Schedule B Municipal Class Environmental Assessment for the Yonge Street Aquifer Well Capacity Restoration Project – Addendum Report

Version Number: 3 (Final)

Preliminary Design Services for the Green Lane Water Treatment Plant
The Regional Municipality of York

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Executive Summary

The Regional Municipality of York (York Region) completed the Yonge Street Aquifer Well Capacity Restoration Project in accordance with the Municipal Class Environmental Assessment (Class E.A.) process for a Schedule B project in December 2016. The purpose of the Class E.A. Study was to identify a recommended plan to restore the full permitted capacity of York Region's wells within the Yonge Street Aquifer. Rehabilitating existing Aurora Well 5, Aurora Well 6, and Newmarket Well 15, was the preferred solution identified, in addition to constructing new wells at Well Area 6 (Green Lane Water Treatment Plant [GLWTP]) and Well Area 11 (Aurora Well 7). Since the completion of the Class E.A. Study, the following changes have been proposed:

- Aurora Well 6 and Newmarket Well 15 will be decommissioned because these wells are presenting a performance decline after rehabilitation, and it is not feasible to replace these wells or to add filtration treatment at the existing site.
- The total production capacity at the Green Lane site will be 200 litres per second (L/s) instead of 105 L/s, in order to replace the lost capacity from Aurora Well 6 and Newmarket Well 15 and maximize well production capability for system redundancy and operational flexibility.
- In addition, the construction of a new GLWTP will include iron and manganese removal treatment and flexibility to add methane removal treatment if required in the future.

An addendum to the original Class E.A. is required to inform the public and other stakeholders about the proposed changes, the potential impacts, and mitigation measures to minimize the impacts. The Class E.A. Addendum includes the revised preferred alternative of providing additional iron and manganese removal treatment and flexibility to add methane removal treatment in the future by constructing a new GLWTP and maximizing production capability from two wells, with a total production capacity of up to 200 L/s.

This Class E.A. Addendum, as filed, represents the completion of the planning process required under the *Environmental Assessment Act*. Upon completion of the 30-day public review process and subsequent 30-day period during which concerns may be forwarded to York Region, provided that no Section 16 Order requests are received, York Region can proceed with the design and implementation of the Class E.A. recommendations identified herein.

The timeline to design and construct the GLWTP is approximately 6 years (between 2023 and 2028) with the following considerations:

- Five months to procure services for detailed design and contract administration
- Eighteen months for detailed design and approval of the GLWTP
- Four months to complete permits and approvals
- Four months for construction procurement
- Twenty-four months to construct the new building and commission the iron and manganese removal technology for the GLWTP and its residual management system

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Acronyms and Abbreviations

Acronym	Definition
E.A.	environmental assessment
LSRCA	Lake Simcoe Region Conservation Authority
GLWTP	Green Lane Water Treatment Plant
GWTS	Groundwater Treatment Strategy
L/s	litres per second
M.E.A.	Municipal Engineers Association
M.E.C.P.	Ministry of Environment, Conservation and Parks
MAC	maximum acceptable concentration
MDL	Method Detection Limit
No.	number
PTTW	Permit to Take Water
York Region	Regional Municipality of York
YSA	Yonge Street Aquifer

1. Introduction

1.1 Background

1.1.1 Class E.A. Study (AECOM 2016)

In October 2000, the Regional Municipality of York (York Region) initiated the Yonge Street Aquifer (YSA) Well Capacity Restoration Project to restore lost well capacity caused by aging infrastructure and water quality issues within the YSA well system. Four of York Region's 18 wells were identified as having lost capacity, resulting in a deficit of 5.2 million litres per day (60 litres per second [L/s)]) under the YSA Permit to Take Water (PTTW) number (No.) 1736-BKZPJD (M.E.C.P. 2020a). To address the YSA well system's reduced production capacity, York Region undertook a Schedule B Municipal Class Environmental Assessment (Class E.A.), completing Phases 1 and 2 of the Municipal Engineers Association (M.E.A.) Class E.A. process (M.E.A. 2015).

In Phase 1 of the Class E.A. study, a problem statement was identified for use in evaluating alternatives for restoring the YSA's full permitted capacity while meeting future water demands, maintaining or enhancing the water supply's reliability, and continuing to responsibly manage groundwater in the YSA.

In Phase 2 of the Class E.A. study, the following alternatives were shortlisted for further evaluation:

1. **Alternative No. 1:** Do Nothing (serves as a baseline comparison against the other alternatives)
2. **Alternative No. 2:** Rehabilitate Existing Wells
3. **Alternative No. 5:** Install New Wells

The study process identified a combination of **Alternatives 2** and **5** as the Recommended Alternative that provides the greatest opportunity to re-establish the full permitted well capacity of York Region's water system in the YSA area. The Class E.A. Study was conducted in six stages (Stages 1 to 6) in order to implement the Recommended Alternative of rehabilitating wells and installing new wells.

- During Stage 1 of the evaluation in the Class E.A. Study, it was determined that Aurora Well No. 5, Aurora Well No. 6, and Newmarket Well No. 15 would be rehabilitated as part of **Alternative No. 2**.
- As part of **Alternative No. 5**, the Class E.A. Study recommended constructing new wells at Well Area 6 – Green Lane, located on Green Lane between 2nd Concession and Yonge Street, and the Aurora Well 5 site in Well Area 11, located at the southeastern corner of Yonge Street and St. John's sideroad.

The Class E.A. was completed in December 2016 and documented in the *2016 Yonge Street Aquifer Well Capacity Restoration Project File* provided in the **Attachment**.

1.1.2 Aurora Well 6 and Newmarket Well 15 (York Region 2022b)

Newmarket Well 15 and Aurora Well 6 have a combined permitted maximum taking of 6.74 million litres per day (78.1 L/s). York Region completed the rehabilitation of Newmarket Well 15 and Aurora Well 6 in 2014 and 2015. Rehabilitation at Newmarket Well 15 was considered successful in restoring well efficiency and performance, whereas rehabilitation at Aurora Well 6 was considered unsuccessful. A total capacity amount of 1.1 million litres per day (13 L/s) was restored in the YSA well system, which is less than the lost production capacity of 2.16 million litres per day (25 L/s).

York Region attempted another rehabilitation of the Aurora Well 6 in 2019, but it was considered unsuccessful because it produced limited improvement in the well performance. As such, future well rehabilitation efforts are not expected to be successful at restoring lost capacity from this well.

In addition, water quality challenges, such as discolouration, water age, and chlorine residual, have been observed within the Newmarket central-east pressure district, for which Aurora Well 6 supplies water, and within the Newmarket area supplied by Newmarket Well 15.

As a result of well capacity constraints, structural damage to the well casing, and the need to maintain water quality in the Newmarket central-east pressure district of Aurora, Aurora Well 6 was taken offline in September 2019. In 2020, Newmarket Well 15 was taken offline because of operational challenges associated with maintaining well sites with reduced or restricted production rates.

It has been determined that it is not feasible to replace Aurora Well 6 and upgrade the facility with iron and manganese removal technology at the existing site because of the site's size; offsite well replacement is required.

As a result of well capacity constraints, the need for frequent and exhaustive rehabilitation efforts, potential advanced deterioration of the well casing, and sand production issues, it was determined that Newmarket Well 15 replacement would be required to replace lost capacity. As a result of size limitations, it is not feasible to replace this well at the existing site; offsite well replacement is required.

Because it is not feasible to rehabilitate or replace these wells at the existing sites, an alternative solution is required to re-establish YSA's full permitted capacity. The *Yonge Street Aquifer Well Capacity Update and Proposed Permit to Take Water Amendment Strategy Memorandum* is provided in **Appendix A-1**.

1.1.3 Green Lane Well Site Groundwater Resource Evaluation (York Region 2023)

The 2016 groundwater exploration project was conducted following the Class E.A. to assess additional well capacity at the Green Lane area. Green Lane Well 1 was tested at a maximum pumping rate of 55 L/s, and it was determined that the well would be capable of a yield of approximately 55 L/s (AECOM 2020).

Further tests were undertaken in 2018 at a maximum pumping rate of 100 L/s to investigate potential additional capacity and to prove the capacity requested under the Class E.A. study. Following the completion of an additional 48-hour pumping test, it was determined that the site is capable of a yield of at least 100 L/s with acceptable water quality, with the exception of iron,

which will need to be treated as part of the water supply treatment process. It was recommended that groundwater supply from the site be developed via two production wells with rated capacities of 55 L/s and 50 L/s for a total site capacity of 105 L/s.

In 2022, York Region completed a hydrogeological investigation to inform the design of the Green Lane Water Treatment Plant (GLWTP) and to support the PTTW amendment. York Region constructed a second well (Green Lane Well 2) at the Green Lane well site to assess further groundwater development there so that the maximum proven site capacity could be built into the water treatment capabilities of the water treatment plant.

The pumping test confirmed that Green Lane Well 2 was capable of a yield of 100 L/s and that the two wells could operate concurrently at a combined instantaneous pumping rate of 200 L/s. Given the uncertainty of aquifer response over long-duration pumping, it was recommended that the average day withdrawal from the site be limited to 105 L/s (9,072 cubic metres per day), with an exception to operate at peak flows of 200 L/s (17,280 cubic metres per day) during the peak demand period by implementing cyclical pumping operations.

The *Green Lane Well Site Groundwater Resource Evaluation Report* is provided in **Appendix A-2**.

1.1.4 Groundwater Treatment Strategy Project (Jacobs 2020)

A Groundwater Treatment Strategy (GWTS) project was completed in 2020 by York Region to address long-standing customer concerns with aesthetic water quality, focusing on groundwater facilities with elevated iron and manganese in the water sources. The GWTS focused on 33 wells across 21 facilities with elevated iron and manganese in systems where sequestration is practiced to control iron and manganese oxidation and deposition. The GWTS assessed iron and manganese control options for each facility, based on the following factors:

- Source water quality
- Emerging drinking water industry trends (including the recently revised Health Canada manganese guidelines)
- Distribution system water quality
- Cost

The GWTS recommended implementing iron and manganese removal treatment using adsorptive filtration with continuously regenerative media for several existing facilities, including Aurora Well 6 and Newmarket Well 15. A Groundwater Treatment Decision Tree was also created to determine what treatment options for iron and manganese were the most appropriate, based on raw water iron and manganese concentrations.

1.1.5 Green Lane Water Treatment Plant Predesign

Jacobs was retained in November 2021 to complete the preliminary design services for the new GLWTP project, based on the preferred alternative identified through the Class E.A. process.

The iron, manganese, and methane levels at the Green Lane wells obtained during November 2021 pumping tests are summarized in Table 1-1 (York Region 2022a). The tests identified that iron and manganese removal treatment upgrades would be required for the new well supplies at the Green Lane site according to the Groundwater Treatment Decision Tree (Jacobs 2020). Currently, methane levels exceed the provincial aesthetic objective of 3 litres per cubic metre (L/m^3) on certain occasions. To date, York Region has not experienced any operational issues or

received any customer complaints associated with the presence of methane at other locations. Additionally, the recorded methane levels are considerably less than the explosive warning threshold of 10 milligrams per litre (approximately 18 L/m^3) (DOI 2001; Section 17- Drinking Water Quality of York Region's *Design Guidelines, Specifications and Standard Drawings* [2022c]), where it is suggested that treatment should be considered. As such, York Region may wish to consider a reserved space for methane treatment in case the methane concentration from the Green Lane wells increases in the future, as observed in other wells screened in the YSA.

Table 1-1. Raw Water Iron, Manganese, and Methane Concentrations from Green Lane Wells (November 2021)

Parameter	Drinking Water Standards or Guidelines	Well 1 Average [a]	Well 1 Range	Well 2 Average [a]	Well 2 Range
Iron, total, mg/L	0.3 (AO) [b] 0.15 (TO) [c] 0.60 (TL) [d]	0.497	0.454 to 0.522	0.517	0.488 to 0.541
Manganese, total, mg/L	0.05 (AO) [b] 0.12 (MAC) [e] 0.02 (AO) [f] 0.015 (TO) [c] 0.075 (TL) [d]	0.0261	0.0246 to 0.0280	0.028	0.0236 to 0.0345
Methane, L/m^3	3.0 (AO) [b] 18 (TL) [d]	3.5	3.4 to 3.7	2.7	1.1 to 3.3

[a] Where some of the measured values were reported as less than the Method Detection Limit (MDL), the average was calculated by assigning half the MDL to those values. If all measured values were less than MDL, or if the average was less than the MDL, the average was indicated as being less than the MDL.

[b] Ontario Drinking Water Standards Ontario Regulation 169/03 – Maximum Acceptable Concentration (MAC) (Ontario 2020); Aesthetic Objectives (AO) and Operational Guidelines as presented in the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines (M.E.C.P. 2006).

[c] Treatment Objective (TO) under York Region Design Guidelines, Section 17 (York Region 2022c).

[d] Treatment Level (TL), blending or alternate source required under York Region Design Guidelines, Section 17 (York Region 2022c).

[e] MAC under Health Canada's Drinking Water Guidelines.

[f] AO under Health Canada's Drinking Water Guidelines.

During the preliminary design phase, the project team identified that some updates would be necessary to the original Class E.A. Study, including the need for a full water treatment plant for iron and manganese removal treatment and flexibility to add methane treatment if required in the future. Their conclusion was based on previous studies and field testing to meet GWTS recommendations.

1.2 Objectives

The objective of the GLWTP project is to construct a new GLWTP at the Green Lane site to restore the full permitted capacity of the YSA while meeting future water demands, maintaining or enhancing the reliability and quality of the water supply, continuing to responsibly manage groundwater in the YSA, and to meet the GWTS objectives.

The objective of this E.A. Addendum is to provide background and rationale for changes to the original Class E.A. Study and to document those changes for public and review agency consideration. This report will serve as the Class E.A. Addendum for the increased total production capacity of 200 L/s, instead of 105 L/s, and the construction of a new GLWTP at the Green Lane site.

1.3 Rationale for the Class E.A. Addendum

Since completion of the Class E.A. in December 2016, the following changes have been proposed:

- Aurora Well 6 and Newmarket Well 15 will be decommissioned because these wells are presenting a performance decline after rehabilitation, and it is not feasible to replace these wells or to add filtration treatment at the existing sites.
- The total production capacity at the Green Lane site will be 200 L/s instead of 105 L/s in order to replace the lost capacity from Aurora Well 6 and Newmarket Well 15 and maximize well production capability for system redundancy and operational flexibility.
- In addition, the GLWTP will include iron and manganese removal treatment and flexibility to add methane removal treatment if required in the future.

An addendum to the original Class E.A. is required to inform the public and other stakeholders about the proposed changes. These differences may result in additional environmental and socio-cultural impacts that require mitigation.

1.4 Municipal Class E.A. Addendum Process

In accordance with Section 4.3 of the M.E.A. Class E.A. document (M.E.A. 2015), an addendum to a Municipal Class E.A. is required if a significant amount of time has passed between the E.A.'s completion and project implementation, if changes to the proposed project are made after the E.A.'s completion, or if significant changes to the environment occur prior to project implementation. The following components are required to be included in the addendum:

- A description of the proposed changes to the Recommended Alternative solution, documented in Sections 1.3 and 2 of this addendum
- A description of the circumstances necessitating the change, documented in Section 1.1 of this addendum
- The environmental implications of the change, documented in Section Appendix B of this addendum
- Mitigation measures for any negative environmental impacts, documented in Appendix B of this addendum

The proponent is required to consult with the public, interest groups, review agencies, and stakeholders regarding changes addressed by the E.A. Addendum and file a Notice of Addendum and an Addendum Report for a 30-day public review and comment period prior to commencing project implementation. During this time, only the matters addressed by the addendum are open for public review.

If concerns should arise during public consultations or during the 30-day public review, these concerns should be brought to the attention of the proponent prior to the close of the 30-day review period. However, Section 16 orders pertaining to issues relating to constitutionally protected Aboriginal and treaty rights should be addressed to M.E.C.P. If there is no response from M.E.C.P. within 30 days after the comment period conclusion (noted on the Notice of Addendum), the project may proceed to Phase 5 of the Class E.A. process.

2. Green Lane Water Treatment Plant

2.1 Description of the Revised Preferred Solution

The original Class E.A. proposed that the GLWTP include two new wells at the Green Lane site with an individual capacity of 55 and 50 L/s and a total production capacity of 105 L/s. The GLWTP would distribute water to the planned watermain extension along Green Lane from Yonge Street to Leslie Street. The GLWTP would include sequestration as treatment for iron, but no treatment would be required for manganese and methane.

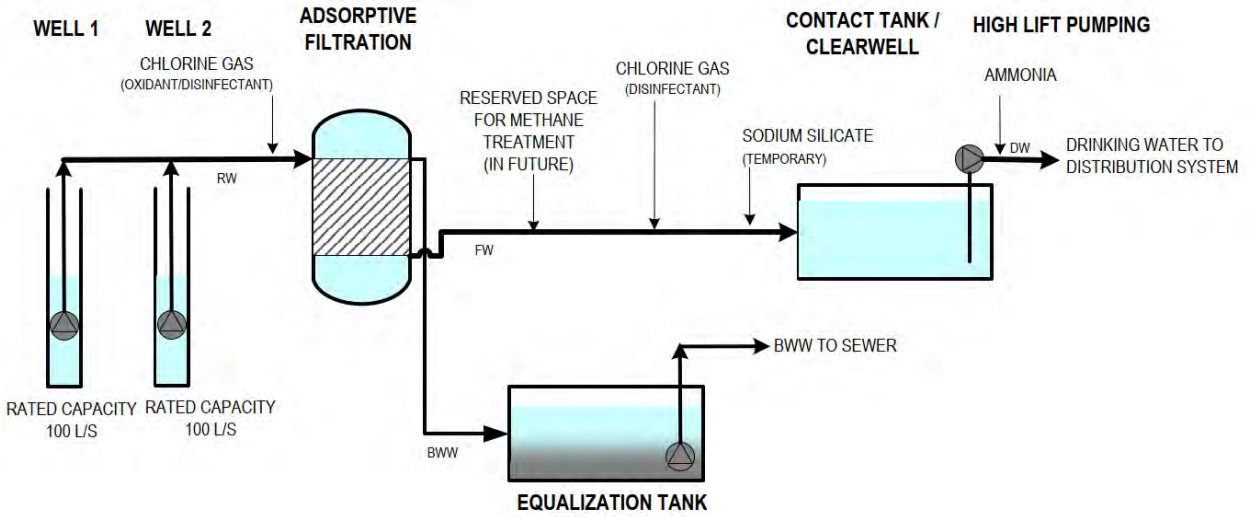
The proposed revised concept for GLWTP involves the following:

- Two new wells with individual capacity of 100 L/s, which will be permitted to operate concurrently at a combined instantaneous pumping rate of 200 L/s (17,280 cubic metres per day) during the peak demand periods and with a maximum daily site capacity of 105 L/s (9,072 cubic metres per day).
- A new building constructed on the Green Lane site to house the new treatment process for iron and manganese removal and associated equipment, as well as chemical rooms, electrical and supervisory control and data acquisition room, mechanical room, washroom, wet/dry work station, high-lift pumps, clearwell, and ancillary systems.

Figure 2-1 presents the schematic diagram of the new GLWTP, including the iron and manganese removal treatment process to treat raw water from Wells 1 and 2. The schematic diagram reflects a single stage of adsorptive filtration, chlorine addition, disinfection contact tank, high-lift pumping, ammonia addition, and backwash wastewater management.

Iron and manganese removal treatment includes the use of six 2.7-metre-diameter filter vessels. The filters will be filled with adsorptive media that will be continuously regenerated with the use of chlorine. A provision to direct filtered water to a methane removal treatment unit (in future, if required) will be provided. The filtered water finally will flow through the clearwell for primary disinfection. Treated water will be pumped from the reservoir through high-lift pumps into the distribution system in accordance with the original Class E.A. Study. Ammonia will be added at the high-lift pump discharge for secondary disinfection (chloramination) purposes. The filters will be backwashed using treated water supply with the help of backwash water supply pumps and air scouring blowers. Backwash wastewater will be collected in equalization tanks, from where it will be pumped into the existing regional sanitary sewer collection system for ultimate treatment at the Duffin Creek Water Pollution Control Plant.

Figure 2-1. Schematic Diagram



There are no municipally listed or designated heritage properties within 200 metres of Green Lane site (AECOM 2016). The Green Lane site is not located within the area regulated by the Lake Simcoe Region Conservation Authority (LSRCA), but the surrounding area includes the following features:

- Regulatory floodplain, meander belt, and valleyland (steep slopes) hazards associated with the East Holland River
- Unevaluated wetland and lands adjacent
- Significant woodland
- Significant groundwater recharge areas identified under the Lake Simcoe Protection Plan
- Highly vulnerable aquifer under the Source Water Protection Plan

2.2 Alternative Solutions

The following alternatives for the GLWTP implementation and increased production capacity were evaluated as part of this addendum:

- Alternative A – Original plan according to the Class E.A. to construct two new wells at the Green Lane site with a total production capacity of 105 L/s.
- Alternative B – Proposed concept according to this E.A. Addendum to provide additional iron and manganese removal treatment and flexibility to add methane removal treatment in the future by constructing a new GLWTP and to maximize well production capability with a total production capacity of up to 200 L/s.

Because the proposed works are confined to the same site, there were no changes to the study area or existing environment.

2.3 Alternatives Evaluation

Table 2-1 summarizes the comparative evaluation of Alternative A and Alternative B. A complete comparative evaluation is presented in **Appendix B**.

Table 2-1. Comparative Alternatives Evaluation for Green Lane Water Treatment Plant

Category	Alternative A – Original Plan According to the Class E.A.	Alternative B – Proposed Concept According to this E.A. Addendum
Technical	Not Preferred Lower aquifer productivity, iron treatment not efficient.	Preferred Higher aquifer productivity, iron treatment efficient (improved water quality); consolidates two well facilities into a single site.
Natural Environment	No Preference No effects to aquatic or terrestrial species or habitat anticipated. Net effects are not anticipated as a result of siting considerations and standard construction best management practices.	No Preference No effects to aquatic or terrestrial species or habitat anticipated. Net effects are not anticipated as a result of siting considerations and standard construction best management practices.
Built Environment	Preferred Alternative has the least disruption to existing private and municipal and non-municipal permitted-to-take-groundwater holders, although adverse effects are not anticipated with the implementation of mitigation measures, as required.	Not Preferred Alternative has higher disruption to existing private and municipal and non-municipal permitted-to-take-groundwater holders, although adverse effects are not anticipated with the implementation of mitigation measures, as required.
Social Environment	No Preference Same sensitive receptors will be disturbed during construction; however, noise effects during operations will be minimized through the use of mitigation measures.	No Preference Same sensitive receptors will be disturbed during construction; however, noise effects during operations will be minimized through the use of mitigation measures.

Category	Alternative A – Original Plan According to the Class E.A.	Alternative B – Proposed Concept According to this E.A. Addendum
Cultural Environment	No Preference Minimal effects on cultural heritage landscapes and no concerns for the impact to archaeological sites by the proposed development; as such, no further archaeological assessment of the property is required.	No Preference Minimal effects on cultural heritage landscapes and no concerns for the impact to archaeological sites by the proposed development; as such, no further archaeological assessment of the property is required.
Financial	Not Preferred Higher capital costs based on production capacity and higher operation costs based on volume of water produced.	Preferred Lower capital costs based on production capacity and lower operation costs based on volume of water produced.
Does the Alternative fulfill the requirements of the Problem and Opportunity Statement?	Partially Does not re-establish YSA's full permitted capacity.	Yes Re-establishes YSA's full permitted capacity.
Overall Results	Not Preferred	Preferred

Alternative B, design and construct a new GLWTP and maximize well production capability to 200 L/s, is the revised preferred solution for implementation. This alternative offers the following benefits:

- Re-establishes the full permitted capacity of YSA
- Maximizes aquifer production at the Green Lane site
- Minimizes operation and maintenance efforts with a centralized groundwater treatment facility
- Improves water quality with iron and manganese removal treatment
- Has flexibility to add methane treatment in future, if necessary
- Has the ability to feed multiple pressure districts for supply redundancy and operational flexibility

2.4 Impacts and Mitigation Measures for the Revised Preferred Solution

Mitigation measures will be required during the design and construction of the preferred solution and subsequent long-term operations. Preliminary mitigation strategies were identified in Tables B-1 to B-6, which are presented in **Appendix B**. These strategies will be further refined once information from the detailed design field investigations is available and as the design progresses.

There is potential that private wells within the area of focus could be negatively affected by prolonged pumping of Green Lane wells based on a desktop study (York Region 2023). Interference drawdown in the system will be regularly assessed by routinely measuring aquifer water levels in York Region's network of monitoring wells, and this impact would be mitigated by adjusting the pumping rate, pump intake, and pattern at the Well Area 6 – Green Lane well or other York Region production wells, if required. These results will be verified through detailed private and non-municipal well investigation, and mitigations will be developed in detail during the existing YSA PTTW amendment process.

Considering the natural features surrounding the Green Lane site and the development footprint, the following are strategies to avoid or mitigate impacts to the surrounding area associated with the site development:

- Avoid floodplains and wetlands (wherever possible) to prevent impacts to natural hazards.
- Maintain or improve existing drainage and conveyance with no change to upstream or downstream flows to avoid impacts and control flooding.
- Implement quantity and quality stormwater management controls (if applicable) to avoid impacting erosion, floodplains, or pollution in accordance with LSRCA Stormwater Management Guidelines (LSRCA 2022).
- Avoid any fill placement in the floodplain or compensate it with an incremental cut.
- Undertake proper erosion and sediment control measures to prevent sediment migration and impact on local watercourses.
- Avoid the creation of significant drinking water threats at the well head protection area (within 100-metre radius of wells) or implement risk management resources to manage the threat (such as fuel storage onsite).
- Engage in further consultation with LSRCA and conduct environmental studies during detailed design.

3. E.A. Addendum Consultation

York Region and the project team have maintained continuous communication with stakeholders through the preliminary design and the Class E.A. Addendum process and will continue this dialogue throughout the project's lifecycle. Stakeholders include the Town of East Gwillimbury, Town of Newmarket, regulatory agencies and authorities (such as the M.E.C.P. and LSRCA), and interested members of the public.

3.1 Project Website

York Region created and maintains a project-specific webpage at the following link: www.york.ca/ea under the East Gwillimbury dropdown. The webpage includes all public contact activities and documentation regarding the study for 30-day review.

3.2 E.A. Addendum Notification

A formal E.A. Addendum Notification was provided to M.E.C.P. on December 1, 2022, and to the Town of East Gwillimbury and Town of Newmarket on March 3, 2023. The purpose of the notification was to announce the E.A. amendment process and briefly describe the proposed changes. Table 3-1 summarizes comments received from each stakeholder, other than Indigenous communities, and York Region's responses. A copy of the E.A. Addendum Notification, updated Project Contact List, and complete project correspondence with stakeholders is included in **Appendix C**.

Table 3-1. Summary of Stakeholder Comments

Stakeholder	Date Type	Comment	Response
M.E.C.P.	December 1, 2022 E.A. Addendum Notification	Acknowledgement. No identified additional Indigenous communities for consultation.	Acknowledgement.
M.E.C.P.	March 8, 2023 Draft E.A. Addendum Report for review	Acknowledgement. Confirm methodology proposed to confirm potential impacts to private and municipal wells is appropriate. Recommend following up with Indigenous communities that did not respond to notification.	Acknowledgement. Continue work on following up with Indigenous communities that did not respond to notification through phone calls.

Stakeholder	Date Type	Comment	Response
LSRCA	February 2, 2023 Draft E.A. Addendum Report for review	Outline LSRCA stormwater management requirements according to development footprint, including recommendation on further consultation and studies. Outline LSRCA and York Region are collaborating on reviewing the Source Water Protection Plan; recommended avoiding creation of significant drinking water threats.	Acknowledgement. Requirements and recommendations added to the E.A. Addendum Report.
Town of East Gwillimbury	March 3, 2023 E.A. Addendum Notification	No additional questions.	Invitation to participate on project progress update meeting, which was held on April 27, 2023.
Town of Newmarket	March 3, 2023 E.A. Addendum Notification	Inquiry about additional investigation/studies that support the E.A. addendum process. Requested additional information about methane content and its implication on GLWTP, and about ammonia content and its implication on distribution system water quality.	Respond to questions by email on March 23, 2023. Invitation to participate on project progress update meeting, which was held on April 27, 2023.

3.3 Notice of Addendum

The Notice of Addendum was published on June 29, 2023, and sent to all contacts on the original Project Contact List from the 2016 Class E.A. (and updated where appropriate), including review agencies, stakeholders, local interest groups, public, and all potentially interested Indigenous communities. The purpose of the notice was to inform about the E.A. Addendum and advise on the opportunities to review this Addendum report. The Notice of Addendum also included the following:

- A map of the Project Study Area
- The problem/opportunity statement and a brief overview of the Municipal Class E.A. amendment process

- A description of the circumstances necessitating the change
- A description of the proposed changes to the Revised Preferred Solution
- Contact information for further opportunities for comments and input

Notification was accomplished through the following means:

- Publication in Newspapers Newmarket Era, Aurora Banner and East Gwillimbury Express (with coverage in Newmarket, Aurora and East Gwillimbury) on June 29, 2023, and July 6, 2023.
- Postings on York Region's project webpage for review from June 29, 2023 and July 31, 2023; any interested stakeholder or resident can request a hard copy of the report for their review.
- Hard copy mailed to the updated Project Contact List (**Appendix C.1)**. A total of 150 notices were mailed to these individuals and groups. Of these, 46 notices were sent to elected officials, 44 to review agency staff, 20 to public groups and individuals, and 40 to Indigenous communities.

A copy of the Notice of Addendum, updated Project Contact List, and complete project correspondence with stakeholders is included in **Appendix C**.

3.4 Indigenous Communities Consultation

The following Indigenous communities and organizations are included on the original project mailing list. M.E.C.P. has not identified any additional Indigenous communities for consultation during this E.A. Addendum process.

- Alderville First Nation
- Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Chippewas of Rama First Nation (Mnjikaning)
- Curve Lake First Nation
- Hiawatha First Nation
- Huron Wendat Nation
- Iroquois Confederacy
- Williams Treaty First Nations (Karry Sandy McKenzie)
- Kawartha-Nishnawbe First Nation of Burleigh Falls
- Métis Nation of Ontario
- Métis Nation of Council
- Mississauga of the New Credit First Nation
- Mississauga of Scugog Island
- Mohawks of the Bay of Quinte
- Moose Deer Point First Nation
- Six Nations of the Grand River
- Wahta Mohawks

The Indigenous communities and organizations were provided with the E.A. Addendum Notification on January 18, 2023, via email. Table 3-2 summarizes efforts to contact and comments received from each Indigenous community and York Region's responses.

Table 3-2. Summary of Indigenous Community Comments

Stakeholder	Date Type	Comment	Response
Alderville First Nation	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Beausoleil First Nation	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Chippewas of Georgina Island First Nation	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Chippewas of Rama First Nation (Mnjikaning)	January 18, 2023, E.A. Addendum Notification	Acknowledgement. No concerns at this time. Confirmed interest in the project and wants to review Addendum Report when available.	Acknowledgement.
Curve Lake First Nation	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response. Followed up with phone call on May 15, 2023, and acknowledgement and new contact informed.
Hiawatha First Nation	January 18, 2023, E.A. Addendum Notification	Acknowledgement. Confirm interest in the project and want to review Addendum Report when available.	Acknowledgement.
Huron Wendat Nation	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Iroquois Confederacy	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Williams Treaty First Nations (Karry Sandy McKenzie)	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on May 16, 2023, and no response

Stakeholder	Date Type	Comment	Response
Kawartha-Nishnawbe First Nation of Burleigh Falls	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on May 16, 2023, and no response.
Métis Nation of Ontario	January 18, 2023, E.A. Addendum Notification	Acknowledgement. Confirmation of correct contact to be addressed.	Acknowledgement.
Métis Nation of Council	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on May 16, 2023, and no response.
Mississauga of the New Credit First Nation	January 18, 2023, E.A. Addendum Notification	Acknowledgement. No concerns at this time. Confirmed interest in the project and wants to review Addendum Report when available.	Acknowledgement.
Mississauga of Scugog Island	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Mohawks of the Bay of Quinte	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Moose Deer Point First Nation	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Six Nations of the Grand River	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.
Wahta Mohawks	January 18, 2023, E.A. Addendum Notification	No Response.	Followed up with phone call on April 13, 2023, and no response.

A copy of the Notice of Addendum was sent to the Indigenous communities via email on June 29, 2023, and a hard copy of the Notice of Addendum was also mailed to the Indigenous communities. The complete project correspondence with Indigenous communities is provided in **Appendix C**.

4. Conclusions and Recommendations

This E.A. Addendum for the Schedule B Municipal Class E.A. for the YSA Well Capacity Restoration Project has found that the revised preferred alternative is Alternative B: to provide additional iron and manganese removal treatment and flexibility to add future methane removal treatment by constructing a new GLWTP and to maximize production capability from two wells, with a total production capacity of up to 200 L/s.

During the detailed design, construction, and first years of operation, the following commitments are required:

- Complete mitigation measures detailed in Tables B-1 to B-6 in **Appendix B**.
- Complete mitigation measures detailed in Section 2.4 to avoid or mitigate impact to the surrounding area associated with the site development.
- Secure all permits and approvals according to Section 4.1.
- Confirm the potential impacts to private and non-municipal PTTW wells and confirm the simulated aquifer response and desktop impact assessment results through further investigation, field verification, and monitoring.
- Establish a monitoring network prior to commissioning the wells to monitor groundwater levels across the areas flagged in the impact assessment.
- Gradually increase production up to the targeted average105 L/s to allow for detailed monitoring of groundwater levels.
    - In the event a well interference complaint is received because of the operation of the Green Lane wells or actions, despite best efforts to monitor and mitigate ahead of time, a well interference complaint protocol will be triggered, and an investigation will ensue to determine the cause of the adverse impact and recommend necessary corrective measures to resolve the complaint.
- Decommissioning of Well Facilities at Aurora Well No. 6 and Newmarket Well No. 15 following commissioning of the GLWTP and watermains.

4.1 Permits and Approvals

The following permits and approvals will be required prior to project implementation. These will be sought during the project's detailed design phase:

- Amendment to the current YSA PTTW (M.E.C.P.) in accordance with the strategy recommended in the *Yonge Street Aquifer Well Capacity Update and Proposed Permit to Take Water Amendment Strategy Memorandum* (York Region 2022b)
- Update to the Source Water Protection Plan (York Region)
- Amendment to the current Drinking Water Works Permit (M.E.C.P.)
- Approvals under the *Planning Act* (site plan approval and a Building Permit) by the local municipality (Town of East Gwillimbury) and by York Region
- Approvals and exemptions from all applicable by-laws (Noise, Road Right-of-Way, Sewer Use) by the local municipality and York Region

In addition, York Region has internal protocols stipulating that all permits and approvals must be secured and obtained directly by York Region prior to tendering the project. In accordance with the same protocol, all permits and approvals are owned by York Region; as such, York Region is ultimately responsible for verifying compliance.

4.2 Next Steps

This E.A. Addendum, as filed, represents the completion of the planning process required under the *Environmental Assessment Act*. Upon completion of the 30-day public review process and a subsequent 30-day period during which concerns may be forwarded to York Region, provided that no Section 16 Order requests are received, York Region can proceed with the design and implementation of the Class E.A. recommendations identified herein.

The timeline to design and construct the GLWTP is approximately 6 years (between 2023 and 2028) with the following considerations:

- Five months to procure of services for detailed design and contract administration
- Eighteen months for detailed design and approval of the GLWTP
- Four months to complete permits and approvals
- Four months for construction procurement
- Twenty-four months to construct the new building and commission the iron and manganese removal technology for the GLWTP and its residual management system

5. References

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