Concession Street Bridge Watermain Repair

Schedule B Municipal Class Environmental Assessment
Virtual Public Consultation Centre #1

https://www.regionofwaterloo.ca/CurrentWaterProjects/

https://www.youtube.com/user/regionofwaterloo
Goals of this Public Consultation Centre

Introduce the project and why it’s important

Provide an overview of the Municipal Class EA Process

Provide a description of the alternatives and preliminary recommendations for repair or replacement of the Concession Street Bridge Watermain

Contact a project team member if you have any questions or would like to provide input

https://www.regionofwaterloo.ca/CurrentWaterProjects/
Project Overview

What are we doing?
We are planning to repair or replace the Concession Street Bridge watermain and this study is looking at the best way to undertake the improvements.

Why are we doing it?
The watermain on the Bridge was damaged in 2018 by an ice jam. We are considering the best way to repair or replace the watermain to prevent similar damage from occurring in the future.

What does it mean to you?
These upgrades will require the construction of a new watermain across the Grand River. It is expected that acquiring both temporary and permanent easements may be required for construction and maintenance. There may also be some construction-related impacts to Grand Avenue and Water Street South during construction.
Municipal Class Environmental Assessment Process

This project is classified as a **Schedule B project**, which includes the completion of Phases 1 and 2 of the Class EA process.

- **Phase 1**: Identify the problem/opportunity
- **Phase 2**: Develop and evaluate alternative solutions. Identify preferred solution
- **Document the project in a Project File**

Public Consultation Centre #1

**We are here**

Continuous Stakeholder Engagement

30-day public review period

This project is classified as a **Schedule B project**, which includes the completion of Phases 1 and 2 of the Class EA process.
Existing Concession Street Bridge and Watermains

Legend

Study Area

Watermains

Study Area Key Map

Section of Broken Watermain
Alternative Options

Do Nothing

Reinstall Watermain on Bridge
Options 1A and 1B

Construct New Watermain Crossing Under Grand River
Via Trenchless Technology (horizontal directional drill or microtunnel)
Options 2A, 2B, and 2C

Selection of the preferred trenchless technology
Selection of the preferred alignment
1. **Horizontal Directional Drilling (HDD):**
HDD is an underground tunneling technique that utilizes a surface-launched drilling rig to install underground utilities. A pilot hole is first drilled along a directional path from one side of the Grand River to the other. This pilot hole is then enlarged to accommodate the installation of the new watermain pipe. Lastly, the pipeline is pre-assembled above ground and then pulled through the tunnel under the Grand River.

2. **Microtunneling:**
Microtunneling is an underground tunneling technique that utilizes an unmanned, remotely-controlled boring machine to construct utility tunnels. The machine is launched through an entry tunnel, at the appropriate depth underground, and pipes are pushed through the tunnel behind the machine. To ensure the tunnel and pipe are constructed at the correct depth, a work (entry) shaft and a reception shaft will be initially constructed at either side of the Grand River.
1. **Option 1A**: Reinstall watermain on Bridge; Same location (upstream side of bridge)

2. **Option 1B**: Reinstall watermain on Bridge; Downstream side of bridge

3. **Option 2A**: Install new watermain under the Grand River (Trenchless Method); HDD North of the bridge

4. **Option 2B**: Install new watermain under the Grand River (Trenchless Method); HDD South of the bridge

5. **Option 2C**: Install new watermain under the Grand River (Trenchless Method); Microtunneling South of the bridge

HDD = Horizontal Directional Drilling
We have evaluated the alternative alignment options based on these criteria:

**Social/Cultural**
- Minimizes impacts on existing residences, business, and other planned land uses and developments
- Protects archaeological and cultural heritage resources
- Protects health/safety

**Natural Environment**
- Protects environmental features
- Protects wildlife and species at risk
- Protects groundwater, streams, and rivers
- Considers climate change impacts

**Technical**
- Hydraulic capabilities
- Feasibility/ease/safety of construction including bridge condition
- Future maintenance and accessibility
- Ability obtain appropriate permitting and approvals

**Financial**
- Capital cost
- Operations and maintenance costs
# Summary of Watermain Route Options Evaluation

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<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Option 1A</th>
<th>Option 1B</th>
<th>Option 2A</th>
<th>Option 2B</th>
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**Legend**

- Very well aligned with criteria
- Somewhat aligned with criteria
- Well aligned with criteria
- Not well aligned with criteria
- Low alignment with criteria
- Preliminary Preferred watermain route
Based on the evaluation, Option 2B: HDD Trenchless Installation South of the bridge was identified as the preferred option, with the highest overall score, based on the following:

- Least risk of damage from ice/flooding
- Least impact to bridge
- Manageable safety concerns – work locations away from traffic and pedestrians
- Less maintenance
- Fewer traffic impacts during construction
- Relatively equal construction cost to the other options
- Higher lifespan
- Low lifecycle cost

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Next Steps

We are here

Public Consultation Centre

Review input and confirm recommended solution

Prepare Project File Report including any mitigation measures required for drilling

Complete Design and Tendering

Begin construction in 2021

Regional Council will provide approval to file the Project File Report for a 30-day public review period
Thank you

Please fill out a comment sheet found at the link below and provide it to one of the team members by **Friday January 15, 2021.**

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