Spring Valley Sewage Pumping Station

Schedule B Municipal Class Environmental Assessment
Virtual Public Consultation Centre No. 2
January 27, 2021

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

Goals of this Public Consultation Centre

Provide an update on the project progress.

Provide an overview of the potential alternatives identified for the Spring Valley Sewage Pumping Station.

Provide information on the decision making process and preliminary preferred alternative solution.

Contact a project team member if you have any questions or would like to provide input.
https://www.regionofwaterloo.ca/CurrentWaterProjects/
Spring Valley Sewage Pumping Station project overview

What are we doing?
This study is being done to identify preferred improvements to meet long-term servicing needs.

Why are we doing it?
The Spring Valley Sewage Pumping Station needs improvements to ensure continued reliable operation.

What does it mean to you?
Improvements for the Spring Valley Sewage Pumping Station may include work at the existing station or constructing a new station close to the existing location.
Pumping stations are an important part of our wastewater system.

Pumping stations make sure wastewater from low-elevation areas get to our wastewater treatment plants.

**Homes & Businesses**
Wastewater is generated at homes and businesses.

**Sewers**
The City has a network of underground sewers that collect wastewater from homes and businesses.

**Pumping Stations**
Pumping stations convey wastewater to treatment plants.

**Treatment**
Wastewater is treated fully before clean effluent is returned to the environment.

**Receiving Water**
Water is returned to the local watershed.

Kitchener has one wastewater treatment plant. There are many pumping stations that are needed to ensure wastewater can reach this plant.
The Spring Valley Sewage Pumping Station is located at 365 Riverbend Drive. It serves northeastern Kitchener sending sanitary flows to the Kitchener Wastewater Treatment Plant’s collection system. The station was built in 1961. Its current capacity is 245 L/s with three pumps (two duty, one standby).
The Spring Valley Sewage Pumping Station sanitary sewer catchment area is close to 400 hectares. The area serviced by the station is primarily developed lands.
Future capacity of the Spring Valley Sewage Pumping Station

This Class Environmental Assessment study performed a detailed review of future peak flows using influent flow monitoring and modelling software.

The impacts of climate change and the addition of future developable industrial lands were incorporated to estimate increased future flows to the station.

Equipment with shorter asset life will be sized to 350 L/s to ensure flows to the station can be conveyed within their lifespan.

Pumping station building and tanks with long asset life will be sized for 470 L/s for ultimate collection system buildout.
An overall study area was identified at the beginning of the project based on ground elevations and location of the existing sanitary sewer network.

A focused study area was identified based on feasible options to locate a new replacement pumping station.

Cultural heritage, archaeological, and environmental investigations were completed to help develop and evaluate options.
Two cultural heritage landscapes were identified in the study area:

1. Grand River Corridor
2. Walter Bean Trail
The Stage 1 archaeological assessment of the study area identified areas of archaeological potential and no archaeological potential. As a result, a Stage 2 archaeological assessment was completed for the focused study area and determined that no archaeological resources were present.
Environmental field studies within the focused study area classified natural vegetation communities, observed wildlife, and documented aquatic habitat conditions of the three regulated watercourses identified as tributaries to the Grand River.
Alternative solutions for “Do Nothing” and “Limit Community Growth” were considered but did not meet the outlined project objectives.

Upgrading the existing Spring Valley Sewage Pumping Station was identified as one of the feasible alternative solutions.
Alternative solutions for constructing a new Spring Valley Sewage Pumping Station were identified to address the opportunities and constraints.
Alternative solution 1 – upgrade existing station with offsite emergency storage

**Location:** existing station property and portion of adjacent property

**Description of the Property:** steep-sloped and wooded area behind the existing station building. The adjacent property is cultural meadow community and disturbed land.

**Advantages:**
- Efficient option for reuse of existing buildings and tanks
- Lowest short-term capital cost of the feasible alternative solutions
- New property is connected to the existing Region owned land

**Disadvantages:**
- Community and station operation may be affected by bypass pumping and construction staging
- Limitations on providing redundancy within the existing station compared to building a new pumping station
- Station shutdown complexity and tie-ins present more risk to the environment during construction
Alternative solution 2A – new station in Walter Bean Trail parking lot

Location: north of Riverbend Drive adjacent to Grand River
Description of the Property: Walter Bean Trail parking lot and trail access with a small adjacent cultural meadow community and open grown trees.

Advantages:
• Minimal anticipated impacts to businesses
• Minimal conflicts with existing utilities

Disadvantages:
• Located within the regulated floodplain and core environmental features associated with the Grand River Valley
• Potential for noise and odour impacts due to proximity to Walter Bean Trail
• Relocation of the Walter Bean Trail parking lot and access will be required
Alternative solution 2B – new station in open area north of existing station

**Location:** north of existing station on west side of Riverbend Drive

**Description of the Property:** cultural meadow community and disturbed land.

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**Advantages:**

- Minimal anticipated impacts to businesses and the public during construction and operation
- Proximity to existing station and sanitary sewer network will reduce depth required for new station
- Open site area can be used for construction staging to limit conflicts with ongoing operation of existing station
- New property is connected to the existing Region owned land

**Disadvantages:**

- Some construction complexity anticipated due to proximity to stormwater conveyance system
Alternative solution 2C – new station on industrial land south of the existing station

**Location:** south of existing station on west side of Riverbend Drive

**Description of the Property:** industrial land

**Advantages:**

- Minimal impacts to environmental features and wildlife due to the disturbed nature of the site
- Minimal anticipated impacts to the public during construction and operation

**Disadvantages:**

- Highest capital cost of the feasible alternative solutions
- Impacts business currently using the industrial site
- Additional site preparation considerations and disposal of excavated material requirements
The Spring Valley Sewage Pumping Station alternative solutions were evaluated according to the factors shown above, with each of the environmental, financial, technical, and social categories being considered equally. The highest score identified the preliminary preferred option.
Evaluation methodology

Scoring of Alternative Solutions

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<tr>
<th>Graphic</th>
<th>Description</th>
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<td>🍃</td>
<td>Very well aligned with criteria</td>
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<td>Low alignment with criteria</td>
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Identify advantages and disadvantages for each proposed solution → Assign criteria scores → Determine preliminary preferred alternative solution
## Evaluation of alternative solutions

<table>
<thead>
<tr>
<th>Evaluation criteria</th>
<th>Alternative 1: upgrade existing station with offsite emergency storage</th>
<th>Alternative 2A: new station in Walter Bean Trail parking lot</th>
<th>Alternative 2B: new station in open area north of existing station</th>
<th>Alternative 2C: new station on industrial land south of existing station</th>
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<tbody>
<tr>
<td><strong>Environmental</strong></td>
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<tr>
<td>Protects environmental features</td>
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<td>Protects wildlife and species at risk</td>
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<td>Protects groundwater, streams and rivers</td>
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<td>Minimizes climate change impacts</td>
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<td><strong>Social</strong></td>
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<td>Minimizes impacts to residents related to noise, odour, traffic, and aesthetics</td>
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<td>Minimizes impacts to businesses</td>
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<td>Manages and minimizes construction impacts</td>
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<td>Protects cultural heritage features</td>
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<td>Protects archaeological features</td>
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<td>Protects health and safety</td>
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<td><strong>Technical</strong></td>
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<td>Provides reliable service</td>
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<td>Meets existing and future needs</td>
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<td>Aligns with existing and planned infrastructure</td>
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<td>Aligns with existing and future land use</td>
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<td>Aligns with approval and permitting process</td>
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<td>Manages and minimizes construction risks</td>
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<td>Ability to adapt to climate change</td>
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<td><strong>Financial</strong></td>
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<td>Provides low lifecycle costs</td>
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<td><strong>Overall score</strong></td>
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Preliminary preferred alternative
Preliminary preferred solution

Constructing a new station in the open area north of the existing sewage pumping station is currently the preferred solution.

Key advantages of this alternative include:
• Ability to operate the existing station during construction of a new station,
• Proximity to the existing station and sewer network, and
• Best overall score considering environmental, social, technical, and financial factors.
Project schedule

- **Review background information**: Collect data, review existing conditions, and develop project constraints and opportunities.

- **Public Consultation Centre 1**: Introduce the project.

- **Develop alternatives**: Develop options to meet the sewage pumping needs based on the problem and opportunity statement.

- **Evaluate alternatives**: Evaluate the alternatives using criteria related to environmental, social, technical, and financial considerations.

- **Identify preliminary preferred alternative**: Identify the preferred alternative based on the evaluation process. The preferred alternative is the option that is considered to be the best overall solution.

- **Public Consultation Centre 2**: Obtain input on the preferred alternative.

- **Reporting**: Prepare the Project File report to document project information and the decision making process.

**Region of Waterloo Council**

Region of Waterloo Council will provide approval to file the Project File Report for a 30-day review period for public comment.
Thank you for your participation!

Get Engaged!
Would you like to provide input on the preliminary preferred alternative solution for the Spring Valley Sewage Pumping Station Environmental Assessment? Do you have any questions, comments, or want to stay up to date?

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