Erb Street Water Supply Iron and Manganese Upgrades

Schedule C Municipal Class Environmental Assessment
Virtual Public Consultation Centre

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

https://www.youtube.com/user/regionofwaterloo
Welcome!

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 existing Erb Street Wells
- 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 upgrades to the Erb St Water Supply System to provide treatment for iron and manganese. This study will look at the best way to complete these upgrades.

Why are we doing it?
Lower aesthetic drinking water objectives for manganese are expected in the near future. The Erb St Water Supply System has been identified as requiring upgrades to meet these future aesthetic objectives. We are taking steps now to ensure we are ready to meet these objectives.

What does it mean to you?
These upgrades will require a new building for the treatment equipment. It is expected additional property will be required. There is no change in the amount of water being taken from the Erb St Water Supply wells.
Iron and Manganese are naturally occurring metals commonly found in soil. They are often present in drinking water where groundwater is the source.

Iron and Manganese may have aesthetic impacts such as staining of laundry and fixtures, undesirable taste, and discoloration.
The Province of Ontario regulates standards for drinking water to protect health and provides aesthetic objectives to produce drinking water that is pleasant to consumers.

The Province is considering a reduction to the manganese aesthetic objective in drinking water from 0.05 milligrams per litre (mg/L) to 0.02 mg/L based on guidance from Health Canada.

The Erb Street Water Supply System has been identified by the Region of Waterloo as requiring upgrades to meet future aesthetic objectives.
Municipal Class Environmental Assessment Process

**We are here**

Phase 1
Identify the problem/opportunity

Phase 2
Develop and evaluate alternative solutions. Identify preferred solution

Phase 3
Develop and evaluate alternative project designs. Select preferred design

Phase 4
Document the process in an Environmental Study Report

Phase 5
Project implementation (design and construction)

Continuous Stakeholder Engagement

Public Consultation Centre #1

Public Consultation Centre #2

30-day public review period
Existing Erb Street Wells and Reservoir
Alternative Options

Do Nothing

Identify New Water Supply

New Treatment Building at Existing Site

New Treatment Building at New Site

Selection of the preferred treatment technology

Selection of the preferred location

This is the Recommended Option
Alternative Treatment Facility Sites

- Land size for new building and driveway
- Vehicle access to the new site
- Distance to the existing Erb St reservoir watermains
- Environmental features, cultural heritage features, and areas of archaeological potential
- Current and potential future land uses
We reviewed a long list of alternative water treatment technologies to address iron and manganese:

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Carried Forward</th>
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<tbody>
<tr>
<td>Alternative 1 – Do Nothing</td>
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<tr>
<td>Alternative 5 – Sequestration</td>
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<tr>
<td>Alternative 6 – Lime or Soda Softening</td>
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<td>Alternative 7 – Membrane Filtration</td>
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<tr>
<td>Alternative 2 – Traditional Oxidation and Filtration</td>
<td>✔️</td>
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<tr>
<td>Alternative 3 – Biological Oxidation and Filtration</td>
<td>✔️</td>
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<tr>
<td>Alternative 4 – Ion Exchange</td>
<td>✔️</td>
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</tbody>
</table>
## Summary of Treatment Approach Evaluation

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Alternative 1 – Traditional Oxidation + Filtration</th>
<th>Alternative 2 – Biological Oxidation + Filtration</th>
<th>Alternative 3 – Ion Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Environment</td>
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<td>Cost</td>
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<td>Overall Score</td>
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</table>

**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 Treatment Technology: [Legend]
Residuals Management

1. Equalization Tank with Liquid Stream Recycling and Solids Removal by Trucking
2. Equalization Tank with Supernatant Recycling and Discharge to Sewer
Next Steps

We are here

Public Consultation Centre #1
Review input and confirm alternative solutions and treatment technology

Public Consultation Centre #2
Complete environmental inventories and evaluate alternative treatment facility sites and residuals management

Identify preferred treatment facility location concept (Fall 2020)

Document the project in an Environmental Study Report

Begin design in 2022 and start construction in 2025

Continuous Stakeholder Consultation

Regional Council will provide approval to file the Environmental Study 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 July 10, 2020.

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