Regional Municipality of Halton

Addendum to the 2011 Sustainable Halton Water and Wastewater Master Plan: Relocation of the Zone 4 Reservoir (Project ID5061 and ID6697)

August 6, 2015

Public Works
Infrastructure Planning and Policy
Addendum to the 2011 Sustainable Halton Water and Wastewater Master Plan: Relocation of the Zone 4 Reservoir (Project ID5061 and ID6697)

1. Introduction and Background

1.1. Background
Halton Region (Region) completed the Sustainable Halton Water and Wastewater Master Plan Class Environmental Assessment (Class EA) Study in 2011 (2011 Master Plan). The purpose of the study was to develop a Region-wide water and wastewater infrastructure strategy to service growth within Halton’s urban areas to 2031, based on the approved 2011 Best Planning Estimates. One component of the preferred water servicing strategy included the need for a new water storage reservoir (Zone 4) on Trafalgar Road (350 m south of No. 5 Side Road) to provide water storage for Milton and North Oakville service areas.

Since the 2011 Master Plan document was completed, the Region has undertaken additional technical review of the operating water levels for pressure zones within the water distribution system. As a result, the preferred location for the Zone 4 reservoir (Project ID5061 / 6697) was re-evaluated.

Accordingly, the Region has prepared an addendum to the 2011 Sustainable Halton Water and Wastewater Master Plan Class Environmental Assessment Study for the Zone 4 Reservoir (the Addendum Report), to reflect this additional review.

1.2 Class EA Addendum Report Outline
The Class EA Report is an Addendum to the 2011 Master Plan Report and should be reviewed together. This Class EA Addendum Report document contains the required phases of the planning process and incorporates the procedure essential for compliance with the Environmental Assessment Act.

The Report contains the following sections:
Section 1 - Introduction and Background
Section 2 - Class Environmental Assessment Process
Section 3 - Study Basis
Section 4 - Water Servicing Strategy
Section 5 - Study Area Existing Conditions
Section 6 - Identification of Alternatives
Section 7 - Re-Evaluation of Alternatives
Section 8 - Recommended Preferred Alternative
Section 9 - Public and Agency Consultation
Section 10 - Implementation
Section 11 - Conclusions and Recommendation

2. Class Environmental Assessment Process

2.1 Overview
As the proponent for municipal public works projects, all municipalities in Ontario are subject to the provisions of the Environmental Assessment (EA) Act. The Ontario Municipal Engineers Association (MEA) document entitled "Municipal Class Environmental Assessment, October 2000, as amended in 2011" provides municipalities with a procedure approved under the EA Act to plan and undertake municipal wastewater and water projects.
This project is proceeding based on the Class EA process according to the requirements as outlined in the Municipal Class EA document, as follows:

**Phase 1**
Identify the problem (deficiency) or opportunity.

**Phase 2**
Identify 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 3**
Examine alternative methods of implementing the preferred solution, based upon the existing environment, public and review agency input, anticipated environmental effect and methods of minimizing negative effects and maximizing positive effects.

**Phase 4**
Document, in an Environmental Study Report a summary of the rationale, and the planning, design and consultation process of the project as established through the above phases, and make such documentation available for scrutiny by review agencies and the public.

**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. Individual projects may proceed as Schedule "A", "A⁺", "B", or "C" projects depending on their level of complexity and impact on the environment as follows:

**Schedule "A"** projects are limited in scale, have a minimal adverse environmental impact and generally includes normal or emergency operational and maintenance activities. These projects are pre-approved and may proceed to implementation without following the full Class EA planning process.

**Schedule "A⁺"** projects are limited in scale and have a minimal adverse environmental impact. These projects, like Schedule A are pre-approved, however the public is to be advised prior to project implementation.

**Schedule "B"** projects have the potential for some adverse environmental impact. The proponent is required to undertake a screening process, involving mandatory contact with directly affected public and relevant review agencies, to ensure they are aware of the project and their concerns are addressed. If there are no outstanding concerns, then the proponent may proceed to implementation. Schedule "B" projects generally include improvements and minor expansions to existing facilities.

**Schedule "C"** projects have the potential for significant environmental impacts 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. Schedule "C" projects generally include the construction of new treatment facilities and major expansions to existing treatment facilities.

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. Member 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 or not 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 EA Act, is outlined in the Municipal Class Environmental Assessment document.

At the end of a Class EA Study process, a Notice of Completion (or Notice of Filing of Addendum) is issued, and a 30-day review period is provided, when the documentation is placed on the public record for review. It is the intent of this 30-day review period to resolve any outstanding concerns regarding the project with the Region. If issues cannot be resolved with the Region, an individual may request that the Ontario Ministry of the Environment and Climate Change (MOECC) make an order for the project to comply with Part II of the Environmental Assessment Act, which requires the completion of an individual environmental assessment, by submitting a written request to the MOECC. If no Part II Order requests are received within the 30 day review period, the project will proceed through to design and construction.

A flow chart describing the Class EA planning and design process is shown in Figure 1.

The Zone 4 Reservoir project was identified as a Schedule B project in the 2011 Master Plan. This Addendum is being completed as a Schedule B project addendum.
EXHIBIT A.2  MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

NOTE: This flow chart is to be read in conjunction with Part A of the Municipal Class EA

Figure 1 Municipal Class EA Planning and Design Process
2.2 Rationale for the Addendum Report
The Municipal Class Environmental Assessment document (October 2000, as amended in 2011) specifies that any significant modifications to the project which occurs after the filing of the 2011 Master Plan Class EA Report, must be reviewed to ensure that the project and mitigating measures are still valid given the changing conditions of the project. It is also specified that an addendum documenting the basis for the changes and the revised recommendations, be prepared.

Since the 2011 Master Plan document was completed, additional water infrastructure has been constructed within the service area and staff has undertaken additional technical review of the proposed water level at the Zone 4 Reservoir based on system response. To mitigate the potential for future customer concerns related to water pressure, the water level for the Zone 4 reservoir was re-evaluated and a new alternative site location has been recommended as illustrated in Figure 2 (approximately 1000 m further north of the site chosen during the original 2011 Master Plan).

![Figure 2: Proposed Relocation of the Zone 4 Reservoir](image)

This Addendum Report serves to document the re-evaluation of the preferred siting for the required Zone 4 Reservoir.

2.3 Class EA Addendum Process
The Class EA process allows for the re-evaluation of the preferred solution and selection process, in response to concerns associated with the preferred recommended solution. The addendum process allows the project team to re-evaluate the originally preferred solution with consideration given to recent technical review and present the revised preferred solution to the public and review agencies.

This Class EA Addendum Report will:
- Identify and re-evaluate alternative Zone 4 Reservoir sites
- Identify and evaluate potential environmental impacts and any mitigative requirements
- Consult with the public and review agencies
- Select the preferred Zone 4 Reservoir site location
This Addendum Report has been prepared in order to fulfill Phase 1 and Phase 2 of the requirements of the Class EA process to support the construction of a new Zone 4 Reservoir. Figure 3 shows the location of the Addendum study area boundary.

Figure 3: Zone 4 Reservoir Study Area

While an original Notice of Completion was previously issued in October, 2011 for the project, a Notice of Filing of Addendum has been prepared and a new 30-day public review period has been provided.

3. Study Basis

3.1. Problem / Opportunity Statement
The 2011 Sustainable Halton Water and Wastewater Master Plan identified the need for a new Zone 4 Reservoir on Trafalgar Road, south of No. 5 Side Road in the Town of Halton Hills. The Zone 4 Reservoir is required to provide water storage for Milton and North Oakville service areas to 2031.

The Problem / Opportunity for this Class EA Study is consistent with that of the 2011 Master Plan. The need for the Zone 4 Reservoir remains and a new preferred site will be identified through the Class EA approach for Schedule B projects.

The Zone 4 Reservoir site also serves as a strategic site for servicing additional areas in Georgetown and Milton as part of the long term planning strategy (i.e. the site will include the Zone 5 and Zone 6 water booster pumping stations).

3.2. Study Area
The study area for the location of the proposed Zone 4 Reservoir was established in the 2011 Master Plan. Specifically, six different in-ground reservoir sites were considered as shown in Figure 4 from the 2011 Master Plan, Volume II – Project File.
Due to the areas topography and technical requirement, the location of the Zone 4 Reservoir must be situated outside of the Conservation Halton Watershed Regulation Limits and within land ground elevation contours that permit the required top water reservoir elevation level.
4. Water Servicing Strategy

4.1. 2011 Master Plan – Water Servicing Strategy
As per the 2011 Master Plan, water supply to North Oakville and Milton (excluding the core area) will continue to be provided by three lake-based water purification plants. Treated potable water is pumped from these plants into an integrated water transmission system which further distributes water to specific service areas within Halton through a series of water booster pumping stations, reservoirs and watermains. The 2011 Master Plan water servicing strategy is shown in Appendix A.

As part of the servicing strategy, water transmitted to the existing Neyagawa and Eighth Line Booster Pumping Stations is planned to be pumped to the future Zone 4 reservoir site located in the Town of Halton Hills. This planned reservoir will provide water storage (based on the maximum day water demands, water system equalization and emergency / fire storage requirements) for North Oakville and Milton. The planned Phase 1 storage requirement is 30 Megalitres (ML) with an additional need for a Phase 2 storage expansion of 20 ML in the future.

The reservoir site will also include future one (1) Zone 5 booster pumping station and one (1) Zone 6 booster pumping station. The Zone 5 booster pumping station will supplement the Town of Halton Hills’ and the Town of Milton’s Highway 401 Employment corridor. The Zone 6 booster pumping station is required to service the future lake based Georgetown Service Area.

From the 2011 Master Plan, the preliminary preferred location for the reservoir was the Alternative 3 site as shown in Figure 4.

4.2. Circumstances Necessitating a Change to the Zone 4 Top Water Level
Since the completion of the 2011 Master Plan, the Region undertook a technical review of its water system pressure zone boundaries and associated water pressures for customers within the current Zone 4 and Zone 5 pressure zones. This included reviewing the system response from new infrastructure that has been constructed within the service area and reviewing the current and proposed growth patterns (since the completion of the 2011 Master Plan).

Operating water levels for pressure zones are typically based on spanning elevation differences of approximately 30 m and are largely dependent upon local topography. Top water level reservoir elevations for pressure zones 1, 2 & 3 were based on this principle through past master planning. As Halton’s water system expanded to service new growth areas and communities (i.e. Milton, North Oakville), the planned elevation difference between existing Zone 3 (198 m) and Zone 4 (236 m) pressure zones increased to approximately 38 m in an effort to minimize the amount of water infrastructure required to service these zones.

Upon more detailed technical review since the 2011 Master Plan, it appears that the currently planned Zone 3 / Zone 4 elevation may leave little overlap with adjacent zones to provide acceptable water pressures, particularly in light of the regular undulations in terrain characteristic of the Region. As well, the integration of the transmission function of the majority of watermains with a dual distribution function, resulting in high / low dynamic pressures extremes experienced in various parts of the water distribution system. These issues have resulted in operational challenges and related costs, along with some customer water pressure complaints.

In response to these concerns and issues related to water pressure, the water level for the Zone 4 reservoir was re-evaluated in consideration to better align with MOECC design guidelines (i.e., based on extreme limits of 40 to 100 psi) and the ability to maximize the area and / or population serviced within the 55 to 90 psi pressure range. This narrower range somewhat resembles the “normal” operating pressure range of 50 to 70 psi identified in the MOECC design guidelines and provides a buffer margin to allow for pressure fluctuations with increased likelihood of being contained within the wider 40 to 100 psi range.
As a result, the top water operating level for the Zone 4 pressure zone was increased to 250 m (as opposed to the 236 m design basis recommended in the 2011 Master Plan).

Accordingly, a re-evaluation of the preferred citing of the Zone 4 Reservoir was required to best assess this updated change in the technical criteria.

5. Study Area Existing Conditions

5.1. Environmental Inventory
The following section details the environmental inventory in the Study Area, as per the Environmental Baseline Study carried out in the 2011 Master Plan, which serves as the primary basis for inventorying the natural environment for the Class EA Addendum study area.

5.1.1. Social-Economic and Cultural Environment
Land Use
The Study Area is currently predominately rural in nature with the majority of land usage being agricultural as well as some commercial and institutional uses along the Trafalgar Road frontage. It is located between the currently defined urban boundaries for the Town of Milton and Town of Halton Hills respectively.

Trafalgar Road is a Regional Road which is a major, high traffic north / south arterial road that is planned for widening from four to six lanes in the near future.

5.1.2. Natural Environment
General
The study area is located in the Trafalgar Road corridor area east of Middle 16 Mile Creek. The environmental features within the study area are shown in Figure 5.
Figure 5
Environmental Features within Halton Region

Legend
- Greenbelt
- Greenland
- Regional Wetlands
- Provincial Wetlands
- ANSI
- ESA
- Escarpment Natural Area
- Escarpment Rural Area
- Escarpment Protected Area
- Study Area Boundary
- Lakes, Rivers and Creeks

Sustainable Halton
Water and Wastewater Master Plan

1:125,000
11-Oct-2011
File: 60114062-350-G
The main subwatershed is Sixteen Mile Creek and its tributaries. The middle and west branches of the Sixteen Mile Creek originate above the Niagara Escarpment while the east branch originates below the Niagara escarpment and continues to its confluence with the middle branch, near the community of Drumquin. There are many small tributaries to the main branches of the Sixteen Mile Creek.

**Wetlands**
The theoretical footprints for all alternative sites within the Study Area are adjacent to, but outside of, Regionally Significant Wetlands within the Conservation Halton Regulation Limit except for the eastern portion of the Alternative 2 site. No ANSiS or ESAs are noted at any of these sites.

**Fisheries**
All theoretical footprints for each of the reservoir sites are situated outside of the Conservation Halton Regulation Limit for the Middle 16 Mile Creek tributary (deemed a permanent warm water tributary) except for the eastern portion of the Alternative 2 site. Accordingly, no watercourses are directly on-site.

**Geology**
The study area is underlain by shale bedrock of the Late Ordovician Queenston Formation (MNDM, 1991). The Queenston Formation is a red coloured and relatively soft, friable shale containing thin interbeds of fine sandstone and siltstone.

**Hydrogeology**
Groundwater flows in a north to south pattern through the study area.

**Wildlife**
The study area does not support wildlife habitat function of provincial significance, and does not include the habitat of species designated by the Committee on the Status of Species at Risk in Ontario (COSSARO) as Threatened or Endangered in Ontario or species regulated under the Endangered Species Act.

**Vegetation**
The majority of the land within the study area is in active agricultural usage and thus is a mixture of grassland and regenerated flora associated with redundant agricultural crop fields. Lands have no natural vegetation (i.e. crops only).

**Archaeological Resources**
All theoretical footprints for each of the reservoir sites are situated outside identified cemeteries. The preferred site will also be required to undertake an Archaeological Stage 1 Study (including the review of historical features) as a minimum requirement during the pre-design stage of implementation.

### 6. Identification of Alternatives

During the 2011 Master Plan, water storage reservoir sites were screened on the basis of their technical, environmental, legal / jurisdictional, socio-cultural, and economic impacts. An elevated tank was not considered feasible in this case, as the storage requirement far exceeded a typical tank volume.

The six (6) alternative reservoir sites from the 2011 Master Plan as shown in Figure 6 were considered in this re-evaluation, along with the do nothing alternative.
6.1. Description of Alternatives

6.1.1. Do Nothing Alternative
The Do Nothing alternative is considered in Class Environmental Assessments as the base-line alternative by which all alternatives are compared against. The Do Nothing Option in this situation is not considered a valid alternative as the decision to not construct the Zone 4 Reservoir would result in the inability to provide servicing to an approved growth area. This option will therefore not be considered further.

6.1.2. Site Alternative 1
Site 1 is located on the northeast corner of Trafalgar Road and No. 5 Side Road.
6.1.3. Site Alternative 2
Site 2 is located 650 m north of No. 5 Side Road on the east side of Trafalgar Road.
6.1.4. Site Alternative 3

Site 3 is located 350 m south of No. 5 Side Road on the west side of Trafalgar Road. The 2011 Master Plan previously selected this alternative as the preliminary preferred site for the Zone 4 reservoir.
6.1.5. Site Alternative 4
Site 4 is located approximately 350 m south of No. 5 Side Road on the east side of Trafalgar Road.
6.1.6. **Site Alternative 5**

Site 5 is located approximately 510 m west of Trafalgar Road on the north side of No. 5 Side Road.
6.1.7. Site Alternative 6
Site 6 is located approximately 650 m north of No. 5 Side Road on the west side of Trafalgar Road.
7. Re-Evaluation of Alternatives

The Addendum Report re-evaluates the original preferred site identified in the 2011 Master Plan and the 5 other alternative sites previously considered through what is generally referred to as the "triple bottom line" approach.

The sites were re-evaluated and compared on factors including environmental, technical, socio/economic, financial and legal / jurisdictional criteria. Through this process, the following special parameters were also considered in reviewing land availability for each of the potential alternatives:

- **Size:**
  Meets the theoretical footprint to accommodate a 50 ML in-ground reservoir, two (2) booster pumping stations, field piping, vehicle access and future reservoir and booster pumping station expansions.

- **Land Use:**
  Existing and future land uses in the vicinity must be compatible with the Zone 4 reservoir.

- **Topography / Technical:**
  The site ground elevations should allow for a reservoir top water operating level at 250 m as previously noted in Section 4.2.
  The site is in relative proximity to the planned Zone 4, Zone 5 and Zone 6 water feeder mains within the Trafalgar Road corridor.

- **Natural Features:**
  The site should allow for reservoir construction and operation without significant impact on existing natural features (i.e. proximity to the Niagara Escarpment and Conservation Halton Regulation Limit areas).

*Table 1* re-evaluates the alternative sites in a matrix format to enable identification of a preferred reservoir site based on judgement of the overall merits of each of the alternatives and special considerations noted above.
### Scenario A

**Site Description**
- Land is currently comprised of prime agricultural lands.
- Lands have no natural vegetation (crops only).
- Site is not within any environmental designated areas.
- No watercourses on site.
- Site is not adjacent to Regionally Significant Wetlands or creeks.
- Site does not require Conservation Halton HFO Permit.
- Top water level requirement is 250 m.
- Ground elevation requirement is 247-250 m. Location ground level is 236-241 m, lower than required. Ground elevation too low. All alternatives with locations adjacent to Trafalgar Road ex-site multiple floodwall lengths required.
- Construction during normal working hours may cause noise disturbances to school children and staff. Any noise dilution will be limited by ensuring construction takes place during normal working hours. Any dust will be controlled through construction contract obligations.
- Archaeological and heritage impacts will be assessed during the pre-design phase of the project.

**Alternative 1**
- Top water level requirement is 250 m.
- Ground elevation requirement is 247-250 m. Location ground level is 236-241 m, lower than required. Ground elevation too low.
- All alternatives with locations adjacent to Trafalgar Road ex-site multiple floodwall lengths required.
- Greenfield Construction.

**Alternative 2**
- Top water level requirement is 250 m.
- Ground elevation requirement is 247-250 m. Location ground level is 236-241 m, lower than required. Ground elevation too low.
- All alternatives with locations adjacent to Trafalgar Road ex-site multiple floodwall lengths required.
- Greenfield Construction.

**Alternative 3**
- Top water level requirement is 250 m.
- Ground elevation requirement is 247-250 m. Location ground level is 236-241 m, lower than required. Ground elevation too low.
- All alternatives with locations adjacent to Trafalgar Road ex-site multiple floodwall lengths required.
- Greenfield Construction.

**Alternative 4**
- Top water level requirement is 250 m.
- Ground elevation requirement is 247-250 m. Location ground level is 236-241 m, lower than required. Ground elevation too low.
- All alternatives with locations adjacent to Trafalgar Road ex-site multiple floodwall lengths required.
- Greenfield Construction.

**Alternative 5**
- Top water level requirement is 250 m.
- Ground elevation requirement is 247-250 m. Location ground level is 236-241 m, lower than required. Ground elevation too low.
- All alternatives with locations adjacent to Trafalgar Road ex-site multiple floodwall lengths required.
- Greenfield Construction.

**Alternative 6**
- Top water level requirement is 250 m.
- Ground elevation requirement is 247-250 m. Location ground level is 236-241 m, lower than required. Ground elevation too low.
- All alternatives with locations adjacent to Trafalgar Road ex-site multiple floodwall lengths required.
- Greenfield Construction.

**Financial**
- In addition to financial assessment completed for the existing zone 4 top water level, the following financial assessment requirements of the new zone 4 top water level are required:
- Floodwall construction same as other alternatives with the exception of AS 3 which is higher.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Description</th>
<th>Feasibility</th>
<th>Socio / Cultural</th>
<th>Environmental</th>
<th>Financial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1</td>
<td>Located on (Prime) Agricultural Lands.</td>
<td>Low potential for conflict with utilities.</td>
<td>Low impact as reservoir will be in-ground.</td>
<td>Low potential for impact on nearby landowners, as noise dilution will be limited by ensuring construction takes place during normal working hours. Any dust will be controlled through construction contract obligations.</td>
<td>No additional financial assessment completed for this alternative.</td>
</tr>
<tr>
<td>Alternative 2</td>
<td>Located on (Prime) Agricultural Lands.</td>
<td>Low potential for conflict with utilities.</td>
<td>Low impact as reservoir will be in-ground.</td>
<td>Low potential for impact on nearby landowners, as noise dilution will be limited by ensuring construction takes place during normal working hours. Any dust will be controlled through construction contract obligations.</td>
<td>No additional financial assessment completed for this alternative.</td>
</tr>
<tr>
<td>Alternative 3</td>
<td>Located on (Prime) Agricultural Lands.</td>
<td>Low potential for conflict with utilities.</td>
<td>Low impact as reservoir will be in-ground.</td>
<td>Low potential for impact on nearby landowners, as noise dilution will be limited by ensuring construction takes place during normal working hours. Any dust will be controlled through construction contract obligations.</td>
<td>No additional financial assessment completed for this alternative.</td>
</tr>
<tr>
<td>Alternative 4</td>
<td>Located on (Prime) Agricultural Lands.</td>
<td>Low potential for conflict with utilities.</td>
<td>Low impact as reservoir will be in-ground.</td>
<td>Low potential for impact on nearby landowners, as noise dilution will be limited by ensuring construction takes place during normal working hours. Any dust will be controlled through construction contract obligations.</td>
<td>No additional financial assessment completed for this alternative.</td>
</tr>
<tr>
<td>Alternative 5</td>
<td>Located on (Prime) Agricultural Lands.</td>
<td>Low potential for conflict with utilities.</td>
<td>Low impact as reservoir will be in-ground.</td>
<td>Low potential for impact on nearby landowners, as noise dilution will be limited by ensuring construction takes place during normal working hours. Any dust will be controlled through construction contract obligations.</td>
<td>No additional financial assessment completed for this alternative.</td>
</tr>
<tr>
<td>Alternative 6</td>
<td>Located on (Prime) Agricultural Lands.</td>
<td>Low potential for conflict with utilities.</td>
<td>Low impact as reservoir will be in-ground.</td>
<td>Low potential for impact on nearby landowners, as noise dilution will be limited by ensuring construction takes place during normal working hours. Any dust will be controlled through construction contract obligations.</td>
<td>No additional financial assessment completed for this alternative.</td>
</tr>
</tbody>
</table>
8. Recommended Preferred Alternative

8.1. Summary of Re-Evaluation of Alternatives
The following sections summarize the comparison of alternatives in order to identify a recommended preferred site for public review and comment.

Environmental
Besides Alternative 5 (within Conservation Halton’s jurisdiction), no other sites are expected to have a significant impact.

Technical
Alternative 6 is the only site that has an adequate ground level elevation to meet the new 250 m top water level for Zone 4.

Socio / Cultural
None of the alternatives are expected to have a significant impact.

The Archaeological and Heritage impacts will be assessed during the pre-design phase of the Zone 4 Reservoir project.

Financial
No new financial assessment was completed for Alternatives 1 to 5 as these sites do not meet the technical requirements of the new Zone 4 top water level. The cost estimate presented in the 2011 Master Plan for the Zone 4 reservoir was reviewed and is still considered to be valid for the proposed site - Alternative 6.

Legal / Jurisdictional
None of the alternatives are expected to have significant concerns. Each alternative provides the required footprint for the proposed works. Land acquisition would be required in all of the alternatives.

8.2. Recommendation of Preferred Site
Based on the Alternative’s Re-Evaluation Table 1 and the Summary of Re-Evaluation of Alternatives, Site Alternative 6, located approximately 650 m north of No. 5 Side Road on the west side of Trafalgar Road, is the recommended preferred site for the new Zone 4 Reservoir.

8.3. Modification to the Project File
The re-location of the Zone 4 Reservoir from site Alternative 3 (as per the 2011 Master Plan) to site Alternative 6 (as per this Addendum Report) has been deemed as a significant change to the project. Once again, the triple-bottom line approach was used to determine the significance of the changes between the two sites.

Environmental
No significant differences were determined.

Technical
Alternative 3 can no longer be used as it will not be able to accommodate the new top water level for the Zone 4 reservoir. Alternative 6 is the only site that has an adequate ground level elevation to meet the new top water level for Zone 4.

Socio / Cultural
The main reason for considering the re-location of the Zone 4 reservoir as being a significant change to the project was the potential impact to landowners within the vicinity of the proposed site. As such, the
Social Evaluation Criteria is considered to be a significant change from the 2011 Master Plan and will be addressed through the Addendum process.

**Financial**
No significant differences were determined.

**Legal / Jurisdictional**
No significant differences were determined.

As such, the impact to the local land owners is deemed to be a significant change from the 2011 Master Plan and will be addressed through the Addendum process. The Region, as the proponent, considers all other Environmental impacts, due to the re-location of the Zone 4 reservoir, as insignificant changes to the project.

### 8.4. Preliminary Design Details of New Zone 4 Reservoir

The Zone 4 Reservoir site will include twin storage cells (30 ML), provision for Zone 5 and Zone 6 booster pumping stations, re-chlorination facility, standby generator set, piping gallery and associated controls and instrumentation required for automatic operation of the facility.

Specific details will be confirmed through the detailed design phase of the project following the completion of the Class EA Addendum.

In addition, the following minor project changes are associated with the new alternative and are not subject to review and approval pursuant to the Municipal Class Environmental Assessment as they are deemed to not be a significant modification to the project:

- Project ID 4985 - 1200 mm watermain on Trafalgar Road from Britannia Road to the Zone 4 Reservoir: *Watermain length extended by approximately 1000 m.*
- Project ID 6606 - 750mm watermain on Trafalgar Road from the new Zone 4 Reservoir to approximately 1,650 m north: *Watermain length reduced by approximately 1000 m.*
- Project ID 6640 - 600 mm Watermain on Trafalgar Road from the Zone 4 Reservoir to Steeles Avenue: *Watermain length extended by approximately 1000 m.*
- Project ID 6688 - 400 mm watermain on Trafalgar Road from Steeles Avenue to Hwy 401: *Removed from capital forecast.*
- Project ID 6689 - 400 mm watermain on Trafalgar Road crossing Highway 401: *Removed from capital forecast.*
- Project ID 6690 - 400 mm watermain on Trafalgar Road from Highway 401 to the Main Street Extension: *Removed from capital forecast.*
- Project ID 6698 - 10 ML storage expansion at the Zone M5L Reservoir: *Removed from capital forecast.*

### 8.5. Capital Costs

The total capital cost as outlined in the 2011 Master Plan for the construction of the Zone 4 Reservoir has been reviewed and it is considered that the original estimate remained valid at $32,440,000 (total project cost).

### 9. Public and Agency Consultation

As part of the consultation program, the public and agencies were notified of this addendum to the 2011 Master Plan. The following section summarizes the public consultation activities carried out. The intent was to inform the public and review agencies of the study and to solicit their input.
9.1. Public and Agency Notification
This Addendum Report and its appendices contain all the requirements of a Schedule B addendum project file. This project file was made available for public review. The Notice of Filing of Addendum was issued on August 6, 2015. The Notice has been prepared in accordance with Class EA procedures and identifies the Preferred Site Alternative as Site 6.

9.1.1. Local Residents
To inform local residents a Notice of Filing an Addendum letter was mailed to all properties within approximately a 500 meter radius of the new preferred site and to the Regional and Local Ward Councillors. In addition, an advertisement notice was posted in the local Newspaper on August 6, 2015 and an additional posting is planned for August 13, 2015. The intent of the advertisement and letter was to inform the public of the Addendum process and proposed site relocation, as well as to provide access to the Addendum Report and to solicit input. A copy of the letter and advertisement are provided in Appendix B.

9.1.2. Agencies
A Notice of Filing an Addendum letter was mailed to the following parties: Conservation Halton (local Environment Agency), Ministry of the Environment and Climate Change, Ministry of Tourism, Culture and Sport, Ministry of Natural Resources, Ministry of Agriculture, Food and Rural Affairs, First Nations and various Utility Organizations. The intent of the letter was to inform each party of the Addendum process and proposed site relocation, as well as to provide access to the Addendum Report and to solicit input.

9.1.3. Summary of Comments and Concerns
All comments received from the public and agencies will be documented and considered during this Addendum process.

9.2. Addressing Public Concerns
All comments received within the 30 day review period (August 6, 2015 to September 4, 2015) following the mailing and advertisement posting of the Notice of Filing an Addendum will be addressed in writing by a member of the project team.

9.3. Addressing Agency Concerns
Agency concerns will be taken into consideration during this Addendum process.

10. Implementation
The construction of the Zone 4 Reservoir will support the servicing needs of the approved North Oakville and Milton growth areas as outlined in the 2011 Master Plan.

Upon completion of the Class EA Addendum process, the project classified as Schedule B may proceed to Phase 5, Implementation, subject to finalization of the 30 day review period and assuming no Part II Order request is received. During implementation of the project, additional studies and analysis will be undertaken to address refinement to the siting in accordance with the finalization of planning details associated with the Plan of Subdivision and to also mitigate environmental impacts. The project however will not require further planning under the Class EA process.

10.1. Implementation Requirements
The following implementation requirements will be addressed during the detailed design of the Zone 4 reservoir:
• Finalization of property requirements
• Detailed architectural design and landscaping
• Final refinement of Zone 4 Reservoir siting within Plan of Subdivision land use
• Completion of additional supporting investigation including but not limited to:
  • Geotechnical investigations to support determination of construction requirements
  • Hydrogeological investigations to evaluate potential impacts, to support mitigative requirements
during construction and determine any dewatering requirements

• Mitigation of potential construction related impacts including but not limited to
  • Traffic control
  • Noise, vibration and dust
  • Air pollution
  • Service interruption
  • Environmental and water disturbance or contamination
  • Siltation and erosion control

• Approval Requirements as required but not limited to:
  • Water and sewage works approvals from the Ministry of Environment and Climate Change
    including all necessary permits (eg. temporary permit to Take Water for construction dewatering)
  • Encroachment Permit from the Ministry of Transportation
  • Approvals from the Local Municipality Transportation and Works Departments
  • Site Plan approvals from the Local Municipalities
  • Permit approvals from Conservation Halton
  • Associated Planning Act Approvals

10.2. Implementation Schedule
At the conclusion of the public review process and subject to no Part II Order requests, the design
activities will proceed. The following sets out the proposed project schedule:

• August 6, 2015 - File Class EA Addendum Report and start 30 Day Public Review Period (ending
  September 4, 2015).
• Summer, 2015 - Address any public comments and close the Class EA Addendum process.
• Winter, 2016 - Award Contract for Construction
• Winter / Spring, 2016 - Commence Construction
• 2018 / 2019 - Complete Construction and start-up of facility.

11. Conclusions and Recommendation
The 2011 Sustainable Halton Water and Wastewater Master Plan identified the need for a new Zone 4
Reservoir on Trafalgar Road (350 m south of No. 5 Side Road) in the Town of Halton Hills to provide
water storage for Milton and North Oakville service areas. Since then, additional water infrastructure has
been constructed within the service area and staff has undertaken additional technical review of the
proposed water level at the Zone 4 Reservoir based on system response.

To mitigate the potential for future customer concerns related to water pressure, the water level for the
Zone 4 reservoir was re-evaluated and summarized through this Addendum Report and the Class EA
documentation for the Schedule B project has been updated.

It has been confirmed that a new Zone 4 Reservoir is required to service the needs of the approved North
Oakville and Milton growth areas and a new alternative site location has been recommended
(approximately 1000 m further north of the site chosen during the original 2011 Master Plan /
approximately 650 m north of No. 5 Side Road) on the west side of Trafalgar Road.

The implementation program is based on continuing with detailed design of the facility in 2015 and

This report and its appendices contain all the requirements of a Schedule B addendum project file. This
project file is made available for public review. The Notice of Filing of Addendum was issued on August 6,
2015. The Notice has been prepared in accordance with Class EA procedures and identifies the Preferred Site Alternative as Site 6.

The notice solicits written comments from interested parties within 30 days of issuance of the Notice and identifies that if concerns arise regarding this project, which cannot be resolved in discussion with the Region, a person or party may request that the Minister of Environment and Climate Change review the status of the project and rule on whether a Part II order is required. This order would require the Region to comply with Part II of the Environmental Assessment Act, which addresses individual environmental assessments. A Part II order issued on Schedule B projects, such as proposed, would typically require a proponent to complete Phases 3 and 4 of the Class EA Process.

If all comments can be addressed during the review period and no Part II requests have been received, the Region will have therefore complied with requirements of the Environmental Assessment Act and can proceed with the design and construction phases of the project, subject to appropriate approvals.
Appendix A
2011 Master Plan:
Preferred Water Serving Strategy
Appendix B
Notice of Filing of Addendum Letter and Advertisement
August 4, 2015

Dear Sir/Madam:

RE: Addendum to the 2011 Sustainable Halton Water and Wastewater Master Plan
Relocation of the Zone 4 Reservoir (Project ID5061 & ID6697)
Notice of Filing of Addendum

BACKGROUND

Halton Region completed the Sustainable Halton Water and Wastewater Master Plan Class Environmental Assessment (Class EA) Study in 2011. The purpose of the study was to develop a Region-wide water and wastewater infrastructure strategy to service population and employment growth within Halton’s urban areas to 2031, based on the approved 2011 Best Planning Estimates. One component of the preferred water servicing strategy included the need for a new water storage reservoir (Zone 4) on Trafalgar Road (350 m south of No. 5 Side Road) to provide water storage for Milton and North Oakville service areas.

Subsequent to the completion of the 2011 Master Plan document, additional water infrastructure has been constructed within the service area and staff has undertaken additional technical review of the proposed water level at the Zone 4 Reservoir based on system response. To mitigate the potential for future customer concerns at it relates to water pressure, the water level for the Zone 4 reservoir was re-evaluated and a new alternative site location has been recommended as illustrated in the map (approximately 1000 m further north of the site chosen during the 2011 Master Plan).
In addition, the associated 1200 mm watermain (on Trafalgar Road from Britannia Road to the Zone 4 Reservoir) will need to be extended by approximately 1000 m northwards. This project is not subject for review and approval pursuant to the Municipal Class Environmental Assessment as it is a Schedule A+ (pre-approved) project.

**PROCESS**

As per the Municipal Class Environmental Assessment document (October 2000, as amended in 2011) any significant modifications to a project which occurs after the filing of the 2011 Master Plan Class EA Report, must be reviewed through a public consultation process to ensure that the project and mitigating measures are still valid given the changing conditions of the project. It also specifies that an addendum documenting the basis for the changes and the revised recommendations be prepared. Accordingly, Halton Region has initiated a public consultation process (outlined below) and prepared an addendum report for public review.

**PUBLIC COMMENT INVITED**

The public consultation process will include the mailing of a notice letter to property landowners within approximately 500 m of the proposed reservoir site and other key stakeholders including review agencies to solicit input and comments. In accordance with the Municipal Class Environmental Assessment document, a revised Notice of Filing of Addendum will be issued on public record for 30 calendar days. The public “Review Period” will begin on Thursday, August 6, 2015 and end on Friday, September 4, 2015.

A report for the Addendum to the Sustainable Halton Water and Wastewater Master Plan – Zone 4 Reservoir (the Addendum Report) outlining the planning process undertaken and conclusions reached will be on public record during the above 30-day review period. The Addendum Report is available for public review at the following locations:

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
<th>Operating Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Halton Region</td>
<td>1151 Bronte Road, Oakville Citizen’s Reference Library</td>
<td>M-F 8:30am – 4:30pm</td>
</tr>
<tr>
<td>Town of Halton Hills</td>
<td>1 Halton Hills Drive, Georgetown Clerk’s Department</td>
<td>M-F 8:30am – 4:30pm</td>
</tr>
<tr>
<td>Town of Milton</td>
<td>150 Mary Street, Milton Clerk’s Department</td>
<td>M-F 8:30am – 4:30pm</td>
</tr>
</tbody>
</table>

The documents are also available electronically at: http://www.halton.ca/2011MSP.

Subject to comments received as a result of this notice, Halton Region intends to proceed with the implementation of the design and construction of the project. If after reading the Addendum Report, you have any questions or concerns, please follow the subsequent procedure:
1. Contact the following Region staff to discuss your questions or concerns:

   Jacek Pawlus, Project Manager  
   Infrastructure Planning and Policy  
   Halton Region  
   1151 Bronte Road  
   Oakville, Ontario L6M 3L1  
   Tel: 905-825-6000 ext. 7204  
   Fax: 905-825-0267  
   E-mail: jacek.pawlus@halton.ca

2. Arrange a meeting with the above if you have significant concerns that may require a more detailed explanation.

3. If major concerns are raised, the Region will attempt to negotiate a resolution of the issues. A mutually acceptable time period for this negotiation will be set. If the issues remain unresolved, you have the option to request the Minister of the Environment and Climate Change, by order, to require the Region to comply with Part II of the Environmental Assessment Act before proceeding with this project. This is called a Part II Order. Part II Order requests cannot be submitted in respect of the 2011 Master Plan itself; a request may only be made in respect to this project.

   The Minister may make one of the following decisions:
   1) Deny the request with or without conditions.
   2) Refer the matter to mediation.
   3) Require the Region to comply with Part II of the Environmental Assessment Act.

Requests for a Part II Order must be submitted, in writing, to the Minister of the Environment and Climate Change and copied to Halton Region by Friday, September 4, 2015 to:

   Minister of the Environment and Climate Change  
   The Ministry/Minister of Environment and Climate Change  
   77 Wellesley St West, 11th Floor  
   Toronto, ON M7A 2T5  
   Halton Region  
   1151 Bronte Road  
   Oakville, ON L6M 3L1

   Information will be collected in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

   Sincerely,

   Jacek Pawlus, MMI, P.Eng.
   Project Manager  
   905-825-6000 ext. 7204  
   jacek.pawlus@halton.ca
NOTICE OF FILING OF ADDENDUM

Relocation of the Zone 4 Reservoir
(Trafalgar Road and No. 5 Side Road, Town of Halton Hills)

Halton Region completed the Sustainable Halton Water and Wastewater Master Plan Class Environmental Assessment Study in 2011. The purpose of the study was to develop a Region-wide water and wastewater infrastructure strategy to service growth within Halton’s urban areas to 2031, based on the approved 2011 Best Planning Estimates. One component of the preferred water servicing strategy included the need for a new water storage reservoir (Zone 4) on Trafalgar Road (350 metres south of No. 5 Side Road) to provide water storage for Milton and North Oakville service areas.

Since the 2011 Master Plan document was completed, additional water infrastructure has been constructed within the service area and staff has undertaken additional technical review of the proposed water level at the Zone 4 Reservoir based on the water system response. To mitigate the potential for future customer concerns related to water pressure, the water level for the Zone 4 reservoir was re-evaluated and a new alternative site location has been recommended as illustrated in the map (approximately 1000 metres further north of the site chosen during the original 2011 Master Plan).

Halton Region has completed a report for the Addendum to the Sustainable Halton Water and Wastewater Master Plan – Zone 4 Reservoir (the Addendum Report), which documents the basis for the changes and the revised recommendations. The Addendum Report is available electronically at halton.ca/2011MSP. The Report is also available during the review period from Thursday, August 6, 2015 to Friday, September 4, 2015 at the following locations:

Regional Municipality of Halton
Citizen’s Reference Library
Monday – Friday:
8:30 a.m. – 4:30 p.m.
1151 Bronte Road, Oakville

Town of Milton
Clerk’s Department
Monday – Friday:
8:30 a.m. – 4:30 p.m.
150 Mary Street, Milton

Subject to comments received as a result of this notice, Halton Region intends to proceed with the implementation of the design and construction of the Zone 4 reservoir project as documented in the Addendum Report.

If after reading the Addendum Report, you have questions or concerns, please contact:

Jacek Pawlus
Project Manager
Infrastructure Planning and Policy
Halton Region
1151 Bronte Road
Oakville, ON L6M 3L1
Tel: 905-825-6000, ext. 7204
jacek.pawlus@halton.ca

Requests for a Part II Order must be submitted, in writing, to the Minister of the Environment and Climate Change and copied to Halton Region by Friday, September 4, 2015 to:

Minister of the Environment and Climate Change
The Ministry/Minister of Environment and Climate Change
77 Wellesley St West, 11th Floor
Toronto, ON M7A 2T5

Information will be collected in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice issued on August 6, 2015.