

Region of Waterloo
Engineering and Environmental Services
Design and Construction

To: Planning and Works Committee
Meeting Date: February 6, 2024
Report Title: Project Approval for the West Montrose Covered Bridge Rehabilitation, Township of Woolwich

1. Recommendation

That the Regional Municipality of Waterloo:

- a) Approve the recommended rehabilitation design concept for the West Montrose Covered Bridge in the Township of Woolwich, as described in Report EES-DCS-24-002, dated February 6, 2024.
- b) Direct staff to file the Notice of Completion for this Class Environmental Assessment Study and to place the Environmental Study Report on the public record for a period of 30 days.
- c) Direct staff to work with the Township of Woolwich for the necessary amendments to the Heritage Designation By-law 60-2007, for Township of Woolwich Council approval.

2. Purpose / Issue:

Seeking Regional Council approval of the recommended rehabilitation design concept for the West Montrose Covered Bridge and to file a notice of study completion.

3. Strategic Plan:

This project supports the Region's Strategic Plan priority area for Climate Aligned Growth and Equitable Opportunities and Services.

4. Report Highlights:

- The preferred rehabilitation alternative includes removal of the existing steel Bailey trusses installed in 1959, replacement of deteriorated wooden truss members and bridge elements, and reinforcing select members to accommodate a 10-tonne design vehicular live load. Photos depicting the preferred rehabilitation alternative can be found in Appendix A.

- The three-tonne load limit will be maintained. To prevent oversized vehicles from accessing and damaging the bridge, an overhead height restriction bar on the north approach and narrowing the road by moving the guiderails closer to each other on the south approach of the bridge is proposed. A concept of this can be found in Appendix B.
- The bridge is designated under Township of Woolwich Heritage Designation By-law 60-2007. Following Regional Council approval of the rehabilitation design concept, an amendment to the By-law will be required for the preferred alternative, to be approved by Township of Woolwich Council.
- Construction is planned to start in Spring 2025 and be complete by Spring 2026.
- This project is funded by the Investing in Canada Infrastructure Program (ICIP) including a 40% contribution from the federal government and a 33.33% contribution from the provincial government. Council approval is necessary to proceed with detailed design and construction in order to meet the timelines outlined in the Transfer Payment Agreement for the ICIP funding.

5. Background:

The West Montrose Covered Bridge must undergo a rehabilitation to ensure safety of the structure and its users. The bridge was built in 1881 and was originally constructed entirely of wood. It is Ontario's last remaining covered bridge and a tourist destination in the Region where visitors come to see, walk across, and photograph this picturesque and unique bridge.

In 1998, the Ministry of Transportation transferred ownership of the bridge to the Region. In 1999, the Region completed major rehabilitation work on the bridge. A Preservation Plan was prepared in 2014 and ongoing structural monitoring and bridge assessments have been undertaken.

A detailed inspection and evaluation of the existing wooden truss was done in 2023 to identify the truss elements that require reinforcement and/or replacement based on condition. Six rehabilitation alternatives were reviewed against a set of evaluation criteria including heritage, structural, social environment and cost criteria to recommend the preferred rehabilitation alternative.

6. Communication and Engagement with Area Municipalities and the Public

Area Municipalities: Township of Woolwich staff were part of the project team that developed the recommended rehabilitation alternative. It is expected that Woolwich Council will approve the necessary amendments to Township of Woolwich By-law 60-2007, as staff have been part of the project team, and the Township's Heritage Committee is supportive of the recommended rehabilitation design concept.

Public: Public consultation included three occasions where project information was posted to the Region's EngageWR website and residents were asked to provide feedback. Letters were delivered to applicable agencies and property owners within the Village of West Montrose at various stages during the study to provide project information and engagement opportunities. Engagement information was also included on signs at the bridge and ads in local newspapers. Letters/emails providing notification of this Committee Report were sent to local residents and stakeholders.

An in-person meeting was held with the BridgeKeepers/West Montrose Residents' Association on October 19, 2023. Members from the National Society for the Preservation of Covered Bridges also attended this meeting and have provided feedback for consideration during the development of the preferred alternative. An in-person public open house was held on November 22, 2023 at the West Montrose United Church and approximately 40 people attended.

In-person meetings and phone conversations were coordinated with area residents and the local Mennonite community. 141 survey responses were received with over 952 visits to the EngageWR website. In general, the public supported the recommended rehabilitation design concept. Responses to public comments are provided in a summary of Frequently Asked Questions on the project EngageWR website. The main comments raised by the public include support for Option 3 for the overhead height restriction bar, and a preference that the height restriction bars be moved as far away from the bridge as possible so the view of the bridge is not impacted. The Project Team has since updated the alternative to narrow the road at the south approach of the bridge to eliminate the need for the height restriction bar on this approach. This updated alternative is shown in Appendix B. After implementation, if narrowing the road on the south approach proves to not be effective or requires ongoing maintenance due to damaged guiderails, an overhead height restriction bar could be installed on the south approach of the bridge at a later time.

A presentation was made to the Township of Woolwich Heritage Committee. The Committee supports the preferred alternative and the necessary amendments to the Township's Heritage Designation By-Law. The Committee is also advocating for a motor vehicle restriction on the bridge. 47% of respondents to the public engagement survey prefer that motorized vehicles continue to be allowed on the bridge, 29% of people are in favour of a motor vehicle restriction, and 24% of respondents did not have a preference. The Project Team is not recommending a restriction of motorized vehicles on the bridge at this time.

7. Financial Implications:

The Region's approved 2024-2033 Transportation Capital Program includes a budget of

\$2,565,000 in 2024 and \$3,090,000 in 2025-2026 for the West Montrose Covered Bridge Rehabilitation (project #07626) to be funded from the Investing in Canada Infrastructure Program (ICIP) (71%, \$4,022,200) and the Transportation Capital Reserve (29%, \$1,632,800).

8. Conclusion / Next Steps:

Subject to Regional Council approval of the recommended design concept, staff will file a Notice of Study Completion on the public record for a 30-day review period. After the review period, staff will start detailed design, and coordinate the required permits, with construction planned from Spring 2025 to Spring 2026.

9. Attachments:

Appendix A: Recommended Rehabilitation Alternative Renderings

Appendix B: South Approach – Oversized Vehicle Restriction Concept

Prepared By: Michelle Pinto, Engineer, Design and Construction

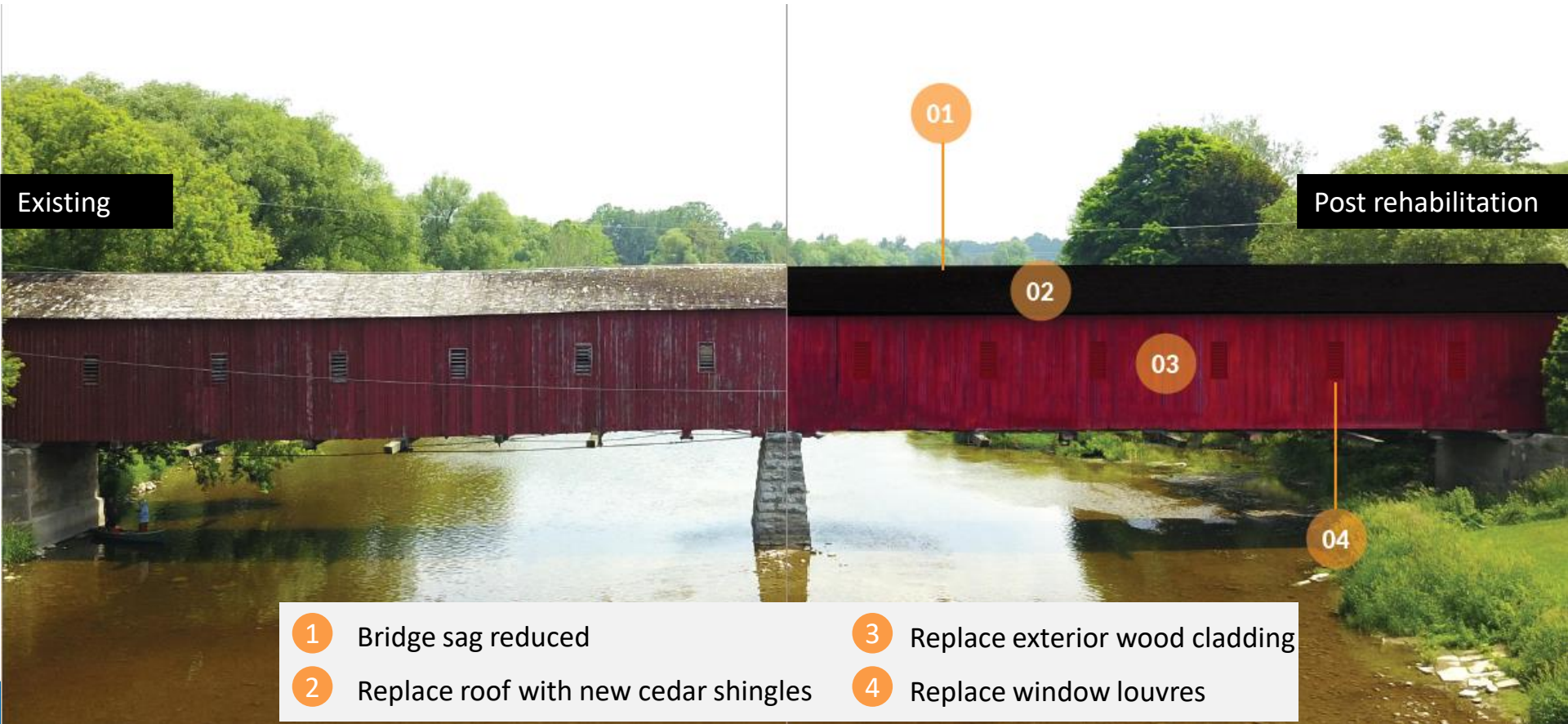
Skylar Van Kruistum, Head, Design and Construction

Reviewed By: Frank Kosa, Director, Design and Construction

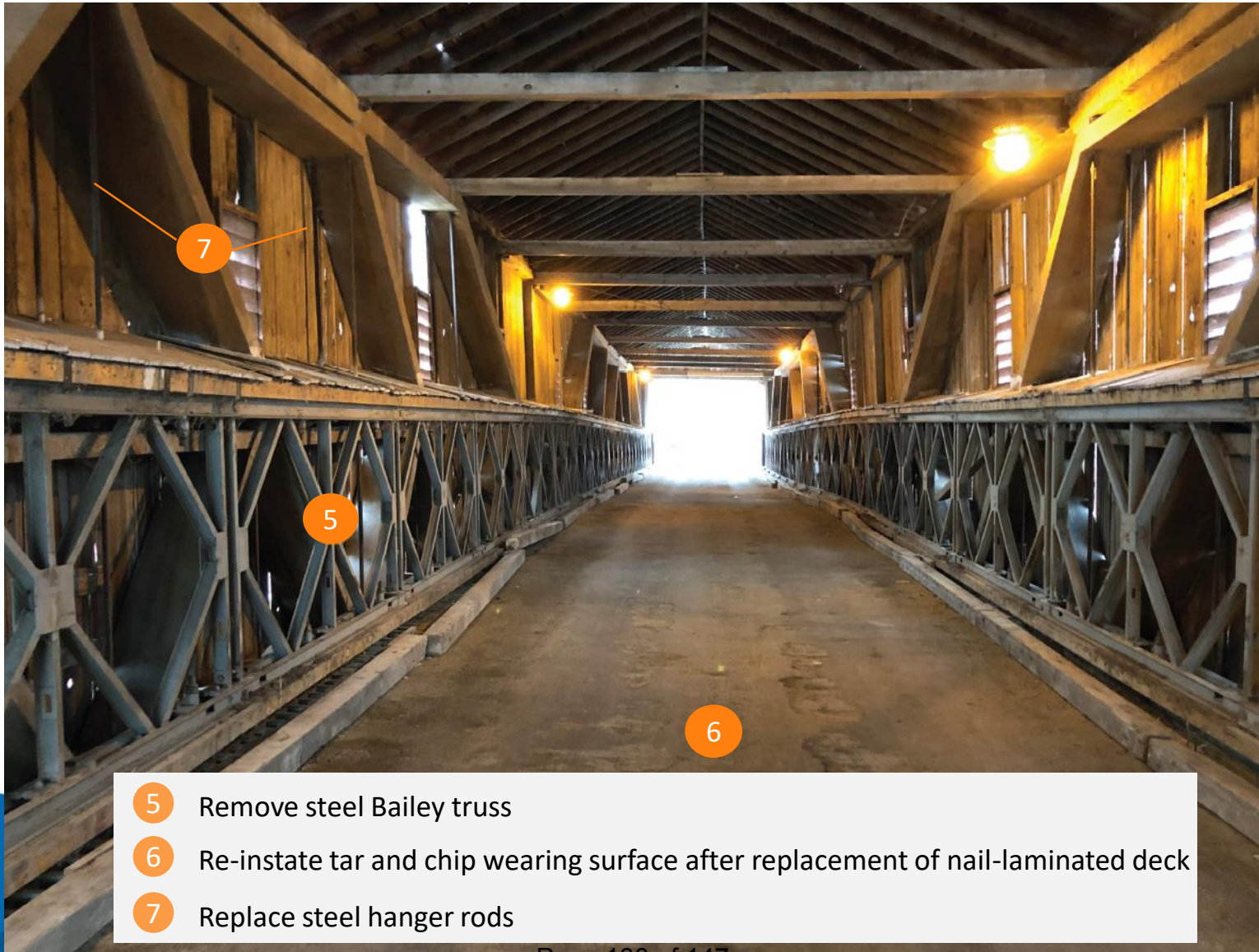
Approved By: Jennifer Rose, Commissioner, Engineering and Environmental Services

Rod Regier, Acting Commissioner, Transportation Services

Recommended Rehabilitation Alternative



Recommended Rehabilitation Alternative



- 5 Remove steel Bailey truss
- 6 Re-instate tar and chip wearing surface after replacement of nail-laminated deck
- 7 Replace steel hanger rods

Recommended Rehabilitation Alternative



8

Replace rafters as necessary

10

Replace wood curbs

9

Replace tie beams as necessary

11

Replace light bulbs as necessary

Recommended Rehabilitation Alternative



- 12 Replace needle beams
- 13 Replace floor beams
- 14 Repairs to center pier
- 15 Replace sway bracing

Recommended Rehabilitation Alternative



16 Replace stringers

17 Replace nail-laminated deck

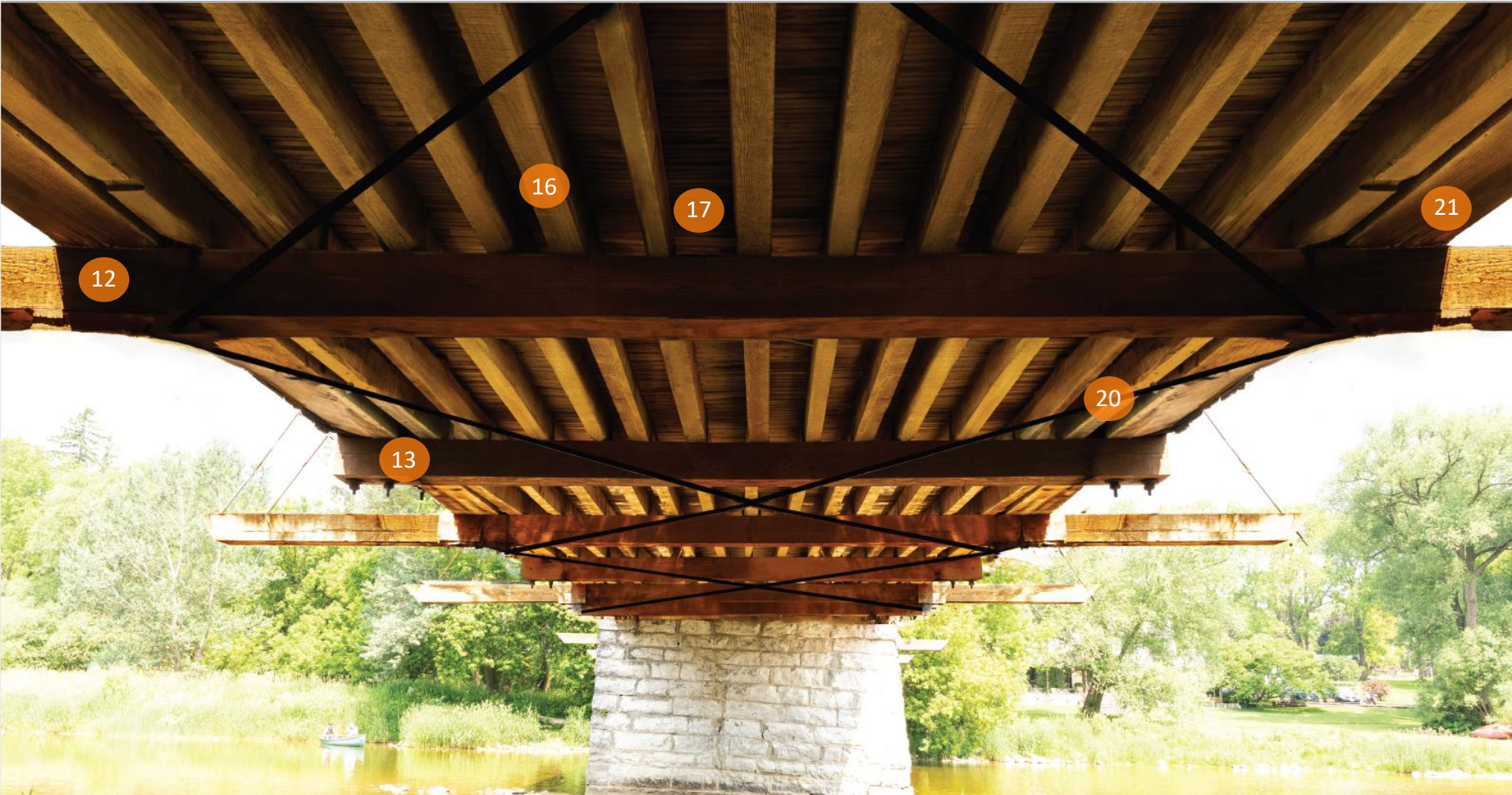
18 Remove Bailey truss hanger system

19 Remove non-functioning tension rods (1959)

20 Replace bottom lateral bracing

21 Replace bottom chords

Recommended Rehabilitation Alternative



12 New Douglas Fir 16"x16" needle beams

13 New Douglas Fir 16"x16" floor beams

16 New sawn wood stringers

17 New nail-laminated wood deck
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20 New steel rod cross-bracing

21 New Douglas Fir bottom chords

Recommended Rehabilitation Alternative

- 22 Concrete repairs to bridge abutments
- 23 Bridge deck elevation and approach grades will remain the same
- 24 Height restriction bar to prevent oversized vehicles from using the bridge
- 25 Fire retardant materials applied to various bridge elements

3 tonne posted load limit to be maintained

	✓ Small Cars, SUVs, Horse & Buggies	1 - 3 tonnes
	✓ ✗ Pick-up Trucks	1.7 – 3.5 tonnes
	✗ EMS Vehicles	4 - 8 tonnes
	✗ School Bus/Small Truck	6 - 12 tonnes
	✗ Large truck	13+ tonnes

Height Restriction Bar - North Approach



*Details to be finalized with the input of an architect

Recommended Rehabilitation Alternative



26 Replace end diagonals at pier and strengthen end diagonals at abutments

27 New overhead wood lateral bracing

28 New timber guiderail

Recommended Rehabilitation Alternative



29

29 Reinforce top chord with lower top chord

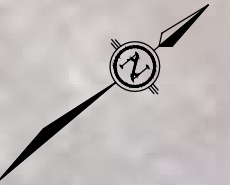
Recommended Rehabilitation Alternative



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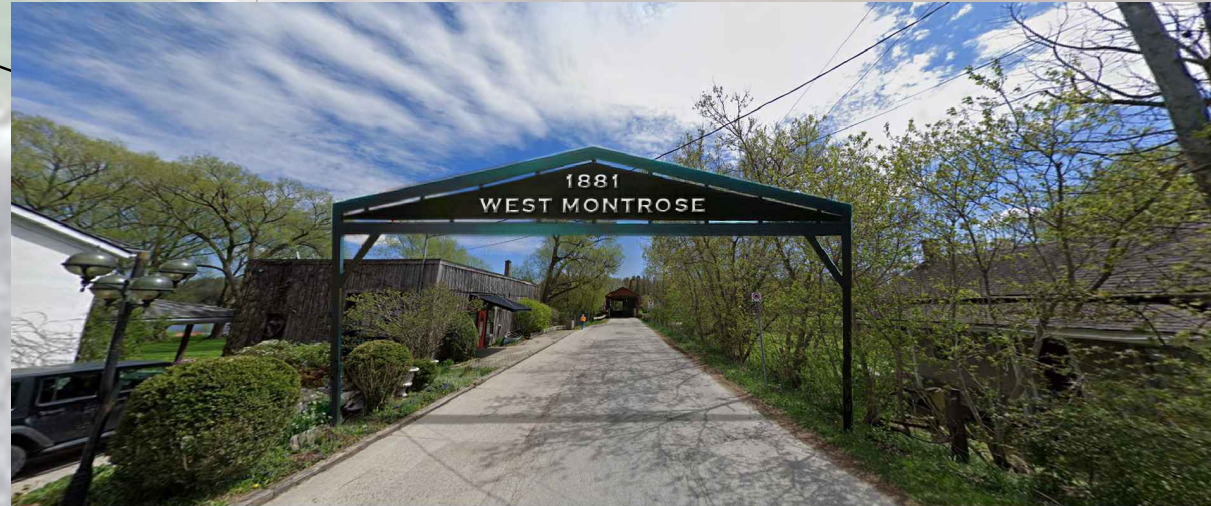
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Reinstate interior cladding in short sections at each end of the bridge



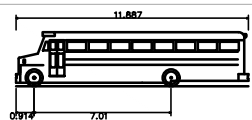
**NO
HEAVY
VEHICLES**
CARS ONLY
BEYOND THIS POINT

COVERED BRIDGE DRIVE



LETSON DRIVE

**School Bus is Unable to Make a
Turn onto the Bridge**



School Bus	
Overall Length	11.887m
Overall Width	2.438m
Overall Body Height	2.762m
Min. Body Ground Clearance	0.178m
Track Width	2.438m
Lock-to-lock time	5.00s
Curb to Curb Turning Radius	11.765m

RIVERS EDGE DRIVE

