



COUNCIL REPORT
Engineering / Public Works
For the October 22, 2019 Council Meeting

DATE: October 15, 2019
TO: Paul Gipps, CAO
FROM: Steven Gubbels, Design and Inspection Technologist
RE: Powers Creek – Gellatly Road Bridge Replacement – Project Update

RECOMMENDED MOTION:

THAT Council direct staff to close Gellatly Road for the duration of the construction phase of the Powers Creek Gellatly Road Bridge Replacement Project.

RATIONALE:

A risk assessment of the impacts of a full road closure of the Gellatly Road Bridge during the bridge replacement project has been completed. This assessment identified several possible options to mitigate the effects of the closure. Upon review of these options, it was determined that the option of a full closure of the road and accepting the slightly increased risk associated with response times is the only feasible option.

BACKGROUND:

At the March 12, 2019 Council meeting, Staff provided Council a project update of the Gellatly Road Bridge Replacement and identified the need to complete a risk assessment of closing the bridge during construction. The risk assessment determined the impact to the emergency response to the affected area and provided options for staff to consider to mitigate the risks. Working with West Kelowna Fire Rescue, the Engineering Department engaged the Fire Underwriters Survey (FUS) to conduct the risk assessment of the road closure and associated detour. The FUS is a national organization that evaluated public fire protection and emergency response for Canadian communities. The FUS provides information to insurers and municipalities on matters relating to fire risk and public fire protection.

The FUS analysis examined the change in fire protection response routing to the Gellatly Road area that would result from the road closure, and reviewed the temporary re-alignment of emergency response services. The purpose of this was to provide a quantification of the risk level and to determine options for managing the change in risk.

The FUS issued a memorandum on June 20, 2019 (see attachment 1) that outlined the four main options to deal with the proposed bridge closure and resulting change to the response times to the area. The four options were:

1. Replace the bridge with a temporary bridge
2. Do not replace the bridge or make other arrangements – accept the increased risk
3. Use alternate private road/bridge access
4. Store fire engine and pumper at the West Kelowna Yacht Club parking lot and have responding firefighters cross the pedestrian bridge to continue their response

Option 1 was discussed at the Council meeting on March 12, 2019. Stantec explored the possibility of a temporary structure to maintain use of the crossing during construction. It was determined that a temporary bridge would be restricted to a single lane and require full time traffic control. A detour bridge located either up or downstream from the existing bridge would introduce private property encroachment issues, could lead to an increase in utilities conflicts, and increase the amount of instream works leading to further environmental impacts and review. In addition, the estimated cost for the temporary bridge was a minimum of \$550,000 to install a temporary structure. The estimated duration of the actual road and bridge closure is approximately three months within the January to May construction window. Therefore, it was determined that a temporary bridge would not be a feasible option. Instead of a significant additional project cost that provides no lasting benefit, Stantec proposed a full shut down of Gellatly Road during the construction project, while minimizing the impacts of the shut down by scheduling the closure during the off-season.

Option 4 was not supported by West Kelowna Fire Rescue due to concerns with the response times, with the risk of vandalism and increased maintenance costs of storing equipment at the Yacht Club, and the fact that this option adds complexity to the WKFR response.

The FUS recommendation in the report was to explore option 3, using the alternate access across a private road and bridge located at 4074 and 4224 Gellatly Road. The requirement for this option was that the City ensure that the private bridge would be accessible and would successfully support the fire apparatus that would use the private detour route.

Engineering staff requested that the consultant on the bridge project, Stantec Consulting Limited, perform a routine condition inspection and load rating on the private bridge. This inspection was completed on August 13th, 2019. The load rating procedure was completed by Stantec based on standard industry codes for bridge evaluation in British Columbia, using the appropriate WKFR design vehicle. After completing their review, Stantec issued a memo (see attachment 2) stating that the structure was inadequate to support the design fire truck, and their recommendation was that WKFR do not use the private detour and bridge as an emergency vehicle response route.

Staff provided this information to FUS for their consideration in the risk assessment. FUS provided Addendum #1 (see attachment 3) that considered that option 3 was not viable based on the Stantec assessment. This addendum also indicated with options 1,3 and 4 considered not viable, option 2 might be preferable to the City. The FUS considers Option 2 reasonable, as response times are not “not severely affected using the detour route”.

Addendum #1 provided an additional 5th option, which was exploring the use of a light attack first response vehicle across the private bridge. This option was discussed with WKFR, and after reviewing their capabilities, they indicated that this option is not supported operationally by the fire department as they do not have the appropriate “light” vehicle for an adequate response.

As the other options have been proven unfeasible, the final FUS recommendation (see attachment 5) is that Option 2 is the preferred option to the community. They also recommend that if the City proceed with this option, all affected property owners should be notified that the

service level in the area will be slightly delayed, and that residents should take due care and attention to mitigate their risk of fire and accidents during the length of the detour. FUS also suggests developing an emergency evacuation plan for the area, and any potential evacuations of the area should consider the amount of increased time to get all residents out along the single route. It is worth noting that construction is due to take place outside of the traditional wildfire season in order to reduce the risk of needing the second evacuation route.

The Municipal Insurance Association of BC (MIA) reviewed the FUS recommendations. MIA indicated that the notification to residents should include a recommendation that property owners contact their insurers to advise them of the temporary increase in fire service response times so that insurers are fully aware of the situation. They also agreed with the FUS recommendation that the evacuation plan for the area should consider the increased time required to get all residents out along a single route. Property owners and members of the community affected by these changes will be notified of the changes to the evacuation plan in the notice letter.

NEXT STEPS:

The Gellatly Road Bridge project is planned to be completed in three stages:

- Stage 1 – Utility Work on East side of Gellatly Road – Fortis gas line relocated to avoid conflict, work completed October 4, 2019.
- Stage 2 – Construction Phase (Bridge Replacement and road approaches) – anticipated to begin in January and be completed by May 2020, proposed full road closure.
- Stage 3 – Area finishing work – in stream works to be completed in August 2020, during the fish window. Does not require full road closure.

Stantec has completed their design and are in the process of preparing the documents for tender. Throughout the design phase of this project, Engineering and Communications staff have been providing updates to businesses and property owners in the area. City of West Kelowna staff will continue with the communication plan to inform affected residents of the remaining stages of the project, and any potential impacts. There is an Open House scheduled for October 30, 2019, where staff will engage with the public to provide information and receive feedback about the project.

Once these steps have been completed the project will be issued for tender with the intent that contractor can be secured to start the next stage of construction in January of 2020.

COUNCIL REPORT/RESOLUTION HISTORY:

Date	Report Topic/Resolution	Resolution No.
March 12, 2019	Powers Creek – Gellatly Road Bridge Replacement- Information Only Council Report	N/A

FINANCIAL IMPLICATIONS:

Council has approved \$2,000,000 for the construction of the bridge in the 2019 Budget. The estimated construction cost for this project based on the Class A estimate completed by Stantec based on the detailed design is \$1,762,692. This cost includes a 10% cost contingency which is typical for the detailed stage of the design.

ALTERNATE MOTIONS(S):

THAT Council direct staff to explore the temporary bridge option. This would significantly increase the cost of the project to the City and delay project timelines.

REVIEWED AND APPROVED BY:

Jason Brolund, Fire Chief
Rob Hillis, Engineering Manager
Allen Fillion, Director of Engineering and Public Works
Tracey Batten, Deputy CAO/Corporate Officer
Paul Gipps, CAO

Powerpoint: Yes ☒ No ☐

Attachments:

1. City of West Kelowna - Proposed Gellatly Bridge Closure and Impact on Risk_rev01.pdf
2. Bennett Private Bridge Inspection and Load Rating.pdf
3. City of West Kelowna - Proposed Gellatly Bridge Closure and Impact on Risk - Addendum 1.pdf
4. Gellatly Alternate Access.jpg
5. City of West Kelowna - Proposed Gellatly Bridge Closure and Impact on Risk - Addendum 2.pdf