

Spences Bridge

Community Meeting

June 2010



Ministry of
Transportation
and Infrastructure

Agenda:

- Introductions
- Follow-Up to September Meeting
- Buckland & Taylor Inspection
- Findings
- Summary
- Questions

Follow Up To September 23, 2009

Action Items Completed - Hwy 1

Highway 1

- Extended 70km/h Speed Zone



Highway 1

- Installed Tractor Caution Signs



Highway 1 / Highway 8 Junction

- Painted Positive Guidance Line
- Eradicated Old Stop Bar
- Guide Sign Installed



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Follow Up To September 23, 2009

Action Items Completed - Hwy 8

Highway 8

- Installed Larger 50km/h Speed Signs
- Extended 70km/h Zone to East of Curnow Bridge



Highway 8

- Installed Service & Attraction Directional Sign



Highway 8

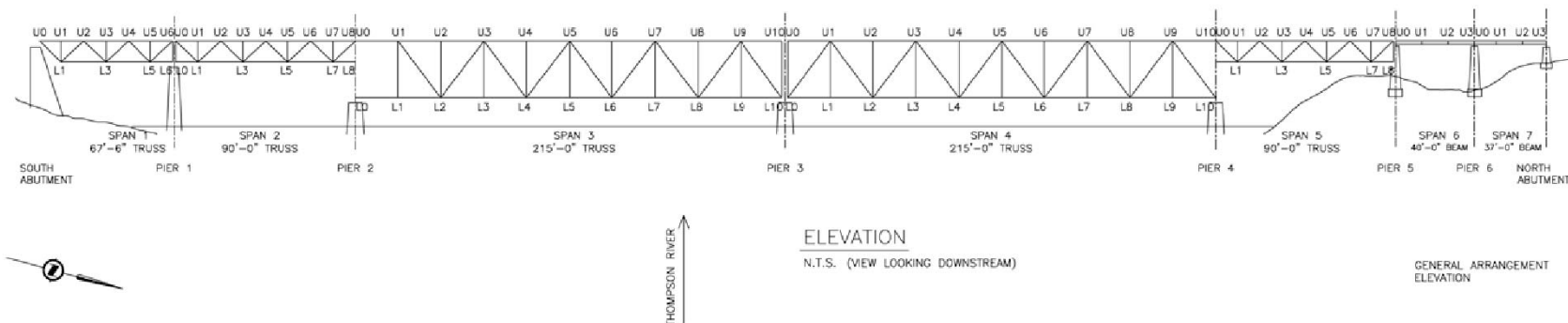
- Cleaned Up Shoulders for Walking



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Old Spences Bridge



Old Spences Bridge Profile Inspection History 1991-2009

Inspections since 1991 = 69

- Maintenance Contractors
- Ministry of Transportation & Infrastructure Staff
- Engineer Inspections
- Buckland & Taylor Ltd. Bridge Engineering



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Old Spences Bridge

Buckland & Taylor Ltd. Bridge Engineering
Detailed Inspection



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Floor Beam Example Photo



Top Tie Plate Example Photo



Stringer Example Photo

Old Spences Bridge



Stringer Example Photo



Bottom Chord Example Photo



Web Example Photo

Old Spences Bridge



Floor Beam Example Photo



Floor Beam Example Photo



Stringer Example Photo

Old Spences Bridge



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Other Examples of Deficiencies



Bearing Corrosion & Corrosion on Jacking Beam



Pier Cap Cracking/Spalling



6mm Wide Crack in Pier

Old Spences Bridge

Summary - Detailed Inspection:

- Overall, bridge in poor condition
- Many areas in very poor condition
- Some of the areas in very poor condition may affect the capacity of the bridge to safely carry vehicular, pedestrian or snow loads.

Old Spences Bridge

Buckland & Taylor Ltd. Bridge Engineering

Load Capacity Evaluation &
Rehabilitation Suggestions



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Buckland & Taylor Was Asked to:

- Assess capacity of the structure.
- Determine rehabilitation required for 5 tonne, 25 tonne & pedestrian only loadings.
- Provide cost estimates.

Buckland & Taylor Provided:

- Additional options ranging from demolition to replacement.

The Results Showed That:

- The bridge cannot carry 25 tonnes.
- The bridge is currently adequate to carry 5 tonnes.
- The bridge is safe for pedestrian use.

Twelve Options Developed in Four Broad Categories:

- Demolish
- Replace
- Rehabilitate
- Pedestrians Only

Buckland & Taylor Ltd. Bridge Engineering Findings:

Option	Project Costs: Rehab/Construction/Mgmt	Maintenance Inspections	Total (2009 dollars)
1. Demolition	N/A	N/A	\$1.5M
2. Repair			
(a) 2 yrs @ limited pedestrian	nil	\$0.15M	\$0.15M
(b) 2 yrs @ 5 tonnes	\$0 (optional barrier repairs \$0.55M)	\$0.15M	\$0.15M
(c) 10 yrs @ limited pedestrian	\$0.18M (pier repairs)	\$0.60M (bi-annual detailed)	\$0.78M
3. Rehabilitation			
(a) 10 yrs @ 5 tonnes	\$1.9M	\$1.35M	\$3.25M
(b) 10 yrs @ 25 tonnes	\$3.29M	\$0.36M	\$3.65M
(c) Multiple options: 25 to 50 yrs @ 5 to 25 tonnes	\$24.6M to \$27.1M	\$0.16M to \$0.36M	\$25.0M to \$27.5M
4. Replacement			
(a) Single lane	\$14.3M	N/A	\$14.3M
(b) Two lane	\$22.7M	N/A	\$22.7M

Pedestrian Considerations:

- Limited number of pedestrians
(50 max allowed on bridge at same time).
- Maintenance constraints.
- Limited life span.

5 Tonne Traffic Considerations:

- Risk of overweight vehicles
- Winter maintenance
- Structural inspection, rate of degradation and resulting capacity
- Railing capacity - reduced speed limit
- Deck capacity & accelerated degradation from traffic
- Reduced life span

Summary:

- Study results have been used to decide if amount of work required to repair the bridge is justified given the current resources and other potential safety and priority projects.

Summary:

- Bridge opens to 5 tonne - June 5th, 2010.
- Complete reassessment in Spring / Summer 2011.
- Results will be used to determine conditions under which the bridge could remain open after Fall 2011.

Questions



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