Prepared for the Community of Millbrook in the Township of Cavan-Monaghan

Public Information Center

Water Storage Municipal Class Environmental Assessment

September 24th, 2025

WELCOME

The Township of Cavan Monaghan welcomes you to this Public Information Centre (PIC) so that we can share study objectives, findings to date, alternative solutions and next steps for the Water Storage Class Environmental Assessment (EA) Project.

Please review the material and provide us with any comments you may have. Your input is important to the Class Environmental Assessment process. Staff and Project Team are available to answer your questions and receive your comments. Comment sheets are also available for you to fill out.

Thank you for attending this Public Information Centre

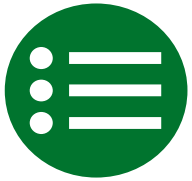
Please sign in

PURPOSE OF THIS PUBLIC INFORMATION CENTRE

To inform the public, stakeholders and Indigenous communities about the need for additional water storage in the Millbrook Urban Settlement Area.

To provide an overview of the:

- Class Environmental Assessment (Class EA) Process
- Findings of the Class EA for Water Storage
- Evaluation and tentatively preferred alternative for new Water Storage in Millbrook



To present project information and gather your feedback on:

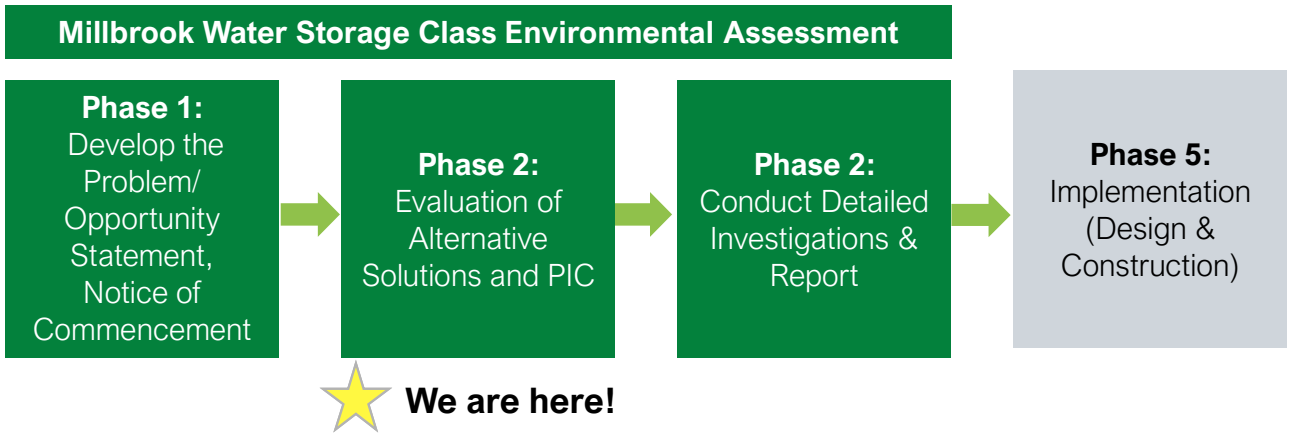
- Problem and opportunity statement
- List of alternatives
- Evaluation of alternatives
- Next steps in the process

SCHEDULE


August 2024
• Project Initiation
• Background Studies and Investigations
March 2025
• Township of Cavan Monaghan Council Meeting Presentation
April 2025
• Issue Notice of Commencement
• Identification and Evaluation of Alternative Water Storage Expansion Strategies
September 2025
• Public Information Center
We are here!
December 2025
• Final Project Report Submission
• Notice of Completion

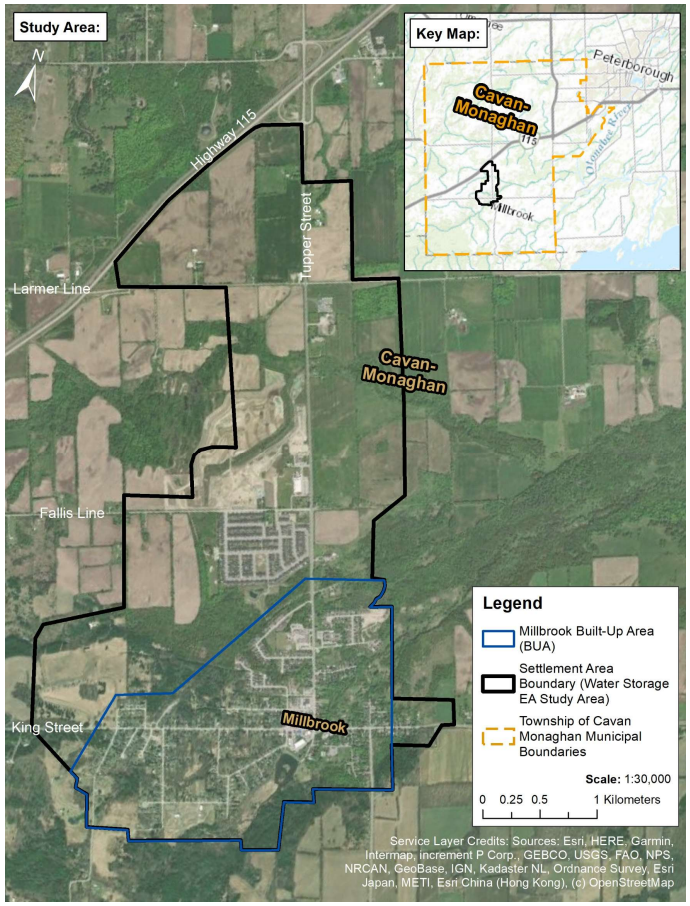
CLASS ENVIRONMENTAL ASSESSMENT PROCESS

This Schedule B Class EA project will complete **Phase 1** and **Phase 2** of the environmental assessment process and then proceed directly to **Phase 5** as per the Schedule B requirements.



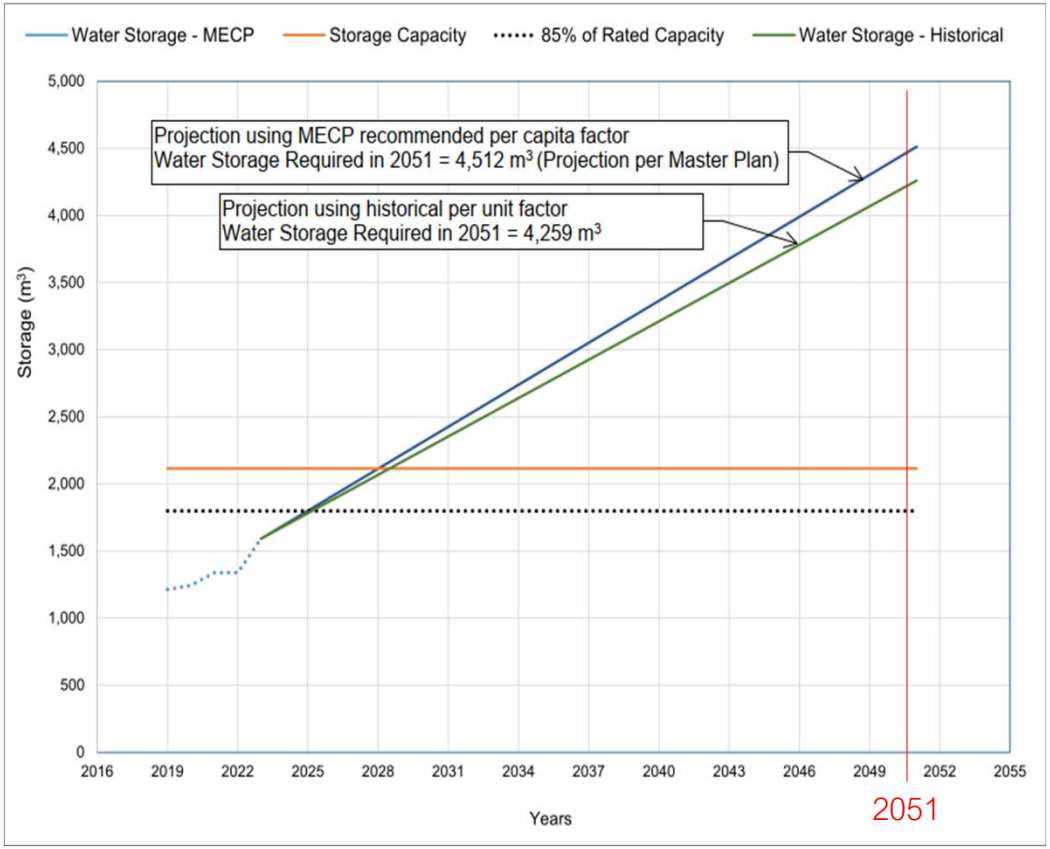
The purpose of the study is to take the next step after the Master Servicing Study (MSS) with a Class Environmental Assessment to confirm the location, capacity, and storage type for the new water storage solution (i.e. standpipe, elevated tank or in-ground reservoir) which will service the anticipated growth in the Millbrook Settlement Area as identified in the previously completed Growth Management Study and Master Servicing Study (MSS).

PROBLEM & OPPORTUNITY STATEMENT



- Building upon the findings of the completed Growth Management Study (GMS) and the Water and Wastewater Master Servicing Study (MSS), this Class EA will confirm the location, capacity and storage type for a new water storage solution in the Millbrook Urban Settlement Area.
- The preferred water storage solution will:
  - Comply with applicable regulations to provide adequate water servicing.
  - Comply with the Official Plan (2021) while accommodating future vision of servicing beyond the settlement boundary.
  - Comply with the recommendations from the 2024 MSS.
  - Consider stakeholder and rights-holder comments and concerns.
  - Be technically feasible and operationally sustainable.
  - Be financially viable while also socially and environmentally responsible.

FORCASTED POPULATION & STORAGE REQUIREMENTS TO 2051



* Actual timelines for water supply requirements will depend on rate of growth and demand

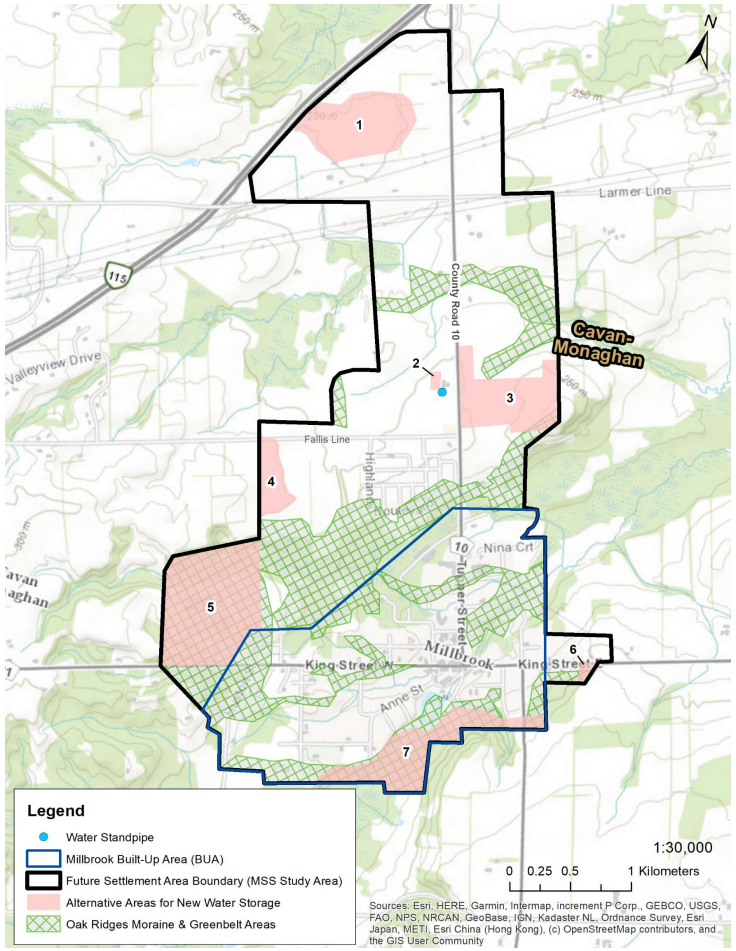
Millbrook Total Long-Term Population and Employment Estimates

Year	Total Residential Population	Total Employees
2021	2,558	970
2051	10,455	3,983

- The current Millbrook Standpipe has 2,115 m^3.
- Based on future population and employment projections, the Millbrook water supply is anticipated to reach 80–85% of its capacity by approximately 2025. As per industry standards, this threshold typically signals the need to begin planning for infrastructure expansion.
- By 2028, the existing storage capacity would be insufficient
- By 2051, a volume of approximately 4,512 m^3 will be required to meet long-term demand.

Therefore, increasing water storage capacity would be required to service growth beyond 2028.

LOCATIONS FOR PROPOSED STORAGE FACILITY



As part of the Water Storage Class Environmental Assessment, seven potential locations were identified within the Millbrook Settlement Area based on elevation, proximity to existing infrastructure and alignment with future development areas.

Each location was evaluated using criteria from the MECP Design Guidelines and the Township's Official Plan including:

- Hydraulic performance and elevation
- Environmental, archaeological and cultural heritage constraints
- Land ownership and acquisition feasibility
- Proximity to committed and future developments
- Opportunities for proposed and future water storage

Following this screening process:

- **Location 1** and **Location 3** were shortlisted for further evaluation and hydraulic modeling.

- Locations 2, 4, 5, 6 and 7 were screened out due to constraints such as limited space, environmental sensitivity or operational risks and complications. Next slide provides the preliminary screening evaluation.

EVALUATION APPROACH AND CRITERIA

After screening the long list of location alternatives, the shortlisted location alternatives for the proposed water storage solution were evaluated using the criteria and rating scale below.

Criteria	Example Considerations
Social	• Ability to allow for future growth forecast under Township's GMS • Sensory impacts, such as noise, dust, etc. both during and after construction • Effects on neighboring properties • Effects on the municipality, local businesses, etc. • Effects on Indigenous communities
Technical	• Compatibility with existing systems • Ease of implementation • Effects on operations and maintenance • Technical Complexity • Complies with regulatory/approval requirements
Cultural	• Effects on archaeological sites or structures • Effects on cultural sites or structures
Environmental	• Effects on wildlife and vegetation, habitat • Effects on water, soil and air quality • Climate Change
Cost	• Approximate magnitude of life cycle costs (capital cost, operation & maintenance cost) • Sustainability and affordability • Financial risks

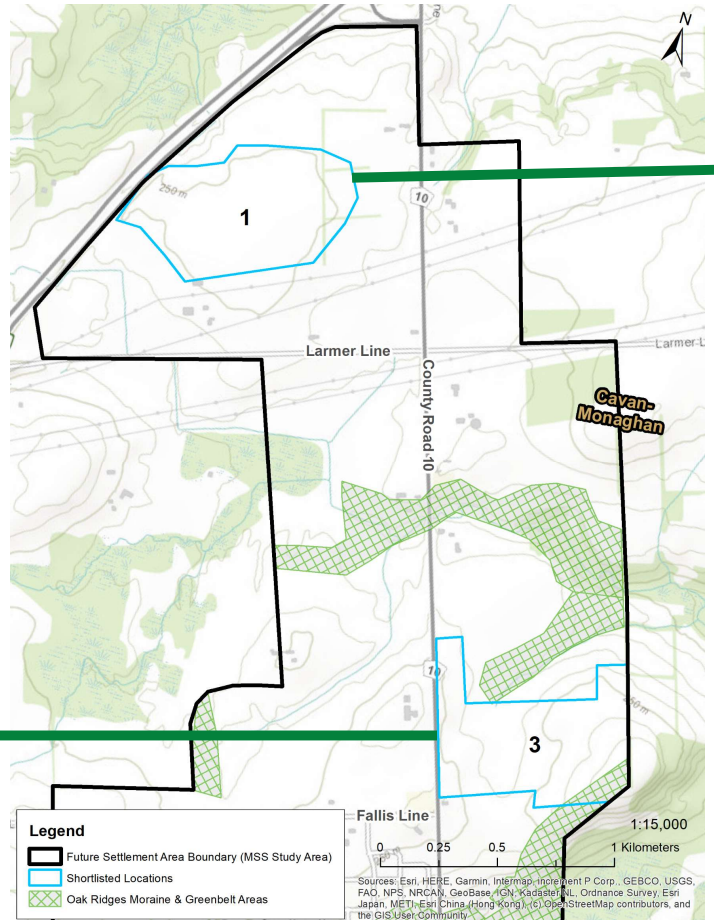
Evaluation Ranking:

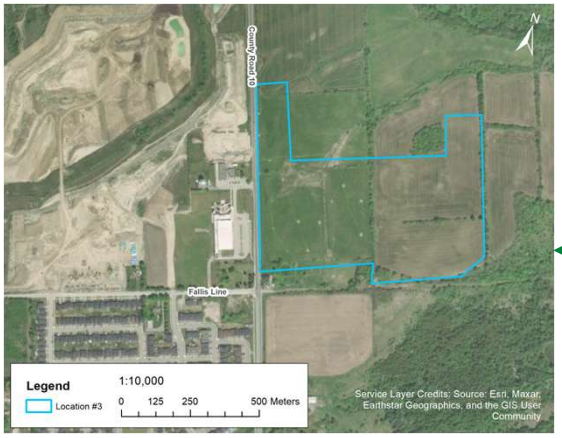
Symbol	Ranking
	Most Positive / Least Negative
	More Positive Than Negative
	Moderate
	More Negative Than Positive
	Least Positive / Most Negatives

LONG LIST OF LOCATION ALTERNATIVES & SCREENING

Location	Does the alternative address the Problem & Opportunity Statement?	Is the alternative technical and economically feasible?	Can the alternative be implemented without significant impacts?	Summary
Location 1	✓	✓	✓	Carried over to detailed evaluation
Location 2	✓	✗	✗	Existing storage tank at location, and remaining area is already zoned for institutional. Location reserved by Township for other endeavours. Risk to redundancy from grouping storage facilities in the same location.
Location 3	✓	✓	✓	Carried over to detailed evaluation
Location 4	✗	✗	✓	Not centralized to the future anticipated areas of need. May not have enough space for water storage facility. Property acquisition required.
Location 5	✓	✗	✗	Millbrook's Natural Heritage System will be impacted by construction. Environmental investigations and property acquisition required.
Location 6	✓	✗	✓	Not centralized to the future anticipated areas of need, as well as operational issues with supplying water to pressure zone 2 from this location. Space constraints and property acquisition required to support storage of an adequate size.
Location 7	✗	✗	✗	Cannot provide the high ground elevation needed for a gravity-based system. Millbrook's Natural Heritage System will be impacted by construction.

SHORTLISTED LOCATION ALTERNATIVES



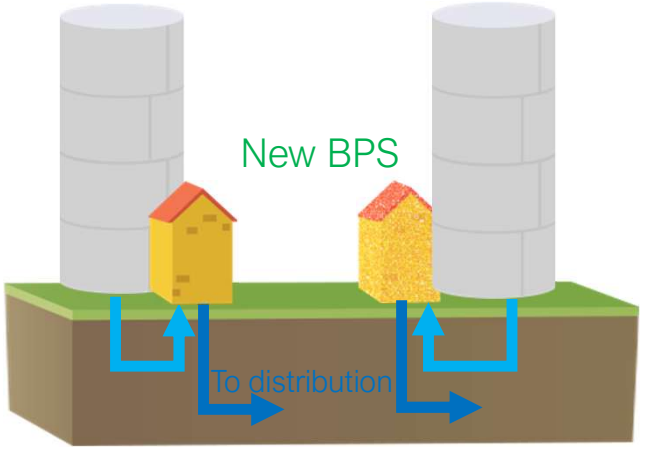


EVALUATION OF SHORTLISTED LOCATION ALTERNATIVES

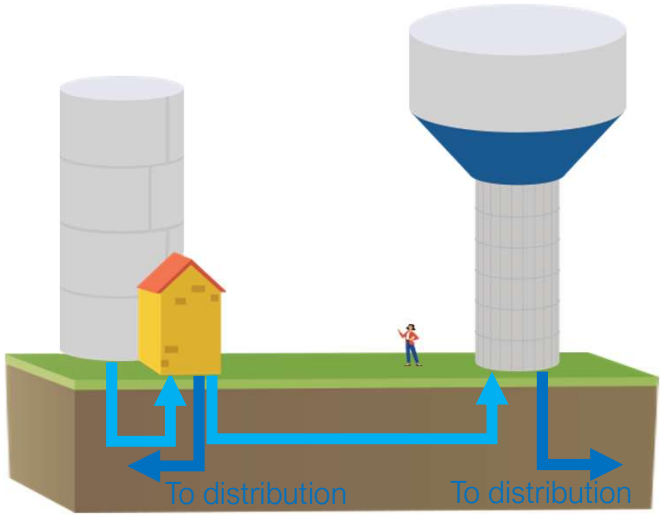
Criteria	Location #1	Evaluation	Location #3	Evaluation
Social	• Aesthetic advantage, as a water tower showing the Township's name will be visible from the highway. • Near future employment area rather than residential area		• Near the immediate future development areas but may be less centralized for future northern settlement expansion areas beyond 2051. • Near future commercial and residential area	
Technical	• Further from existing standpipe so there is better storage redundancy coverage in case of a key watermain break. • Will require a new longer watermain to reach Location #1		• Less storage redundancy coverage compared to Location #1 • Near existing watermain and closer to existing BPS to optimize use of existing infrastructure to reduce cost. • Expansion of ex. Upgrades to existing BPS.	
Cultural	• Cultural Heritage and Archaeological potential not currently evaluated, would require additional studies.		• Existing Stage 1-2 Archaeological Assessment and Cultural Heritage study screened out potential/found no items of interest	
Environmental	• Natural environmental studies required to determine impacts Current agricultural land will be impacted for imminent building of new storage tank even though area will not see development until a long time later		• Environmental conditions previously evaluated in support of planned development in the area • Existing natural environment studies cleared area for construction. Some space constraints due to existing creek	
Cost	• Township will have to front end the cost for long watermain extension from existing distribution network to this location before development occurs here.		• Lower watermain costs due to closer proximity to existing available infrastructure • Upgrades to existing BPS will be relatively low cost	
Summary	**Not Recommended** due to cost, environmental and cultural considerations	✗	**Recommended Alternative**	✓

Least Positive / Most Negatives	More Negative Than Positive	Moderate	More Positive Than Negative	Most Positive / Least Negative
				

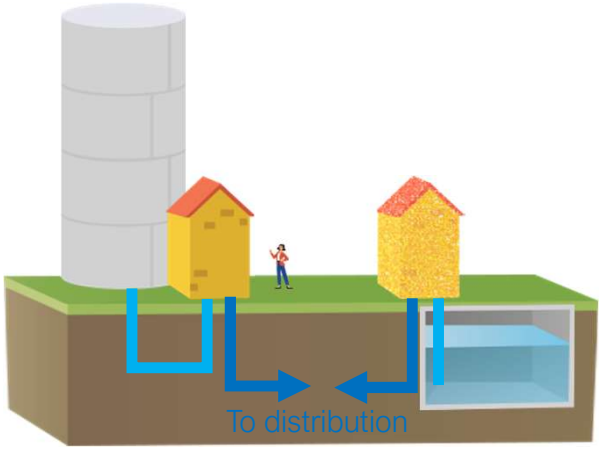
TYPES OF STORAGE TANKS



Existing New



Existing New



Existing New

Standpipe	Elevated Tank	In-Ground Reservoir with BPS
A water storage tank at ground level, usually placed at higher elevation. Has more 'unusable' volume and stagnant water unless accompanied with booster pumping station (BPS) to reduce 'unusable' volume and achieve required pressure.	A water storage tank is raised above ground level to the desired elevation. This will require BPS upstream since well pumps cannot reach desired elevation. Utilizes gravity to push water to distribution system. Does not need BPS downstream of tank.	A water storage tank under ground level supported by a booster pumping station (BPS) at ground level to provide adequate pressure to distribution system.

ADVANTAGES AND DISADVANTAGES OF DIFFERENT TANK STYLES AT LOCATION 3

Criteria	New Standpipe at Location #3 + BPS	New Elevated Tank at Location #3 + BPS Upgrades at Municipal Office	New In-Ground Reservoir + New BPS at Location #3
Advantages	• Maximizes use of the existing infrastructure and supports future proofing • Another possible location for mounting communication antenna etc. (source of revenue for Township) • Lower number of different facilities needed to be operated and maintained compared to the new in-ground reservoir and new BPS option • Allows for some operational redundancy for existing standpipe if either storage tank needed to be taken out of service and maintained • Lowest construction cost compared to all other tank options	• Provides 'floating storage' to upper Pressure Zone 2 area (instead of pumped storage via existing BPS and Standpipe). This better manages the pressure fluctuations in the pressure zone and is not contingent on a pump being on or off • Another possible location for mounting communication antenna etc. (source of revenue for Township)	• Minimal aesthetic impacts to surrounding properties. Only the new BPS will be visible as the tank will be buried. New BPS exterior can be designed to suit the neighboring development to blend in with other nearby buildings • Allows for some operational redundancy for existing standpipe if it needs to be taken out of service and maintained • No shadow impacts to upcoming development area
Disadvantages	• Moderate aesthetic impacts to surrounding properties • Could have shadow impacts to upcoming development area, even though the shadow is transitory throughout the day and season • No 'floating storage' available for Pressure Zone 2 area. The pressure in the system will fluctuate with the operation of the pumps at the existing BPS • Further geotechnical and Phase 1 & 2 Environmental Site Assessment (ESA) investigations needed to confirm suitability of Standpipe at Location 3	• Greatest aesthetic impacts to surrounding properties (will be taller than existing standpipe) • More technical and operational complications due to different storage tank heights • Does not allow for operational redundancy to the existing standpipe because that is still needed for the existing BPS in order to feed pressurized water to the new Elevated Tank • Could have shadow impacts to upcoming development area, even though the shadow is transitory throughout the day and season • Higher construction cost compared to Standpipe option • Further geotechnical and Phase 1 & 2 Environmental Site Assessment (ESA) investigations needed to confirm suitability of Elevated Tank at Location 3	• No 'floating storage' available for Pressure Zone 2 area. The pressure in the system will fluctuate with the operation of the pumps at the new and existing BPSs • Highest construction cost compared to Standpipe and Elevated tank option • More (and different) facilities needed to be operated and maintained compared to new standpipe and upgrade to existing BPS • Further geotechnical and Phase 1 & 2 Environmental Site Assessment (ESA) investigations needed to confirm suitability of inground tank at Location 3 • More technical and operational complications to work with existing Standpipe and BPS.

PREFERRED SOLUTION

Preferred alternative solution:

- **New Storage Tank at Location #3 and Upgrades to Booster Pumping Station (BPS) at Municipal Office**

- Additional tank to provide additional storage volume, in support of the population growth projected by the previously completed Growth Management Study (GMS) and Master Servicing Study (MSS).
- New storage tank to be constructed within Location #3, at County Road 10, north of Fallis Line

Next Steps:

- Preparation of a Technical Memorandum (TM) outlining tank style options for submission to the Council.
- Confirmation of exact storage tank location within Location #3 to prepare for land acquisition
- Conclusion and finalization of Schedule B Class EA with Project File Report
- Project proceeds to detailed design and then construction.

NEXT STEPS

Following this Public Information Centre (PIC), the Project Team will receive and consider comments from interested parties to help with finalizing the recommended solution for water storage and will be documented through the Project File Report. Complete a comment sheet this evening or submit comments to a member of the project team.

More information including copies of project notices and PIC materials can be found at: www.CavanMonaghan.net

Please provide your comments by **October 24th, 2025**

The next opportunities for public notification and input will include:

Opportunity	Anticipated Date
Notice of Study Completion Published & Start of 30-Day Public Review Period	December 2025

Project Team Contact Information	
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