

YR Project Number P-16-148

**Stouffville Storage
Schedule B Class EA
PROJECT FILE**

FINAL • DECEMBER 2020

REPORT PREPARED FOR



The Regional Municipality of York
17250 Yonge St
Newmarket, ON L3Y 6Z1

REPORT PREPARED BY



THE MUNICIPAL INFRASTRUCTURE GROUP LTD.
A T.Y. LIN INTERNATIONAL COMPANY
8800 DUFFERIN STREET, SUITE 200
VAUGHAN, ON
L4K 0C5
(905) 738-5700

TMIG PROJECT NUMBER 17100

EXECUTIVE SUMMARY

This project file describes the planning process followed and conclusions reached for the Stouffville Water Storage Class Environmental Assessment, which follows the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment process.

The 2016 York Region Water and Wastewater Master Plan Update identified the need to construct additional water storage infrastructure in Zone 2 (Elevated Tank) and additional inter-zone water supply capacity (pumps and valves). The current water storage and supply infrastructure is reaching the end of their service life and new infrastructure is needed.

To better understand the impacts and requirements of the increase in storage capacity and water supply, York Region initiated an Environmental Assessment (Class EA) to study and address these issues. The goal is to meet the long-term supply and storage needs for all three Stouffville water pressure zones while also considering what will best meet the needs of York Region and the community.

The study area for the Class EA is approximately bordered on the north side by Bloomington Rd, on the east side by York-Durham Line, on the south side by 19th Ave and on the west side by McCowan Rd.

The Notice of Study Commencement and Public Consultation Centre Number 1 was issued on November 9th, 2017. It described the Environmental Assessment process, the objective of the project and the Problem Statement, and details regarding the Public Consultation Centre. The Notice of Study Commencement and the Notice of Public Consultation Centre #1 were published in the same document due to the proximity of dates.

Public Consultation Centre Number 1 (PCC 1) was held November 23rd, 2017. The purpose of this PCC was to introduce the study and the project team, as well as gather other important information about the study area from participants.

To address the problem statement, potential alternative solutions were identified and divided into two classes of solutions; Storage System Solutions and Supply System Solutions. 16 possible alternative solution combinations were identified. To determine the existing environmental conditions of the Study Area, the project team prepared an Archaeological Screening, Cultural Heritage Screening, Natural Environment Screening, Geotechnical Desktop Study Report and Hydrogeological Impact Assessment.

Based on the Problem Statement and existing environment, the project team developed evaluation criteria. The alternative solutions were comparatively evaluated based on the established evaluation criteria that included Technical Feasibility (ability to satisfy the Stouffville growth projections, ability to satisfy Regional Design Standards, ability to comply with Legislative Requirements, Operation Flexibility), Natural Environment, Social-Cultural Environment and life-cycle cost.

Through the review of the alternatives and the technical requirements to service the full buildout, the recommended preferred solution for the Storage System includes:

1. Upgrading the West Cell of the Stouffville Reservoir to extend its design service life;
2. Increasing the capacity of the Highway 45 High-Lift Pumping Station to increase the effective storage within the West Cell of the Stouffville Reservoir;
3. Retiring the East Cell of the Stouffville Reservoir as that volume is not required;
4. Rehabilitating the Zone 2 Elevated Tank to extend its service life; and,
5. Constructing another PRV chamber from Zone 1 to Zone 2 to facilitate sharing of the Zone 1 fire storage volume.

The recommended preferred Supply System solution was to Do Nothing except to continue to maintain and rehabilitate Well 1, 2, 3, 5, and 6 as required.

The preferred solution does not require additional land or new facilities to be constructed, as such, the Archaeological, Socio-Cultural, Natural Environment and Geotechnical Impacts were determined to be minimal.

The Notice for the Public Consultation Centre Number 2 was issued August 6, 2020. The second Public Consultation Centre (PCC) was held from August 6th to August 13th 2020. Due to COVID-19, this PCC was held virtually on the York Region website. The PCC materials were made available to the public for a duration of 2 weeks, and a feedback/comment box was available. The purpose of this consultation was to provide the public with the opportunity to review the preferred solution. During this PCC, methodology of identifying and analyzing alternatives was presented, before presenting the final preferred solution and the reasoning behind it.

First Nations and Métis organizations that potentially have an interest or stake specifically for this project were identified and contacted throughout the EA process to provide information on the project, receive comments and address any comments/concerns.

The Notice of Study Completion, dated December 17, 2020, was prepared to notify the public of the completion of this study and to advise of opportunities to review this report. At the conclusion of the 30-day public review period, the recommendations of the Class EA will be finalized, provided no Part 2 Order Request is submitted.

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1 INTRODUCTION

The 2016 York Region Water and Wastewater Master Plan Update identified the need to construct additional water storage infrastructure in Zone 2 (Elevated Tank) and additional inter-zone water supply capacity (pumps and valves). The current water storage and supply infrastructure is reaching the end of their service life and new infrastructure is needed. In 2017, York Region initiated the Stouffville Long Term Water Supply Class Environmental Assessment (Class EA) to study and address these issues.

This Project File describes the planning process followed and conclusions reached. This analysis followed the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (Class EA) process. It documents the Study Area, background information, problem/opportunity statement, evaluation of the alternative water solutions, determination of the preferred solutions, and public consultation.

1.1 Study Area

The Class EA Study Area is located in the Regional Municipality of York, and is approximately bordered on the north side by Bloomington Rd, on the east side by York-Durham Line, on the south side by 19th Ave and on the west side by McCowan Rd. Figure 1-1 shows the limits of the study area and the limits of the existing water service area.

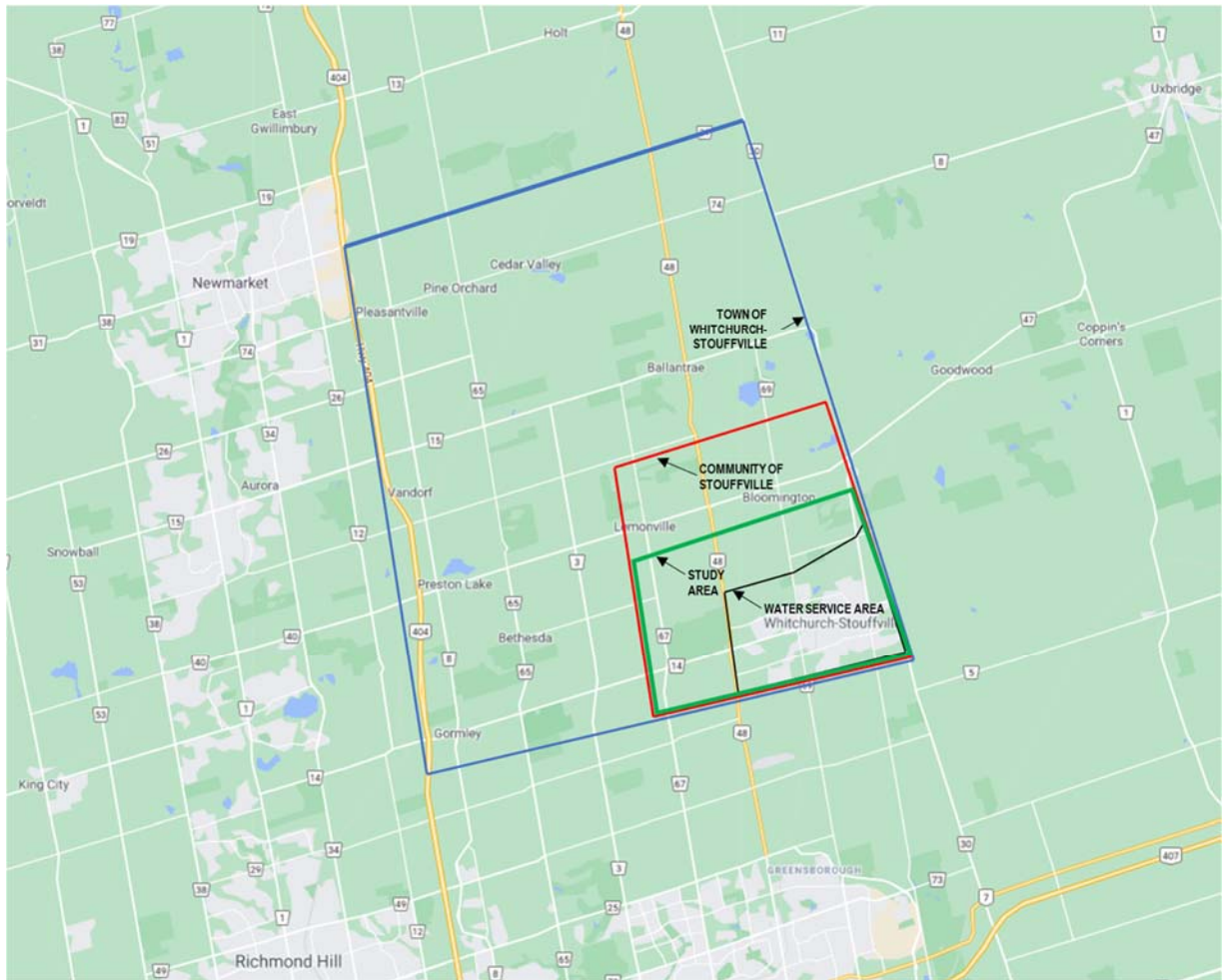
NOTE TO READERS:

Stouffville is the largest urban area within the Town of Whitchurch-Stouffville. All references to “Stouffville” relate to the community that is the focus of this Class EA, while references to “the Town” or to “Whitchurch-Stouffville” relate to the larger municipality.

Figure 1-1 shows the boundaries of the Town of Whitchurch-Stouffville in blue, the boundaries of the community of Stouffville in Red, and the water service area in Black. The Class EA study area is shown in green.

While this Class EA considers the water supply and storage systems of the community of Stouffville, the effects of any changes (including but not limited to adverse environmental impacts) will be reviewed across the entire Study Area.

Figure 1-1 Study Area Map and Map of Whitchurch-Stouffville



1.2 Class Environmental Assessment Process

The planning of major municipal projects or activities is subject to the Ontario Environmental Assessment (EA) Act, R.S.O. 1990, and requires the proponent to complete an Environmental Assessment, including an inventory and description of the existing environment in the area affected by the proposed activity. The Class EA process is maintained and updated by the Municipal Engineers Association, in consultation with the Ministry of the Environment, Conservation and Parks (MECP) as an alternative method to Individual Environmental Assessments for recurring municipal projects that were similar in nature, usually limited in scale and with predictable range of environmental effects which were responsive to mitigating measures.

Class EA provides for the following project designations depending upon potential impacts:

- Schedule A - Projects are limited in scale, have minimal adverse environmental effects and include a number of municipal maintenance and operational activities. These projects are pre-approved. Schedule A projects generally include normal or emergency operational and maintenance activities.
- Schedule A + - Projects are within existing buildings, utility corridors, rights-of-way, and have minimal adverse environmental effects. These projects are pre-approved; however, the public is to be notified prior to project implementation.
- Schedule B - Projects have the potential for some adverse environmental effects. The municipality is required to undertake a screening process (Phases One and Two), involving mandatory contact with directly affected public and relevant review agencies, to ensure they are aware of the project and that their concerns are addressed. Schedule 'B' projects require that a report be prepared and submitted for review by the public and review agencies. If there are no outstanding concerns, then the proponent may proceed to implementation.
- Schedule C - Projects have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified in the Class EA document. Schedule C projects require that an Environmental Study Report be prepared and filed for review by the public and review agencies.

The Project Team initiated this project as a Schedule 'B' Class Environmental Assessment. The project classification was reconfirmed following the identification of the alternative solutions (see Section 0). As a Schedule 'B' activity, the following Class EA planning phases apply:

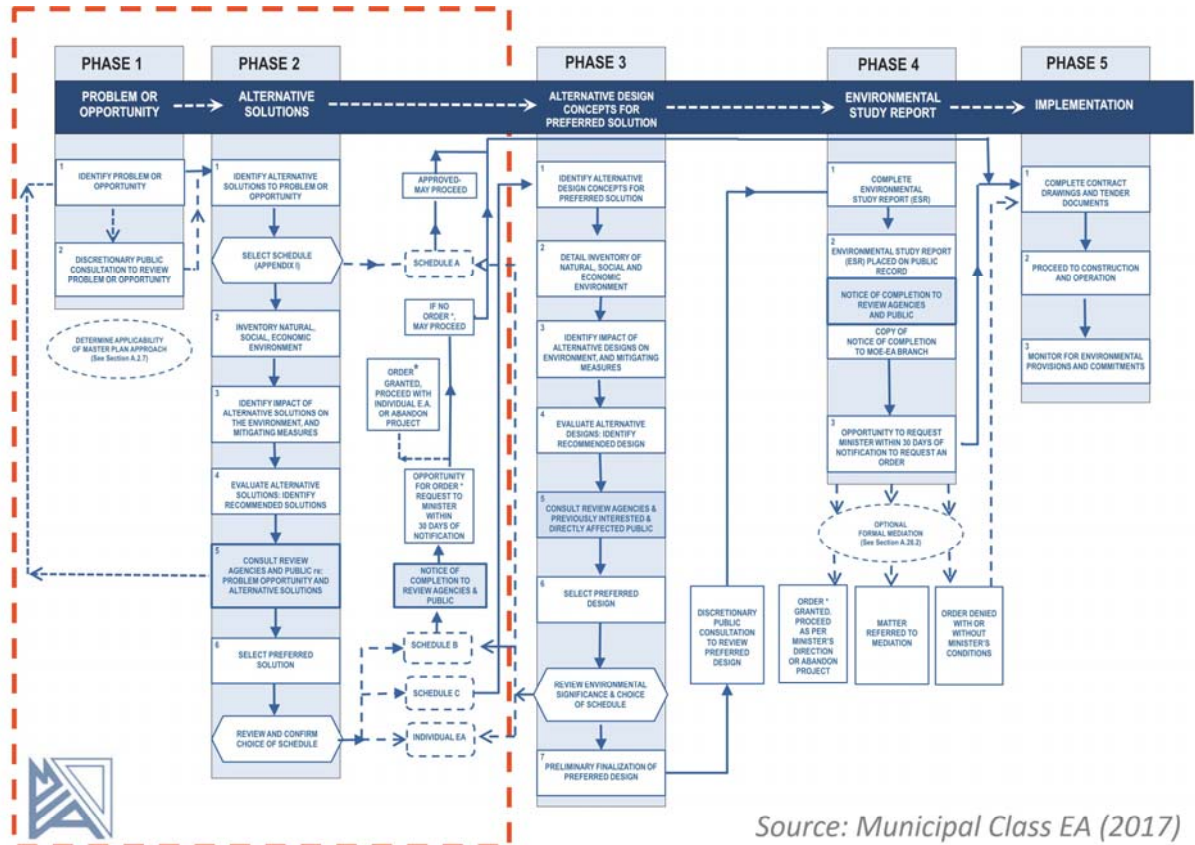
- Phase 1 - Identify the problem (deficiency) or opportunity.
- Phase 2 - Identify and evaluate alternative solutions to address the problem or opportunity by taking into consideration the existing environment, and establish the preferred solution taking into account public and review agency input.
- Phase 5 - Complete contract drawings and documents and proceed to construction and operation; monitor construction for adherence to environmental provisions and commitments. Where special conditions dictate, also monitor the operation of the completed facility.

The Class EA process also provides an appeal process to change the project status. Under the provisions of subsection 16 of the amended EA Act, there is an opportunity under the Class EA planning process for the Minister to review the status of a project. Members of the public, interest groups and review agencies may request the Minister to require a proponent to comply with Part II of the EA Act, before proceeding with a proposed undertaking. This is known as a "Part II Order" (formerly called "Bump-Up Request"). The Minister determines whether this is necessary with the Minister's decision being final. The procedure for dealing with concerns which may result in the Minister, by order, requiring the proponent to comply with Part II of the Act is outlined in the Municipal Class Environmental Assessment document.

Following the end of the 30-day public review period, if there are no outstanding Part II Order Requests, the project may proceed to Phase 5 of the Class EA process to complete design and the contract drawings and

tender documents, and then move on to construction. A flow chart describing the Class EA planning and design process is shown in Figure 1-2.

Figure 1-2 Class EA Planning Flow Chart (MEA, October 2000, as amended in 2007, 2011 & 2015)



Source: Municipal Class EA (2017)

Extent of Present 'Schedule B' Study

1.3 Project Team

The Regional Municipality of York retained the services of The Municipal Infrastructure Group Ltd. to undertake the Schedule B Class Environmental Assessment. The key members of the project team are listed in Table 1-1.

Table 1-1 Key Project Team Members

The Regional Municipality of York	
Project Manager	Luis Carvalho, M.Sc, P.Eng., PMP
Special Project Technologist	Courtney Munro
The Municipal Infrastructure Group Ltd.	
Project Manager	Stephen O'Brien, P.Eng.
Assistant Project Manager	Kevin Brown, P.Eng.

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2 BACKGROUND INFORMATION

As part of this study, TMIG has undertaken a review of the background information relating to the community's water supply. The following documents were reviewed to develop the Problem and Opportunity statement for the Class Environmental Assessment.

1. York Region Water and Wastewater Master Plan Updates
2. Oak Ridges Moraine Conservation Plan
3. MECP Permit to Take Water
4. MECP Drinking Water Works Permit

The relevant details of these documents are summarised below.

2.1 York Region Water and Wastewater Master Plan Updates

The Region's current 2016 Water and Wastewater Master Plan identifies two growth-related water projects for the study area of Stouffville:

- 1) W2 – Stouffville zone 2 Capacity Increase – Phase 2 (Schedule B); Construct a new elevated tank with a capacity of 4 ML and 1.5 kilometres of watermain to provide additional storage capacity to service growth in Stouffville.
- 2) W26 – Stouffville Zone 2 Booster Pumping Station Pump Addition (Schedule A); Install a new pump and replace three existing pumps at Stouffville Zone 2 booster pumping station to reach ultimate station capacity of 290L/s. The project is required to support growth in Stouffville.

No other water infrastructure requirements are listed for this water service area.

2.2 Oak Ridges Moraine Conservation Plan

The Oak Ridges Moraine Conservation Plan (ORMCP) is a document which was developed to provide land use and resource management direction for the lands within the Moraine. The Study Area lies wholly within the Oak Ridges Moraine, and the following Land Use Designations apply:

- Stouffville is classified as a Settlement Area;
- The lands north of Stouffville – within the Study Area - are classified as Countryside Area and Natural Linkage Area.

With respect to water supply and storage, Wells 1, 2, and 3 and both existing elevated tanks are located within the Settlement Area. Wells 5 and 6, and the existing Stouffville Reservoir are located within the Natural Linkage Area.

The ORMCP defines the requirements by which water servicing may be provided in the Moraine. Among the conditions is that:

An application for a transportation, infrastructure or utilities use with respect to land in a Natural Linkage Area shall not be approved unless,

- (a) the need for the project has been demonstrated and there is no reasonable alternative; and*
- (b) the applicant demonstrates that the following requirements will be satisfied, to the extent that is possible while also meeting all applicable safety standards:*
 - 1. The area of construction disturbance will be kept to a minimum.*
 - 2. Right of way widths will be kept to the minimum that is consistent with meeting other objectives such as stormwater management and with locating as many transportation, infrastructure, and utility uses within a single corridor as possible.*
 - 3. The project will allow for wildlife movement.*
 - 4. Lighting will be focused downwards and away from Natural Core Areas.*
 - 5. The planning, design and construction practices adopted will keep any adverse effects on the ecological integrity of the Plan Area to a minimum*

Any infrastructure proposed for within the Natural Linkage Areas would have to consider the above restrictions.

2.3 MECP Permit to Take Water

The Region's current Permit to Take Water (Number 8125-AJ8Q32 issued on February 7th, 2017) limits the volume of groundwater which can currently be extracted from the aquifer from which supplies the drinking water system.

The maximum water takings authorized by this permit are detailed in **Table 2-1**.

Table 2-1 Maximum Water Takings per day (authorized by PTTW)

Source Name	Maximum Taken per day (m ³)
Well 1	2,946
Well 2	2,946
Well 3	2,946
Well 5	3,110
Well 6	2,290
Total	14,239

2.4 MECP Drinking Water Works Permit

The Region's current Drinking Water Works Permit (Number 013-201, Issue Number 08, issued on June 11th, 2015) has several Stouffville capacities. The details are provided in **Table 2-2**.

Table 2-2 Pump Capacities (authorized by DWWP)

Source Name	Well Pump Capacity (L/min)	Well Pump Capacity (m ³ /day)
Well 1	2,046	2,946
Well 2	2,046	2,946
Well 3	2,388	3,439
Well 5	2,040	2,938
Well 6	1,590	2,290

Since the pumping capacities authorized by the DWWP are higher than the maximum water takings authorized by the PTTW, the PTTW limits the water production in this system.

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3 OVERVIEW OF EXISTING REGIONAL WATER INFRASTRUCTURE

The details of the existing water supply system are provided in *Technical Memorandum TM1 – Identification of Problem or Opportunity*. The full memo is provided in **Appendix A**, and a summary is provided in this section.

3.1 Existing Water Supply and Distribution System

The Stouffville Water System is comprised of three pressure districts, Zones 1, 2, and 3. All water supplied into the system is through Zone 2 and is then distributed to Zone 1 and 3. Zone 1 is supplied through a Booster Pumping Station and Zone 3 is supplied through pressure reducing valves (PRV's) located between Zone 2 and Zone 3.

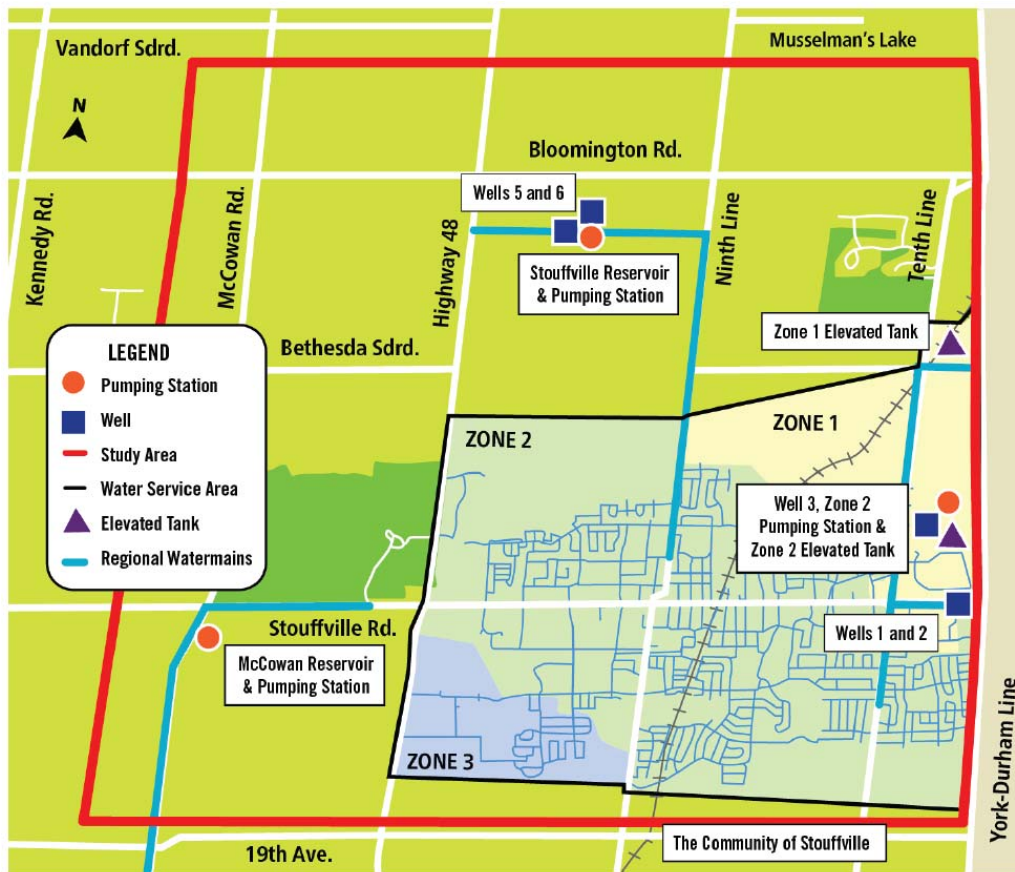
There are five operational wells providing water to the Stouffville water system, details on these wells are shown in **Table 3-1**. Their locations are shown in Figure 3-1.

Table 3-1 Existing Well Capacities

	Location	Commissioned	PTTW Max Daily Water Taking [m ³]	2015 Max Daily Water Taking [m ³]	2015 Average Daily Water Taking [m ³]
Well 1	6985 Main Street	1999	2,946	1,920	588
Well 2		1999	2,946	1,838	550
Well 3	12519 Tenth Line	1983 (upgrades in 2004)	2,946	2,046	1,104
Well 5	13461 Highway 48	1967 (upgrades in 2002, 2004, 2005)	3,110	1,415	80
Well 6		1967 (upgrades in 2002, 2004, 2005)	2,290	1,393	789
Lake-Based Stouffville Zone 2 Pumping Station	12157 McCowan Road	2009	15,000	7,820	4,050
Total Capacity			29,238	16,432	7,161
Total Firm Capacity			26,128		

Storage in the system is provided through Stouffville Zone 1 Elevated Tank, Stouffville Zone 2 Elevated Tank, and Stouffville Reservoir, which is split into the East and West cells and equipped with a high lift pumping station.

Figure 3-1 Water System



3.2 Design Criteria

The per capita demands were based on York Region’s 2016 Water and Wastewater Master Plan. An overview of the consumption rates across the various years is shown in **Table 3-2**. This data predicts an overall decline in water consumption, through ongoing efforts at water conservation.

Table 3-2 Unit Consumption Rates

Year	Residential Unit Rate (L/c/d)	Employment Unit Rate (L/c/d)
2016	233	182
2041	189	144

The peaking factor used was 1.8. This value was obtained from York Region’s Water and Wastewater Master Plan design bases provided by the Region (York Region, *Water and Wastewater Master Plan*, Section 3.4, 2016).

The fire flow was based on the Region’s design criteria. Sentence 14.4.2.1.g. of the York Region Water system design guideline describes the fire demands:

“The water distribution system must be adequate to meet all of the demands in the system, including fire demand from the highest potential fire risk in the district. Fire demands to be determined using the “Water Supply for Public Fire Protection – a Guide to Recommended Practice 1991”, by the Fire Underwriters Survey. In addition a commercial or industrial fire of 17,000 L/min for a duration of 3.5 hours to be used for all large pressure districts and a fire of 10,000 L/min for a duration of 2 hours to be used for smaller pressure districts with smaller commercial, medium and high density residential developments.”

In the case of this system, the criteria of 17,000 L/min for a duration of 3.5 hours has been used.

3.3 Water Supply Requirements

The current firm water supply capacity (26,120 m³/day) exceeds the 2041 maximum day demand (20,821 m³/day). Based on the projected population and employment numbers, there would be an overall decline in the available supply capacity if any of the existing wells were to be retired at the end of their design life (without a commensurate increase in the supply from the Lake-Based supply). The projected Water demands per zone are shown in **Table 3-3**.

Table 3-3 Water Demand Projections

Year	Total Max Day Demands (m ³ /day)	Zone 1 Total Demands (m ³ /day)	Zone 2 Total Demands (m ³ /day)	Zone 3 Total Demands (m ³ /day)
2016	15,686	2,030	12,519	1,137
2041	20,821	4,101	15,184	1,536

Table 3-4 shows how the existing water supply system would fail to meet the overall demands when factoring in the Stouffville firm water supply capacity and estimated available service life for each of the wells. The total supply capacity considers the highest capacity well at any given year examined out of service, which is why it is set to 0 in the Table.

Table 3-4 Water Supply Firm Capacity with End of Life for Wells

	2016	2021	2026	2031	2036	2041
Population	39,342	48,412	57,476	60,351	62,093	64,671
MDD (m ³ /day)	15,686	17,955	20,657	20,767	20,627	20,821
Well 1 (m ³ /day)	2,946	2,946	2,946	2,946	2,946	2,946
Well 2 (m ³ /day)	2,946	2,946	2,946	2,946	2,946	2,946
Well 3 (m ³ /day)	0	0	0	0	0	0
Well 5 (m ³ /day)	2,938	2,938	2,938	0	0	0
Well 6 (m ³ /day)	2,290	2,290	2,290	0	0	0
Lake-Based Supply (m ³ /day)	15,000	15,000	15,000	15,000	15,000	15,000
Firm Capacity (m ³ /day)	26,120	26,120	26,120	20,892	20,892	20,892

3.4 Water Storage Requirements

Design storage volume is typically established based on the sum of the following:

- A. Fire Storage: For smaller pressure districts and per York Region Design guidelines a fire flow requirement of 17,000 L/min for a duration of 3.5 hours has been used. This results in a Fire Storage requirement of 3,570 m³.
- B. Equalization Storage: The equalization storage is typically established as 25% of the maximum day demand. From the York Region's 2016 Water and Wastewater Master Plan data and provided water model this value is 508 m³ for Zone 1 and 3,414 m³ for Zone 2+3 for 2016.
- C. Emergency Storage: The emergency storage is recommended to be equal to 25% of the sum of the Fire and Equalization Storage Volumes. In this case, the emergency storage requirement would be 1,020 m³ for Zone 1 and 1,746 m³ for Zone 2+3 for 2016 (assuming dedicated fire storage in Zone 1 and Zone 2+3).

The existing storage requirements for Zone 1 are 5,098 m³ and 8,730 m³ for Zone 2/3. These requirements are based on population projects and are shown in **Table 3-5**.

Table 3-5 Water Storage Requirements

Year	Population	MDD (m ³ /day)	Required Storage Volume (m ³) Zone 1	Required Storage Volume (m ³) Zone 2/3
2016	39,342	15,686	5,097	8,730
2041	64,671	20,821	5,744	9,687

4 PROBLEM STATEMENT

The Problem Statement for the Stouffville Water Storage Class EA was defined in *Technical Memorandum TM1 – Identification of Problem or Opportunity* (the full memo is provided in **Appendix A**), and is repeated below:

The 2016 York Region Water and Wastewater Master Plan Update identified the need to construct additional water storage infrastructure in Zone 2 (elevated tank) and additional inter-zone water supply capacity (pumps and valves). The current water storage and supply infrastructure is reaching the end of their service life and new infrastructure is needed.

To better understand the impacts and requirements of the increase in storage capacity and water supply, York Region has initiated an Environmental Assessment (Class EA) to study and address these issues. The goal is to meet the long-term supply and storage needs for all three Stouffville water pressure zones while also considering what will best meet the needs of York Region and the community. Providing service to 2041 may require an increase in the storage volumes.

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5 ALTERNATIVE SOLUTIONS

The details of alternative water supply solutions are provided in *Technical Memorandum TM2/3 – Identification of Alternative Solutions and Selection of Class EA schedule*. The full memo is provided in **Appendix B**, and a summary is provided in this section. A hydraulic water model (provided by the Region) was utilized to assist with developing the alternative solutions and the hydraulic reports created are provided in **Appendix L**.

5.1 Classes of Solutions

In this Class EA, two classes of solutions are being considered:

- Supply Solutions; and,
- Storage Solutions.

5.2 List of Alternative Solutions – Supply Solutions

As part of the EA process, the Alternative Solutions for the Supply Facilities were identified:

1. **Do Nothing:** Don't increase water supply, maintain current facilities indefinitely but without any expansion. This alternative will require reinvestment in the existing facilities and the assumption that existing facilities can continue to operate beyond their assumed end-of-service life;
2. **Limit Community Growth:** Limit population growth to the capacity of the existing water supply. (population of 80,000);
3. **Water Conservation:** 'Stretch' the existing water supply by using less water per person. This option does not involve building additional infrastructure, but the success of the program is difficult to guarantee.
4. **Change the Percentage of Water Supplied from Lake-Based System:** Retire some of or all the existing well facilities when they reach the end-of-service life, and replacing this production capacity with an increased supply from the Lake-Based system;
5. **Expand Existing Wells:** Increase the supply capacity of remaining wells to replace production capacity of any wells that are retired at their end-of-service life or install additional wells at existing well fields; and
6. **Develop New Well Sites:** Install new well system at a different location from the existing wells. This would involve a new water source complete with pumps, chemical systems, and backup power.

5.3 List of Alternative Solutions – Storage Solutions

As part of the EA process, the Alternative Solutions for the Storage Facilities were identified:

1. **Do Nothing:** Don't change any of the existing water storage infrastructure servicing the Stouffville system, maintain current facilities indefinitely. This alternative will require reinvestment in the existing facilities;
2. **Limit Community Growth:** Limit population growth to the capacity of the existing water storage. (Capacity limit of this storage was surpassed in 2017);
3. **Water Conservation:** 'Stretch' the existing water supply by using less water per person. This option does not involve building additional infrastructure, but the success of the program is difficult to guarantee;
4. **Build Additional Zone 2 Storage:** Build additional storage required to keep up with growth. Any new storage facility could be sized to allow for the retirement of an existing Zone 2 storage facility; and
5. **Facilitate Shared Fire Storage Between Zone 1 and Zone 2 and Maintain Current Storage Facilities:** Combine fire storage of Zone 1 and Zone 2 (fire storage would be provided by Zone 1).

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6 CONFIRMATION OF CLASS EA SCHEDULE

Section 5 lists the individual Supply and Storage alternatives. The potential combinations of solutions are presented in a matrix format in **Table 6-1**.

Only combinations of alternatives, and not individual alternatives, are being carried forward to the detailed evaluation. Limit Community Growth is not aligned with the approved Official Plan, and therefore does not address the problem statement. Water Conservation on its own does not address the problem statement. Any combinations that include Limit Community Growth or Water Conservation are not being carried forward and are denoted with an N/A at the intersection in the matrix. This leaves 16 potential Alternative Combinations which will be considered through the process, these are highlighted in Green.

The specific class EA Schedule requirements for each of the alternatives carried forward can be found in *Technical Memorandum 2/3 – Identification of Alternative Solutions and Selection of Class EA Schedule*. The full memorandum is provided in **Appendix B**.

To allow for full consideration of the alternatives, the Stouffville EA proceeded in accordance with a Schedule B Class Environmental Assessment.

Table 6-1 Description of Project Schedules under the MCEA

			Supply Alternatives					
			Do nothing	Limit Community Growth	Water Conservation	Change the Percentage of Water Supplied from Lake-Based System	Expand Existing Wells	Develop New Well Sites
			No Class EA Schedule	Not Carried Forward	Not Carried Forward	Schedule 'A+'	Schedule 'B' (or 'C')	Schedule 'B' (or 'C')
Storage Alternatives	Do Nothing	No Class EA Schedule	No Class EA Schedule	N/A	N/A	Schedule 'A+'	Schedule 'B'	Schedule 'B'
	Limit Community Growth	No Class EA Schedule	No Class EA Schedule	N/A	N/A	Schedule 'A+'	Schedule 'B'	Schedule 'B'
	Water Conservation	Not Carried Forward	N/A	N/A	N/A	N/A	N/A	N/A
	Build Additional Zone 2 Storage	Schedule 'B'	Schedule 'B'	N/A	N/A	Schedule 'B'	Schedule 'B'	Schedule 'B'
	Supply Fire Storage from Zone 1	Schedule 'A'	Schedule 'A'	N/A	N/A	Schedule 'A+'	Schedule 'B'	Schedule 'B'

Based on the above, undertaking this Class EA as a Schedule B will satisfy the approval requirements for each of the alternatives being considered. As such, Phases 1 and 2 of the Class EA process must be completed before the recommended alternative can proceed to implementation.

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7 POTENTIAL ENVIRONMENTAL IMPACTS

Environmental Screening Documents were prepared to determine the existing environmental conditions:

- Archaeological Screening;
- Cultural Heritage Screening;
- Natural Environment Screening; and,
- Geotechnical Desktop Study Report.
- Hydrogeological Impact Assessment

A summary of these reports is provided in *Technical Memorandum TM4 – Inventory of the Environment (Appendix C)* and discussed in the following sections. The individual screening documents are provided in **Appendix G** through **Appendix K**.

While this Class EA did not focus on specific sites for the potential facilities which could be needed to support increased water supply and storage, we can draw the following conclusions with respect to the evaluation of the alternative solutions:

- From a Cultural Heritage perspective, the significant sites are generally located in the established community core, which would not normally represent a suitable location for new water supply or storage facilities;
- From a Geotechnical perspective, the conditions across the Study Area are reasonably homogeneous. Overall, the surficial geology is glacially derived, and there will be potential for boulders to be encountered during the construction of any new facilities. That potential is expected to be reasonably consistent throughout the study area, so there is no basis to exclude any areas from future consideration based on geology; and,
- The primary constraints from the Class EA perspective are the Archaeological Potential and the Natural Environment.
- Virtually all the Study Area is located within Greenbelt and Oak Ridges Moraine areas, both of which can be deemed suitable for new facilities, subject to meeting the specific criteria of the legislation.
- Comparing the Archaeological and Natural Environment maps indicate that there is significant land area which is not constrained by either archaeological potential or significant natural features. These areas are predominantly located north of Bloomington Road, but there are isolated sites throughout the area which would likely accommodate new water storage or supply facilities. These isolated areas represent a variety of ground elevations, which will allow a variety of types of storage (elevated tanks, standpipes, at-grade reservoirs) to be considered.

7.1 Archaeology

As shown in the Archaeological Screening in **Appendix G**, there are 38 registered archaeological sites located within one kilometre of the Class EA Study Area: 11 pre-contact Aboriginal sites, 23 historical Euro-Canadian sites, and four sites of unknown cultural affiliation. A review of the York Region's Potential Model (updated 2015) indicates much of the study area has been identified as exhibiting archaeological potential for the identification of pre-contact Aboriginal and historical Euro-Canadian archaeological resources.

There is a known Wendat (Huron) ancestral village within the southeast part of the community of Stouffville, and much of the area outside of the current settlement area has been identified as having Archaeological Potential. Much of the land is identified as such due to the proximity of various streams and rivers.

These sites need to be avoided to the extent possible.

7.2 Cultural Heritage

The Class EA Study Area contains the following known cultural heritage resources:

1. Four protected heritage properties designated under Part IV of the Ontario Heritage Act:
 - i. 19 North Civic Avenue, Stouffville (Clock tower);
 - ii. 19 South Civic Avenue, Stouffville (now the Lebovic Centre for Arts & Entertainment since 2009);
 - iii. 6060 Main Street, Stouffville (Residence); and,
 - iv. 6528 Main Street, Stouffville (Memorial Christian Church)
2. One 'Heritage Area':
 - i. The Town of Whitchurch-Stouffville Official Plan and Community of Stouffville Secondary Plan have designated a Heritage Area in downtown Stouffville; however, this is not designated as a Heritage Conservation District under Part V of the Ontario Heritage Act.
3. Four cemeteries:
 - i. Baker Hill Baptist Church Cemetery, 13448 Highway 48;
 - ii. Bloomington Methodist Cemetery, 13659 Ninth Line;
 - iii. Lemonville United Church Cemetery, 4871 Bloomington Road; and,
 - iv. Stouffville Cemetery, 12118 Tenth Line
4. One heritage plaque:
 - i. The plaque commemorating the Founding of Stouffville is located on the north side of Main Street in front of Latcham Gallery (6240 Main Street);

In addition to these, other potential heritage resources may also exist. These resources should be avoided to the extent possible.

7.3 Natural Environment

As demonstrated on Figures 2 and 3 of **Appendix I**, the Study Area contains numerous natural environment features:

- Numerous creek tributaries, lakes, and ponds (draining through the Lake Ontario Watershed);
- Woodlots, hedgerows, and wooded valleys;
- Endangered and threatened species;
- Significant Woodlands, Significant Valley lands;
- Provincially Significant Wetlands;
- Fish Habitat surface water features;
- Areas of Natural or Scientific Interest (ANSI);
- Oak Ridges Moraine; and,
- Greenbelt Planning area;

These features should be avoided to the extent possible.

7.4 Geotechnical

The subsurface conditions were also reviewed to assess potential construction challenges that might present obstacles that are difficult or expensive to overcome.

The surficial geology mapping (Figure 2 of **Appendix J**) indicates that the study area is generally composed of sand, gravel and non-cohesive deposits in the northern portion of the site, with silt, fine sand, clay and till in the southern portion of the site.

Glacially derived till soils may impact excavations and may require cobble/boulder removal. The excavation rate may be impacted when excavating the very dense till material. Conventional bedding for underground utility installation is generally anticipated; however, bedding thickness may be required to maintain basal stability of trenches during construction. This could have cost impacts.

7.5 Hydrogeological

The well performance and capacity was also reviewed to assess the groundwater system in Stouffville. An assessment of well capacity and groundwater quality at the five Stouffville municipal wells was conducted and is included in **Appendix K**.

Wells PW1, PW2, and PW5 appear capable of producing the necessary water rate for the 2041 Planning horizon, although additional testing is recommended to confirm capacity. PW3 demonstrated groundwater quality concerns.

The report recommended a groundwater exploration program to investigate additional source of supply to maintain current total capacity through the EA planning horizon to 2041.

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8 EVALUATION OF ALTERNATIVE SOLUTIONS

The details of the evaluation of the Alternative Solutions are provided in *Technical Memorandum TM5 – Identification of Potential Impacts* and *Technical Memorandum TM6 – Evaluation of the Impact of Alternative Solutions*. The full memorandums are provided in **Appendix D** and **Appendix E** respectively, and a summary is provided in this section.

Since there are two classes of solutions being considered for this Class EA, the Evaluation of the Alternatives was completed for each class separately.

The alternative solutions for both classes of solutions were evaluated based on the following criteria:

- The solution’s Technical Feasibility;
- The ability of the solution to satisfy the Stouffville growth projections;
- The ability of the solution to satisfy Regional Design Standards;
- The ability of the solution to comply with Legislative Requirements;
- The solution’s Operation Flexibility (present, and future expandability);
- The potential impacts on the Natural Environment;
- The potential impacts on the Social-Cultural Environment; and,
- The life-cycle cost of the solution.

The evaluation is a *qualitative* assessment, with the assessment of the impacts rated relative to the other alternatives as follows:

Lowest Impact 1 Most Preferred	2	3	Greatest Impact 4 Least Preferred
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8.1 Evaluation of Water Supply Alternatives

The alternatives carried forward in the Class EA Process for evaluation regarding Water Supply were the following:

1. Do Nothing; and
2. Retire Well 3 and replace that supply capacity at an existing well site.

Table 8-1 compiles the assessments of each of the evaluation criteria presented into a matrix which allows for a comparative assessment of the alternatives for Water Supply.

Table 8-1 Overall Assessment of Water Supply Alternatives

Alternative	Technical Feasibility	Satisfies Planned Growth	Satisfies Design Standards	Complies with Legislative Requirements	Provides Operational Flexibility	Impact on Natural Environment	Impact on Socio-Cultural Environment	Capital Costs	Life Cycle Costs	OVERALL RANKING
1. Do Nothing	1	1	1	1	1	1	2	2	2	1.3
2. Retire Well 3 and Expand Existing Wells	1	1	1	1	1	3	3	3	3	1.9

According to **Table 8-1**, The preferred solution is to Do Nothing / Limit Community Growth / Implement Water Conservation.

8.2 Evaluation of Water Storage Alternatives

The alternatives carried forward in the Class EA Process for evaluation regarding Water Storage were the following:

1. Do Nothing;
2. Limit Community Growth;
3. Implement Water Conservation; and,
4. Facilitate Shared Fire Storage Between Zone 1 to Zone 2 and Build Additional Zone 2 Storage:
 - a. No Storage Facilities Retired;
 - i. Rehabilitate 1 Reservoir Cell and Rehabilitate Zone 2 Elevated Tank;
 - ii. Rehabilitate Both Reservoir Cells and Rehabilitate Zone 2 Elevated Tank;
 - b. Retire Zone 2 Elevated Tank;
 - i. Build New Storage Facility, Rehabilitate 1 Reservoir Cell and Retire Zone 2 Elevated Tank;
 - ii. Build New Storage Facility, Rehabilitate both Reservoir Cells and Retire Zone 2 Elevated Tank;
 - c. Retire Stouffville Reservoir and High Lift Pumping Station;
 - i. Build New Storage Facility, Retire Stouffville Reservoir and Rehabilitate Zone 2 Elevated Tank;
 - d. Retire Stouffville Reservoir, High Lift Pumping station and Zone 2 Elevated Tank;
 - i. Build New Storage Facility, Retire Stouffville Reservoir and Retire Zone 2 Elevated Tank.

Table 8-2 compiles the assessments of each of the evaluation criteria presented into a matrix which allows for a comparative assessment of the alternatives for Water Storage.

Table 8-2 Overall Assessment of Water Storage Alternatives

Alternative		Technical Feasibility	Satisfies Planned Growth	Satisfies Design Standards	Complies with Legislative Requirements	Provides Operational Flexibility	Impact on Natural Environment	Impact on Socio-Cultural Environment	Capital Costs	Life Cycle Costs	OVERALL RANKING
1.	Do Nothing	4	4	4	1	4	1	2	1	1	<u>2.44</u>
4.	Facilitate Shared Fire Storage Between Zone 1 to Zone 2										
a) i)	Rehabilitate 1 Reservoir Cell and Rehabilitate Zone 2 Elevated Tank	1	1	1	1	3	1	2	2	2	<u>1.56</u>
a) ii)	Rehabilitate Both Reservoir Cells and Rehabilitate Zone 2 Elevated Tank	1	1	1	1	3	1	2	2	3	<u>1.67</u>
b) i)	Build New Storage Facility, Rehabilitate 1 Reservoir Cell and Retire Zone 2 Elevated Tank	1	1	1	1	3	1	2	3	3	<u>1.78</u>
b) ii)	Build New Storage Facility, Rehabilitate both Reservoir Cells and Retire Zone 2 Elevated Tank	1	1	1	1	4	3	2	1	1	<u>1.67</u>
c) i)	Build New Storage Facility, Retire Stouffville Reservoir and Rehabilitate Zone 2 Elevated Tank	1	1	1	1	1	3	3	4	4	<u>2.11</u>
d) i)	Build New Storage Facility, Retire Stouffville Reservoir and Retire Zone 2 Elevated Tank	1	1	1	1	2	4	4	4	4	<u>2.44</u>

According to **Table 8-2**, the preferred solution is to Rehabilitate 1 Reservoir Cell and Rehabilitate Zone 2 Elevated Tank.

9 RECOMMENDED PREFERRED SOLUTION

The recommended preferred solution was determined to be:

- Rehabilitate 1 reservoir cell and rehabilitate Zone 2 Elevated Tank for the Storage System; and,
- Do Nothing, except upgrade Wells 1, 2, 3, 5, and 6 for the Supply System.

This alternative was presented as such through stakeholder consultations.

The details of the recommendation are provided in *Technical Memorandum 7 – Confirmation of the Preferred Solution*. The full memo is provided in **Appendix F** and a summary is provided in this section.

9.1 Recommended Supply System Solution

The preferred solution for water supply is the “Do Nothing” alternative, as the existing wells are able to provide the average-day demands for the projected 2041 population. The average-day supply requirement is the Region’s policy for Stouffville, with the additional supply to meet maximum day demands being provided by the lake-based system (through the McCowan Reservoir).

This alternative does not mean that no work will be completed. This preferred solution allows for rehabilitation of the five existing well facilities to maintain and extend their design service lives. Wells 1, 2, 3, 5, and 6 will be rehabilitated to maintain current capacity.

9.2 Recommended Storage System Solution

The Zone 2+3 storage requirement based on the 2041 population projection is 5,225 m³, with the provision of Fire Storage from the Zone 1 Elevated Tank. The Zone 2+3 volume, then, only includes equalization storage and emergency storage.

As described in Technical Memorandum 6, the 2041 required storage requirement exceeds the 2041 effective storage available in Zone 2 (1,242 m³ of *effective* storage in the Stouffville Reservoir, and no Zone 2 Elevated Tank). Therefore, an additional storage capacity of 3,983 m³ is required.

This preferred solution includes:

1. **Upgrading the West Cell of the Stouffville Reservoir** to extend its design service life;
2. **Increasing the capacity of the High-Lift Pumping Station** to increase the effective storage within the West Cell of the Stouffville Reservoir;
3. **Retiring the East Cell of the Stouffville Reservoir** as that volume is not required;
4. **Rehabilitating the Zone 2 Elevated Tank** to extend its service life; and,
5. **Constructing another PRV chamber from Zone 1 to Zone 2** to facilitate sharing of the Zone 1 fire storage volume.

9.3 Confirmation of EA Schedule

The individual components of the preferred solution dictate the Class EA schedule. Each of the five components of the preferred storage solution are listed below, with their classification under the Class EA guideline.

- Upgrade the Stouffville Reservoir – West Cell

This constitutes a refurbishment of the existing reservoir cell, which is classified as a ‘Schedule A’ activity:

1. Normal or emergency operational activities. Such activities may include... repairs and renovations to treatments and pumping plant equipment, water storage facilities, distribution mains and appurtenances.

- Upgrade the High-Lift BPS

This capacity expansion is classified as a 'Schedule A' activity:

2. Increase pumping station capacity by adding or replacing equipment where new equipment is located within an existing building or structure.

- Rehabilitate Zone 2 Elevated Tank

This constitutes a refurbishment of the existing elevated tank, which is classified as a 'Schedule A' activity:

1. Normal or emergency operational activities. Such activities may include... repairs and renovations to treatments and pumping plant equipment, water storage facilities, distribution mains and appurtenances.

- Decommission Stouffville Reservoir – East Cell

Retiring the Reservoir cell is classified as a 'Schedule A+' activity:

5. Retire a water facility which would have been planned under Schedule B or C of the Municipal Class EA for its establishment.

- Install New Pressure-Reducing Valve

Valves are defined as appurtenances with respect to water distribution systems, which classifies this work as a 'Schedule A' activity'

1. Normal or emergency operational activities. Such activities may include... install new service connections, hydrants and appurtenances from existing watermains.

Of the five individual projects identified above, the project with the most rigorous Class EA schedule is the retirement of the Stouffville Reservoir, which is classified as a Schedule A+ activity. As this Class EA process was undertaken as a 'Schedule B' exercise, the Class EA requirements of all the above elements have therefore been satisfied.

9.4 Environmental Impacts and Mitigating Measures

The preferred storage system solution projects will all be implemented within existing Regional facilities, and on lands currently owned by the Region. No additional property is required, provided the Zone 2 Elevated Tank is rehabilitated, and not removed and replaced.

The preferred supply system solution project requires no additional property.

9.4.1 Hydrogeological Impact

As no modifications to the existing wells are proposed, and the future demands on the wells will remain with the existing permitted capacities, there are no anticipated hydrogeological impacts.

9.4.2 Archaeological Impact

As there are no additional land requirements associated with either the Storage System or Supply System solutions, we do not anticipate any archaeological findings to prevent the preferred solution to proceed.

As no additional outside work is required, we do not anticipate discovering any objects of archaeological significance. A Stage 2 Archaeological Study is not required.

9.4.3 Socio-Cultural Impact

The recommended storage system preferred solution includes the installation of a new PRV and upgrades to the Reservoir and Pumping Station. These could potentially cause Noise and Vibration disturbances. Residential, commercial, and industrial consumers may also experience service disruption during upgrades and PRV installation.

There is no new infrastructure required in the supply system preferred solution. However, there would be minor works associated with upgrading the Wells and Zone 2 Booster pumping station which may cause low levels of Noise and Vibration.

9.4.4 Natural Environment Impact

For upgrades to the Stouffville Reservoir and the Elevated Tank there are no new facilities to be constructed, and upgrades to these facilities occur within the existing footprint of the facilities, there is low impact to the Natural Environment. The PRV Chamber is a new component, although it is proposed to replace an existing valve. No additional property is required for the PRV as all projects will be implemented within existing Regional facilities and on land currently owned by the Region.

There are no Natural Environment impacts due to the “Do Nothing” solution for the Supply System.

9.4.5 Geotechnical Impact

As there are no additional land requirements associated with either the Storage System or Supply System solutions, and upgrades for recommended preferred solutions will occur within the existing footprint of the facilities, there will be no geotechnical impacts.

9.5 Permits and Approvals

A variety of permits and approvals are required to implement the preferred solutions.

9.5.1 Upgrade the Stouffville Reservoir – West Cell

The upgrade work under this preferred solution requires MECP approval (Form 1/2).

Coordination with the local municipalities, including Town of Whitchurch-Stouffville will be required during the Preliminary and Detailed Design Process.

9.5.2 Upgrade the High Lift PS

Depending on the proposed upgrades, a building permit and site plan approval from the local municipality could be required.

The works within TRCA regulated area may require a Permit for the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (Pursuant To Ontario Regulation 166/06). Should there be

an increase in impervious cover within the TRCA regulated area, the TRCA Stormwater Management Criteria (SWM) may be applicable. This will be confirmed during preliminary and detailed design.

Similarly, during preliminary or detailed design, the building size will be reviewed. If the building is proposed to be expanded to accommodate mechanical upgrades or pump upgrades, TRCA will be contacted to confirm if the project limit is within floodplain limits. TRCA will advise if a flood plain delineation is necessary.

If the capacity of the PS is increased, MECP approval is required for this component (DWWP).

Coordination with the local municipalities, including Town of Whitchurch-Stouffville will be required during the Preliminary and Detailed Design Process. Approval from Electrical Safety Authority will also be needed.

9.5.3 Rehabilitate Zone 2 Elevated Tank

As the rehabilitation will not include any new components, MECP approval (Form 1/2) is sufficient.

Coordination with the local municipalities, including Town of Whitchurch-Stouffville may be required during the Preliminary and Detailed Design Process.

9.5.4 Decommission the Stouffville Reservoir East Cell

This component requires an Environmental Site Assessment (ESA) to support the filing of a record of site condition. The existing DWWP will need to be updated to reflect the decommissioning.

Coordination with the local municipalities, including Town of Whitchurch-Stouffville and TRCA will be required during the Preliminary and Detailed Design Process.

9.5.5 Install new PRV Chamber

Installing the new PRV requires MECP approval (Form 1/2).

Coordination with the local municipalities, including Town of Whitchurch-Stouffville will be required during the Preliminary and Detailed Design Process.

9.6 Cost and Schedule

9.6.1 Supply System upgrades

The capital cost of this alternative would be around \$4,890,000.

Costs associated with this scenario includes rehabilitating Wells 1, 2, 3, 5, and 6 to maintain current capacity as well as upgrade costs to the Zone 2 Booster Pumping station to allow it to maintain existing capacity. (This includes 25% for permits and approvals, Engineering, and Contingencies).

9.6.2 Storage System upgrades

The capital cost of this alternative would be around \$9,104,000.

Costs associated with this scenario include upgrading the Stouffville Reservoir to make full use of the West Cell, upgrading the HLPS to 110.96 L/s, maintaining the Zone 2 Elevated Tank, Decommissioning the East Cell of the Stouffville Reservoir, and the construction of a New PRV Chamber. (This includes 25% for permits and approvals, Engineering, and Contingencies).

Timing for the construction, decommissioning and maintenance of the facilities is as follows:

- New PRV Chamber: Initiate in 2021;
- Upgrade HLPS: In service by 2026;
- Upgrade Stouffville Reservoir west Cell: In service by 2027 (consider coordinating with HLPS upgrade);

- Decommission East Reservoir Cell: 2027 (consider coordinating with HLPS upgrade);; and,
- Rehabilitate the Zone 2 Elevated Tank: 2041.

10 STAKEHOLDER CONSULTATION

The communication and public consultation plan was prepared to ensure that the public has the opportunity to become engaged with the project over the course of the EA. The comments provided by the public were considered throughout the project.

The objectives of communications and public consultation were as follows:

- Inform the public and stakeholders about the project;
- Provide a meaningful way for the public to provide the project team with their comments;
- Build and maintain respectful, professional relationships with stakeholders;
- Respect the comments provided by the public and stakeholders;
- Help members of the public learn about the EA process;
- Meet the First Nations 'duty to consult' requirements and ensure First Nations are notified of the project activities and are given an opportunity to provide comments;
- Balance the advice of various stakeholders and understand their decision-making process;
- Complete communications and public consultation that will contribute to MECP approval.

10.1 Stakeholder Contact List

A stakeholder contact list was prepared during the initial stages of the Study and was updated during the study. A copy of the up to date list is included in **Appendix M**.

10.2 Consultation Details

10.2.1 Notice of Study Commencement

The Notice of Study Commencement was prepared to describe the Environmental Assessment process, the objective of the project and the Problem Statement. It was issued on November 9th, 2017. The Notice of Study Commencement and The Notice of Public Consultation Centre #1 were published in the same document. The Notice of Study Commencement and The Notice of Public Consultation were distributed by the following means:

- Posted on the York Region Website;
- Published in the Stouffville Sun-Times;
- Direct Mailing to Agencies and businesses with a known or expected interest in the water supply.

A copy of the Notice is Included in **Appendix N**.

The stakeholders on the mailing lists (direct mail and e-mail) were given the opportunity to leave comments regarding the Notice of Study Commencement. These comments and their responses are included in **Appendix O**.

10.2.2 Public Consultation Centre #1

The first Public Consultation Centre undertaken for this Class EA was an additional consultation selected by the Region which is not required through the Class EA process. It took place on November 23rd, 2017

The purpose of this PCC was to introduce the study and the project team, as well as gather other important information about the study area from participants.

Stakeholders were notified of this event as follows:

- Posted on the York Region Website;
- Published in the Stouffville Sun-Times;
- Direct Mailing to Agencies and businesses with a known or expected interest in the water supply.

The PCC followed an informal open house format with 16 display boards providing information about the Class Environmental Assessment Study for Stouffville Water Upgrades. Members of the project team were available to address questions and comments from participants. The display boards were also posted to the project website.

Approximately 21 individuals attended the first PCC. The region received 8 comment forms, and responses were sent to the commenters where applicable.

Copies of the Notice, Display Boards, Attendance Sheets, comments received, responses issued and summary package are included in **Appendix O**.

10.2.3 Phase 1 Stakeholder Meetings

During Phase 1, the Study Team also met with the following Agencies directly:

- Toronto and Region Conservation Authority (November 9th, 2017)
- Town of Whitchurch-Stouffville (November 13th, 2017)

Meeting Date	Attendees	Comments Received
November 9 th , 2017	TRCA York Region TMIG	<ul style="list-style-type: none"> • TRCA Advised of presence of a historical Wendat Village (recently-discovered) • TRCA commented that the Natural Environment mapping did not include all TRCA shapefiles. • TRCA requested the Environmental reports
November 13 th , 2017	Town of Whitchurch-Stouffville York Region TMIG	<ul style="list-style-type: none"> • Town is undertaking their own servicing Master Plan • Town is considering the potential of accelerated growth (though projections not formally-approved) • Town asked that existing servicing to Vandorf (via the Stouffville Reservoir) not be impacted.

10.2.4 Public Consultation Centre #2

The second Public Consultation Centre undertaken for this Class EA was the second mandatory engagement. Due to COVID-19, this Public Consultation Centre was held as an online open house, and the materials were made available to the public on August 6th, 2020 on York Region's website.

The purpose of this consultation was to provide the public with the opportunity to review the preferred solution regarding the water supply and storage need in the community of Stouffville. During this PCC, methodology of identifying and analyzing the alternatives was presented, before presenting the final preferred solution and the reasoning behind it.

Stakeholders were notified of this event as follows:

- Notice posted on York Region's website
- Notice was emailed to residents that signed up for updates
- Notice was sent to the Town of Whitchurch-Stouffville
- Notice posted in local Stouffville newspaper, Sun Tribune, for two consecutive weeks
- Targeted Facebook posts and scheduled Twitter posts

The engagement process entailed posting Boards outlining the recommended solution and how said solution was identified on the YR website. A feedback/comment box was available for two weeks which allowed residents and stakeholders the chance to comment on the preferred solution.

Approximately 24 individuals attended the second PCC. There were 3 comment forms received. The comments received direct responses from York Region if warranted.

A resident and a local advocacy group contacted York Region directly regarding PCC2. The resident was concerned that the uncontrolled development will now be paid for by existing residents. The project team assured the resident that the work will be funded through development charges and it will not impact the rate layers.

The local advocacy group was concerned regarding the impacts to the natural environment. They were assured that the preferred solution will be located on existing facility lands

Copies of the Notice, Display Boards, Attendance Sheets, comments received, responses issued and summary package are included in **Appendix P**

10.2.5 Phase 2 Stakeholder Meetings

During Phase 2, the Study Team also met with the following Agencies directly:

- Toronto and Region Conservation Authority (June 11th, 2020)
- Town of Whitchurch-Stouffville (September 10th, 2020)

Meeting Date	Attendees	Comments Received
June 11 th , 2020	TRCA York Region TMIG	<ul style="list-style-type: none"> Consider water quality trends (Region is continuing to monitor) Will there be works within floodplains? (No) Mitigation is required for any construction traffic crossing over/through watercourses. Will the impervious cover increase? (Potentially, though rainfall runoff would be mitigated through site controls) Erosion and sediment control plans should be provided at detailed design. TRCA requested a copy of the Project File Report, prior to it being finalised.
September 10 th , 2020	Town of Whitchurch-Stouffville York Region TMIG	<ul style="list-style-type: none"> Town is considering the potential of accelerated growth (though projections not formally-approved) Town questioned whether the solutions were scalable, in the event that the official population projections increase before implementation. (Potentially, to a degree) Town requested confirmation that water pressures would not be adversely impacted. (This confirmation was subsequently provided)

10.3 First Nations and Métis Consultation

First Nations and Métis organizations that potentially have an interest or stake specifically for this project were identified to provide them with an opportunity to provide their input and to address their comments/concerns.

During the Municipal Class EA, the project team initiated contact with First Nations and Métis groups and organizations, including the following:

Alderville First Nation	Beausoleil First Nation	Curve Lake First Nation
Georgina Island First Nation	Hiawatha First Nation	Huron-Wendat Nation
Metis Nation of Ontario	New Credit First Nation	Rama First Nation
Scugog First Nation		

- **Notice of Commencement and Open House #1 (November 14, 2017):**
 - Notices sent by Mail and E-Mail, including the Open House Materials
- **Detailed Inventory of the Environments (August 1, 2018):**
 - All First Nations were mailed copies of the Archaeological, Natural and Socio-Cultural investigations

- The letter also included a formal offer to consult specifically with any First Nation that had a particular interest in the project
- We also requested confirmation of whether any of the First Nations required a specific consultation [none requested a specific meeting]
- **Notice of Online Open House #2 (June to August 2020):**
 - Contacted all First Nations by telephone to advise of upcoming Public Consultation Centre (June 9, 2020)
 - Sent Notice of Open House #2 by e-mail (August 7, 2020). The e-mail included the Open House Materials
 - Follow-up phone calls (early September) were completed to confirm receipt of the materials, and to re-confirm whether a specific consultation was required [none requested a specific meeting]. At this time, some First Nations requested copies of the environmental investigations to be e-mailed again.

None of the First Nations provided any comment on any aspects of the Class EA, nor did they voice any objection to the recommended preferred solutions. At no point through the process did any of the First Nations accept the Study Team's offer of scheduling a specific consultation (in-person meeting or video-conference).

A copy of the letters is provided in **Appendix Q**. These organizations were also provided the following attachments:

- 1) Archeological Study; (**Appendix G**)
- 2) Natural Environmental Existing Conditions; (**Appendix I**)
- 3) Notice of Commencement and Open House #1; and (**Appendix N**)
- 4) Open House #1 Display Materials (**Appendix O**)
- 5) Online Open House #2 Display Materials (**Appendix P**)

10.4 Notice of Study Completion and Report Review

A Notice of Study Completion dated December 17, 2020, was prepared to notify the public of the completion of this study, and to advise of opportunities to review this report. The notice was issued by the following means:

- Notices posted on York Region's website
- Notice was emailed to residents that signed up for updates
- Notice was sent to the Town of Stouffville
- Notice posted in local Stouffville newspaper, Sun Tribune, for two consecutive weeks
- Targeted Facebook posts and scheduled Twitter posts

This Notice of Study Completion is provided in **Appendix N**.

Due to COVID-19, this Report has been made available for public review and comment at York Region's website, from December 17, 2020 to January 19, 2021. Any interested stakeholder or resident can request a hard copy of the report for their review.

10.5 Summary of Class EA Public Consultation Notices and PCC Dates

The schedule of the Class EA Contact Dates is provided in **Table 10-2**.

Table 10-1 Summary of Class EA Contact Dates

Milestone	Date
Notice of Commencement and Phase I Public Consultation Centre	November 9 th 2017
Phase I Public Consultation Centre	November 23 rd 2017
Notice of Phase II Public Consultation Centre	July 30 th , 2020
Phase II Public Consultation Centre (Virtual)	August 6 th through 20 th , 2020
Notice of Study Completion	December 17, 2020

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11 CONCLUSIONS AND NEXT STEPS

This Project File Report concludes the Schedule B Stouffville Storage Class Environmental Assessment.

Following the conclusion of the 30-day public review process and a subsequent 30-day period whereby concerns may be forwarded to the Region, this project will proceed to detailed design and implementation.