Baden and New Hamburg Water and Wastewater System Servicing Review

Virtual Public Consultation Centre #2
December 7, 2021
Public Consultation Centre #2

Welcome!

The Goals of this Virtual Public Consultation Centre#2 (PCC#2):

- Provide an overview of the project
- Provide an update on the Study since PCC #1
  - Present the Preliminary Water and Wastewater Servicing Alternatives for the communities of Baden, New Hamburg and Foxboro Green
- Provide an opportunity for you to learn about the project and get involved

Comments received during this study will be used to identify a recommended approach for current and future water and wastewater infrastructure needs of the communities of Baden, New Hamburg and Foxboro Green.
Project Overview

What are we doing?
We are assessing the current water supply and wastewater treatment systems that serve the communities of Baden and New Hamburg. This study will look to assess infrastructure needs for future growth approved under the Region’s Official Plan (ROP) and consider any outcomes from the new ROP review currently underway. This study excludes the local watermain and sewer extensions which are the responsibility of Wilmot Township.

Why are we doing it?
We are taking steps now to ensure we are ready to meet the future needs of Baden and New Hamburg through examination of the Region’s infrastructure. We will also explore any opportunities for the Foxboro Green community.

What does it mean to you?
Current and future needs may require the construction of new water supply and wastewater infrastructure, or upgrades to existing facilities, which may also need land acquisition. This is your opportunity to get involved with the planning process.
Municipal Class Environmental Assessment Process

This System Servicing Review will be completed to satisfy the first two phases of the Municipal Class EA process for projects which will be identified through the study.

**Phase 1**
Identify the problem/opportunity.

**Phase 2A**
Develop alternative solutions.

**Phase 2B**
Present preferred solution and potential environmental impacts and proposed mitigation measures.

Continuous Stakeholder Engagement

Virtual PCC #1

Virtual PCC #2

Virtual PCC #3

30-day public review period
Goals of Public Consultation Centre #2

The communities of Baden and New Hamburg are currently serviced by a two-tier water and wastewater system by Wilmot Township and the Region.

This System Servicing Review will assess the Region's portion of the current water and wastewater systems that serve the study area. The review of the current and future infrastructure needs within the community will be based on:

- Waterloo Region’s 2011 Master Plan Update
- 2015 Region Official Plan (ROP) and consider any outcomes from the new ROP Review underway
- Township of Wilmot’s 2019 Official Plan
- Region’s 2018 Wastewater Treatment Master Plan
- Current development applications

This study considers alternatives for the Region's assets under three main categories: 1) Water supply, 2) Wastewater, 3) Foxboro Green.

The Region is working with the Township to develop alternatives.
1. Existing Water Supply System

Existing Conditions:

- Supply from the New Hamburg and the K50 wells has sufficient water supply capacity under existing and future conditions.
- Reliance on the K50 wells is an issue if they are off-line for any reason.
- Water storage is sufficient for existing conditions but under future conditions, additional storage is required by approximately 4,000 cubic meters.
- Foxboro Green is supplied by a water treatment plant but its assets are aging.

Key Issues to be Addressed:

- Water Supply Redundancy
- Water Storage
Alternative Solutions – Water Supply (WS)

The following Alternative Solutions have been developed to address the key issues identified for water supply:

**Water Supply Redundancy:**
- Alternative WR1 - Do nothing
- Alternative WR2 - Actuated Valve at Shingletown (allows water to reverse flow under emergency conditions)*
  * Alternative WR2 is being examined under another study

**Future Water Storage:**
- Alternative WS1 - Do nothing
- Alternative WS2 - Provide increased storage at the New Hamburg Water Treatment Plant
- Alternative WS3 – Provide new storage at the Baden Wells site
- Alternative WS4 - Provide new storage at the Shingleton/K50 Wells site
- Alternative WS5 - Combination of any of the above
Alternative WS1 – Do Nothing

This alternative does not include any upgrades and would not meet the overall intent of the study but is used for comparison purposes.
Alternative WS2 – Increased Storage at New Hamburg Water Treatment Plant

This alternative includes increasing the existing underground concrete storage at the New Hamburg Water Treatment Plant.

**Considerations**
- Accommodates future demand peaks
- Requires increased flow from Baden to allow refill of the New Hamburg Water Treatment Plant reservoir during high demand periods
- Possible site/land limitations
Alternative WS3 – New Storage at Baden Well Sites

This alternative includes a new underground concrete reservoir and pump station at the former Baden well site to be fed by the K50 Wells.

Considerations
- Potential to re-use old Baden well property
- Provides ability to supplement water supply from the Baden Elevated Tank during periods of high demand
- Re-pumping required with new pumping station – not energy efficient
- Possible site/land limitations
Alternative WS4 – New Storage at Shingleton/k50 Wells

This alternative includes a new underground concrete reservoir at the Shingleton/ K50 Wells site.

**Considerations**
- Supplements the Baden Elevated Tank during periods of high demand
- Possible alignment with future manganese treatment and storage requirements
- New Pumping Station required
- Site/land limitations and additional area is required
- Potential for linkage with Mannheim well supply
2. Existing Wastewater System

**Existing Conditions:**
- New Hamburg Wastewater Treatment Plant has sufficient capacity for the study area.
- Morningside Pumping Station is sufficient for existing conditions.
- Baden Pumping Station and associated forcemains is under capacity for future growth demands for the study area.
- Foxboro wastewater treatment plant has sufficient capacity but requires optimization.

**Key Issues to be Addressed:**
- Future Pumping Station and Forcemain Capacity.
Alternative Solutions – Wastewater (WW)

The following Alternative Solutions have been developed to address the key issues identified for wastewater collection:

**Future Pumping Station and Forcemain Capacity:**
- Alternative WW1 - Do nothing
- Alternative WW2 - Upgrade system and maintain existing configuration
- Alternative WW3 - Upgrade system and convey directly to Morningside Pump Station
- Alternative WW4 - Upgrade system and convey directly to New Hamburg Wastewater Treatment Plant
Alternative WW1 – Do Nothing

This alternative does not include any upgrades and would not meet the overall intent of the study but is used for comparison purposes.
Alternative WW2 – Upgrade System and Maintain Existing Configuration

This alternative includes:

• Upgrades to the Baden Pumping Station
• New forcemain from Baden Pumping Station connecting to Morningside Trunk Sewer
• Upgrades to the Morningside Trunk Sewer
• Upgrades to the Morningside Pumping Station
• Upgrades to the forcemain from the Morningside Pumping Station to the New Hamburg Wastewater Treatment Plant

Shown is one possible example of the connection.
Alternative WW3 – Upgrade System and Convey Directly to Morningside Pump Station

This alternative includes:

• Upgrades to the Baden Pumping Station
• New forcemain bypassing the Morningside Trunk Sewer and connecting directly to the Morningside Pumping Station
• Upgrades to the Morningside Pumping Station
• Upgrades to the forcemain from Morningside Pumping Station to the New Hamburg Wastewater Treatment Plant

Shown is one possible example of the connection.
Alternative WW4 – Upgrade System and Convey Directly to New Hamburg Wastewater Treatment Plant

This alternative includes:

- Upgrades to the Baden Pumping Station
- New forcemain bypassing the Morningside Pumping Station and connecting directly to the New Hamburg Wastewater Treatment Plant.

Shown is one possible example of the connection.
Foxboro Green - Water Supply & Wastewater Servicing Needs

The Foxboro Green community is supplied by a system of wells and a treatment plant, while wastewater services is provided by a wastewater treatment plant. The capacity is adequate, but the Region has identified major infrastructure upgrades/replacements in the near future due to asset age and improvement needs. Therefore, now is a good opportunity to review the future servicing for Foxboro Green.

The following Alternative Solutions have been developed to address the key issues identified for water supply and wastewater servicing needs:

• Alternative F1 - Do nothing and carry out necessary upgrades
• Alternative F2 - Provide connection to the existing Baden sewer and water supply system using existing road allowances.
• Alternative F3 - Provide connection to the existing Baden sewer and water supply system using a direct route.
• Alternative F4 - Provide connection to the existing New Hamburg sewer and water supply system using existing road allowances.
Alternative F1 – Do Nothing

Under this alternative, Foxboro Green would continue to utilize their existing wastewater and water treatment systems.

In the immediate future, the Region has identified the need for extensive asset upgrades and/or replacements to the supply wells, water treatment plant, as well as optimization improvements to the wastewater treatment plant.
Alternative F2 – Connect Foxboro to Baden on Existing Road Allowances

Under this alternative, Foxboro Green would be connected to the Baden sewer and water supply system.

The routing of the sewer and watermain connection would follow existing road allowances.

Shown is one possible example of the connection.
Alternative F3 – Connect Foxboro to Baden using a Direct Route

Under this alternative, Foxboro Green would be connected to the Baden sewer and water supply system by a more direct route.

The routing of the sewer and watermain connections could be within the corridors across new developments lands, under future roads.

Alternatively, a separate route using easements is a consideration.

Shown is one possible example of the connection.
Alternative F4 – Connect Foxboro to New Hamburg on Existing Road Allowances

Under this alternative, Foxboro Green would be connected to the New Hamburg sewer and water supply system.

The routing of the sewer and watermain connection would follow existing road allowances.

Shown is one possible example of the connection.
## Next Steps

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<td>Review Background Information</td>
<td>Collect data, review existing conditions and identify project constraints and opportunities</td>
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<td>Public Consultation Centre #1</td>
<td>Introduce the project</td>
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<tr>
<td>Develop and Evaluate Alternatives</td>
<td>Develop and evaluate alternatives to address current and future servicing needs</td>
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<td>Public Consultation Centre #2</td>
<td>Obtain input on alternatives</td>
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<td>Identify Preferred Alternative</td>
<td>Identify preferred alternatives, develop and evaluate the design of the preferred alternatives</td>
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<td>Public Consultation Centre #3</td>
<td>Present preferred alternatives</td>
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<td>Prepare Report</td>
<td>Prepare report and publish for 30-day public review</td>
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We are here

An opportunity for the public to provide input
Thank you for your participation!

We want your feedback

Do you have questions, feedback, comments, or want to stay up to date on what’s being evaluated as part of this project?

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More information, including copies of project notices, comment sheet and Public Consultation Centre materials like a transcript of this virtual presentation can be found at: [https://www.regionofwaterloo.ca/waterprojects](https://www.regionofwaterloo.ca/waterprojects)