00         |                 |            |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove debris jam from around Piers.                                                             | Medium    | \$5,000.00          |                 |            |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Re-space and re-spike ties at Span 1.                                                            | Low       | \$5,000.00          |                 |            |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Brush around approaches, abutments and under Span 4.                                             | Low       | \$1,000.00          |                 |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                  |           | <b>\$107,500.00</b> |                 |            |
| <p>High: Immediate, non-recurring repair to assure public safety</p> <p>Medium: Ongoing, regular maintenance items to protect capital investment</p> <p>Low: Minor maintenance items or improvements to extend service life</p> <p>The cost estimate for individual maintenance items reflects the cost of materials and labour for completing a task; it does not include any costs associated with mobilization, demobilization, delivery of materials, engineering or contract administration.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                  |           |                     |                 |            |
| <b>Monitoring Items</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                  |           |                     |                 |            |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Description                                                                                      |           |                     |                 |            |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Monitor the half joint details for cracks in future inspections.                                 |           |                     |                 |            |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Monitor condition of Pier 1 timber sill prior to replacement.                                    |           |                     |                 |            |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Monitor condition of left abutment log crib and right abutment log ballast wall.                 |           |                     |                 |            |
| <b>Comments</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                  |           |                     | <b>Seal</b>     |            |
| <p>The bridge is generally in fair condition although we did observe initial signs of decay in Span 1, both abutment log cribs and the pier 1 timber sill. Future inspections should monitor the condition of these timber components and the Ministry should plan to replace the timber sill within a year and should considers replacing the Span 1 stringers.</p> <p>We identified a possible crack in the span 3 girder 1 half joint at pier 2. Poorly detailed half joints have the potential to allow the development of fatigue cracks in the girder, which may lead to fracture of the girder. In this case the half joint has been well detailed and the potential crack is at a location of low stress. We recommend that the half joints are monitored during future inspections and the presence of a crack is confirmed using dye penetrant in the next inspection.</p> <p>Since the scope of work did not include the completion of an underwater inspection of the bridge piers, we were unable to determine the condition of Pier 1 below the waterline. The Ministry should consider completing a bathometric survey to confirm the condition of Pier 1 below the water and identify any possible scour around the base of the pier.</p> <p>The anticipated replacement date is based on the remaining service life of the steel girder superstructure.</p> |                                                                                                  |           |                     |                 |            |

|            |         |           |                 |                 |            |
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| Bridge No. | SQ-3145 | Road Name | Ashlu River FSR | Inspection Date | 2014-08-14 |
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Figure 2: Downstream elevation.



Figure 4: Looking downstream.



Figure 1: Upstream elevation.



Figure 3: Looking upstream.

|            |         |           |                 |                 |            |
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Figure 6: Right end approach.



Figure 8: General deck condition - Note substandard nail spacing.



Figure 5: Left end approach.



Figure 7: Typical approach flare, left end upstream shown.

|            |         |           |                 |                 |            |
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Figure 10: Span 1 downstream curb log - Note gap between log and edge of deck.



Figure 12: Typical underside of deck, Span 2 shown.



Figure 9: Span 1 deck and curb logs.



Figure 11: Typical rot in curb rail - Span 4 upstream right corner shown.

|            |         |           |                 |                 |            |
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Figure 14: Left end abutment.



Figure 16: Outer heartwood rot in right abutment ballast wall.



Figure 13: Typical underside of deck, Span 3 shown.



Figure 15: Right end abutment.

|            |         |           |                 |                 |            |
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Figure 18: Pier 1 right end face - Note debris jam upstream.



Figure 20: Pier 2 right end face - Note debris jam upstream.



Figure 17: Pier 1 left end face.



Figure 19: Pier 2 left end face.

|            |         |           |                 |                 |            |
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Figure 22: Pier 3 left end face,



Figure 24: Pier 1 Span 1 timber sill - Note rot in end of sill.



Figure 21: Pier 3 right end face - Note debris jam upstream.



Figure 23: Right face of Pier 1 concrete wall - Note exposed aggregate and poor consolidation.

|            |         |           |                 |                 |            |
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Figure 26: Pier 2 concrete cap - Note debris and vegetation.



Figure 28: Typical condition of exterior face of steel girders, Span 2 Girder 1 shown.



Figure 25: Debris accumulation on Pier 1.

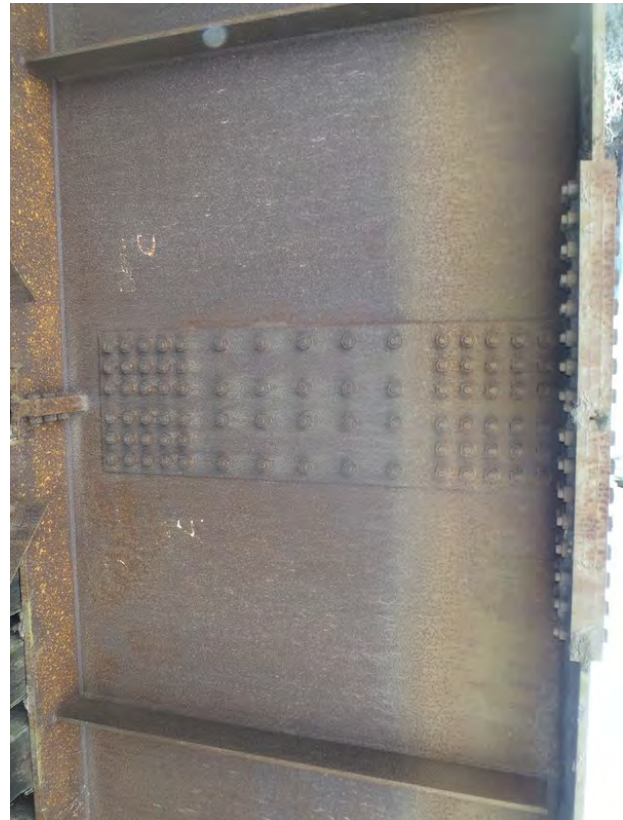


Figure 27: Typical condition of girder splice.

|            |         |           |                 |                 |            |
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Figure 30: Typical bearing condition, Pier 2 Span 3 downstream bearing shown.



Figure 29: Typical condition of interior face of steel girders, Span 2 shown Girder 1 shown.



Figure 31: Debris jam at right end upstream.

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|-----------------------------------|---------|------------------|-----------------|--------------------------------------------------------------------|------------|
|                                   |         |                  |                 |                                                                    |            |
| Location 1<br>(2 m from Pier 1)   | Log #   | Diameter<br>(mm) | Gap<br>(mm)     | Condition                                                          |            |
|                                   | 1       | 750              |                 | Sound                                                              |            |
|                                   |         |                  | 150             |                                                                    |            |
|                                   | 2       | 750              |                 | Sound                                                              |            |
|                                   |         |                  | 100             |                                                                    |            |
|                                   | 3       | 650              |                 | Sound                                                              |            |
| Location 2<br>(1 m from Abutment) |         |                  | 50              |                                                                    |            |
|                                   | 4       | 700              |                 | Outer 300 mm sound, 100 mm of heartwood rot                        |            |
|                                   |         |                  | 100             |                                                                    |            |
|                                   | 5       | 850              |                 | Sound                                                              |            |
|                                   |         |                  |                 |                                                                    |            |
|                                   | 1       | 900              |                 | Outer 250 mm sound, 50 mm of damp wood and 300 mm of heartwood rot |            |
| Location 2<br>(1 m from Abutment) |         |                  | 100             |                                                                    |            |
|                                   | 2       | 700              |                 | Sound                                                              |            |
|                                   |         |                  | 100             |                                                                    |            |
|                                   | 3       | 700              |                 | Outer shell sound, wood becomes powdery towards center             |            |
|                                   |         |                  | 100             |                                                                    |            |
|                                   | 4       | 800              |                 | Outer shell sound, wood becomes pulpy towards center               |            |
| Location 2<br>(1 m from Abutment) |         |                  | 50              |                                                                    |            |
|                                   | 5       | 850              |                 | Sound                                                              |            |
|                                   |         |                  |                 |                                                                    |            |
|                                   |         |                  |                 |                                                                    |            |
|                                   |         |                  |                 |                                                                    |            |
|                                   |         |                  |                 |                                                                    |            |

Sketch 1: Log stringer table