

Class Environmental Assessment Project File Report  
Project 18-2441

# East Trunk Sanitary Sewer Offline Storage Facility

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Schedule B Class EA



Prepared for Region of Peel  
by IBI Group

August 26, 2021



**IBI GROUP**  
8133 Warden Ave, Unit 300  
Markham ON L6G 1B3 Canada  
tel 905 763 2322 fax 905 940 2064  
[ibigroup.com](http://ibigroup.com)

August 26, 2021  
Reference No. 133391

Dan Bennington, C.E.T.  
Regional Municipality of Peel  
10 Peel Centre Drive  
Brampton, ON L6T 4B8

**Attention : Dan Bennington, C.E.T.**  
**Project Manager**

**Engineering Services for Class Environmental Assessment, Detailed  
Design, Contract Administration and Inspection for East Trunk Sanitary  
Sewer Offline Storage Facility, Project 18-2441  
Class Environmental Assessment Project File Report**

IBI Group (IBI) is pleased to submit our Project File Report for the East Trunk Sanitary Sewer Offline Storage Facility Class Environmental (EA) Study. Completed as a Schedule "B" Class EA, this report documents Phases 1 and 2 of the Municipal Engineers Associations (MEA) Municipal Class EA process, including a description of the problem/opportunity, identification of alternative solutions, inventory of the natural, socio-economic, and cultural environment, consultation with the public and stakeholders, and evaluation of alternative solutions resulting in a preferred solution with identified impacts and mitigation measures.

Best Regards,  
**IBI GROUP**

A handwritten signature in black ink, appearing to read 'Gord Gajich'.

Gord Gajich, P.Eng.  
Project Manager  
Director, Municipal Infrastructure

GG/sm

c.:

Encls: Project File Report



PREPARED BY:

**IBI GROUP**

Sena McClean, B.A.Sc  
Assistant Project Manager  
Engineering Designer

Hedieh Hashtroudi, M. Eng., M.A.Sc  
Permits and Approvals Lead  
Engineering Designer

CHECKED BY:

**IBI GROUP**

Christine Hill, M.Eng., P.Eng.  
Environmental Assessment Lead  
Associate Director, Water Facilities

AUTHORIZED FOR ISSUE BY:

**IBI GROUP**

Gord Gajich, P.Eng.  
Project Manager  
Director, Municipal Infrastructure

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# 1 Introduction

The abandoned section of the Etobicoke Creek Trunk Sewer, which is also known as the East Trunk Sanitary Sewer (ETSS) is an 84-inch (2134 mm) diameter reinforced concrete pipeline (ASTM C76 CL-III) constructed in 1975, with an energy dissipation chamber (EDC) and structure at its north end constructed in 1970. The EDC and sewer have been abandoned for approximately nine years, but prior to the abandonment they saw approximately 42 years of service, conveying flows from East Mississauga towards the G. E. Booth Wastewater Treatment Plant (WWTP). During this time, they suffered from degradation arising from hydrogen sulphide generation. The abandoned section of the ETSS is currently bypassed by a 2100 mm diameter concrete pressure pipe (AWWA C301-E) with T-Lock concrete protective liner constructed in 2010. This bypass sewer is referred to the live/in-service section of the ETSS throughout this report.

The abandoned section of the ETSS was inspected by Andrews.engineer (Andrews) in 2006 and again in 2012. These inspections concluded the section had significant concrete loss, and extensive corrosion in various locations due to sulphuric acid exposure.

The Region of Peel (the Region) retained IBI Group Professional Services (Canada) Inc. [IBI] to undertake a Schedule B Municipal Class Environmental Assessment (Class EA) to identify if, and how the abandoned ETSS or a new offline storage facility could be used for storage of peak flows during wet weather events. The main benefit of peak flow attenuation would be a reduction in peak flows entering the G.E. Booth WWTP while meeting the service demands from a growing population.

IBI engaged the following three sub-consultants to provide specialist input to this study:

- Archaeological Services Inc. (ASI) – Stage 1 Archaeological Assessment and Cultural Heritage
- LGL Ltd. – Natural Environment Study
- Geo Morphix – Fluvial Geomorphological and Erosion Hazard Assessment

## 1.1 Study Area Description

The existing abandoned EDC and ETSS are located within a vegetated area between the southeast end of Southcreek Road and east of Mattawa Avenue known as the Etobicoke Valley Leash Free Dog Park, within the City of Mississauga (herein referred to as the “Site”). **Figure 1-1** presents the Site and location of the existing EDC, abandoned ETSS as well as the live/in-service section of the ETSS.

The study area is located along Etobicoke Creek within a Toronto and Region Conservation Authority (TRCA) regulated area (in accordance with Ontario Regulation 166/06). It is understood that a portion of the Site is owned by the City of Mississauga (the City) and another by TRCA but is maintained by the City through a maintenance agreement. The TRCA granted authority to the City to develop, maintain and manage the TRCA lands for park, recreational and conservation purposes through an agreement dated June 16, 1976. The Region has two easements through the Site for existing trunk sewers and associated structures (both abandoned and in-service).



Figure 1-1 Project Study Area Map



EX. IN-SERVICE SAN SEWER ABANDONED SECTIONS

## 2 Planning and Policy Context

### 2.1 Region of Peel Official Plan

The Regional Official Plan (Office Consolidation December 2018) sets the Regional context for detailed planning and provides Regional Council with a long-term policy framework for decision making. Section 6.4 of the Regional Official Plan outlines the Region’s responsibility to supply and distribute water and collect and dispose of sanitary sewage. Additionally, the Region in cooperation with the Province are to provide water and wastewater services through the South Peel Servicing Agreement.

As noted in Section 6.4.1 of the Official Plan, it is the Region’s objective “to provide water supply and sanitary sewer services to appropriate areas of the Region in an adequate, efficient, planned and cost-effective manner consistent with public needs and financial realities”. Section 6.4.2.1 states that it is the policy of Regional Council to “require and provide full municipal sewage and water services to accommodate growth in the Urban System to the year 2031...” and as per Section 6.4.2.7, to “ensure that the planning, construction, expansion, extension, operation and maintenance of water and sanitary sewer services protects the environmental systems and natural resources of Peel in a manner consistent with the objectives and policies in the official Plan, the Niagara Escarpment Plan, the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan”.

The proposed municipal servicing improvements support the development objectives of the Regional Official Plan.

Under Schedule A of the Regional Official Plan, Etobicoke Creek and its associated valleylands is identified as part of the ‘Core Areas of the Greenlands System’, ‘Area with Special Policies’, and within the ‘2031 Regional Urban Boundary’. Additionally, the study area is identified under Schedule D within the ‘Urban System’, as the surrounding areas near the study area include residential and industrial land uses. Selected Areas of Provincial Interest (Figure 2 of the Region of Peel Official Plan) indicates Etobicoke Creek is a river valley connection outside of the Greenbelt, however, the study area is entirely within the Region of Peel’s Greenlands system.

#### 2.1.1 Growth Management Strategy

The Region has adopted an integrated approach to planning, managing, and financing growth. This incorporates Peel 2041 and the Regional Official Plan. This integrated approach provides a comprehensive framework that includes Official Plan Updates (Growth Management and Transportation), water and wastewater planning and servicing, and financial and policy inputs to the development charge by-law. The ETSS provides additional storage but is not specific to growth management. However, the growth management looks at servicing development needs to 2041.

### 2.2 Greenbelt Plan

Consideration was given as to whether parts of the study area were subject to the Oak Ridges Moraine Conservation Plan (2017), Niagara Escarpment Plan (2020), Greenbelt Plan (2017) and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019). If these plans are applicable to the study area, then the relevant policies within these plans would need to be referenced.

Schedule 1 of the Greenbelt Plan shows the study area is within the ‘settlement area outside’ of the Niagara Escarpment Plan and Oak Ridges Moraine Conservation Plan (including the Protected Countryside). The Etobicoke Creek (identified as an urban river valley) is present in the study area.

Section 6 of the Greenbelt Plan outlines the policies that apply to the ‘Urban River Valleys’ designation. Only publicly owned lands are subject to the policies of the ‘Urban River Valleys’ designation. Policy 6.2.3 states that all existing, expanded, or new infrastructure subject to the Environmental Assessment Act is permitted if it supports the needs of adjacent settlement areas or serves the significant growth and economic development expected in southern Ontario and supports the goals and objectives of the Greenbelt Plan.



In addition, several other policies are outlined under Section 3 of the Greenbelt Plan that apply to 'Urban River Valleys'. The following should be undertaken by government and agencies when undertaking work within Urban River Valleys:

- Consider how activities and land use changes within and abutting the Greenbelt relate to the areas of external connections and 'Urban River Valley' areas identified in the Greenbelt Plan;
- Promote and undertake appropriate planning and design to ensure that external connections and 'Urban River Valley' areas are maintained and/or enhanced; and
- Undertake watershed planning, which integrates supporting ecological systems with those systems contained in the Greenbelt Plan.

## 2.3 Provincial Policy Statement (2020)

The Provincial Policy Statement (PPS) (2020) provides direction to municipalities on matters related to land use planning and development. Policy 1.6 of the PPS provides direction to municipalities regarding infrastructure and public service facilities. Key policies state that infrastructure "shall be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs". Policies 1.6.3 and 1.6.4 state that the use of existing infrastructure should be optimized before consideration is given to developing new infrastructure and infrastructure should be strategically located to support effective and efficient delivery of emergency management services. With respect to wastewater, key sections of Policy 1.6.6 state that planning for sewage services shall:

- Ensure that these systems are provided in a manner that i) can be sustained by the water resources upon which such services rely, ii) prepares for the impacts of a changing climate; iii) is feasible and financially viable over the lifecycle, and iv) protects human health and safety, and the natural environment;
- Promote water conservation and water use efficiency; and
- Integrate servicing and land use considerations at all stages of the planning process.

The PPS also provides direction to regional and local municipalities on infrastructure and public service facilities, specifically sewage, water and stormwater. Section 1.6.6.1 provides planning policies for sewage and water servicing that accommodates expected growth in a manner that promotes the optimization and efficient use of existing municipal water services.

Policy 2.0 provides for the protection of natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits. Policy 2.1 Natural Heritage identifies that natural features and areas shall be protected for the long term. Specifically, site alteration shall not be permitted in or adjacent to significant wetlands, significant woodlands and valleylands, significant wildlife habitat and significant areas of natural and scientific interest unless the ecological features and areas have been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. Mitigation measures may be considered to protect, improve, or restore sensitive surface water features, sensitive ground water features and their hydrologic functions.

## 3 Class EA Process and Public Consultation

### 3.1 Municipal Engineers Association’s Municipal Class EA Planning Process

This Class EA planning process, which follows the Municipal Engineers Association’s (MEA) Municipal Class Environmental Assessment document (October 2000, as amended 2007, 2011 and 2015), takes into consideration the protection of all aspects of the natural, social, and economic environment as well as long-term planning for the mitigation of any adverse effects during both construction and commissioning. The Class EA process also includes consultation with the Public, Indigenous Communities, Government Agencies, local interest groups and review bodies to obtain input and feedback and to ultimately attain general acceptance for the preferred alternative.

There are five (5) phases depicted in the Municipal Class EA Planning and Design Process, which include:

- **Phase 1 - Identify the problem(s) or opportunity:** Identify the problem or opportunity that the Class EA is intended to address.
- **Phase 2 - Identification of alternative solutions and selection of a preferred solution:** This is based on a thorough evaluation of the options against a set of criteria. Phase 2 includes a detailed inventory of the natural, social, and economic environment as well as the identification of any adverse impacts/effects and associated mitigating measures. Public consultation is held to review the problem/opportunity as well as all alternative solutions in an attempt to gain feedback leading to the selection of the preferred solution.
- **Phase 3 - Identification and assessment of alternative design concepts for the preferred solution:** The preferred solution selected in Phase 2 is expanded on in Phase 3 to include detailed design concepts. A second public consultation event is held to review the alternative design concepts in an attempt to gain further feedback leading to the selection of the preferred design.
- **Phase 4 - Preparation of an Environmental Study Report (ESR):** An ESR is developed documenting all phases and components of the Class EA process. The ESR is placed on public record and a notice of completion is filed.
- **Phase 5 - Implementation:** Implementation of the project works, including complete contract drawings and tender documents followed by construction and commissioning.

The complete Municipal Class EA Planning and Design Process is shown in **Figure 3-1**.

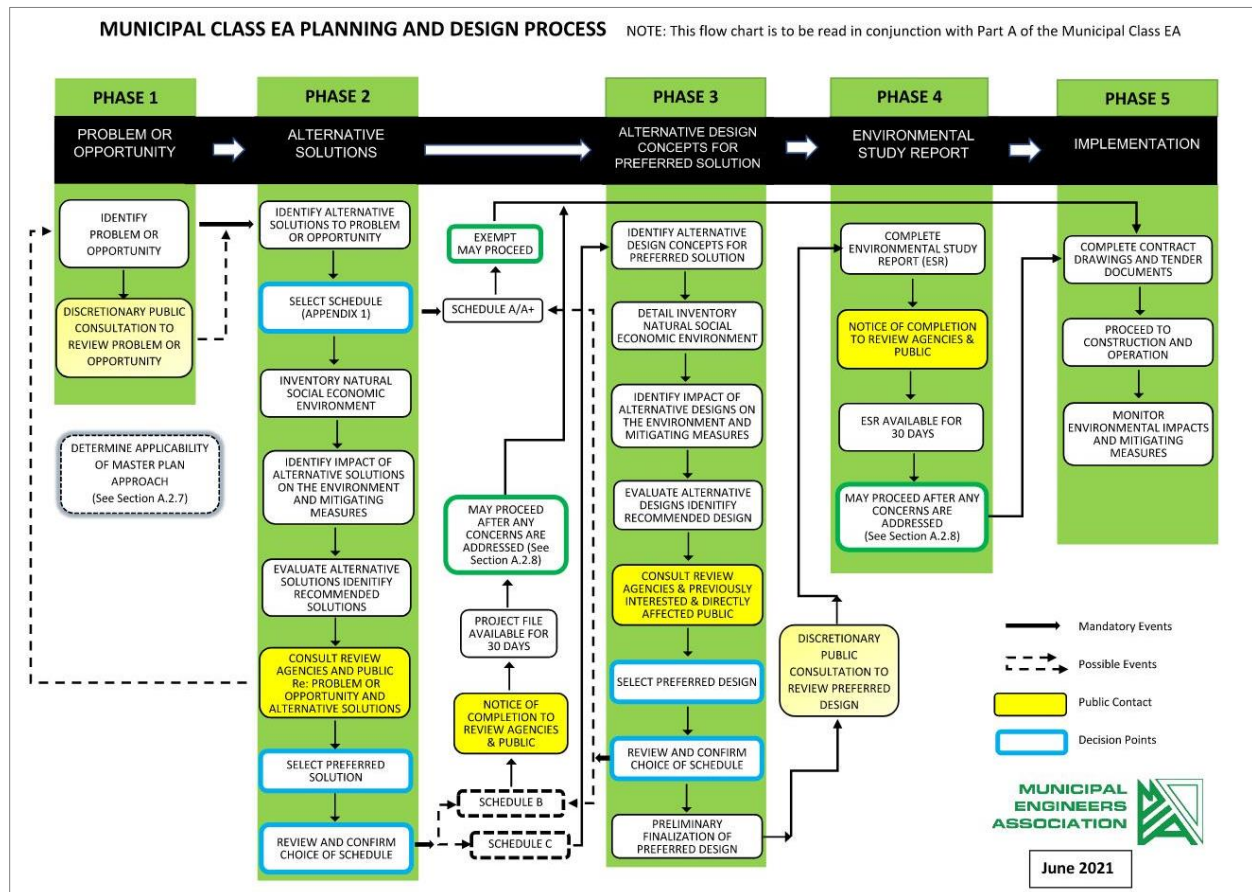


Figure 3-1 Municipal Class EA Planning and Design Process

### 3.2 Municipal Class EA Schedules

The Class EA document categorizes projects into one of four (4) possible schedules depending on the project’s complexity and the nature and significance of potential adverse effects on the environment. The schedule under which a particular project falls determines the specific planning and design phases that must be adhered to. The four (4) schedules are:

- **Schedule A/A+** projects are generally limited in scale and usually consist of minor operational/upgrade works. These projects usually have minimal adverse impacts on the environment and may go ahead without further assessment once the problem is reviewed and a solution is confirmed (i.e., after the completion of Phase 1). Schedule A+ projects require the extra step of notifying stakeholders prior to proceeding with the implementation of the project.
- **Schedule B** projects have the potential for some adverse environment effects and must accordingly proceed through Phase 1 and Phase 2 of the planning and design process. Alternative solutions to the problem must be identified, all impacts to the natural, social-cultural and/or economic environment must be inventoried, and a preferred solution selected through consultation with the Public and government review agencies. The project file must be completed and put on public record for a minimum 30-day public review period prior to proceeding to implementation.
- **Schedule C** projects are the most complex and require a more detailed study, public and agency consultation, and documentation. These projects have the potential for significant environment effects. A Schedule C project must complete all five (5) Phases of the planning and design process. An ESR must be completed and put on public record for a minimum 30-day public review period prior to proceeding to implementation.

## 4 Existing Conditions

### 4.1 Natural Environment

#### 4.1.1 Topography and Drainage

The Site is located within the Etobicoke Creek watershed and falls under the jurisdiction of the TRCA. The Etobicoke Creek carves a topographic low, flowing immediately adjacent to the Site and acts as a local surface water divide. Surface water is expected to drain towards the Etobicoke Creek.

The Site is generally characterized by flat topography in the area of the existing park area, with a steeper incline towards the developed properties on the north side. The ground surface elevation ranges approximately between 118 m and 107 m above sea level (“masl”), declining in a southeasterly direction. The average slope from the north to the south is approximately 2.5%, with a maximum slope reaching upwards of 20%. Due to steep topography in portions of the Site, particularly at the northern end, and the proximity to the Etobicoke Creek, erosion and slope stability factors must be taken into consideration for the design and construction of new infrastructure.

#### 4.1.2 Geology and Hydrogeology

A Class EA was completed by R.V. Anderson Associates Ltd. in 2008 to identify a plan for the renewal of the Etobicoke Creek Trunk Sewer. The Class EA resulted in the recommendation, and eventual construction of the current in-service ETSS.

A preliminary geotechnical report dated February 2008, was completed by Geo-Canada Ltd. as part of the Class EA. A supplementary geotechnical report dated December 1, 2009 was completed to support the detailed design of the in-service section of the ETSS by Coffey Geotechnics Inc. for R.V. Anderson Associates Ltd.

A report entitled ‘Hydrogeological Study to Evaluate Dewatering Requirements’ dated August 28, 2010 was completed by Coffey Geotechnics Inc. for R.V. Anderson Associates Ltd. to support detailed design of the in-service section of the ETSS.

The reports indicate the soil is composed of the typical stratigraphic sequence including a thin layer of topsoil (less than 10 mm), followed by a thick layer of fill (0.7m to 2.1m) overlaying shallow overburden (0.7m to 0.8m) consisting of well graded sandy silt to clayey silt, followed by thick sand and gravel deposits (0.5m to 1.8m) overlying the shale bedrock ranging in depth from 3.4m to 3.8m within the flood plain. Both the live and abandoned sections of pipe were installed within the shale bedrock.

#### 4.1.3 Terrestrial Resources

Vegetation communities present in the Site consist of upland and lowland forest, cultural meadow, cultural thicket, cultural plantation, and cultural woodland. There are restoration plantings present on the slope near the entrance to the park and within the bottomland of the valley.

Naturalized communities within the study area, include Sumac Cultural Thicket, Cultural Meadow, Mixed Cultural Plantation, Manitoba Maple Deciduous Forest, Maple Oak Deciduous Forest, and Willow Lowland Deciduous Forest.

There are nine locally rare plant species within the Site and specifically located within the lowland deciduous forest. This forest is located outside of the proposed disturbed area for the project. There are two Butternut trees found within the bottomland of the valley north of the proposed work area and within the Willow Manitoba Lowland Deciduous Forest. An area of 50 metres around each tree is considered as habitat for screening purposes for the Butternut. A health assessment was conducted, and the trees were determined to be Category 2, retainable trees. Additional details regarding the vegetation communities and natural heritage within the study area are available in the Natural Sciences Report completed by LGL Ltd., dated June 2021, provided in **Appendix A**.

#### 4.1.4 Etobicoke Creek and Geomorphology

Etobicoke Creek is located adjacent to the abandoned section of the ETSS. The TRCA has delineated regulatory flood plains which cover the Etobicoke Valley Dog Park. As a result, the abandoned and live sections of ETSS are both located within the Etobicoke Creek regulatory floodplain. **Figure 4-1** shows the Etobicoke Creek regulatory floodplain and the location of the EDC, abandoned ETSS and in-service section of the ETSS in relation to the flood plain.

A fluvial geomorphological and erosion hazard assessment report was completed by Geo Morphix (dated June 23, 2021) to estimate the limit of the erosion hazard and assess the risk to the existing and proposed infrastructure. The following is a summary of the existing geomorphological conditions.

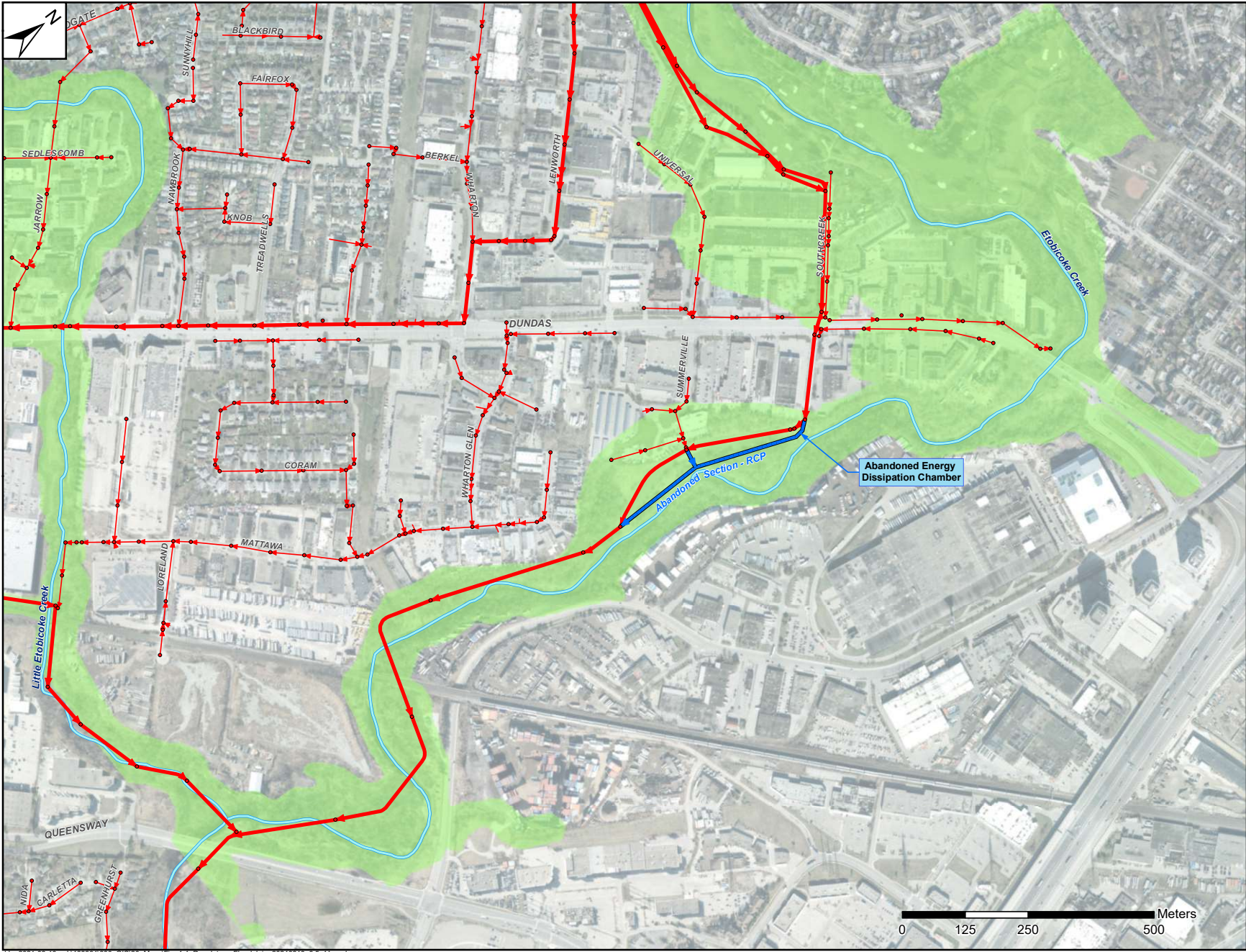
Within the period of 1965 to 1978, the Etobicoke Creek's large meander (located in the central portion of the study area) had migrated to the northwest, while there was limited change in channel position south of Southcreek Road. The migration was persistent between 1978 and 1992 and a rate of 0.58m/yr. was measured. This resulted in a conservative approximation of the hazard envelope (for an unprotected state) for a 100-year erosion limit of 58m.

In 2002, erosion control measures were installed within the area of a stormwater outfall and an exposed maintenance hole on the abandoned section. Between 1992 and 2011, the meander continued to migrate northwest, however imagery from 2011, 2015 and 2018 showed the channel migration was limited. The limited channel migration suggests the erosion control measures installed in 2002 have locally stabilized the channel. Another meander migration rate of 0.23m/yr. was determined (from the 1978 to 2018 timeframe) which includes the entire period of available records for historical channel modification. This resulted in a 23m, 100-year hazard envelope, as evident in the migration rate, and confirms that the erosion control measures installed in 2002 have acted to limit local channel migration in recent years.

Additional details regarding the fluvial geomorphological and erosion hazard assessment within the study area are available in the Geo Morphix report provided in **Appendix B**.



Figure 4-1 Regulatory Floodplain



**Legend**

- Sanitary Manhole
- Sanitary Sewer
- Sanitary Trunk
- Abandoned East Trunk Sewer
- Watercourse
- TRCA Draft Regulation Area

**Figure 4-1  
 Regulatory Floodplain**

East Trunk Sanitary  
 Sewer Offline  
 Storage Facility

**IBI** IBI GROUP

Project No.:	Date:
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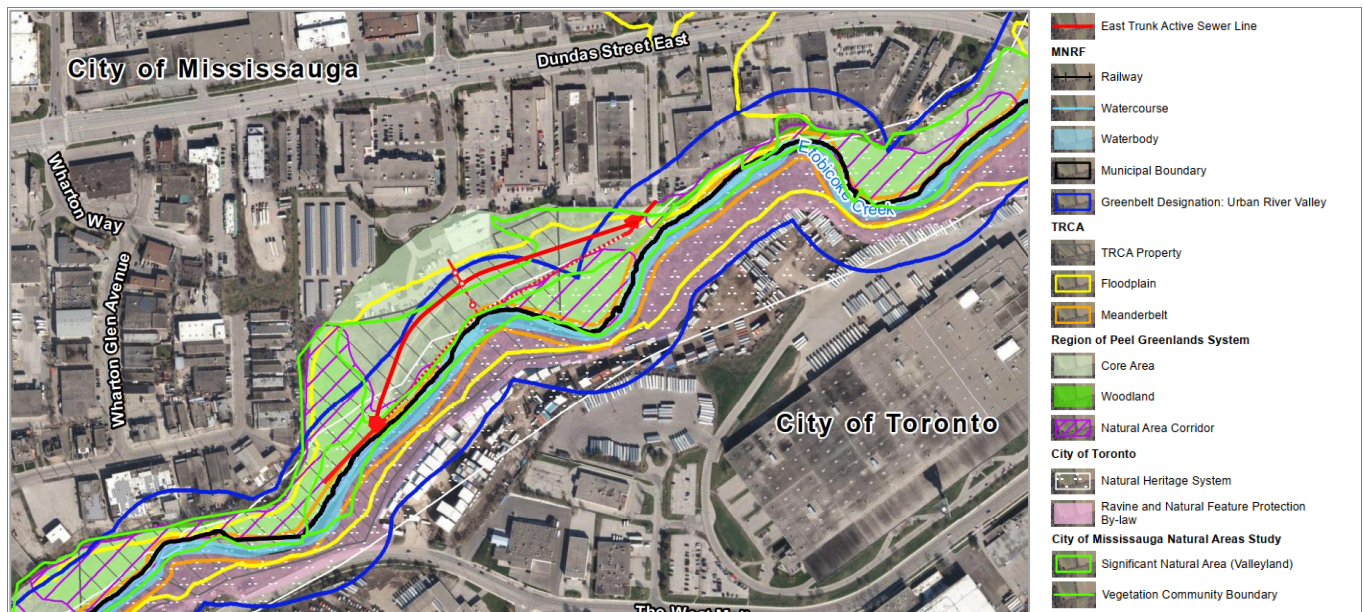


#### 4.1.5 Designated Natural Areas

Designated natural areas include areas that have been identified for protection by Ministry of Natural Resources and Forestry (MNRF), Peel Region, TRCA and the City of Mississauga. Within the study area there are no Provincially Significant Wetlands or Areas of Natural and Scientific Interest (ANSI). There are some “Natural Green Spaces” (e.g., unevaluated wetlands) as designated by the City of Mississauga that are less than 0.5 hectares in size. These are located within 120 metres of the study area.

There is an Environmentally Significant Area (ESA) located within 120 metres of the study area that is known as the Silverthorne Area and contains significant plant communities. The ESA is located south of the study area in the City of Toronto and is greater than 500 metres from the proposed work area.

The study area is situated within Significant Valleylands that are associated with the main branch and watercourse corridors of Etobicoke Creek that drain directly to Lake Ontario. In addition, there are significant woodlands present that are greater than 0.5 hectares in size as shown in **Figure 4-2**.



**Figure 4-2** Natural Existing Conditions

#### 4.1.6 Wildlife and Wildlife Habitat

The study area is predominantly an industrial setting, the natural areas associated with Etobicoke Creek provides the main habitat for wildlife in the area. The Etobicoke Creek valley and its associated natural areas provide a wildlife corridor through the area providing a variety of habitat types including deciduous woodlands, pen riparian habitats and meadow with no wetland present in the immediate study area.

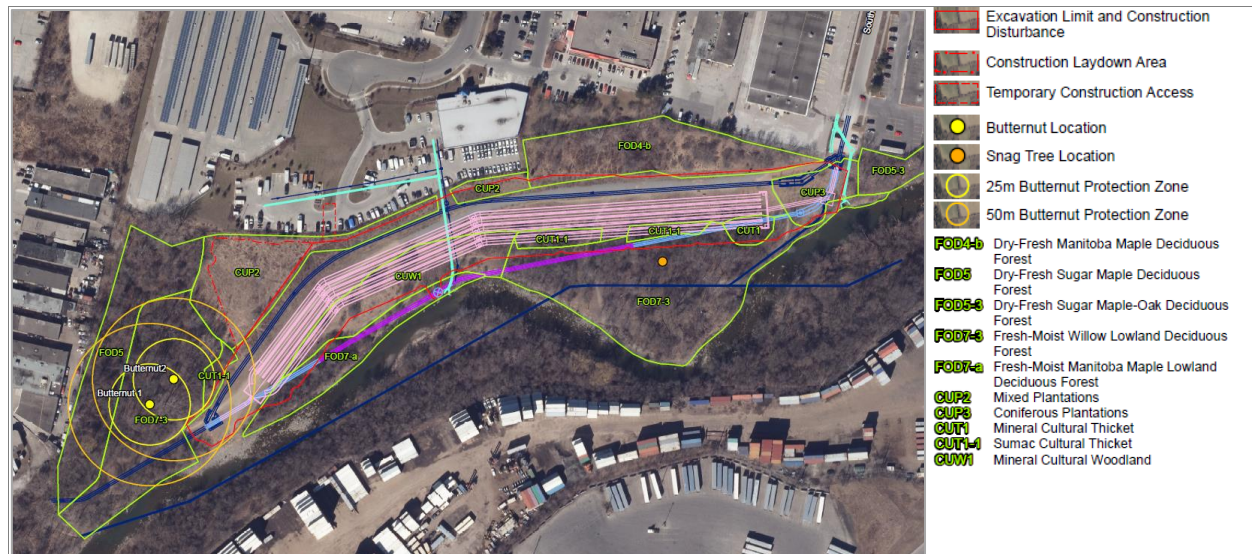
#### 4.1.7 Species at Risk

A Natural Sciences Report identified Endangered Species (provincial), Species of Conservation Concern and local (municipal) rarity that have been documented through background sources. There are species at risk present which are bat habitat (maternal roost cavity trees) and Butternut trees, which are found mostly within the woodland habitat south and east of the study area.

The impact on maternal roost cavity trees will be fully defined over design stage. However, any potential candidate SAR maternal roosting habitat trees proposed for removal should be screened with the MECP to meet all required procedures and approvals. To protect bats in the maternal roosting period, all roost cavity tree removals should be avoided between May 1 and September 30 of any given year (timing window subject to approval by MECP).

As described in **Section 4.1.3**, two Butternut trees were found north of the study area. An area of 50 metres around each tree is considered as habitat for screening purposes for the Butternut as shown on **Figure 4-3**. A health assessment was performed, and the trees were determined to be Category 2, retainable trees.

Additional details regarding species at risk and natural heritage are provided in the Natural Sciences Report and Butternut Health Assessment Report in **Appendix A** and **Appendix C** respectively.



**Figure 4-3** Natural Environment Impact Assessment

## 4.2 Socio-Cultural Environment

### 4.2.1 Archaeology Assessment

TRCA completed an Archaeology Screening in March 2021 which determined that the study area will not require an archaeological assessment. This was based on the following factors:

- Area was previously assessed and there were no further archaeological concerns.
- Evidence presents that deep and extensive land alterations (i.e., major grading below topsoil, building footprints, sewage/infrastructure development, quarrying) have occurred in the area.

The TRCA Archaeology Screening Record is provided in **Appendix D**.

Additionally, Archaeological Services Inc. (ASI) conducted a Stage 1 Archaeological Assessment (dated April 2021) which also concluded the “study area does not retain archaeological potential due to steep slopes and deep and extensive disturbance and will not require Stage 2 assessment”.

A copy of the Stage 1 Archaeological Assessment report by ASI is provided in **Appendix E**.

### 4.2.2 Cultural Heritage

ASI completed a Cultural Heritage Report in April 2021. The assessment undertaken included background historical research and a review of secondary source material. The area has a rural land use history and the assessment revealed that there are no previously identified features of cultural heritage value within the study area. Additional features were not identified during the fieldwork undertaken for the project. The assessment concluded that from a cultural heritage perspective, no mitigation measures are required.

A copy of the Cultural Heritage Report by ASI is provided in **Appendix F**.

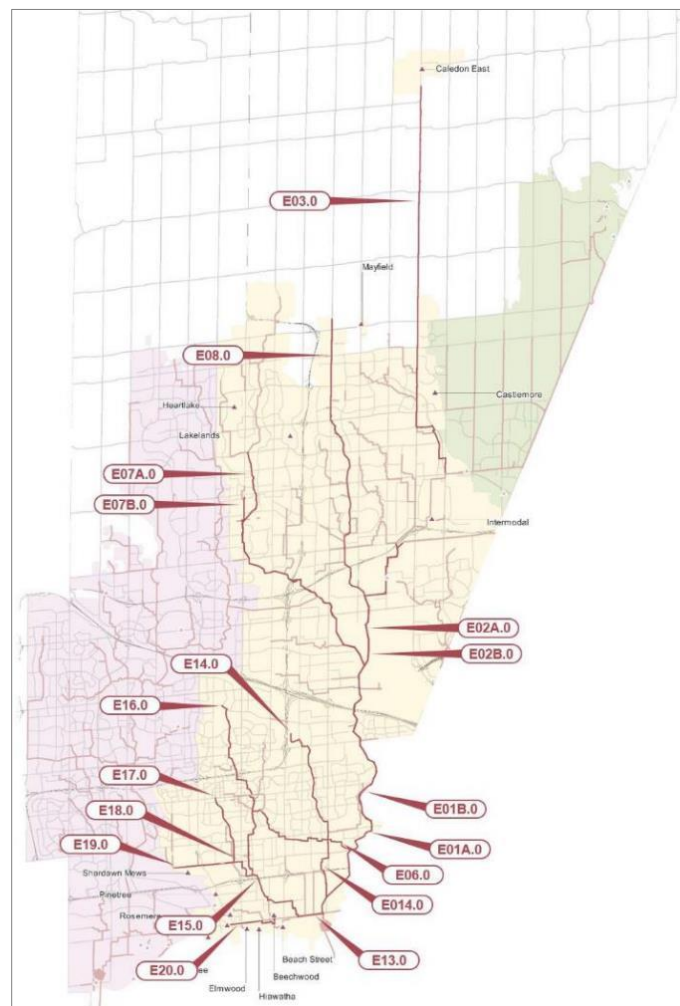
### 4.2.3 Leash Free Park and Park Access

The study area is currently a local public off-leash dog park managed by Leash Free Mississauga, a City of Mississauga affiliate organization. The park has an official entrance and parking lot from Southcreek Road. The entrance includes a double gate for leashing and un-leashing dog and a locked gate for maintenance vehicle access.

## 4.3 Existing Servicing

### 4.3.1 Peel Region Sanitary System

The Region’s sanitary sewer collection system is divided into three main trunk systems: west, east and McVean trunk systems. The East Trunk System can be broken down into 18 sections as shown in **Figure 4-4** from the 2020 Water & Wastewater Master Plan for the Lake-Based System, Volume 4 Wastewater Master Plan (2020 Master Plan).



**Figure 4-4** East Trunk System

The 2020 Master Plan describes the section of the East Trunk System that is part of this study as E01A.0: East (A). The East (A) trunk sewer is 1650 mm to 2400 mm twinned trunk sewers beginning at the convergence of the Etobicoke Creek twinned trunk sewers and the East Brampton twinned trunk sewers south of Derry Road East and east of Dixie Road. The twinned trunks extend southeast, passing through several areas of crossover junctions between East (A) and (B) and an inter-regional junction where flows are diverted from Toronto near Eglinton Avenue East. After extending past Dundas Street East, the East

(A) trunk sewer continues south and converges with the CPR trunk sewer ultimately reaching the G.E. Booth WWTP.

#### 4.3.2 Abandoned and Existing East Trunk Sanitary Sewer

**Figure 4-5** shows the physical layout of the ETSS within the Site and existing site considerations.

The live section and the abandoned section of the ETSS run parallel to each other and are connected at a diversion chamber to the north and the downstream chamber (junction chamber) in the south. The in-service section of the ETSS is approximately 460 m and drops approximately 4 m through a vortex drop structure south of the diversion chamber. The abandoned section of the ETSS is approximately 439 m and connects to the EDC approximately 9.5 m downstream of the diversion chamber. The EDC is a cast-in-place concrete structure that provided a drop of approximately 4 m and consisted of two longitudinal channels. Each channel included four longitudinal concrete beams on an upper and lower level over which flow was dispersed. An intermediate maintenance hole is located within the Etobicoke Creek bank and has been exposed due to bank erosion.

The abandoned section of the ETSS has been inspected on several occasions as part of the Region's asset management and inspection program, specifically in 1999, 2000, 2002, 2006, 2012 and 2019.

The most recent assessment completed in 2019 by Andrews found the EDC and ETSS to be in bad condition with severe levels of corrosion damage. The structures were given condition grades of three and four, indicating poor and bad conditions. However, the EDC and the sewers saw little advancement in corrosion in comparison to the 2012 condition assessment. A sewer condition summary map is provided in **Appendix G** showing the condition grade of each pipe length of the abandoned ETSS.

The first condition assessment of the existing in-service section of the ETSS after its construction was completed in 2019 by Andrews. The live/in-service section has been in use since 2012. The inspection showed that while there was flow with significantly high velocity and turbulence at 40% depth, the pipe was in good condition. **Appendix G** also illustrates the condition grade of the live section of the ETSS. The maintenance holes were also inspected and found to be in good condition.

#### 4.3.3 G.E. Booth WWTP

The G.E. Booth WWTP is located in the City of Mississauga south of Lakeshore Road East, between Dixie Road and Cawthra Road. The G.E. Booth WWTP is a conventional activated sludge facility with a current rated average daily flow capacity of 518 million litres per day (ML/d). All flow to the plant is conveyed by gravity via trunk sewers converging at an inlet chamber system then flowing through three conduits into the headworks facility and subsequent conventional treatment processes.

### 4.4 Storm Drainage System

#### 4.4.1 City of Mississauga Storm Sewers

Two municipal storm sewer outfalls are within the Site. A 975 mm storm sewer is located perpendicular to the abandoned and in-service ETSS from Summerville Court to an outfall into Etobicoke Creek north of the exposed maintenance hole. The other storm sewer is a 2100 mm pipe located parallel to the abandoned EDC extending from Southcreek Road to an outfall into Etobicoke Creek north of the abandoned EDC.

#### 4.4.2 Etobicoke Creek and Floodplain

The study area is wholly situated within the TRCA Regulatory Flood Plain. The Regulatory Flood Plain is based on the regional storm, Hurricane Hazel, or the 100-year flood; whichever is greater. TRCA floodplain mapping of the Site is provided within **Appendix H**.



— EX. IN-SERVICE SAN SEWER   
 — ABANDONED SECTIONS INCL. REMOVAL SECTIONS   
 — EX. STORM SEWER

**FIGURE 4-5: EXISTING SITE CONSIDERATIONS MAP**



## 4.5 Local Transportation System

Southcreek Road is a two-lane, dead end road that extends north and south of Dundas Street and has limited traffic. There are turning lanes provided at the intersection of Dundas Street East with Southcreek Road. Dundas Street East is a regional road (major arterial) that consists of three-lanes in each direction plus a centre left turning lane. Dundas Street East is also designated by the Region as a rapid transit corridor.

The eastbound and westbound lanes of Dundas Street East are operating at near capacity throughout the daytime hours during the weekdays and any construction on Dundas Street East during the day would result in significant impacts on traffic, transit, and local businesses.

## 5 Assessment of Existing Wastewater Conditions

### 5.1 Assessment of Existing Sanitary Trunk System

A hydraulic capacity analysis was completed on the existing in-service ETSS to identify existing capacity limitations and provide input into the development of storage options for the ETSS.

To provide input to this analysis, flow monitoring data (depth, velocity and flow) was collected by the Region at a location immediately upstream of the study area. IBI reviewed and analyzed the data along with rainfall data collected over a two-month period (August 1, 2019 to October 8, 2019) and compared the data against results generated by the Region's hydraulic wastewater model.

An analysis of existing conditions was completed using the 5-year, 25-year and 100-year storm events as input to the model to assess whether the Region's performance criteria were met in this area. Based on discussions with Program Planning Staff, the following performance criteria were developed and utilized in the analysis:

- 5-year design storm event – surcharge conditions should be minimal with a maximum d/D for trunk sewer sections of 0.85.
- 25-year design storm event – surcharge conditions are acceptable, and the peak hydraulic grade line is to be a minimum of 1.8m below the ground elevation.
- 100-year design storm event – surcharge conditions are acceptable, and the peak hydraulic grade line is to be below the surface elevation and spill to surface is not acceptable.

Based on the analysis, the Region's hydraulic wastewater model was determined to be suitable to size and evaluate options for the rehabilitation of the ETSS. Key findings show that the ETSS currently meets the Region's performance criteria under existing conditions for all wet weather events up to and including the 100-year design storm event. Under existing conditions, the predicted peak flow at the inlet to G.E. Booth WWTP during the 100-year design storm event is 16,943 L/s which marginally exceeds the design peak flow capacity of the screens and grit tanks at the plant of 16,787 L/s but is less than the design peak flow capacity of the outfall of 17,386 L/s. These design capacities are based on the current rated capacity of 518 MLD (5,995L/s) and were identified in the G.E. Booth WWTP Capacity Assessment, completed in 2019.

### 5.2 Assessment of G.E. Booth WWTP

The Region developed a long-term loading and hydraulic strategy for the G.E. Booth WWTP and Clarkson WWTP as part of the Water and Wastewater Master Plan Update Study. Scenario 16 has been identified as the preferred growth scenario which is anticipated to increase average day flows at the G.E. Booth WWTP from 5290 L/s under existing conditions to 605 MLD by 2041. This represents a 25% increase in average daily flows from 2018 to 2041. Upgrade requirements for both plants have been developed assuming that average flows should not exceed 90% of the rated capacity. The diversion strategy recommended an East to West diversion be in place by 2025 to divert flow from the G.E. Booth WWTP sewershed to the Clarkson WWTP sewershed through a new diversion located along Derry Road. With implementation of the strategy, average day flows to G.E. Booth WWTP are anticipated to increase to 486 MLD, which represents a 6% increase in average daily flows from 2018 to 2041. The Region is currently proceeding with a separate project to implement the East to West Diversion.

As the ETSS is one of the major trunk sewers to the G.E. Booth WWTP, it is anticipated that average flows would increase in accordance with projected increase at the G.E. Booth WWTP.

## 6 Problem/ Opportunity Statement

Phase 1 of the Municipal Class EA process defines the starting point for any Class EA as the “Problem/Opportunity Statement.” The Problem/Opportunity Statement for the East Trunk Sanitary Sewer Offline Storage Facility Municipal Class EA is defined as follows:

*To provide a reduction in wastewater peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population.*

In accordance with the requirements of the Municipal Class EA planning process, the Region of Peel initiated this Municipal Class EA to identify and evaluate alternative solutions to address this Problem/Opportunity Statement.

### 6.1 Schedule B Classification

The scope of work to identify if, and how the abandoned ETSS or a new offline storage facility could be used for storage of peak sanitary flows is identified as a Schedule B project.

The proposed infrastructure location is contained within a vegetated area. However, the previous construction of existing sanitary sewers in the eastern and western portions of the study area is considered to be disturbances in that zone. Consequently, the proposed infrastructure is impacting an already disturbed area. The project falls under Schedule B, Class EA project as per the MEA’s Municipal Class Environmental Assessment document. Per Appendix 1 – Project Schedules of the document, this is characterized as:

- **Establish sewage flow equalization tankage\* in existing sewer system or at existing sewage treatment plants, or at existing pumping stations for influent and/or effluent control.**
- **A new holding tank\* that is designed for the total retention of all sanitary sewage disposed into it and requires periodic emptying.**

\* Note: for this project, the pipes can also serve the same function as tankage.

As such, this study is being conducted in accordance with the approved requirements for a Schedule B Municipal Class EA, which requires the completion of Phase 1 and Phase 2 of the planning and design process.

Consultation between the proponent and affected or interested stakeholders or Indigenous communities early on and throughout the process is a key feature of EA planning, which provides opportunities for the exchange of information by which decision-making may be influenced. In addition, one of the primary goals in effectively consulting with stakeholders and Indigenous communities is to resolve issues proactively to avoid controversy.

In a Schedule B Class EA there exists two mandatory points of contact with the public and review agencies. The first point of contact follows the proponent’s identification of the recommended alternative solution. It is at this point, through invitation for public comment and input that an opportunity for stakeholders and Indigenous communities to assist in the selection of a preferred solution exists. The second point of contact consists of the Notice of Completion of the planning process, which completes the screening requirements for Schedule B projects. Once completed, the final Project File Report is available for the mandatory 30-day public review period by interested members of the public, Indigenous communities, and agency groups.



## 7 Alternative Solutions

### 7.1 Identification of Alternatives

Four alternative solutions were developed based on the design considerations to address the problem statement while considering their technical feasibility and capability to provide storage. The alternatives have been evaluated to identify a preferred solution. These alternative solutions include:

- **Alternative 1 (A1):** The replacement of the EDC, and construction of five parallel storage sewer pipes for offline storage and decommissioning the abandoned ETSS.
- **Alternative 2 (A2):** The replacement of the EDC, and construction of buried cast-in-place concrete storage tanks for offline storage and decommissioning the abandoned ETSS.
- **Alternative 3 (A3):** The replacement of the EDC, and the rehabilitation of the abandoned ETSS for in-line storage.
- **Alternative 4 (A4):** Decommissioning of the abandoned EDC and ETSS. This alternative is the equivalent of “Do Nothing” as no storage infrastructure is proposed.

**Appendix I** provides schematic drawings of each alternative solution.

### 7.2 General Description

To address the Problem/Opportunity statement alternatives A1 to A3 provide either offline or in-line storage of sanitary sewer flows during wet weather events. These alternative solutions were sized to store sanitary sewer flows during and after wet weather events and to allow for control of peak wet weather flows entering the G.E. Booth WWTP. Control of peak flows into the G.E. Booth WWTP would allow the Region to minimize the potential of bypasses.

The inflow and outflow of wastewater to and from storage, would be controlled through SCADA (Supervisory Control and Data Acquisition) automated controlled slide/weir gates to redirect flows from the in-service sewer to the storage facility and from the storage facility back into the East Trunk System. The design of the gates and control systems would consider the future implementation of a Real Time Control system making the storage facilities RTC ready. In the immediate term, gates would be controlled using local reactive control. The Region is currently undertaking a RTC Feasibility Study.

Settled solids within the storage facility would require flushing to remove the solids from the storage facility between intermittent usage. This will be accomplished by the inclusion of flushing gates within the storage facility to capture and retain volume, which can be released after the storage facility has been drained.

#### 7.2.1 Abandoned Energy Dissipation Chamber Replacement

The EDC was a critical part of the abandoned section of the ETSS and will be impacted by every proposed alternative solution. Therefore, its viability for replacement, rehabilitation, or decommissioning must be assessed. A condition assessment was undertaken, and the EDC was given a condition grade of 4 (Bad) (**Appendix G**) and was observed to have severe levels of damage to the concrete surfaces due to corrosion. The EDC walls have aggregate visible and reinforcement visible in isolated areas. The configuration of the EDC has led to faster advancement of corrosion and degradation compared to what was observed in the abandoned section of the ETSS.

Rehabilitation of the EDC will involve a labour-intensive process which raises concerns for worker health and safety due to the level of deterioration observed and structural stability. The replacement of the EDC will provide a more effective flow control to accommodate the 4 m elevation drop within the sewer. The EDC is of significant size and its demolition will provide ample land area to construct/install an alternative system and the associated gates and controls needed. Therefore, alternative solutions A1 to A3 include the replacement of the abandoned EDC.

The replacement of the abandoned EDC will include connection of the diversion chamber to a new drop structure located approximately in the centre of the EDC. The new drop structure would be sized accordingly to accommodate the significant sewage flows during a wet weather event when the storage



facility is intended to be used. The drop structure will connect the in-service ETSS to the existing diversion chamber and the storage facility via a 2100mm sewer pipe.

### 7.3 Alternative 1 – Pipe Offline Storage Facility

This alternative solution involves the installation of an offline storage facility consisting of five parallel storage sewer pipes, replacement of the abandoned EDC and decommissioning of the abandoned ETSS. The storage sewer pipes would have a minimum diameter of 3200 mm and a total length of 1,715m, providing a minimum storage volume of approximately 13,800 cubic meters (m<sup>3</sup>). All components of the the storage facility are to be made of hydrogen sulphide (H<sub>2</sub>S) resistant materials or include corrosion protection.

The storage facility, consisting of a new drop structure and sewer storage pipes, would be located within the land area between the abandoned and in-service ETSS, south of the EDC. It would be connected into the existing in-service ETSS at two points, upstream at the existing diversion chamber, and downstream at the junction chamber. The storage facility would also include the necessary gates and controls to provide the Region with the flexibility to control flows and manage the storage during a wet weather event. The junction chamber would allow a controlled release or outflow from the storage facility to downstream East Trunk System, which would convey flow to the G.E Booth WWTP.

A segment of the abandoned sewer upstream of the junction chamber would be cut and removed to accommodate the connection of the storage facility to the in-service ETSS. The remaining abandoned trunk sewer will be decommissioned, and the pipe will remain underground. Bank erosion mitigation measures should be explored to minimize undermining the decommissioned pipe. Installation of this pipe offline storage facility would be by open cut methodology. Its construction would have minimal impact on the natural environment with some tree removal required. The potential work area of this alternative would be located approximately 22m away from one of the Butternut trees identified in **Section 4.1** and 50m from the other. An area of 50 metres around each Butternut tree is considered as habitat for screening purposes. A health assessment was performed, and the trees were determined to be Category 2, retainable trees.

**Figure 7-1** presents a schematic drawing of the proposed pipe offline storage facility for Alternative A1.



**Figure 7-1** Alternative Solution 1

## 7.4 Alternative 2 – Tank Offline Storage Facility

This solution would include installation of two cast-in-place concrete storage tanks within the area between the abandoned and in-service ETSS on the north and south side of the existing 975 mm storm sewer crossing / perpendicular to the trunk sewers. Construction of the storage tanks will provide up to an approximate volume of 20,300m<sup>3</sup>. The walls of the tanks would be installed with a concrete protection liner to protect the structure from the possible effects of H<sub>2</sub>S corrosion.

The storage facility (a new drop structure and two cast-in-place concrete storage tanks) would be connected into the existing in-service ETSS at two points; upstream at the existing diversion chamber, and downstream at the junction chamber. Gates and controls would be installed upstream and downstream of the storage tanks to direct flow into and out of the facility as needed. The outflow of the storage system would be directed to the live section of the ETSS at the junction chamber, with a segment of the abandoned sewer upstream cut and removed to accommodate the connection. The remaining abandoned trunk sewer would be decommissioned, and the pipe will remain underground. Bank erosion mitigation measures would be explored to minimize undermining the decommissioned pipe. The tank offline storage facility would be installed using open cut methodology and with minimal impact to the natural environment with some tree removal required. The potential work area of this alternative would be located approximately 22m away from one of the Butternut trees identified in **Section 4.1** and 50m from the other. An area of 50 metres around each Butternut tree is considered as habitat for screening purposes. A health assessment was performed, and the trees were determined to be Category 2, retainable trees.

**Figure 7-2** presents a schematic drawing for Alternative A2.



**Figure 7-2** Alternative Solution 2

## 7.5 Alternative 3 – Rehabilitation of Abandoned ETSS for In-Line Storage

This alternative involves the rehabilitation of the abandoned ETSS and replacement of the EDC for conveyance and in-line storage. Gates and controls would be required to direct flows into and out of the currently abandoned ETSS. This solution will also provide a bypass of the in-service ETSS for operation and maintenance purposes.



There are various technologies available for the rehabilitation of the abandoned trunk sewer, including slip lining, glass reinforced plastic segmental panels, cured in place pipe (CIPP) liners, and sprayed liners. If the abandoned trunk sewer is rehabilitated using loose fit slip lining it will provide an estimated storage volume between 1,157m<sup>3</sup> and 1,587m<sup>3</sup> based on a diameter reduction from 2100 mm to 1700 mm. If a thinner liner such as CIPP is chosen to be the preferred rehabilitation option, the potential storage volume will increase due to a smaller diameter reduction. Included in the rehabilitation of the abandoned ETSS will also be the rehabilitation of the exposed maintenance hole which was observed to be in poor condition. The rehabilitation of the maintenance hole will include lining, and the replacement of ladders and platforms with FRP (fibre reinforce polymer) material. Bank erosion mitigation measures should be explored to minimize further erosion and compromising the integrity of rehabilitated trunk sewer. Construction for this option would include open cut methodology for the replacement of the abandoned EDC and the trenchless rehabilitation for the ETSS.

The potential work area of this alternative would be located approximately 22m away from one of the Butternut trees identified in **Section 4.1** and 50m from the other. An area of 50 metres around each Butternut tree is considered as habitat for screening purposes. A health assessment was performed, and the trees were determined to be Category 2, retainable trees.

**Figure 7-3** presents a schematic drawing of Alternative A3.



**Figure 7-3** Alternative Solution 3

## 7.6 Alternative 4 – Decommissioning / “Do Nothing”

In its current state, the abandoned trunk sewer is a potential hazard to people and the natural environment. This alternative includes the full decommissioning of the abandoned ETSS including its maintenance holes and appurtenances including the EDC. This alternative is equivalent of a “Do Nothing” alternative, as no storage infrastructure is included to meet the problem/opportunity statement.

The corrosion level throughout the abandoned pipeline and the EDC, causes the concern of potential collapse, or sink holes at the surface. Another issue is bank erosion at the exposed maintenance hole, and the possible undermining of the maintenance hole and the sewer. Prior to the video inspection of the



abandoned ETSS in 2019, standing water in the downstream part of the ETSS was observed. This water within the pipe could be a combination of accumulated groundwater due to instances of infiltration and some overflow from the in-service section of the ETSS. The video inspection of the abandoned ETSS showed infiltration locations. These instances of infiltration could eventually enlarge into holes over time as the pipe continues to corrode. These holes will then allow soil surrounding the pipeline to loosen and enter the pipe. Once this happens, there is potential for soil settlement at ground level or sinkhole formation. This could be dangerous to those using the Etobicoke Valley Leash-Free Dog Park. At this time, there is a fence located around the EDC to deter entry. This measure minimizes some of the risk of injury to the park users if there is a failure of the EDC.

Fully decommissioning the abandoned section of the ETSS will ensure safety of public and will minimize any potential spills to the environment. To decommission the abandoned section, filling the pipeline with a cementitious grout material would be needed to eliminate the risk of collapse. For the EDC the decommissioning will involve removal of the precast concrete roof and removal of the concrete fingers along with any remaining ladders or platforms. The main structure could be demolished, and the void filled with granular fill or a cementitious material.

The decommissioning of the abandoned section of the ETSS will not produce any changes to the current system hydraulically. However, due to the risks highlighted by the continued erosion of the Etobicoke Creek bank it will be advantageous to take the opportunity, while decommissioning, to address this issue. If the bank erosion is not addressed and continues after decommissioning, the pipe which will remain underground, will eventually become exposed.

The potential work area of this alternative would be located approximately 22m away from one of the Butternut trees identified in **Section 4.1** and 50m from the other. An area of 50 metres around each Butternut tree is considered as habitat for screening purposes. A health assessment was performed, and the trees were determined to be Category 2, retainable trees.

**Figure 7-4** presents a schematic of Alternative A4.



**Figure 7-4** Alternative Solution 4

## 8 Evaluation of Alternative Solutions

This section presents the evaluation of alternatives presented in **Section 7**. Taking the existing environment into consideration, the alternative solutions were comparatively evaluated using a descriptive or qualitative assessment based on criteria developed within the following categories (representing the broad definition of the environment as described in the *EA Act*):

- **Natural Environment** – having regard for protecting the natural and physical components of the environment (e.g., air, land, water and biota) including natural and/or ESAs.
- **Social-Cultural Environment** – having regard for residents, neighbourhoods, businesses, community character, social cohesion, community features, historical/archaeological remains, and heritage features.
- **Technical Environment** – having regard for the technical suitability/longevity and other engineering aspects associated with the alternative solutions.
- **Financial Environment** – having regard for the cost implicating items associated with the alternative solutions.

### 8.1 Evaluation Criteria

Evaluation criteria were developed to assess the alternatives, to identify the potential environmental effects and distinguish the advantages and disadvantages between alternatives. The criteria reflect all components of the environment in the study area, the alternative solutions being considered, the problem/opportunity being addressed, and the Class EA requirements. The criteria include the social, cultural, and natural environments, and technical and financial consideration and are described below in **Table 8-1**.

**Table 8-1** Evaluation Criteria

CRITERIA	MEASURES
<b>Natural Environment</b>	
Surface Water Impacts	Potential for impacts (e.g., erosion) during construction to surface water (Etobicoke Creek) and proximity to regulated areas
Creek Migration / Bank Erosion Impacts	Vulnerability to the erosion / migration of Etobicoke Creek
Groundwater / Subsurface Impacts	Potential for water taking during construction
Vegetation / Greenspace (Trees, Scrublands) Impacts	Loss of vegetation (including impacts to trees and tree canopy)
<b>Social and Cultural Environment</b>	
Impacts to Existing Land Uses (e.g., Businesses)	Potential for temporary disruption to traffic flow to nearby businesses
Traffic Impacts	Potential impacts to traffic flow during construction
Nuisance Impacts	Potential for vibration, dust and noise issues stemming from construction activities within proximity to nearby residences, businesses, and schools
Cultural / Heritage Areas / Known Archaeological Resource Impacts	Potential impact to cultural / heritage / built heritage areas and known archaeological resources (including First Nations)



Potential Impacts on Use of Leash Free Dog Park	Potential for temporary closure of Etobicoke Creek Valley Park and leash free dog park area during construction
<b>Technical Considerations</b>	
Ease of Construction (e.g., Construction Constraints)	Potential for encountering problems during construction (e.g., soil stability, geotechnical considerations, ease of excavation)
Operational Flexibility	Potential for operational flexibility (e.g., redundancy, storage during wet weather) and amount of additional storage provided
Impacts on Region’s Hydraulic Level of Service	Ability to meet the Region’s hydraulic level of service requirements and reduce peak flows at G.E. Booth WWTP
Construction Schedule Impacts	Potential length of construction schedule
<b>Economic Considerations</b>	
Capital Costs	Estimate of total capital costs based on preliminary costing
Operating and Maintenance Costs	Estimate of level of operating and maintenance costs
Land Acquisition / Easement Requirements	Potential for land acquisition or the need for temporary and permanent easements for access

## 8.2 Evaluation Methodology

Evaluation criteria were developed to evaluate the alternatives based on natural, social and cultural environment and technical and financial considerations, and comparatively assess the alternatives in a qualitative manner. A numerical or weighted ranking system was not used; instead, the evaluation focused on the strengths and weaknesses of each alternative to identify the best possible solution.

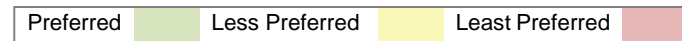
Although set weightings of criteria were not specifically assigned, all evaluation criteria are not necessarily created equal and professional judgement and knowledge of the area and issues was used to understand preferences. The process requires considering trade-offs to select the preferred alternative which needs to take into consideration whether potential impacts can be mitigated or not. Reasonable mitigation measures were then identified to avoid or minimize any potential negative effects. The selection of the preferred alternative is based on the relative advantages and disadvantages of each alternative within the natural environment, social environment, technical and economic evaluation criteria and include consideration of mitigation measures.

The ranking of each alternative solution relative to the specific evaluation criterion was conducted (refer to **Table 8-2**) using a colour coded system comprised of green, yellow, and red designed to be indicative of most (green) to least (red) preferred. The comparison of each criterion was made horizontally (within a category such as natural environment) between the alternatives and then vertically (between categories such as natural, technical environments) to derive the recommended solution. A summary row (**Table 8-2**) is provided where the alternatives are compared against each other within the four categories of natural, social-cultural, technical, and financial environments. The summary rows are then compared to determine the preferred alternative solution based on all aspects of the environment. The alternative solution which demonstrated the greatest number of “most” preferred boxes and/or the fewest “least” preferred boxes relative to their potential environmental effects would likely be the preferred alternative. However, this was dependent on the extent of potential effects and whether they could be mitigated. The comparative evaluations for each set of alternatives are provided in **Table 8-2**.



**Table 8-2 Evaluation of Alternative Solutions**

CRITERIA		Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber and Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
<b>Natural Environment</b>	<b>Surface Water Impacts</b>	<ul style="list-style-type: none"> <li>Requires extensive excavation within TRCA regulated area for Etobicoke Creek which requires permit and sediment controls for open cut construction and to minimize impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Requires extensive excavation within TRCA regulated area for Etobicoke Creek which requires permit and sediment controls for open cut construction and to minimize impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation technology selected can minimize excavation requirements within TRCA regulated area for Etobicoke Creek, but permit required and sediment controls for open cut construction.</li> </ul>	<ul style="list-style-type: none"> <li>Less excavation within TRCA regulated area for Etobicoke Creek but permit required and sediment controls for open cut removal.</li> </ul>
	<b>Creek Migration / Bank Erosion Impacts</b>	<ul style="list-style-type: none"> <li>Creek migration / bank erosion will have less impact on fully decommissioned ETSS.</li> </ul>	<ul style="list-style-type: none"> <li>Creek migration / bank erosion will have less impact on fully decommissioned ETSS.</li> </ul>	<ul style="list-style-type: none"> <li>Creek migration / bank erosion must be addressed to minimize risk of failure of the rehabilitated ETSS.</li> </ul>	<ul style="list-style-type: none"> <li>Creek migration / bank erosion will have less impact on fully decommissioned ETSS.</li> </ul>
	<b>Groundwater / Subsurface Impacts</b>	<ul style="list-style-type: none"> <li>Large amounts of water taking anticipated along the deep open cut sections.</li> </ul>	<ul style="list-style-type: none"> <li>Large amounts of water taking anticipated along the deep open cut sections.</li> </ul>	<ul style="list-style-type: none"> <li>Some water taking anticipated when replacing EDC.</li> </ul>	<ul style="list-style-type: none"> <li>Some water taking anticipated for the decommissioning of the abandoned ETSS.</li> </ul>
	<b>Vegetation / Greenspace (Trees, Scrublands) Impacts</b>	<ul style="list-style-type: none"> <li>Located in an open grassed area. Tree removal may be needed for replacement of existing EDC and new connecting sewers.</li> <li>Potential impacts to existing trees, tree canopy and vegetation along Etobicoke Creek including identified bat habitat and Butternut trees.</li> </ul>	<ul style="list-style-type: none"> <li>Located in an open grassed area. Tree removal may be needed for replacement of existing EDC and new connecting sewers.</li> <li>Potential impacts to existing trees, tree canopy and vegetation along Etobicoke Creek including identified bat habitat and Butternut trees.</li> </ul>	<ul style="list-style-type: none"> <li>Potential impacts to existing trees, tree canopy and vegetation along Etobicoke Creek including identified bat habitat and Butternut trees.</li> </ul>	<ul style="list-style-type: none"> <li>Potential impacts to existing trees, tree canopy and vegetation along Etobicoke Creek including identified bat habitat and Butternut trees.</li> </ul>

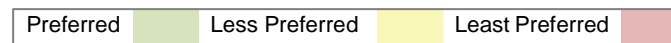






**Table 8-2 Evaluation of Alternative Solutions**

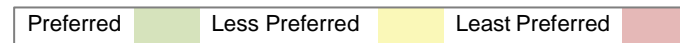
CRITERIA		Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber and Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
<b>Social and Cultural Environment</b>	<b>Impacts to Existing Land Uses (e.g., Businesses)</b>	<ul style="list-style-type: none"> <li>Business impacts will be limited to increased road traffic along South Creek Road during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Business impacts will be limited to increased road traffic along South Creek Road during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Business impacts will be limited to increased road traffic along South Creek Road during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Business impacts will be limited to increased road traffic along South Creek Road during construction.</li> </ul>
	<b>Traffic Impacts</b>	<ul style="list-style-type: none"> <li>Anticipated traffic impacts to South Creek Road and Dundas Avenue during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Anticipated traffic impacts to South Creek Road and Dundas Avenue during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Anticipated traffic impacts to South Creek Road and Dundas Avenue during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Anticipated traffic impacts to South Creek Road and Dundas Avenue during construction.</li> </ul>
	<b>Nuisance Impacts</b>	<ul style="list-style-type: none"> <li>Noise, dust, and other nuisance impacts during construction can be mitigated through measures identified in design.</li> </ul>	<ul style="list-style-type: none"> <li>Noise, dust, and other nuisance impacts during construction can be mitigated through measures identified in design.</li> </ul>	<ul style="list-style-type: none"> <li>Noise, dust, and other nuisance impacts during construction can be mitigated through measures identified in design.</li> </ul>	<ul style="list-style-type: none"> <li>Noise, dust, and other nuisance impacts during construction can be mitigated through measures identified in design.</li> </ul>
	<b>Cultural / Archaeological Impacts</b>	<ul style="list-style-type: none"> <li>No cultural heritage areas or known archaeological resources will be impacted.</li> </ul>	<ul style="list-style-type: none"> <li>No cultural heritage areas or known archaeological resources will be impacted.</li> </ul>	<ul style="list-style-type: none"> <li>No cultural heritage areas or known archaeological resources will be impacted.</li> </ul>	<ul style="list-style-type: none"> <li>No cultural heritage areas or known archaeological resources will be impacted.</li> </ul>
	<b>Potential Impacts on Use of Leash Free Dog Park</b>	<ul style="list-style-type: none"> <li>Etobicoke Creek Valley Park and leash-free area will need to be temporarily closed for a longer period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Etobicoke Creek Valley Park and leash-free area will need to be temporarily closed for a longer period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Etobicoke Creek Valley Park and leash-free area will need to be temporarily closed for a moderate period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Etobicoke Creek Valley Park and leash-free area will need to be temporarily closed for a moderate period during decommissioning period.</li> </ul>





**Table 8-2 Evaluation of Alternative Solutions**

CRITERIA		Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber and Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
Technical Considerations	Ease of Construction (e.g., Construction Constraints)	<ul style="list-style-type: none"> <li>Requires construction between 2 parallel pipes and within the bedrock. Requires demolition of EDC.</li> <li>Permits and approvals will be required from TRCA due to location of facility within floodplain.</li> <li>Construction risks associated with soil conditions and location.</li> <li>Pipe assembly is common industry practice.</li> </ul>	<ul style="list-style-type: none"> <li>Requires construction between 2 parallel pipes and within the bedrock. Requires demolition of EDC.</li> <li>Permits and approvals will be required from TRCA due to location of facility within floodplain.</li> <li>Construction risks associated with soil conditions and location.</li> <li>Cast-in-place concrete structure is a customized design and relatively complex.</li> </ul>	<ul style="list-style-type: none"> <li>Requires demolition of existing EDC.</li> <li>Trenchless methods will be used for rehabilitation of ETSS, which has lower construction risks than open cut construction.</li> <li>Permits and approvals will be required from TRCA due to location of facility within floodplain.</li> <li>Specialized industry.</li> </ul>	<ul style="list-style-type: none"> <li>Requires demolition of existing EDC.</li> <li>Removal of sections of the abandoned ETSS.</li> <li>Permits and approvals will be required from TRCA due to location of facility within floodplain.</li> </ul>
	Operational Flexibility	<ul style="list-style-type: none"> <li>Provides additional system redundancy and could be used to facilitate maintenance on in-service ETSS as well as storage during wet weather.</li> <li>Large storage volume provided.</li> </ul>	<ul style="list-style-type: none"> <li>Provides additional system redundancy and could be used to facilitate maintenance on in-service ETSS as well as storage during wet weather.</li> <li>Largest storage volume provided.</li> </ul>	<ul style="list-style-type: none"> <li>Provides additional system redundancy and could be used to facilitate maintenance on in-service ETSS as well as storage during wet weather.</li> <li>Minimal storage volume provided.</li> </ul>	<ul style="list-style-type: none"> <li>Alternative will not increase operational flexibility.</li> <li>No storage provided.</li> </ul>





**Table 8-2 Evaluation of Alternative Solutions**

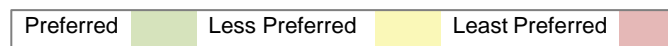
CRITERIA		Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber and Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
<b>Economic Considerations</b>	<b>Impacts on Region's Hydraulic Level of Service</b>	<ul style="list-style-type: none"> <li>Provides additional volume which will reduce peak flow and duration of peak flows at G.E. Booth WWTP.</li> </ul>	<ul style="list-style-type: none"> <li>Provides additional volume which will reduce peak flow and duration of peak flows at G.E. Booth WWTP.</li> </ul>	<ul style="list-style-type: none"> <li>Provides minimal additional volume which will have minor reduction in peak flow at G.E. Booth WWTP.</li> </ul>	<ul style="list-style-type: none"> <li>No improvement on ability of the system to meet Region's hydraulic level of service.</li> </ul>
	<b>Construction Schedule Impacts</b>	<ul style="list-style-type: none"> <li>Requires longer construction schedule but less than for Alternative 2.</li> </ul>	<ul style="list-style-type: none"> <li>Requires longest construction schedule.</li> </ul>	<ul style="list-style-type: none"> <li>Requires moderate construction schedule.</li> </ul>	<ul style="list-style-type: none"> <li>Requires short to moderate construction schedule.</li> </ul>
	<b>Capital Costs</b>	<ul style="list-style-type: none"> <li>Moderate-High costs.</li> </ul>	<ul style="list-style-type: none"> <li>Highest costs.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate costs.</li> </ul>	<ul style="list-style-type: none"> <li>Lowest costs.</li> </ul>
	<b>Operating and Maintenance Costs</b>	<ul style="list-style-type: none"> <li>Storage pipes will require cleaning after use.</li> <li>Requires regular inspection.</li> </ul>	<ul style="list-style-type: none"> <li>Storage tank will require cleaning after use.</li> <li>Requires regular inspection.</li> </ul>	<ul style="list-style-type: none"> <li>Typical operating and maintenance requirements.</li> <li>Requires regular inspection.</li> </ul>	<ul style="list-style-type: none"> <li>No additional operating and maintenance requirements.</li> </ul>
	<b>Land Acquisition / Easement Requirements</b>	<ul style="list-style-type: none"> <li>Working and permanent easements will be required from TRCA and City of Mississauga.</li> </ul>	<ul style="list-style-type: none"> <li>Working and permanent easements will be required from TRCA and City of Mississauga.</li> </ul>	<ul style="list-style-type: none"> <li>No land acquisition - use current easements.</li> </ul>	<ul style="list-style-type: none"> <li>No land acquisition - use current easements.</li> </ul>

Preferred  Less Preferred  Least Preferred



**Table 8-2 Evaluation of Alternative Solutions**

CRITERIA	Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber and Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
<b>SUMMARY</b>				
<b>Natural Environment</b>	• Construction impacts.	• Construction impacts.	• Fewer construction impacts.	• Fewer construction impacts.
<b>Social and Cultural Environment</b>	• Longer park closure period during construction.	• Longer park closure period during construction.	• Moderate park closure period during construction.	• Moderate park closure period during construction.
<b>Technical Considerations</b>	• Addresses problem providing storage and volume to reduce peak flows to WWTP.	• Addresses problem providing storage and volume to reduce peak flows to WWTP.	• Partially addresses problem (minimal storage and volume to reduce peak flows).	• Does not address problem (no storage or volume to reduce peak flows).
<b>Economic Considerations</b>	• Moderate-High costs.	• Highest costs.	• Moderate costs.	• Lowest costs.
<b>OVERALL RANKING</b>	<b>RECOMMENDED</b> • Provides operational flexibility, storage, and volume to reduce peak flows, and common construction practice at moderate-high cost.	<b>LESS RECOMMENDED</b> • Provides operational flexibility, storage, and volume to reduce peak flows, and relatively complex construction at highest cost.	<b>LESS RECOMMENDED</b> • Provides minimal storage and volume to reduce peak flows, and specialized construction at moderate cost.	<b>NOT RECOMMENDED</b> • No storage or volume to reduce peak flows at low costs. • Does not meet the sanitary service demands from a growing population.



## 9 Preferred Alternative

**Section 8** provides a summary of the potential impacts of each alternative. Alternative 1 (A1) is determined to be the preferred alternative solution. Although A1 has the most impact on the natural environment and socio-cultural environment, it best addresses the problem statement.

The impacts on the natural environment will be short term during construction. It is recognized that most of the study area have been previously disturbed and disturbance areas will be restored. A Natural Science Report (**Appendix A**) was completed for the study area to establish an inventory of the natural environmental features and determine the potential impact of construction disturbance and identify possible mitigation measures.

Impacts to the socio-cultural environment include the noise, dust and other nuisance impacts and the closure of the Etobicoke Creek Valley Leash Free Dog Park during construction. These impacts will also be short term as they are attributed only to the duration of construction and will not cause long term impact on the socio-cultural environment. A construction, dust, noise, and vibration assessment will be completed during the design phase, to determine the requirement for monitoring and mitigation during construction. An Archaeology Assessment (**Appendix E**) and Cultural Heritage Report (**Appendix F**) were completed for the study area to determine and archaeological and cultural heritage potential within the study area. It was determined that the study area does not retain archaeological potential and no cultural heritage features were identified.

Due to the ground condition present and nature of the proposed works, open cut construction methodology is planned to be employed. The installation of new pipes by continuous trenching is frequently referred to as the open cut method. This method is well documented and is considered as a reliable construction method, with adequate design and construction specifications. The installation of the sewer storage pipes should only be undertaken when the review of all alternate technologies has been completed and the open cut method is determined to be the preferred option. One impact of using open cut methodology within the ground condition present, is the potential for large amounts of water taking during construction. This would be a key consideration during detailed design. It is recommended to complete geotechnical and hydrogeological investigations, establish a dewatering plan, and determine mitigation measures during detailed design.

Several reports were completed to determine the existing conditions of the study area, the potential impacts and possible mitigation measures. The possible mitigation measures are summarized within **Section 10** of this report.

### 9.1 Permits and Approvals

During the detailed design stage prior to construction, several approvals/clearances will be required to be obtained by the Region, which are described in the following sub-sections.

#### 9.1.1 Toronto Region Conservation Authority

The Site is located within a TRCA regulated area in accordance with Ontario Regulation 166/06 under Section 28 of the Conservation Authorities Act.

The TRCA has delineated regulatory floodplains which cover the vicinity of the Site. Therefore, the abandoned and in-service sections of the ETSS are both located within the Etobicoke Creek regulatory floodplain. Due to this, a permit under Ontario Regulation 166/06 will be required from TRCA.



## 9.1.2 Ministry of the Environment, Conservation and Parks (MECP)

### 9.1.2.1 Ontario Water Resources Act R.S.O. 1990 – Environmental Compliance Approval (“ECA”)

The construction of the preferred alternative would be subject to approval by the MECP. An Environmental Compliance Approval (ECA) application will be made to the Region which administers the process for the MECP at local levels.

### 9.1.2.2 Permit to Take Water / Environmental Activity and Sector Registry

For construction dewatering, water takings of more than 50,000 L/day but less than 400,000 L/day do not require a PTTW but will be registered on the EASR. Water takings of more than 400,000 L/day require a PTTW issued by the MECP. After the completion of the hydrogeological investigations, PTTW application or an EASR as per estimated construction dewatering needs, will be submitted to the MECP.

### 9.1.2.3 Authorization under the Endangered Species Act

In conducting the natural heritage assessment, it was identified that there are some SAR present in the study area. To minimize potential impacts, mitigation measures will be developed to ensure that SAR will not be killed or harassed, and that their habitat will not be destroyed through the proposed activities. The mitigation measures will be further refined during detailed design. If it is determined that the construction will impact SAR, the appropriate authorization will be obtained.

## 9.1.3 City of Mississauga

The City of Mississauga is responsible for operation of some wet utilities (975 mm storm sewer) that will be impacted during construction. Detailed design drawings will be submitted to the City for review and comments. In addition, Public Utility Coordinating Committee (PUCC) approval will be required/obtained during detailed design.

## 10 Identification of Mitigation Measures

### 10.1 Utilities

The exact number and locations requiring utility re-location and/or support will be determined during detailed design with continuous communication and cooperation with utilities' owner.

### 10.2 Social-Cultural Environment Impacts

#### 10.2.1 Traffic

The Site will be accessible through Southcreek Rd. and Summerville Ct. which are both dead-end roads. No work is being proposed in public roadways; however, closure of a section of Southcreek Rd. is recommended for a construction compound. This closure will impact the Leash-Free park parking lot and access, a section of sidewalks that provided access to the park and redundant entrances to private properties.

Traffic impacts are expected to be limited to the added volumes of construction vehicles as well as minor disturbances to local traffic on these dead-end roads. A Traffic Management Plan should be developed during detailed design to ensure that possible mitigation measures will be implemented.

#### 10.2.2 Public Notification

Public notification should occur in advance of construction to ensure that businesses are kept informed. Commercial business and community services should be notified directly of impending works. In particular, a notice should be posted in the Etobicoke Valley Leash Free Dog Park.

#### 10.2.3 Noise and Vibration Control

There may be temporary impacts to nearby commercial areas during the installation of the preferred alternative. To limit disturbance and comply with the local noise by-law, a Noise and Vibration assessment should be developed to ensure that possible mitigation measures will be implemented.

#### 10.2.4 Generation of Excess Materials

The preferred alternative would require excavation and filling operations. Various types of materials, including soil may be generated during these activities which will require appropriate management. An Excess Materials Management Strategy should be developed to establish a suitable characterization, handling, and disposal protocol. All excess and unsuitable materials generated during construction should be managed in accordance with this plan.

Any contaminated wastes should be taken to an appropriate disposal site, while beneficial reuse for other generated excess materials should be explored. Receiving sites should be defined through an Excess Soil Destination Assessment.

#### 10.2.5 Encountering Unknown Archaeology Remains

Based on the TRCA screening and recent Stage 1 Archaeological assessment (**Appendix D & E**), there is very low potential for archaeological resources within the study area.

However, in the unlikely event that unknown archaeological remains are encountered during construction, the MHSTCI and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services shall be contacted immediately.

## 10.3 Natural Environment Impacts

### 10.3.1 Erosion and Sediment Control

Mitigation measures will be used for erosion and sediment control (ESC) to minimize risk of sediment transport into adjacent retained vegetation communities or to the aquatic habitat of Etobicoke Creek. An ESC plan should be developed during consultation with TRCA and should be incorporated into the detailed design drawings and contract specifications. The ESC plan should be implemented to mitigate potential disturbances from construction activities. This plan should illustrate the location and details of all proposed ESC measures.

### 10.3.2 Bank Erosion and Stability

Due to the proximity of Etobicoke Creek to the study area, erosion and stability concerns along the creek bank must be considered. Armor stone and large rip-rap stones were installed as part of the previous project in this area as a mitigation measure to creek migration and bank stability. A preliminary slope stability assessment indicated that there is moderate potential for instability.

An updated geomorphic assessment should be undertaken to assess for creek conditions and include recommendations for mitigation, if required.

### 10.3.3 Trees and Vegetation

The preferred alternative is located within the Etobicoke Valley Leash Free Dog Park, and it is expected to result in the loss of vegetation and tree removal. This loss will be minimized where possible but should be quantified. A tree inventory and restoration plan will be developed by a qualified arborist. The compensation plan will provide a long-term net benefit to the terrestrial resources with improved diversity of native species. Tree protection fencing should be installed as necessary and buffer setbacks established during consultation with TRCA, City of Mississauga Forestry staff, or qualified biologist, as deemed necessary, prior to any tree removal or start-up of construction.

No vegetation removal should occur between April 1 and August 31 of any given year to protect birds (Migratory Birds Convention Act) and further extended to September 30 for tree removal or pruning to protect the bat maternal roosting period as described in the **Section 4.1.7**.

As described in **Section 4.1.3**, two Butternut trees were found north of the study area. An area of 50 metres around each tree is considered as habitat for screening purposes for the Butternut as shown on **Figure 4-3**. A health assessment was performed, and the trees were determined to be Category 2. The health assessment should be screened with the MECP to meet all required procedures and approvals (the appropriate authorization will be obtained, if required).

### 10.3.4 Dewatering

The installation of the preferred alternative and several other evaluated alternatives will likely require significant dewatering during construction. It is likely that a Category 3 PTTW will be required, and refined dewatering requirements and mitigation measures should be explored through a detailed hydrogeological investigation. The management and discharge of the dewatered effluent will need to be taken into consideration, as the addition of a sizeable volume of water to the abutting Etobicoke Creek may further exacerbate surface water, geomorphic and erosion impacts.

### 10.3.5 Restoration

A Restoration Plan will be developed to implement vegetation replacement, facilitate the restoration, remediation, and enhancements to existing natural features.



# 11 Public, Agency and Indigenous Community Consultation

A key feature of the Class EA process is to ensure effective communication with the general public, agencies and other stakeholders throughout the project. To meet the Class EA consultation requirements for this Schedule B study, steps were taken to ensure effective communication throughout the project with the public, Indigenous communities, agencies, and other stakeholders. The overall strategy has been to provide various opportunities to communicate and receive input from the public, government, agencies, Indigenous communities, and other stakeholders and to review, consider, integrate (as appropriate), file, and respond in a reasonable timeframe. Copies of notifications, as well as the list of regulatory agencies and project stakeholders are provided in **Appendix J**. Correspondence between the project team and stakeholders concerning the project is provided in **Appendix K**.

## 11.1 Notices and Online Public Engagement

### 11.1.1 Notice of Study Commencement and Online Public Engagement

Initial communication with stakeholders and the public started with the Notice of Study Commencement and Notice of Online Public Engagement, which addressed study consultation by providing information on the study background along with project contacts and also included a map showing the Study Area and the proposed alternative sewer routes. The Notice of Study Commencement and Notice of Online Public Engagement were first issued on February 25, 2021 and April 15, 2021 respectively.

Notices were dropped off door-to-door to the surrounding businesses and emailed out to Agencies, Ministries, Indigenous communities, and other stakeholders (sample of the email sent out to the Project Stakeholder List is included in **Appendix J**).

For general distribution of project information to the public and stakeholders, the Notices were also posted:

- **On the Region’s website:**
  - Notice of Study Commencement on **February 25, 2021**
  - Notice of Online Public Engagement on **April 15, 2021**
- **In the Mississauga News newspaper:**
  - Notice of Study Commencement on **March 04, 2021**
  - Notice of Online Public Engagement on **April 22, 2021**

The Notices also provided information on the project and included a “How to Get Involved” section which provided a link to the online public engagement display boards.

### 11.1.2 Online Public Engagement

In lieu of a Public Information Centre (due to Provincial in-person meeting restrictions), an Online Public Engagement was created to communicate the details of the proposed project with the public, Indigenous communities, and stakeholders. The Online Public Engagement ran from April 22, 2021 until May 05, 2021. The display boards were made available through a link provided in the Notice of Online Public Engagement. The display boards identified the three alternatives and an evaluation matrix which summarized the different potential impacts that the three alternatives would have. The recommended alternative was displayed such that any concerns over the alignment could be brought to the attention of IBI to consider and address. A copy of the display boards is provided in **Appendix L**.

### 11.1.3 Notice of Study Completion

The Notice of Study Completion will be sent out to stakeholders (include all agencies, ministries, Indigenous communities, and previously identified stakeholders), the residents that provided comments and businesses located within the Study Area. The Notice provides a minimum 30-day comment period and outlines the MECP's revised Part II Order request process. To also provide a more general distribution the Notice will be placed on two dates in the Mississauga News newspaper and posted on the Region's website.

## 11.2 Public and Agency Comments

Following distribution of the Notice of Online Public Engagement, comments were received from the public and agencies (City of Mississauga (City), Ministry of the Environment, Conservation and Parks (MECP), Species at Risk MECP, Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), Infrastructure Canada (INFC) and Toronto and Region Conservation Authority (TRCA)). These comments were taken into consideration and incorporated into the Class EA process and documented in the Project File Report.

The comments received from the park visitor, City, SAR MECP, MECP, MHSTCI, INFC and TRCA have been summarized along with all associated responses. The comments and responses have been logged in a table which shows the stakeholder, date of their response, summary of comments, response provided, and date of response and this table can be found in **Appendix K**.

The received comments did not result in changes to the recommended alignment and the alignment was confirmed and carried forward as the preferred alignment.

## 11.3 Indigenous Communities Consultation

Indigenous community consultation was undertaken to ensure that effective communication was undertaken with those with potential interest. Consultation activities, comments and responses have been logged in a table which shows the Indigenous community, date of their response, summary of comments, response provided, and date of response and this table can be found in **Appendix K**. The following initiatives were undertaken to notify Indigenous communities of the Class EA project:

Each of the potentially affected Indigenous communities included in the project contact list, was emailed notices to ensure that they were kept apprised of the project's progress and methods for providing input.

In addition to the emailing notices, the communities were contacted (through emails and phone calls) for providing an opportunity to follow-up.

Under the consultation obligations with Canada's Indigenous Peoples, INFC provided contact information of potentially affected Indigenous groups with the intention of engaging and consultation. Accordingly, the following Indigenous communities or associations were provided a copy of all project notices and will also receive the Notice of Completion:

- Six Nations of the Grand River First Nation
- Haudenosaunee Confederacy Development Institute
- Métis Nation of Ontario Head Office
- Mississaugas of the Credit First Nation
- Alderville First Nation
- Chippewas of Rama First Nation

In addition, INFC requested a documented summary of the communication with Indigenous communities. Accordingly, a summary of communication was provided, and confirmation was received from INFC stating that they were satisfied with the communication.



A letter was received from the Mississaugas of the Credit First Nation (MCFN) related to their archaeological assessment requirements for projects and the natural heritage studies. The Region provided a response, and MCFN replied that the Region could proceed with the project and report submission. We have attached a copy the above noted correspondence letters for reference.

The Region also received a reply from the Alderville First Nation who indicated that the project falls outside of their treaty area, but they are interested in remaining on the project contact list and kept updated on the project.

The Notice of Completion with a link to the Project File Report will be provided to the Indigenous communities by email with follow-up to confirm they have received the information and to discuss whether they have any comments or concerns related to the project.



## References

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- Coffey Geotechnics Inc. (2010). *Hydrogeological Study to Evaluate Dewatering Requirements, Etobicoke Creek Trunk Sewer Renewal, Mississauga, Ontario*. Etobicoke.
- Geo-Canada Ltd. (2008). *Report on Preliminary Geotechnical Investigation for Etobicoke Creek Trunk Sewer Replacement Reach E-G Southcreek Rd. South of Dundas St. East, Region of Peel*.
- Government of Ontario. (2020, May 1). Provincial Policy Statement, 2020. *Planning Act*. Ottawa, Ontario, Canada. Retrieved from <https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf>
- Municipal Engineers Association. (2015). *Municipal Class Environmental Assessment (MCEA)*. Oakville, Ontario, Canada. Retrieved from <https://municipalclassea.ca/manual/index.html>
- R. V. Anderson Associates Limited. (2008). *Municipal Class Environmental Assessment Project File Report Renewal of Etobicoke Creek Trunk Sewer from North End of Southcreek Road to CPR Tracks*.
- Region of Peel. (2018, December). *Region of Peel Official Plan - Office Consolidation December 2018*. Brampton, Ontario, Canada. Retrieved from Peel Region: <https://www.peelregion.ca/planning/officialplan/download.htm>

# Appendix A – Natural Science Report

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# Natural Sciences Report for East Trunk Sewer Class Environmental Assessment

**Project 18-2441**

**for:**

**IBI Group Inc.**

**by:**



environmental research associates





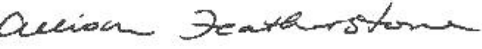
**LGL Limited**

**environmental research associates**

**June 2021**

**LGL File TA9109**

**prepared by:**

<b>Name</b>	<b>Title</b>	<b>Signature</b>
Dana Couture, M.Sc.	Aquatic Ecologist	
Jen Noël, M.Sc.	Botanist	
Heather Rodriguez, M.Sc. (PI)	Environmental Planner	
Karen Chung, B.Sc.	GIS Analyst, Biologist	
Allison Featherstone, Hons.B.Sc.	Vice-President, Senior Planning Ecologist	

LGL Limited  
environmental research associates  
445 Thompson Drive, Unit 2  
Cambridge, Ontario N1T 2K7  
Tel: 519-622-3300 Fax: 519-622-3310  
Email: [cambridge@lgl.com](mailto:cambridge@lgl.com)  
URL: [LGL Limited](#)

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**June 2021**  
**LGL File TA9109**

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**Appendix A Photo Appendix.**

**Appendix B Species Rank Definitions and Acronyms.**

**Appendix C Acronyms and Definitions Used in Species Lists**

## **1.0 Introduction**

LGL Limited (LGL) has been retained by IBI Group (IBI) to provide natural sciences support for the East Trunk Sanitary Sewer Offline Storage Facility (East Trunk) Environmental Assessment in the City of Mississauga, Region of Peel, Ontario. The project is proceeding as a Schedule B Class Environmental Assessment study on behalf of the Region of Peel. This is the Natural Sciences Report in support of the Project.

Inspections completed as part of the Municipal Class Environmental Assessment (Class EA) on the Renewal of Etobicoke Creek Sewer (R.V. Anderson Associates Ltd., 2008) confirmed that sections of the East Trunk are considered high risk. The energy dissipating chamber (EDC) in Etobicoke Valley Park and the Trunk Sewer downstream of the EDC were in poor structural condition due to concrete spalling and the onset of corrosion of reinforcing steel. Additionally, the section of the Trunk Sewer was identified to be vulnerable to stream bank erosion.

The Class EA (2008) evaluated several alternatives that included the rehabilitation or replacement of the EDC and the section of the East Trunk downstream of the EDC in a sustainable manner. The Class EA (2008) concluded that the preferred solution would be to construct a new trunk sewer in Etobicoke Valley Park. LGL conducted the natural heritage survey of the study area in 2008 for the Class EA. The proposed works was completed in 2010 and was followed by a Feasibility Study in 2020. The Feasibility Study recommended a new offline storage facility to add the necessary capacity required into the system and the need to fully decommission the abandoned sewer.

Key natural heritage features (KNHF) and hydrological features are located within 120 metres of the study area. LGL's Natural Sciences Report (NSR) provides a summary of the environmental sensitivities present within the study area and provides direction on protecting these features for consideration in project planning.

As part of LGL's natural heritage support, a desktop existing conditions review of the study area was undertaken. LGL also conducted in-season field investigations on April 6, 2021, to confirm the limits and extents of the existing conditions for natural heritage and associated constraints. The NSR will inform on mitigating impacts and recommend erosion and sediment control measures upstream and downstream of the study area.

### **1.1 Study Area**

The study area is located within the Etobicoke Valley Park in the City of Mississauga, Peel Region, Ontario.

The study area is situated on the border of the City of Mississauga and the City of Toronto. The east half of the river is within the City of Toronto jurisdiction, while the west half of the river is within the City of Mississauga.

This project focuses on the East Trunk section located west of Etobicoke Creek and between the north end of Southcreek Road and south approximately 450 metres. The study area includes an in-service sanitary section- CPP and a 2100 mm abandoned section-RCP. The general study area and project location is shown in Figure 1.



Figure 1 Project Location Map.

## 2.0 Environmental Policy Context

A review of the applicable federal, provincial, and municipal policy is presented in the following sub-sections that will need to be adhered to as part of the project.

### 2.1 Fisheries Act

The Fisheries Act was established to manage and protect Canada's fisheries resources. It applies to all waters of Canada and is binding to federal, provincial, and territorial governments.

On February 6, 2018, DFO introduced proposed amendments to restore lost protections and incorporate modern safeguards into the Fisheries Act. On August 28, 2019, these changes

came into effect and strengthened fish and fish habitat protection provisions under the modernized Fisheries Act, as well as regulations that support these provisions.

These changes include:

- The protection for all fish and fish habitats.
- Restoring the previous prohibition against the “harmful alteration, disruption or destruction of fish habitat”.
- Restoring a prohibition against causing “the death of fish by means other than fishing”.

The amendments address key considerations including prohibitions against causing the death of fish (other than by fishing) and the re-introduction of the concept of harmful alteration, disruption, or destruction (HADD) of fish habitat regulated under the Fisheries Act. If a HADD is unavoidable, authorization from DFO under Subsection 35(2) of the Fisheries Act may be issued.

## **2.2 Migratory Birds Convention Act**

The Migratory Birds Convention Act is administered by the Canadian Wildlife Service of Environment Canada. The Migratory Birds Convention Act enables regulations that require authorization for designs which cause permanent destruction/disturbance of migratory bird habitat and authorization for killing/removing migratory bird fledglings, eggs, nests, or for other harmful activity to migratory birds to enable bridge construction/demolition, construction work areas. The study area falls within Environment Canada’s Nesting Zone C2 (Nesting Period: end of March – end of August). Bird species protected under the MBCA were documented across a variety of habitat types within the study area.

## **2.3 Species at Risk**

The Species at Risk Act (SARA 2002) aims to protect wildlife species and their critical habitat in Canada, and to promote the recovery of species that are at risk where these are identified on federal lands. Under the SARA, the definition of federal land includes, but is not limited to Canada's oceans and waterways; national parks; military training areas; national wildlife areas; some migratory bird sanctuaries; and First Nations reserve lands. Wildlife protection under the SARA is associated with species listed under the registry as extirpated (no longer exist in the wild in Canada), endangered, or threatened. Species identified as special concern are also considered to prevent them from becoming endangered or threatened; however, general prohibitions under the SARA do not apply to species of special concern.

## 2.4 Provincial Policy Statement

The Provincial Policy Statement (PPS) (Ministry of Municipal Affairs and Housing, 2020) is issued under Section 3 of the Planning Act. The PPS provides policy direction for development that protects resources of provincial interest, public health and safety, and the quality of the natural environment. The natural heritage policies contained in Section 2.1 relevant to this NSR are provided for reference below.

- Policy 2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.
- Policy 2.1.3 Natural heritage systems shall be identified in Ecoregions 6E & 7E1, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.
- Policy 2.1.5 Development and Site alteration shall not be permitted in:
  - a. Significant wetlands in the Canadian Shield north of Ecoregions 5E,6E, and 7E;
  - b. Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
  - c. significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
  - d. Significant wildlife habitat;
  - e. significant areas of natural and scientific interest; and
  - f. coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy 2.1.4(b)

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

- Policy 2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.
- Policy 2.1.7 Development and Site alteration shall not be permitted in habitat of endangered species and threatened species except in accordance with provincial and federal requirements.
- Policy 2.1.8 Development and Site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been

demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Consistent with the PPS, this project uses the following terms and definitions:

- Ecological function: the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions.
- Negative impacts (fish habitat): the harmful alteration, disruption or destruction of fish habitat, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act, using the guiding principle of no net loss of productive capacity; and
- Negative impacts (natural heritage features and areas): degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities.

## **2.5 Greenbelt Plan**

The Greenbelt Plan was established under Section 3 of the Greenbelt Act, 2005. The Greenbelt Plan is comprised of several plan areas including the Niagara Escarpment Plan area, Oak Ridges Moraine Conservation Plan area, Parkway Belt West Plan area, and Greenbelt Plan 'Protected Countryside' and 'Urban River Valleys'.

The Greenbelt Plan is also comprised of various geographic specific policies that apply to lands within the 'Protected Countryside' designation including the 'Agricultural System', 'Natural Heritage System', and 'Settlement Areas'.

Schedule 1 shows the study area is located within the Greenbelt Plan area. The East Trunk Sewer Line is associated with Etobicoke Creek which is a watercourse designated as 'Urban River Valley' (refer to Figure 2).

Section 6 of the Greenbelt Plan outlines the policies that apply to the 'Urban River Valleys' designation. Only publicly owned lands are subject to the policies of the 'Urban River Valleys' designation. Policy 6.2.3 states that all existing, expanded, or new infrastructure subject to the Environmental Assessment Act is permitted if it supports the needs of adjacent settlement areas or serves the significant growth and economic development expected in southern Ontario and supports the goals and objectives of the Greenbelt Plan.

In addition, several other policies are outlined under Section 3 of the Greenbelt Plan that apply to 'Urban River Valleys'. The following should be undertaken by government and agencies:

- Consider how activities and land use changes within and abutting the Greenbelt relate to the areas of external connections and 'Urban River Valley' areas identified in the Greenbelt Plan;
- Promote and undertake appropriate planning and design to ensure that external connections and 'Urban River Valley' areas are maintained and/or enhanced; and,
- Undertake watershed planning, which integrates supporting ecological systems with those systems contained in the Greenbelt Plan.

## **2.6 Endangered Species Act**

The Ontario Endangered Species Act (ESA 2007) provides for the conservation, protection, restoration, and propagation of species of fauna and flora of the Province of Ontario that are threatened with extinction. The ESA (2007) outlines the responsibilities of the Committee on the Status of Species at Risk in Ontario (COSSARO) in the listing of species at risk, the preparation of recovery strategies for endangered or threatened species, and the preparation of management plans for special concern species.

Section 9 of the ESA prohibits similar activities as the SARA, such as prohibitions on the kill, harm, harass, capture or take of a living species at risk, or to possess, transport, collect, buy, sell, lease, trade a species at risk (living or dead). Section 10 of the ESA prohibits the damage or destruction of habitat of endangered, threatened, or extirpated species. Permits may be issued under Section 17 (2) of the ESA should a project result in a contravention of Section 9 and/or 10 of the ESA. As part of the permit process, an "overall benefit" to the impacted species must be included in the compensation package. It should be noted that the ESA was previously administered by the MNR but is now under the jurisdiction of the Ministry of Environment, Conservation and Parks (MECP).

## **2.7 Region of Peel Official Plan**

The Region of Peel Official Plan identifies Etobicoke Creek and its associated valleylands as part of the 'Core Areas of the Greenlands System', 'Area with Special Policies', and '2031 Regional Urban Boundary' under Schedule A. Additionally, the study area is identified under Schedule D of the Region of Peel Official Plan within the 'Urban System', as the surrounding areas near the study area include residential and industrial land uses. Figure 2 Selected Areas of Provincial interest of the Region of Peel Official Plan indicates Etobicoke Creek is a river valley connection outside of the Greenbelt. Figure 2 identifies the study area entirely within the Region of Peel's Greenlands system.



## 2.8 City of Mississauga Official Plan

The City of Mississauga's Natural Heritage System is composed of significant natural areas, natural green spaces, special management areas, residential woodlands and linkages. The study area is identified within the City of Mississauga Natural Heritage System as shown on Figure 2.

North of Etobicoke Creek, the study area is identified within the Urban System 'Green System' under Schedule 1a of the City of Mississauga Official plan. Under Schedule 3, the study area is located within 'Residential Woodlands' and 'Significant Natural Areas and Natural Green Space'. The study area is located within Etobicoke Valley Park which is identified within 'Public and Private Open Spaces' under Schedule 4. Additionally, the study area is depicted within the 'Greenlands' and 'Natural Hazards' land use designation on Schedule 10 of the City of Mississauga Official Plan.

'Residential Woodlands' are defined as areas with large lots of mature trees forming a fairly continuous canopy and minimal native understorey. 'Significant Natural Areas' include areas associated with provincially or regional significant life science areas of natural and scientific interest (ANSI), environmentally sensitive or significant areas, habitat of endangered species, fish habitat, significant wildlife habitat, significant woodlands, and significant wetlands.

'Natural Green Spaces' include areas associated with woodlands that do not fulfill the requirements of significant woodland (greater than 0.5 hectares), unevaluated and/or evaluated wetlands that are not provincially significant, watercourses that do not fulfill the requirements of a significant valleylands, and natural areas containing rare vegetation (greater than 0.5 hectares).

Within the study area, special policy area or two-zone floodplain management concepts are required. The flood plain is required to be protected to the elevation of the Regulatory Flood and ensure no upstream or downstream impacts. The implementation of additional flood protection measures is required.

'Greenlands' are associated with natural hazards and/or natural areas where development is restricted to provide for the protection, enhancement and restoration of the Natural Heritage System. Lands designated as "Greenlands" permit stormwater management facilities, flood control flood and/or erosion management, piped services and other related facilities for water and wastewater provided that an EA or an environmental study is completed.

### 2.8.1 City of Mississauga's Natural Heritage and Urban Forest Strategy

The City of Mississauga's Natural Heritage and Urban Forestry Strategy (NH&UFS) provides guidance in balancing competing interests of accommodating growth and economic development, while ensuring that the natural heritage system and urban forest are protected, enhanced, restored, and expanded. The NH&UFS identifies 26 strategies supported by actions,

to implement the objectives and targets. Opportunities to maximize green infrastructure will be explored within the study area. Appropriate environmental protection and mitigation measures to maintain and/or enhance the natural heritage and urban forest will be applied to the study area.

## **2.9 Toronto and Region Conservation Authority**

TRCA's Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses objectives are intended to ensure public safety and protect areas with respect to natural hazards and to safeguard watershed health by preventing pollution and destruction of sensitive environmental areas including wetlands, shorelines, and watercourses.

Ontario Regulation 166/06 establishes Regulated Areas where development could be subject to flooding, erosion or dynamic beaches, or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features. Under Ontario Regulation 166/06, any proposed development, interference, or alteration within a regulated area requires a permit from TRCA. The study area is located entirely within the regulated area as shown in Figure 2.

### **2.9.1 TRCA's The Living City Policies**

The Living City Policies (LCP) for planning and development in the watersheds of the TRCA is a conservation authority policy that enables TRCA to implement legislation and delegate roles and responsibilities to third party organizations during all phases of planning and development within watersheds regulated by the TRCA (TRCA 2018a). The LCP incorporates the compilation of all existing plan and permit review procedures and is in place to facilitate TRCA review of planning and development applications and environmental assessments under Section 28 of the Conservation Authorities Act. The goal of this document is to strengthen existing policy while incorporating updated requirements made at the federal, provincial, and municipal levels, while placing emphasis on the restoration, remediation, and enhancements to existing natural heritage features.

Policy 8.9.5 states that development, interference, and alterations associated with new, replacement or expanded underground infrastructure may be permitted if it has been demonstrated that all feasible alternative sites and alignments have been explored through an environmental assessment process.

The scope and scale of the project is required to demonstrate:

- a) no negative impacts to the quality and quantity of groundwater and surface water, including stream baseflow;
- b) impacts on groundwater flow and discharge is minimized and mitigated;

- c) erosion hazards of valley and stream corridors are avoided;
- d) horizontal and vertical alignments that avoid, minimize and/or mitigate impacts on aquifers and surface water receptors are considered;
- e) management of dewatering and/or dewatering discharge during and post-construction; and
- f) design and construction technologies are used to reduce the risk of hydrological and ecological impacts and minimize grade alterations to existing topography.

### **3.0 Methodology**

#### **3.1 Background Information Records Review**

LGL conducted a desktop-based review of natural heritage constraints for a study area. The review was intended to determine if there are any known natural areas (i.e. Areas of Natural and Scientific Interest, Provincially Significant Wetlands, Environmentally Sensitive Areas, Significant Woodlands or Significant Wildlife Habitat) or records of rare or sensitive species that could be impacted by the project. The databases or references reviewed included the following:

- Land Information Ontario (LIO) (natural areas and species);
- Atlas of the Mammals of Ontario;
- Bat Conservation International Species Profiles;
- Atlas of the Breeding Birds of Ontario;
- eBird;
- iNaturalist;
- Aquatic species at Risk Maps (Fisheries and Oceans Canada);
- Butterfly Atlas of Ontario;
- Alvars of Ontario;
- The Vascular Plants of Ontario (2009);
- Vascular Plants at Risk in Ontario (2018);

- Toronto and Region Conservation Authority Regulation Limits (O.Reg 166/06);
- Greenbelt Plan;
- City of Mississauga Natural Areas Survey (2020); and,
- City of Mississauga Official Plan (September 3, 2020 Office Consolidation).

From these references, LGL developed figures showing where the natural feature polygons occur in relation to the alignment. A table of the species at risk (SAR) with potential to occur in the area was also developed at the screening stage (see Section 5.9). Each of the SAR was classified as Low, Moderate, High potential or Confirmed to occur in the study area and be impacted by the project based on review of the habitat through aerial imagery. The presence of SAR was then evaluated through species inventories where potential impacts to SAR habitat were identified.

### **3.2 Aquatic Habitat Assessment**

A survey of the aquatic habitat was completed on April 6, 2021. Habitat characteristics such as substrate, depth, nearshore vegetation was noted. Much of the aquatic assessment for this project was done with background documents available for the area, given that a significant amount of background data on fish habitat and communities is available for Etobicoke Creek.

### **3.3 Ecological Land Classification, Wetlands and Botanical Surveys**

The geographical extent, composition, structure, and function of vegetation communities were identified through air photo interpretation and field investigations. Air photos were interpreted to determine the limits and characteristics of vegetation communities. A field investigation of the vegetation communities within the study area and beyond to the extent possible, was undertaken on April 6, 2021.

Vegetation communities were classified according to the *Ecological Land Classification for Southern Ontario: First Approximation and Its Application* (Lee *et al.* 1998). The communities were sampled using a plotless method for the purpose of determining general composition and structure of the vegetation. Plant species status was reviewed for Ontario (Oldham 2009). Vascular plant nomenclature follows Newmaster *et al.* (1998) with a few exceptions that have been updated to Newmaster *et al.* (2007).

## **4.0 Existing Conditions**

The results provided here focus on the study area that has been selected for this project. They characterize the existing conditions for the areas where impacts on the environment could be

experienced and where mitigation will be required. The natural heritage and hydrological features located on and adjacent to the study area are delineated in Figure 3.

#### **4.1 Landform Physiography**

The study area is situated within the physiographic region classified by Chapman and Putnam (1984) as the Iroquois Plain. The Iroquois Plain extends around the western part of Lake Ontario, from the Niagara River to the Trent River, approximately 306 kilometres, and extends inland to include a large area in the Trent River Valley (Chapman and Putnam, 1984). The surficial geology of the study area consists of clay. The Iroquois plain comprises sand, silt and clay deposits. The finer materials are located closer to the existing Lake Ontario shoreline.

##### **4.1.1 Soils**

The Ontario Soil Survey outlines the boundaries of the various types of soils throughout Ontario. The Canadian Soil Information Service (CanSIS) is a source of soil data and land resource information for Canada. Under the CanSIS, the study area is identified on soil that is non-mineral and is classified as ZUR-Urban.

#### **4.2 Designated Natural Areas**

Designated natural areas include areas that have been identified for protection by the Ontario MNRF, TRCA, Peel Region, and the City of Mississauga. The location of all designated natural areas within the study area are presented below.

##### **4.2.1 Provincially Significant Wetlands (PSW)**

There are no Provincially Significant Wetlands associated with the study area.

##### **4.2.2 Unevaluated wetlands**

Unevaluated wetlands are located within 120 metres of the study area. These unevaluated wetlands are considered 'Natural Green Spaces' as per the policies of the City of Mississauga Official Plan and are less than 0.5 hectares. Impacts are not anticipated as the unevaluated wetlands are located outside of the proposed works area.

##### **4.2.3 Areas of Natural and Scientific Interest (ANSI)**

There are no Areas of Natural and Scientific Interest (ANSI) associated with the study area.

##### **4.2.4 Environmentally Significant Areas (ESA)**

Environmentally Significant Area Silverthorne Area is located within 120 metres of the study area. Silverthorne Area contains significant plant communities and is located south of the study area within the City of Toronto. Impacts are not anticipated for Silverthorne Area as it is located approximately 528 metres from the proposed works area.

#### 4.2.5 Significant Valleylands

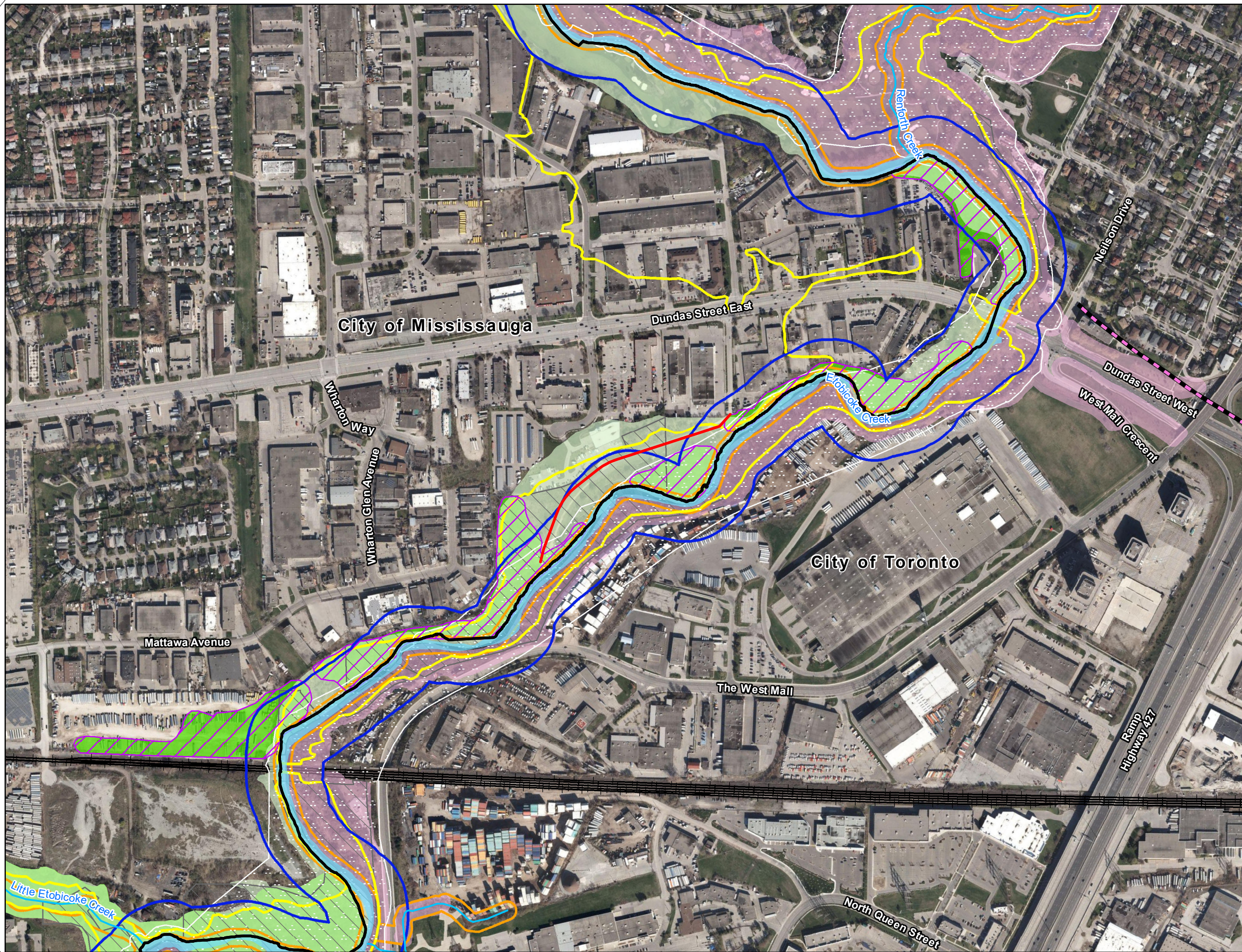
The study area is situated within Significant Valleylands. Significant Valleylands are associated with the main branch and watercourse corridors draining directly to Lake Ontario including Etobicoke Creek.

Efforts will be made to avoid/minimize impacts to valleylands to the extent possible. Appropriate environmental protection and mitigation measures to maintain and/or enhance Significant Valleylands are included in Section 6.
















#### 4.2.6 Significant Woodlands

The study area includes significant woodlands greater than 0.5 hectares in size.

Efforts will be made to avoid/minimize impacts to significant woodlands to the extent possible. Appropriate environmental protection and mitigation measures to maintain and/or enhance Significant Woodlands are included in Section 6.




### LEGEND

-  East Trunk Active Sewer Line
- MNRF**
-  Railway
-  Watercourse
-  Waterbody
-  Municipal Boundary
-  Greenbelt Designation: Urban River Valley
- TRCA**
-  TRCA Property
-  Floodplain
-  Meanderbelt
- Region of Peel Greenlands System**
-  Core Area
-  Woodland
-  Natural Area Corridor
- City of Toronto**
-  Iroquois Shoreline
-  Natural Heritage System
-  Ravine and Natural Feature Protection By-law

Data source: Ministry of Natural Resources and Forestry, Region of Peel, Toronto and Region Conservation Authority, City of Toronto. Contains information licenced under the Open Government Licence - Ontario

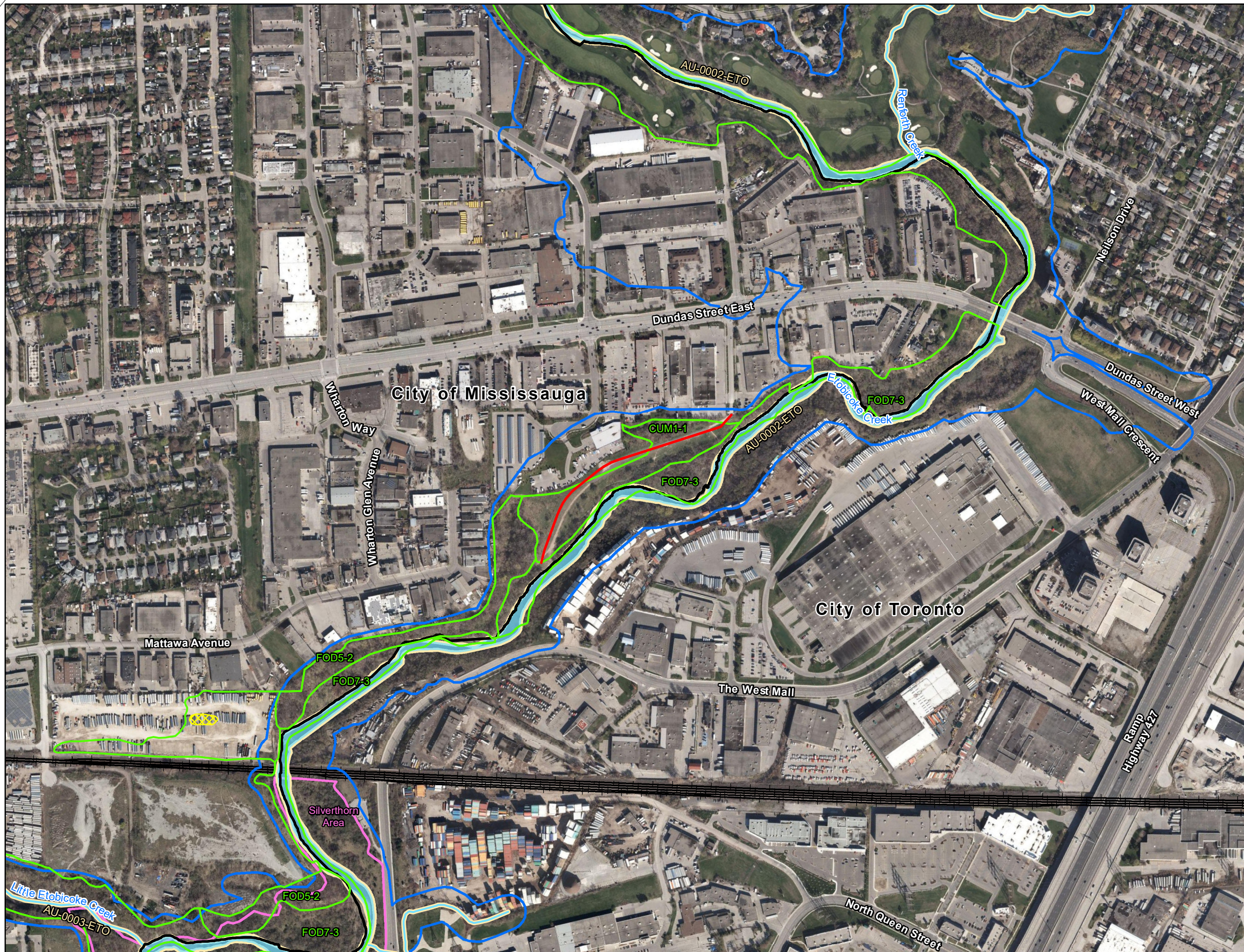
0 60 120 240 m



## East Trunk Sanitary Sewer Offline Storage Facility Background Information



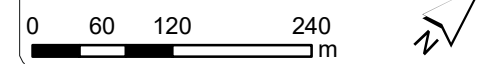
Project: TA9109	Figure: 2
Date: April, 2021	Prepared By: AJ
Scale: 1:6,500	Verified By: AHF



**LEGEND**

-  East Trunk Active Sewer Line
-  Railway
-  Watercourse
-  Aquatic Resource Area (Warm Water Thermal Regime)
-  Waterbody
-  Municipal Boundary
-  Unevaluated Wetland
-  Environmentally Significant Area: Silverthorn Area
-  Regulation Limit (TRCA)
- City of Mississauga Natural Areas Study**
-  Significant Natural Area (Valleyland)
-  Vegetation Community Boundary
- CUM1-1** Dry-Moist Old Field Meadow Type
- FOD5-2** Dry-Fresh Sugar Maple-Beech Deciduous Forest Type
- FOD7-3** Fresh-Moist Willow Lowland Deciduous Forest Type

Data source: Ministry of Natural Resources and Forestry, City of Mississauga, Toronto and Region Conservation Authority. Contains information licenced under the Open Government Licence - Ontario



**East Trunk Sanitary Sewer  
Offline Storage Facility  
Natural Heritage - Existing  
Conditions**



<b>Project:</b> TA9109	<b>Figure:</b> 3
<b>Date:</b> April, 2021	<b>Prepared By:</b> AJ
<b>Scale:</b> 1:6,500	<b>Verified By:</b> AHF



### 4.3 Aquatic Habitat and Communities

#### 4.3.1 Background Information

Etobicoke Creek flows through the study area in a southerly direction, through the Etobicoke Creek off leash dog park. Etobicoke Creek is an urban creek that has been degraded (TRCA 2010b) and efforts have been made to restore the creek in recent years. The Etobicoke Creek watershed drains an area of approximately 211km<sup>2</sup>. Its headwaters are in the Oak Ridges Moraine and it flows through Brampton and Mississauga eventually flowing into Lake Ontario. The creek flows through a series of riffles and pools through the study area. Table 1 provides a summary of fish species in the vicinity of the study area and Figure 3 indicates locations of fish surveys. A total of 15 fish species are present within Etobicoke Creek in the study area. Species include mainly warmwater baitfish such as Bluntnose Minnow (*Pimephales notatus*) and Fathead Minnow (*P. promelas*). Etobicoke Creek is managed as a warmwater system.

The Etobicoke Creek Watershed Report Card (TRCA 2018c) rated the water quality a D, which is poor. The grade is based on benthic invertebrate sampling, and concentrations of Total Phosphorus as well as *Escherichia coli* levels. While chloride levels are not used as a measurement in the water quality rating, they are known to be high in the watershed.

**Table 1: Summary of Fish Species in Etobicoke Creek Near Study Area – Background Review.**

Common Name	Scientific Name	Thermal Regime/Tolerance <sup>1</sup>	Status <sup>8</sup>	SARO/SARA	Etobicoke Creek (AU-002-ETO) <sup>7</sup>
Bluntnose Minnow	<i>Pimephales notatus</i>	warmwater/ intermediate	G5, S5		X
Brook Stickleback	<i>Culaea inconstans</i>	coolwater/ intermediate <sup>2</sup>	G5, S5		X
Brown Bullhead	<i>Ameiurus nebulosus</i>	warmwater/ intermediate	G5, S5		X
Common Shiner	<i>Luxilus cornutus</i>	coolwater/ intermediate <sup>4</sup>	G5, S5		X
Creek Chub	<i>Semotilus atromaculatus</i>	coolwater/ intermediate <sup>5</sup>	G5, S5		X
Western Blacknose Dace	<i>Rhinichthys obtusus</i>	coolwater/ intermediate	G5, SNR		X
Fathead Minnow	<i>Pimephales promelas</i>	warmwater/ tolerant	G5, S5		X
Longnose Dace	<i>Rhinichthys cataractae</i>	coolwater/ intermediate	G5, S5		X
Rock Bass	<i>Ambloplites rupestris</i>	coolwater/	G5, S5		X

		intermediate			
White Sucker	<i>Catostomus commersonii</i>	coolwater/tolerant	G5, S5		X

<sup>1</sup> Eakins, R. J. 2012. Ontario Freshwater Fishes Life History Database. Version 4.24. On-line database. (<http://www.ontariofishes.ca>), accessed 30 Mar 2021

<sup>2</sup> Tolerant of low DO but intolerant of turbidity. Usually only species found in marginal environments.

<sup>3</sup> Intolerant of turbidity, siltation, pollution

<sup>4</sup> Tolerant of turbidity

<sup>5</sup> Tolerant of pollution, low DO, moderately intolerant of turbidity

<sup>6</sup> Tolerant of many organic/inorganic pollutants, but moderately tolerant of turbidity

<sup>7</sup> AU-002-ETO in Figure 2, Source: MNRF LIO data

<sup>8</sup> see Appendix B for status and rank definitions.

#### 4.3.2 Species at Risk Summary

According to the background review, Etobicoke Creek and its tributaries are not reported to support any aquatic species at risk. Etobicoke Creek was once habitat for Redside Dace (*Clinostomus elongatus*) however the species is considered extirpated from the area (DFO 2019).

#### 4.3.3 Field Investigations

A field investigation to evaluate aquatic habitat conditions was undertaken on April 6 and May 25, 2021. Weather Conditions at the time were approximately 10C, with no precipitation. A reconnaissance survey was completed along approximately 350m length of Etobicoke Creek that flows to the south, along the eastern side of the study area. Wetted width through these reaches ranges from 6.5 metres to 18 metres. Flow was moderate and the water was clear with a yellow colour. Channel morphology is comprised of a series of riffles and shallow pool areas, and a few deep pools of approximately 1.5 – 2.0 metres are noted. Bank erosion, under cutting, slumping and exposed roots are noted along the entire reach. The west bank through this area is flat and comprises the Etobicoke Creek off-leash dog park on the flood plain. Across the creek the east bank extends directly upwards at creek bank and situated above the east bank is a shipping container facility. The facility stacks containers high above the treeline. Evidence of high flow is observed through debris jams up into the flood plain including around maintenance holes for the abandoned sewer. An outfall occurs at the north end of the study area east of the vortex structure, where the gabion armouring is failing and undercut. A large scour pool has formed below this outfall. Further down the creek valley, sewer maintenance holes are present

and covered over by the debris jams from spring freshet. Substrates in the reach varied from areas of fine, to coarse rocks, exposes bedrock and shale. Scattered boulders are present through the reach. Shading is provided by some overhanging trees. Bank vegetation was limited and was comprised of mostly exposed soils.

#### 4.4 Vegetation and Vegetation Communities

##### 4.4.1 Background Information

The City of Mississauga’s Natural Areas Survey (2020) states that three vegetation communities are located within the study area including: fresh-moist willow lowland deciduous forest type (FOD7-3), dry-fresh sugar maple-beech deciduous forest type (FOD5-2), and dry-moist old field meadow type (CUM1-1).

##### 4.4.2 Species at Risk and Locally Rare Species

The City of Mississauga’s Natural Areas Survey (2020) indicates a historical record for one locally rare species, Yellow Nut-grass (*Cyperus esculentus*), and one uncommon species Hobblebush (*Viburnum lantanoides*). In addition, the city of Mississauga’s Natural Areas Survey (2020) identifies 28 Credit Valley Conservation flora Species of Conservation Concern (Tier 1-3).

##### 4.4.3 Field Investigations

A field investigation to evaluate vegetation and vegetation communities was undertaken on April 6, 2021. Weather Conditions at the time were approximately 10°C, with no precipitation. Park amenities have been installed since LGL’s last visit for the installation of the Trunk Sewer in 2009. Vegetation communities within Etobicoke Creek valley have been cleared for the construction of the existing sanitary sewer (construction in 2010/2011). Vegetation communities consist of upland and lowland forest, cultural meadow, cultural thicket, cultural plantation and cultural woodland. Restoration plantings were observed on the slope near the entrance to the park and within the bottomland of the valley. Naturalized communities within the study area include: Sumac Cultural Thicket (CUT1-1), Cultural Meadow (CUM1-1), Mixed Cultural Plantation (CUP2), Manitoba Maple Deciduous Forest (FOD4-a), Maple Oak Deciduous Forest (FOD5), and Willow Lowland Deciduous Forest (FOD7-3). Vegetation Communities identified are described in further detail in Table 2.

**Table 2: Summary Ecological Land Classification Vegetation Communities.**

Terrestrial Community	ELC Code	ELC Vegetation Community
Cultural Meadow	CUM1-1	Dry-Moist Old Field Meadow
Cultural Thicket	CUT1	Mineral Cultural Thicket
Cultural Plantation	CUP2	Mineral Cultural Plantation
Deciduous Forest	FOD4-a	Manitoba Maple Deciduous Forest

Deciduous Forest	FOD5	Sugar Maple
Deciduous Forest	FOD7-3	Willow Lowland Deciduous Forest

#### 4.4.3.1 Flora

A total of 63 species were found within the study area as shown in Table 3. Of these, only one species was identified to genus only. Twenty-three of the plants observed, 37% of the flora, are considered introduced and non-native to Ontario.

**Table 3: List of Flora Observed within the Study Area.**

Scientific Name	Common Name	Local Status TRCA 2012
<i>Acer negundo</i>	Manitoba maple	L+
<i>Acer platanoides</i>	Norway maple	L+
<i>Acer saccharinum</i>	silver maple	L4
<i>Acer saccharum var. saccharum</i>	sugar maple	L5
<i>Agrimonia gryposepala</i>	tall hairy agrimony	L5
<i>Alliaria petiolata</i>	garlic mustard	L+
<i>Anemone canadensis</i>	Canada anemone	L5
<i>Bromus inermis ssp. inermis</i>	awnless brome	L+
<i>Circaea lutetiana ssp. canadensis</i>	yellowish enchanter's nightshade	L5
<i>Cornus alternifolia</i>	alternate-leaved dogwood	L5
<i>Cornus racemosa</i>	red paniced dogwood	L5
<i>Cornus sericea ssp. sericea</i>	red-osier dogwood	L5
<i>Crataegus sp.</i>	hawthorn	
<i>Daucus carota</i>	wild carrot	L+
<i>Dipsacus fullonum ssp. sylvestris</i>	wild teasel	L+
<i>Erythronium americanum ssp. americanum</i>	yellow dog's-tooth violet	L5
<i>Euonymus europaea</i>	spindle tree	L+
<i>Fragaria virginiana ssp. glauca</i>	scarlet strawberry	L5
<i>Fraxinus americana</i>	white ash	L5
<i>Fraxinus pennsylvanica</i>	red ash	L5
<i>Geum aleppicum</i>	yellow avens	L4
<i>Geum canadense</i>	white avens	L5
<i>Hesperis matronalis</i>	dame's rocket	L+
<i>Impatiens capensis</i>	spotted touch-me-not	L5
<i>Juglans cinerea</i>	butternut	L3, END
<i>Juglans nigra</i>	black walnut	L5
<i>Juniperus virginiana</i>	eastern red cedar	L5
<i>Lonicera tatarica</i>	tartarian honeysuckle	L+
<i>Malus pumila</i>	common apple	L+

<i>Ostrya virginiana</i>	ironwood	L5
<i>Physocarpus opulifolius</i>	ninebark	L3
<i>Picea glauca</i>	white spruce	L3
<i>Pinus strobus</i>	eastern white pine	L4
<i>Populus deltoides</i>	cottonwood	L5
<i>Prunus serotina</i>	black cherry	L5
<i>Prunus virginiana var. virginiana</i>	choke cherry	L5
<i>Pyrus communis</i>	common pear	L+
<i>Quercus macrocarpa</i>	bur oak	L4
<i>Quercus rubra</i>	red oak	L4
<i>Rhamnus cathartica</i>	common buckthorn	L+
<i>Rhus hirta</i>	staghorn sumac	L5
<i>Robinia pseudo-acacia</i>	black locust	L+
<i>Rosa multiflora</i>	multiflora rose	L+
<i>Rosa sp.</i>	rose	
<i>Rubus idaeus ssp. strigosus</i>	wild red raspberry	L5
<i>Rumex crispus</i>	curly-leaf dock	L+
<i>Salix fragilis</i>	crack willow	L+
<i>Salix X rubens</i>	reddish willow	L+
<i>Sambucus nigra ssp. canadensis</i>	common elderberry	L5
<i>Sanguinaria canadensis</i>	bloodroot	L5
<i>Scilla siberica</i>	squill	L+
<i>Solanum dulcamara</i>	bitter nightshade	L+
<i>Solidago canadensis</i>	canada goldenrod	L5
<i>Sonchus arvensis ssp. arvensis</i>	field sow-thistle	L+
<i>Taraxacum officinale</i>	common dandelion	L+
<i>Tilia americana</i>	basswood	L5
<i>Tilia cordata</i>	small leaf linden	L+
<i>Toxicodendron rydbergii</i>	western poison-ivy	L5
<i>Ulmus americana</i>	white elm	L5
<i>Ulmus pumila</i>	Siberian elm	L+
<i>Urtica dioica ssp. dioica</i>	European stinging nettle	L+
<i>Viola sororia</i>	woolly blue violet	L4
<i>Vitis riparia</i>	riverbank grape	L5

### Toronto and Region Conservation Authority (TRCA) Regional Species Status

L5 – Able to withstand levels of disturbance, generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas.

L4 – Able to withstand some disturbance, generally secure in natural matrix. Considered to be of concern to in urban matrix.

L3 – Able to withstand disturbance, generally secure in natural matrix. Considered to be of regional concern.

L2 – Unable to withstand disturbance, some criteria are very limiting factors, generally occur in high-quality natural areas, in natural matrix, probably rare in TRCA jurisdiction. Considered of concern regionally.

L1 – Unable to withstand disturbance, many criteria are limiting factors, generally occur in high-quality natural areas in natural matrix, almost certainly rare in TRCA jurisdiction. Considered of concern regionally.

#### 4.4.3.2 Locally Rare Flora and Species

Nine locally rare plant species within the Toronto and Region Conservation Authority were identified within the study area. These species are located within the lowland deciduous forest outside of the proposed disturbed area for the preferred alternative.

**Table 4. List of Species of Concern within TRCA.**

Scientific Name	Common Name	MNR	COSEWIC	Local Status TRCA 2021
<i>Juglans cinerea</i>	butternut	END	END	L3
<i>Physocarpus opulifolius</i>	ninebark			L3
<i>Picea glauca</i>	white spruce			L3
<i>Acer saccharinum</i>	silver maple			L4
<i>Geum aleppicum</i>	yellow avens			L4
<i>Pinus strobus</i>	eastern white pine			L4
<i>Quercus macrocarpa</i>	bur oak			L4
<i>Quercus rubra</i>	red oak			L4
<i>Viola sororia</i>	woolly blue violet			L4

#### 4.4.3.3 Species at Risk

One species, regulated by the Endangered Species Act, was observed within the study area. Two Butternut trees, regulated as endangered, were found within the bottomland of the valley north of the proposed storage tank within Willow Manitoba Lowland Deciduous Forest. The proposed storage tank disturbance is within 22 metres of one of the trees and within 50 metres of both trees. An area of 50m around each tree is considered as habitat for screening purposes for the Butternut.

An in-season Butternut Health Assessment was conducted to determine the health of the trees in order to establish if further permits/approvals are required for works near these trees. It was determined that the two trees are Category 2, retainable trees. As works are proposed within 50m of these trees, consultation should occur with the Ministry of Environment, Conservation and Parks to ensure compliance with the Endangered Species Act, 2007. An Information Gathering Form submission should be submitted to request the MECP review the project and determine if a permit or approval is required.

#### **4.5 Tree Resources**

A tree inventory of the study area was conducted on April 6 and May 25, 2021. All trees within the proposed construction area, as well as any that could be impacted by construction were inventoried. A separate Arborist Report and Tree Protection Plan has been prepared by LGL.

#### **4.6 Wildlife and Wildlife Habitats**

##### **4.6.1 Background Information**

The study area lies in a predominantly industrial setting, the natural areas associated with Etobicoke Creek provides the main habitat for wildlife in the area. The Etobicoke Creek valley and its associated natural areas provide a wildlife corridor through the area. The Etobicoke Creek valley provides a variety of habitat types including deciduous woodlands, open riparian habitats and meadow, with no wetland present in the immediate study area. In addition to the natural habitats associated with the creek valley, open, human-made habitats exist for species that prefer edges and/or open field habitats, such as a leash free dog park. The dog park presence has a significant influence on the function of this section of this valley for wildlife habitat, with hundreds of users daily and year-round.

Available background information from TRCA, Ontario Nature Reptile and Amphibian Atlas (Ontario Nature 2021), and the Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada 2006) was reviewed for the broader project area. A summary of the available data is provided in Table 4, while these species have some potential to be found in a larger area, there may not be available habitat for them on site.

#### 4.6.2 Species at Risk and Locally Rare Species

A review of available databases (TRCA fauna data, Ontario Nature, Ontario Butterfly Atlas, Ontario Reptile Atlas, iNaturalist, OBBA, and eBird data) identifies the potential presence of the following species at risk in a 10-kilometre square that includes our study area (refer to Table 5).

**Table 5: Species at Risk in the Greater Study Area.**

Common Name	Scientific Name	Status under ESA	Source
Bank Swallow	<i>Riparia riparia</i>	Threatened	EBird
Barn Swallow	<i>Hirundo rustica</i>	Threatened	EBird, NHIC
Bobolink	<i>Dolichonyx orzivorus</i>	Threatened	EBird
Canada Warbler	<i>Cardellina canadensis</i>	Special Concern	EBird
Eastern Meadowlark	<i>Sturnella magna</i>	Threatened	EBird
Eastern Wood-pewee	<i>Contopus virens</i>	Special Concern	EBird
Monarch	<i>Danaus plexippus</i>	Special Concern	Ontario Butterfly Atlas
Blanding's Turtle	<i>Emydoidea blandingii</i>	Threatened	Ontario Reptile Atlas
Snapping Turtle	<i>Chelydra serpentina</i>	Special Concern	Ontario Reptile Atlas, NHIC
Wood Thrush	<i>Hylocichla mustelina</i>	Special Concern	EBird

City of Mississauga's Natural Areas Survey (2020) indicates that five provincially significant fauna are found in ET07. However, the Natural Areas Survey (2020) does not specify the provincially significant fauna.

A summary of all potential species at risk identified through this screening, their habitat requirements, and further discussion of their potential to be onsite is provided in **Section 5.9**.

#### 4.6.3 Field Investigations

Wildlife observations were recorded during the visit on April 6, April 15, and May 25, 2021, as summarized in Table 6. A total of 19 species were documented during the field investigation by LGL through direct observation or evidence (scat, tracks, hair, call, den, etc.), including 4 mammal species, 1 reptile amphibian species, 12 bird species, and 2 invertebrates. A dog walker reported observing a reptile in the study area – the Eastern Gartersnake (*Thamnophis sirtalis*) – as a mating ball in areas towards the toe of slope of the deciduous forest (downstream of the study area). This was not confirmed by LGL. Downed woody debris, rock piles, debris piles, and some of the most recent substrates for restoration plantings are present through the floodplain that may be utilized as hibernacula structures for snakes. The outfall



structure just north of the maintenance hole to be decommissioned has a rock pile suitable for hibernacula and is where two milksnakes (*Thamnophis sirtalis*) were observed on May 25, 2021.

Bird species observed are considered migratory and all are species regulated under the Migratory Birds Convention Act (MBCA), while the Eastern Gray Squirrel (*Sciurus carolinensis*), Eastern Cottontail (*Sylvilagus floridanus*) and White-tailed Deer (*Odocoileus virginianus*) are protected under the Fish and Wildlife Conventions Act (FWCA).

**Table 6: LGL Limited Incidental Wildlife Observations.**

Type	Scientific Name	Common Name	G Rank	S Rank	COSEWIC	SARA	SARO	FWCA	MBCA	TRCA	LGL Obs
Bird	<i>Turdus migratorius</i>	American Robin	G5	S5B					X	L5	x
Bird	<i>Icterus galbula</i>	Baltimore Oriole							X	L5	x
Bird	<i>Hirundo rustica</i>	Barn Swallow	G5	S4B	TH R	TH R	TH R		X	L4	x
Bird	<i>Poecile atricapillus</i>	Black-capped Chickadee	G5	S5					X	L5	x
Bird	<i>Branta canadensis</i>	Canada Goose	G5	S5					X	L5	x
Bird	<i>Chaetura pelagica</i>	Chimney Swift	G5	S4B. S4N	TH R	TH R	TH R		X	L4	x
Bird	<i>Dumetella carolinensis</i>	Grey Carbird	G5	S4B					X	L4	x
Bird	<i>Anas platyrhynchos</i>	Mallard	G5	S5					X	L5	x
Bird	<i>Cardinalis cardinalis</i>	Northern Cardinal	G5	S5					X	L5	x
Bird	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	G5	S5					X	L5	x

Type	Scientific Name	Common Name	G Rank	S Rank	COSEWIC	SARA	SARO	FWCA	MBCA	TRCA	LGL Obs
Bird	<i>Melospiza melodia</i>	Song Sparrow	G5	S5B					X	L5	x
Bird	<i>Setophaga petechia</i>	Yellow Warbler	G5	S5B					X	L5	x
Invertebrates	<i>Nymphalis antiopa</i>	Mourning Cloak	G5	S5							x
Invertebrates	<i>Papilio plyxenes</i>	Black Swallowtail	G5	S5				P			x
Mammals	<i>Sylvilagus floridanus</i>	Eastern Cottontail	G5	S5				G		L4	x
Mammals	<i>Sciurus carolinensis</i>	Eastern Gray Squirrel	G5	S5				G		L5	x
Mammals	<i>Procyon lotor</i>	Northern Raccoon	G5	S5				F		L5	x
Mammals	<i>Odocoileus virginianus</i>	White-tailed Deer	G5	S5				G		L4	x
Reptile	<i>Thamnophis sirtalis</i>	Eastern Gartersnake	G5 T5	S5						L4	*
Reptile	<i>Lampropeltis triangulum triangulum</i>	Eastern Milksnake	G5	S3	SC	SC		P		L3	x

\*Reported by park user

#### 4.6.4 Wildlife Communities and Habitat

In general, the study area encompasses a highly urban influenced section of Etobicoke Creek. In this section, wildlife communities must be very tolerant of urban influence due to the extent of park use and off leash dog use of the site. Notwithstanding, this area provided an important north-south corridor through the watershed and is a valued amenity space by the community. Situated entirely in the significant valleyland of Etobicoke Creek, it is warranted to minimize

impacts to the extent feasible and to restore to existing or as-better conditions.

#### **4.7 Species at Risk Summary**

A table of potential SAR species (see Table 7) has been compiled using information from various sources such as TRCA database, NHIC, OBBA, eBird, Ontario Nature, DFO Aquatic SAR Mapping as well as LGL's spring 2021 survey.

Of note, two Candidate Maternal Roost cavity trees were noted in the floodplain in close proximity to the sewer easement and the proposed works area. Use of these roosts by SAR bats was not confirmed due to the complexity of such work. Next steps will include working with the project team to shift the project footprint and/or timing to avoid impacts to this habitat. If removal is unavoidable, additional consultation with the MECP is recommended to ensure compliance with the ESA.

**Table 7: Species at Risk Screening for the Project.**

Type	Species	LGL Surveys (Apr 2021)	MNRF NHIC (March 2021)	TRCA data (Mar 2021)	DFO SAR Mapping (Jan 2021)	Ontario Butterfly Atlas	Ontario Reptile and Amphibian Atlas	OBBA (2001-2005)	eBird (March 2021)	MNRF Screening (List for Mississauga)	Endangered Species Act Designation <sup>1</sup>	Habitat	Potential for Habitat/Screening Conducted by LGL	Mitigation Recommendations for Detailed Design
Vegetation	American Chestnut ( <i>Castanea dentata</i> )								X		Endangered	Generally found in deciduous or mixed forests with well drained soils. Most often found in the Carolinian zone in Ontario.	No habitat found in study area. ELC and arborist survey conducted within the vicinity of the worksite. No known background records for this species.	No further recommendations.
Vegetation	Butternut ( <i>Juglans cinerea</i> )								X		Endangered	Generally grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldom, on dry, rocky and sterile soils. In Ontario, the Butternut Generally grows alone or in small groups in deciduous forests as well as in hedgerows	Potential habitat found in study area. ELC and arborist survey conducted within the vicinity of the worksite. Two Butternut found in study area.	As the project disturbance is proposed to occur within 50m of the Butternut (the habitat protection zone considered by the MECP), an in-season Butternut Health Assessment was performed to determine the health of the trees and to consider next steps for approvals (if required). Submission of an IGF recommended.
Bird	Barn Swallow ( <i>Hirundo rustica</i> )		X						X	X	Threatened	Prefers farmland; lake/river shorelines; wooded clearings; urban populated areas; rocky cliffs; and wetlands. They nest inside or outside buildings; under bridges and in road culverts; on rock faces and in caves etc.	No potential nesting sites were observed in study area. several barn swallows were observed foraging over Etobicoke Creek	No removal of built structures with the potential to function as nesting habitat are anticipated at this time. No further recommendations.
Bird	Bank Swallow ( <i>Riparia riparia</i> )								X	X	Threatened	Nests in the vertical surfaces of silt and sand substrates. Often these surfaces are found on the banks of waterbodies or gravel pits.	No suitable habitat for this species	No further recommendations.
Bird	Bobolink ( <i>Dolichonyx oryzivorus</i> )								X	X	Threatened	This species occurs in tallgrass prairies, open meadows, and fallow agricultural fields. It's also often found in hay fields.	No suitable habitat for this species found in study area.	No further recommendations.

Type	Species	LGL Surveys (Apr 2021)	MNRF NHIC (March 2021)	TRCA data (Mar 2021)	DFO SAR Mapping (Jan 2021)	Ontario Butterfly Atlas	Ontario Reptile and Amphibian Atlas	OBBA (2001-2005)	eBird (March 2021)	MNRF Screening (List for Mississauga)	Endangered Species Act Designation <sup>1</sup>	Habitat	Potential for Habitat/Screening Conducted by LGL	Mitigation Recommendations for Detailed Design
Bird	Chimney Swift ( <i>Chaetura pelagica</i> )								X		Threatened	Historically found in deciduous and coniferous, usually wet forest types, all with a well-developed, dense shrub layer; now most are found in urban areas in large, uncapped chimneys.	No buildings with chimneys suitable for nesting found in study area. Chimney Swifts observed flying over the study area.	No removal of built structures with the potential to function as habitat are anticipated. No further recommendations.
Bird	Canada Warbler ( <i>Cardellina canadensis</i> )								X		Special Concern	Nests in deciduous and mixed conifer forests with shrubs and mosses frequently near water.	No suitable habitat for this species found in the study area.	No further recommendations.
Bird	Common Nighthawk ( <i>Chordeiles minor</i> )								X	X	Special Concern	Open habitats with little to no plants. Examples included rock barrens, forest clearings, and logged areas.	Limited suitable habitat exists in the floodplain for this species given the level of site disturbance.	No further recommendations.
Bird	Eastern Meadowlark ( <i>Sturnella magna</i> )								X	X	Threatened	This species occurs in tallgrass prairies, open meadows, and fallow agricultural fields.	No suitable habitat for this species found in study area.	No further recommendations.
Bird	Eastern Wood-Pewee ( <i>Contopus virens</i> )								X	X	Special Concern	Mixed and deciduous forests in the mid-canopy layer near forest clearings and edges. The forests usually have little understory vegetation.	Suitable habitat for this species found in forests in study area.	Tree and vegetation clearing shall ensure compliance of the Migratory Bird Convention Act which identifies timing restrictions for clearing during breeding bird season (avoid clearing from April 1- August 31) for nesting Zone C2.
Bird	Least Bittern ( <i>Ixobrychus exilis</i> )								X		Threatened	Found in wetland habitats with open water. They prefer cattail marshes.	No suitable habitat for this species found in study area. No background records in eBird for the study area.	No further recommendations.

Type	Species	LGL Surveys (Apr 2021)	MNRF NHIC (March 2021)	TRCA data (Mar 2021)	DFO SAR Mapping (Jan 2021)	Ontario Butterfly Atlas	Ontario Reptile and Amphibian Atlas	OBBA (2001-2005)	eBird (March 2021)	MNRF Screening (List for Mississauga)	Endangered Species Act Designation <sup>1</sup>	Habitat	Potential for Habitat/Screening Conducted by LGL	Mitigation Recommendations for Detailed Design
Bird	Peregrine Falcon ( <i>Falco peregrinus</i> )								X		Special Concern	Nesting sites include cliff faces and ledges as well as the ledges on tall buildings, bridges, and other anthropogenic structures. They have also been found nesting in quarries and open pit mines	No suitable habitat for this species found in study area. No background records in eBird for the study area.	No further recommendations.
Bird	Red-headed Woodpecker ( <i>Melanerpes erythrocephalus</i> )								X		Special Concern	Open woodlands and woodland edges. Sometimes found in cemeteries, parks and golf courses.	Suitable habitat for this species found in the woodland in the study area.	Tree and vegetation clearing shall ensure compliance of the Migratory Bird Convention Act which identifies timing restrictions for clearing during breeding bird season (avoid clearing from April 1- August 31) for nesting Zone C2.
Bird	Short-eared Owl ( <i>Asio flammeus</i> )								X		Special Concern	Open areas like grasslands, and marshes. Nests on the ground.	No suitable habitat for this species found in study area. No background records in eBird for the study area.	No further recommendations.
Bird	Wood Thrush ( <i>Hylocichla mustelina</i> )							X	X		Special Concern	Mature deciduous and mixed woods. Nests regularly in Sugar Maple and American Beech.	Suitable habitat for this species found in woodland in study area.	Tree and vegetation clearing shall ensure compliance of the Migratory Bird Convention Act which identifies timing restrictions for clearing during breeding bird season (avoid clearing from April 1- August 31) for nesting Zone C2.

Type	Species	LGL Surveys (Apr 2021)	MNRF NHIC (March 2021)	TRCA data (Mar 2021)	DFO SAR Mapping (Jan 2021)	Ontario Butterfly Atlas	Ontario Reptile and Amphibian Atlas	OBBA (2001-2005)	eBird (March 2021)	MNRF Screening (List for Mississauga)	Endangered Species Act Designation <sup>1</sup>	Habitat	Potential for Habitat/Screening Conducted by LGL	Mitigation Recommendations for Detailed Design
Reptile	Blandings Turtle ( <i>Emydoidea blandingii</i> )						X			X	Threatened	Found in shallow aquatic habitat such as wetlands, rivers, and lakes	Etobicoke Creek provides suitable habitat, but this species is considered low likelihood to occur here.	Consideration for turtles and turtle protection should ensure that the study area is delineated securely to ensure wildlife cannot enter the construction area (eg. such as through perimeter silt fencing). Should wildlife be encountered, actions and potential wildlife handling should be undertaken by a qualified environmental inspector.
Reptile	Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> )									X	Special Concern	They are a semi aquatic species. Their habitat is forests near water, particularly marsh habitat within a forest.	Marginal habitat for this species found in the study area, in Etobicoke Creek and associated woodlands.	Recommend using ESCs as wildlife fencing to keep wildlife out of construction area.
Reptile	Northern Map Turtle ( <i>Graptemys geographica</i> )									X	Special Concern	They inhabit rivers and lakes that support molluscs (for prey).	Etobicoke Creek provides suitable habitat, but this species is considered low likelihood to occur here.	Consideration for turtles and turtle protection should ensure that the study area is delineated securely to ensure wildlife cannot enter the study area (eg. such as through perimeter silt fencing). Should wildlife be encountered, a qualified environmental inspector who can address and handle wildlife should be consulted.
Reptile	Snapping Turtle ( <i>Chelydra serpentina</i> )		X				X			X	Special Concern	Aquatic setting such as lakes, ponds, bays and inlets. This is a highly aquatic species but may leave the water to seek out new aquatic habitats or to lay eggs.	Habitat for this species found in the study area, in Etobicoke Creek.	Consideration for turtles and turtle protection should ensure that the study area is delineated securely to ensure wildlife cannot enter the study area (eg. such as through perimeter silt fencing). Should wildlife be encountered, a qualified environmental inspector who can address and handle wildlife should be consulted.

Type	Species	LGL Surveys (Apr 2021)	MNRF NHIC (March 2021)	TRCA data (Mar 2021)	DFO SAR Mapping (Jan 2021)	Ontario Butterfly Atlas	Ontario Reptile and Amphibian Atlas	OBBA (2001-2005)	eBird (March 2021)	MNRF Screening (List for Mississauga)	Endangered Species Act Designation <sup>1</sup>	Habitat	Potential for Habitat/Screening Conducted by LGL	Mitigation Recommendations for Detailed Design
Fish	Redside Dace ( <i>Clinostomus elongatus</i> )		X							X	Endangered	They inhabit small streams with a cool-cold water thermal regime	Habitat for this species not found in Etobicoke Creek.	No further recommendations.
Mammal	Eastern Small-footed Bat ( <i>Myotis leibii</i> )									X	Endangered	Overwintering habitat: Caves and mines Maternal Roosts: Caves, tree cavities, rock outcrops, bridges and buildings	No potential for hibernacula identified. Potential for maternal roots in woodland and open grown trees. Candidate snag tree were identified during the site investigations during leaf-off conditions on April 6, 2021.	Apply timing window for tree clearing to protect maternity roosting period (avoid clearing May 1 to September 30). Further consultation may be required with the MECP to ensure compliance with the ESA at all project phases.
Mammal	Little Brown Bat ( <i>Myotis lucifugus</i> )									X	Endangered	Overwintering habitat: Caves and mines that remain above 0. Maternal Roosts: Often associated with buildings (attics, barns etc.). Occasionally found in trees (25-44 cm dbh).	No potential for hibernacula identified. Potential for maternal roots in woodland and open grown trees. Candidate snag tree were identified during the site investigations during leaf-off conditions on April 6, 2021.	Apply timing window for tree clearing to protect maternity roosting period (avoid clearing May 1 to September 30). Further consultation may be required with the MECP to ensure compliance with the ESA at all project phases.



Type	Species	LGL Surveys (Apr 2021)	MNRF NHIC (March 2021)	TRCA data (Mar 2021)	DFO SAR Mapping (Jan 2021)	Ontario Butterfly Atlas	Ontario Reptile and Amphibian Atlas	OBBA (2001-2005)	eBird (March 2021)	MNRF Screening (List for Mississauga)	Endangered Species Act Designation <sup>1</sup>	Habitat	Potential for Habitat/Screening Conducted by LGL	Mitigation Recommendations for Detailed Design
Mammal	Northern Long Eared Bat ( <i>Myotis septentrionalis</i> )									X	Endangered	Overwintering habitat: Caves and mines that remain above 0. Maternal Roosts: Often associated with cavities of large diameter trees (25-44 cm dbh) with cavities and crevices. Occasionally found in structures (attics, barns etc.)	No potential for hibernacula identified. Potential for maternal roots in woodland and open grown trees. Candidate snag tree were identified during the site investigations during leaf-off conditions on April 6, 2021.	Apply timing window for tree clearing to protect maternity roosting (avoid clearing May 1 to September 30). Further consultation may be required with the MECP to ensure compliance with the ESA at all project phases.
Mammal	Tri-Coloured Bat ( <i>Perimyotis subflavus</i> )									X	Endangered	Overwintering habitat: Caves and mines that remain above 0. Maternal Roosts: Often associated with clusters of dead leaves in large diameter Oak or Maple trees	No potential for hibernacula identified. Potential for maternal roots in woodland and open grown trees. Candidate snag tree were identified during the site investigations during leaf-off conditions on April 6, 2021.	Apply timing window for tree clearing to protect maternity roosting (avoid clearing May 1 to September 30). Further consultation may be required with the MECP to ensure compliance with the ESA at all project phases.
Invertebrate	Monarch ( <i>Danaus plexippus</i> )					X					Special Concern	Summer habitat in Ontario includes meadows and open areas where milkweed grows. Caterpillars feed on milkweed, while adults feed on a variety of wildflowers	Suitable habitat found in study area for nectaring and breeding. No staging habitat identified. No overwintering habitat in Canada.	Minimize milkweed removals and include milkweed in restoration plantings if removals are required. No additional mitigation recommended at this time.

<sup>1</sup> Endangered Species Act (ESA), 2007 (O.Reg 242/08 last amended 14 Sept 2016 as O.Reg 308/16). Species at Risk in Ontario List, 2007 (O.Reg 230/08 last amended 15 June 2016 as O. Reg 200/16, s. 1.); Schedule 1 (Extirpated - EXP), Schedule 2 (Endangered - END), Schedule 3 (Threatened - THR), Schedule 4 (Special Concern – S).

## **5.0 Impact Assessment**

The following section will assess the potential impacts on natural heritage features and hydrological features within the study area based on the conceptual design only. As part of Phase 2 of the Class EA process, the preferred alternative solution put forward is to install a set of buried parallel storage sewer pipes, as well as the decommissioning of an abandoned sanitary sewer by filling it with concrete. Preliminary details were provided for the footprint of the proposed works (see Figure 4). These details will be refined at the detailed design stage.

The following section presents proposed best management practices and approaches to key natural heritage constraints, subject to change with updated designs.

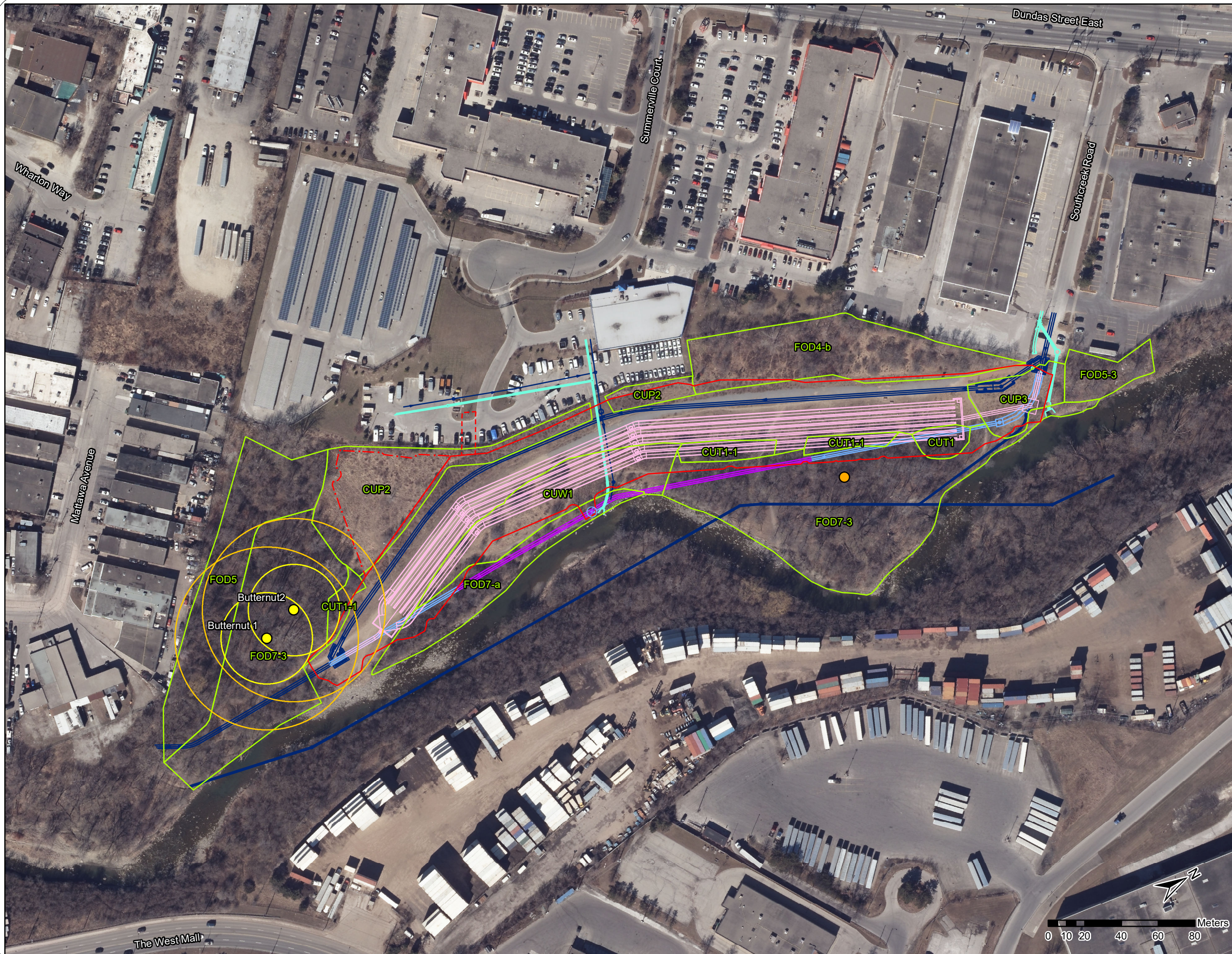
### **5.1 Earthworks**

The proposed works will result in the excavation, storage/stockpiling and grading/spreading of soils at the construction sites. Excess soil materials can also be generated that require management on- or off-site. A Soil Management Plan should be prepared in accordance with the Preserving and Restoring Healthy Soil: Best Practices for Urban Construction (TRCA 2012d). The Soil Management Plan should recommend appropriate soil management best practices and post-construction monitoring requirements. Excess soils generated at the construction sites shall be managed in accordance with the Management of Excess Soil: A Guide for Best Management Practices (MECP 2019) by a qualified engineer.

A site-specific Erosion and Sedimentation Control (ESC) Plan should be implemented prior to construction, maintained during construction, and removed after construction (once soils have stabilized). Section 6 provides additional information on erosion and sediment control within the study area.

### **5.2 Potential Impacts to Aquatic Habitats and Communities**

The proposed works will not result in direct impacts to fish or fish habitat. However, an increase in surface runoff has the potential to result in erosion and sedimentation of adjacent habitats and degradation of aquatic environs. Further, the project study area lies entirely within the floodplain. Indirect effects are not expected for fish and fish habitat in Etobicoke Creek with the implementation of erosion and sediment controls to prevent the suspension and/or run-off of soils (or other deleterious substances) from reaching the Creek. Mitigation to minimize these impacts is presented in Section 6.



**LEGEND**

- Butternut Location
- Snag Tree Location
- 25m Butternut Protection Zone
- 50m Butternut Protection Zone
- Proposed Sanitary Sewer
- Existing Sanitary Sewer
- Manhole to be Decommissioned
- Abandoned Sanitary Sewer to be Decommissioned
- Abandoned Sanitary Sewer
- Existing Storm Sewer
- Excavation Limit and Construction Disturbance
- Construction Laydown Area
- Temporary Construction Access
- ELC Communities Boundary
- FOD4-b** Dry-Fresh Manitoba Maple Deciduous Forest
- FOD5** Dry-Fresh Sugar Maple Deciduous Forest
- FOD5-3** Dry-Fresh Sugar Maple-Oak Deciduous Forest
- FOD7-3** Fresh-Moist Willow Lowland Deciduous Forest
- FOD7-a** Fresh-Moist Manitoba Maple Lowland Deciduous Forest
- CUP2** Mixed Plantations
- CUP3** Coniferous Plantations
- CUT1** Mineral Cultural Thicket
- CUT1-1** Sumac Cultural Thicket
- CUW1** Mineral Cultural Woodland

**East Trunk Sewer  
Impact Assessment**



Project	TA9109	Figure	4
Date	June 2021	Prepared By:	KC
Scale	1:2,000	Verified By:	JCN

### 5.3 Potential Impacts to Vegetation and Vegetation Communities

The preliminary footprint was used to determine potential impacts to vegetation and vegetation communities Table 8 estimates the potential areas to be impacted. This assessment will need to be refined at Detailed Design to include more details on storage, staging, access and potential dewatering requirements. Detailed restoration plans will also be required at the Detailed Design stage of the project.

**Table 8 Impact Assessment by Ecological Land Classification**

ELC Code	Area (m <sup>2</sup> )
CUP2	3288
CUP3	1055
CUT1	410
CUT1-1	992
CUW1	2772
FOD4-b	328
FOD7-3	1111
FOD7-a	438

### 5.4 Potential Impacts to Tree Resources

The potential impacts to tree resources have been provided under separate cover (Tree Protection Plan prepared by LGL Limited). A total of 101 trees have been identified for removal, and an additional 48 trees have been identified as injured based on the preliminary disturbance limits. These numbers may change at detailed design when design is refined.

A Butternut Health Assessment was performed to determine the health of the butternut trees. While this assessment is still ongoing, it was determined that if the disturbance limits can be adjusted outside the 25m buffer, the likelihood of injury to these trees is diminished. Efforts should be made to adjust the disturbance limits at detailed design.

### 5.5 Potential Impacts to Wildlife and Wildlife Communities

Access into Etobicoke Valley Park could affect wildlife activity (through avoidance, noise which may disrupt calls/communication, direct conflict with equipment), result in the spread of non-native species through seed dispersal by hikers/path pedestrians. Wildlife habitat may be

affected through direct tree and vegetation removals, as well as the temporary construction disturbance.

However, due to the prevalence of existing paved pathways and trail use within the valley and woodland, impacts in this regard are expected to be minor or negligible in relation to the existing uses.

## **6.0 Mitigation Measures**

LGL has reviewed the information available for the project to date against the natural heritage information compiled above to make the following recommendations to reduce impacts on natural features. These mitigation measures are preliminary and will be built upon as project details are available.

### **6.1 Project Planning and General Mitigation**

Construction related impacts can first be mitigated by minimizing the extent of disturbance wherever possible through coordination of all project related planning, including design, staging, and scheduling. Mitigation related to staging of construction includes prioritizing project components in such a way that disturbance within the same construction area would be minimized (i.e. coordination of all disturbance activities in a manner that reduces the impact at these locations).

- Minimize vegetation and tree removals through facility design;
- Minimize construction area to the extent possible;
- Use appropriate tree protection measures for any work around tree resources within the project area to help protect trees identified to be retained;
- Use previously disturbed areas for construction laydown and staging to the extent possible;
- No vegetation removal should occur between April 1 and August 31 of any given year in order to protect birds afforded protection under the Migratory Birds and Convention Act;
- No tree removal or pruning within the bat maternal roosting period for bats (May 1 to September 30. of any given year). Note, this timing window is weather dependant and this approach should be confirmed by MECP once further project details are known;

- Locate site maintenance, vehicle washing and refuelling stations where contaminants are handled off-site, and outside of the source water protection area for the pipe intake; and,
- Ensure that a Spills Management Plan (including materials, instructions regarding their use, education of contract personnel, and emergency contact numbers) is on-site at all times for implementation in event of an accidental spill during construction. An emergency spill kit shall be kept on site. A response plan shall also be developed that is to be implemented immediately in the event of a sediment release.

## **6.2 Erosion and Sediment Control**

The extent of construction related activity can be effectively isolated and secured from adjacent natural lands through the installation of erosion and sediment control measures to mitigate the potential for silt and sediment entry into surface water features and adjacent lands. To some extent, the isolation of the work area will also discourage the entry of wildlife into the work zone, thereby minimizing incidental encounter and the risk of incidental mortality during construction.

A standalone Erosion and Sediment Control (ESC) Plan should be developed and implemented for the site that minimizes risk of sediment transport into adjacent retained vegetation communities or to the aquatic habitat of Etobicoke Creek during all phases of the project. The plan should reference the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority 2019). This plan should include:

- Methods to isolate the construction area;
- Timing of effective ESC measures, where ESCs shall be installed before starting work to prevent the entry of sediment into the watercourse or adjacent areas. Inspect regularly during the course of construction and conduct regular maintenance and repairs as necessary;
- Clearly identified stockpiling and staging areas; and,
- Develop a plan to dispose of any water accumulated onsite from dewatering or pooled stormwater.

### **6.3 Tree Protection**

Impacts to tree resources due to construction are expected. When any future construction is proposed, at a minimum, the following tree protection measures are recommended. A Tree Protection Plan has been prepared by LGL under separate cover.

- Construction materials, equipment, soil, construction waste or debris, parking of vehicles, etc., shall not be placed or stored within the staked dripline or immediately adjacent of trees identified for protection;
- Prune any exposed roots with a diameter of less than 5 cm to promote regeneration and prevent infection. All roots greater than 5 cm in diameter should not be removed;
- Any tree removals, pruning or root cutting required is to be conducted by a qualified Arborist;
- Apply a slow-release deep root low nitrogen fertilizer to promote increased vigour;
- No signs or objects shall be displayed or affixed to any trees protected;
- Disposal of any liquids shall not occur within 1 metre of the staked Dripline or immediately adjacent to protected trees;
- Should any additional, incidental or accidental tree injuries occur during construction, a qualified Arborist shall be consulted to determine whether additional mitigation measures should be employed; and,
- Tree clearing that is approved by regulating agencies shall not be conducted during the Migratory Bird Convention Act (MBCA) breeding season commonly considered April 1 to August 31, unless a nesting survey is conducted by a qualified avian biologist.

These efforts will help to ensure that impacts to retained trees are minimal and that the condition and character of these trees will not change, either in the short-term or long-term period. A tree protection plan and arborist report will be provided under separate cover to ensure the protection of retained vegetation.

### **6.4 Potential Impacts to Migratory Birds and Compliance with Migratory Birds Act.**

Background review and site investigations included documentation of numerous species listed under the *Migratory Birds Convention Act* (MBCA). The MBCA prohibits the killing, capturing, injuring, taking, or disturbing of migratory birds (including eggs) or the damaging, destroying, removing, or disturbing of nests. To protect birds in the breeding season, vegetation removals should be avoided between April 1 and August 31 of any given year. Nest sweeps can be

conducted by a qualified avian biologist should clearing be required during this period, however, no clearing can be conducted if nesting birds are found in the area.

### **6.5 Displacement of Rare, Threatened or Endangered Wildlife or Significant Wildlife Habitat**

Two SAR birds were identified flying overhead however no suitable habitat for the SAR birds were identified with the study area during the field visit.

Candidate SAR Bat Maternal Roosting Habitat (cavity trees) were noted in the study area. The potential for these trees to be impacted or for the forest community to be impacted is not fully defined at this time. Further consultation with MECP to obtain a permit (or registration under Ontario Regulation 242/08) may be required pending review of the preferred alternative detailed design. Further consultation with MECP is recommended at Detailed Design if any cavity trees

are identified for removal and to confirm the approvals process in place at that time. Note, acoustic monitoring for SAR bats may be required depending on the MECP consultation undertaken at the time of permitting. To avoid delays, consultation early in the Detailed Design phase is recommended and allow for investigations in June to screen for SAR bat presence.

Any Candidate SAR Maternal Roosting Habitat trees proposed for removal should be screened with the MECP through the submission of an Information Gathering Form to determine if a permit is required under the ESA. To protect bats in the maternal roosting period, all cavity tree removals should be avoided between May 1 and August 31 of any given year (timing window subject to approval by MECP). Additional approvals may be required such as a Letter of Advice or Full Type C Permit.

## **7.0 Conclusion**

An impact assessment was performed for the proposed project disturbance area. This impact assessment will undergo refinement at the detailed design stage of the project. The impacts and the proposed mitigation measures are preliminary and can also be refined additional project details are available at detailed design. Table 9 summarizes the permitting and approvals that may be required for this project to date.



**Table 9 Summary of Potential Environmental Permits or Approvals Required.**

<b>Legislation</b>	<b>Plan/Regulation/ By-law</b>	<b>Permit/Approval/Authorization</b>	<b>Permit or Approval Required</b>
Fisheries Act		Harmful, Alteration, Disruption, Destruction (HADD). DFO review	Required for in-water works or works below high water mark.  Not identified at this time, with the implementation of the appropriate mitigation.
Migratory Birds Convention Act	n/a	Not identified.	Not identified with appropriate mitigation.
Species at Risk Act	n/a	SARA permit.	Not identified.
Ontario Water Resources Act	Permit to Take Water (PTTW)	PTTW required for construction dewatering > 400,000L/day (see below).	To be determined by the project hydrologist.
Environmental Protection Act	Regulation 63/16 Registrations under Part II of the Act- Water Taking	Environmental Activity and Sector Registration EASR (Water taking for Construction Site Dewatering) required for groundwater taking between 50,000- 400,000 Litres on a single day under normal operation.	To be determined by the project hydrologist.
Conservation Authorities Act	Ontario Regulation (TRCA): Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (O.Reg. 166/06).	For project works within a regulated area, a permit under O.Reg 166/06 will be required.	Required.
Endangered Species Act	Several Regulations exist.	Ministry of the Environment, Conservation and Parks (MECP)	May be required for SAR Bat

		<p>administers the Endangered Species Act, 2007 (ESA) in Ontario.</p> <p>Activities that require harm to a species at risk or its habitat may be permitted through Ontario Regulation 242/08 Section 23.18 that is issued under Section 17(2) of the ESA.</p>	<p>Candidate Roost Habitat and Butternut pending consulting or IGF submission to MECP.</p>
<p>The Ravine &amp; Natural Feature Protection Bylaw</p>	<p>The Ravine &amp; Natural Feature Protection Bylaw, officially called, City of Toronto Municipal Code Chapter 658, Ravine &amp; Natural Feature Protection.</p>	<p>The City of Toronto.</p> <p>The City of Toronto’s RNFP by-law prohibits and regulates the injury and/or destruction of trees and the altering of designated areas including grading, filling, and dumping. Trees regardless of size are protected by the RNFP by-law and permits are required for prohibited activities.</p>	<p>Outside of the City of Toronto.</p>

Through background information review and field investigations, important natural heritage features and species were identified on and adjacent to the study area include:

- Significant Valleylands;
- Significant Woodlands;
- Candidate SAR Bat Habitat (maternal roost cavity trees); and,
- TRCA Regulated Areas.

Endangered Species (provincial), Species of Conservation Concern and local (municipal) rarity that has been documented in background sources near the vicinity of the study area:

- Species at risk bat habitat (maternal roost cavity trees); and,
- Butternut.

Most of the aforementioned species are found within the woodland habitat south and east of the study area. Further consultation with MECP to obtain a permit (or registration under Ontario Regulation 242/08) may be required pending review of the preferred alternative design.

Impacts to Butternut will be confirmed once design details are evaluated and consultation with MECP has taken place. The storage tank disturbance is located within 22 metres of one of the trees and within 50 metres (habitat protection zone) of both trees. An in-season Butternut Health Assessment was performed to determine the health of the trees in order to assess impacts.

Construction is proposed within hazardous land boundaries and special policy area or two-zone floodplain management concepts are required.

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## **Appendix A Photo Appendix.**



Photo 1: Facing south from the entrance to the park at the southern termination of Southcreek Road(April 6, 2021).



Photo 2: Facing upstream at riffle section of Etobicoke Creek (April 6, 2021).



Photo 3: Facing upstream at riffle section of Etobicoke Creek (April 6, 2021).

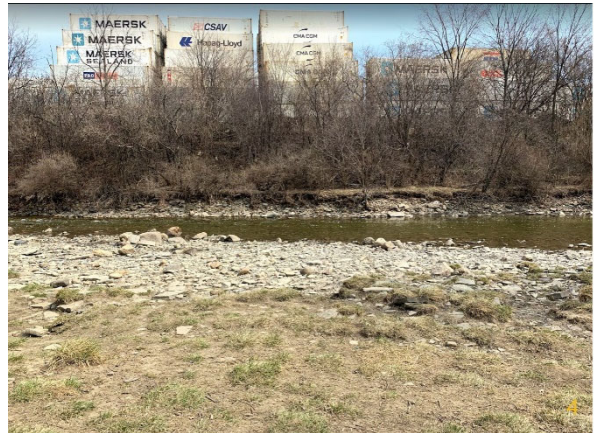


Photo 4: Facing east bank of Etobicoke Creek towards shipping container facility (April 6, 2021).



Photo 5: Open area in park land and floodplain of prior sewer works. Facing northwards. (April 6, 2021).



Photo 6: Restoration plantings on Etobicoke Creek floodplain (April 6, 2021).



Photo 7: View facing northwards towards the western edge of the floodplain of Etobicoke Creek park (April 6, 2021).



Photo 8: Embankment at drop structure area (April 6, 2021).



Photo 9: undermined gabion (April 6, 2021).



Photo 10: west bank of Etobicoke Creek (April 26, 2021).



Photo 11: Eastern Milksnake (May 25, 2021).



Photo 12: Maintenance hole to be decommissioned.



## **Appendix B Species Rank Definitions and Acronyms.**

**Appendix B.**

**Table 1. LGL Ltd. East Trunk Sewer Vascular Plant List**

Int	Scientific Name	Common	GRank	SRank	MNR	COSEWIC	Local Status TRCA 2012
	<i>Acer negundo</i>	Manitoba maple	G5	S5			L+
*	<i>Acer platanoides</i>	Norway maple	G?	SE5			L+
	<i>Acer saccharinum</i>	silver maple	G5	S5			L4
	<i>Acer saccharum</i> var. <i>saccharum</i>	sugar maple	G5T?	S5			L5
	<i>Agrimonia gryposepala</i>	tall hairy agrimony	G5	S5			L5
*	<i>Alliaria petiolata</i>	garlic mustard	G5	SE5			L+
	<i>Anemone canadensis</i>	Canada anemone	G5	S5			L5
*	<i>Bromus inermis</i> ssp. <i>inermis</i>	awnless brome	G4G5T?	SE5			L+
	<i>Circaea lutetiana</i> ssp. <i>canadensis</i>	yellowish enchanter's nightshade	G5T5	S5			L5
	<i>Cornus alternifolia</i>	alternate-leaved dogwood	G5	S5			L5
	<i>Cornus racemosa</i>	red paniced dogwood	G5?	S5			L5
	<i>Cornus sericea</i> ssp. <i>sericea</i>	red-osier dogwood	G5	S5			L5
	<i>Crataegus</i> sp.	hawthorn					
*	<i>Daucus carota</i>	wild carrot	G?	SE5			L+
*	<i>Dipsacus fullonum</i> ssp. <i>sylvestris</i>	wild teasel	G?T?	SE5			L+
	<i>Erythronium americanum</i> ssp. <i>americanum</i>	yellow dog's-tooth violet	G5T5	S5			L5
*	<i>Euonymus europaea</i>	spindle tree	G?	SE2			L+
	<i>Fragaria virginiana</i> ssp. <i>glauca</i>	scarlet strawberry					L5
	<i>Fraxinus americana</i>	white ash	G5	S5			L5
	<i>Fraxinus pennsylvanica</i>	red ash	G5	S5			L5
	<i>Geum aleppicum</i>	yellow avens	G5	S5			L4
	<i>Geum canadense</i>	white avens	G5	S5			L5
*	<i>Hesperis matronalis</i>	dame's rocket	G4G5	SE5			L+

Int	Scientific Name	Common	GRank	SRank	MNR	COSEWIC	Local Status TRCA 2012
	<i>Impatiens capensis</i>	spotted touch-me-not	G5	S5			L5
	<i>Juglans cinerea</i>	butternut	G3G4	S3?	END	END	L3
	<i>Juglans nigra</i>	black walnut	G5	S4			L5
	<i>Juniperus virginiana</i>	eastern red cedar	G5	S5			L5
*	<i>Lonicera tatarica</i>	tartarian honeysuckle	G?	SE5			L+
*	<i>Malus pumila</i>	common apple	G5	SE5			L+
	<i>Ostrya virginiana</i>	ironwood	G5	S5			L5
	<i>Physocarpus opulifolius</i>	ninebark	G5	S5			L3
	<i>Picea glauca</i>	white spruce	G5	S5			L3
	<i>Pinus strobus</i>	eastern white pine	G5	S5			L4
	<i>Populus deltoides</i>	cottonwood	G5T?	S5			L5
	<i>Prunus serotina</i>	black cherry	G5	S5			L5
	<i>Prunus virginiana</i> var. <i>virginiana</i>	choke cherry	G5T?	S5			L5
*	<i>Pyrus communis</i>	common pear	G5	SE4			L+
	<i>Quercus macrocarpa</i>	bur oak	G5	S5			L4
	<i>Quercus rubra</i>	red oak	G5	S5			L4
*	<i>Rhamnus cathartica</i>	common buckthorn	G?	SE5			L+
	<i>Rhus hirta</i>	staghorn sumac	G5	S5			L5
*	<i>Robinia pseudo-acacia</i>	black locust	G5	SE5			L+
*	<i>Rosa multiflora</i>	multiflora rose	G?	SE4			L+
	<i>Rosa</i> sp.	rose					
	<i>Rubus idaeus</i> ssp. <i>strigosus</i>	wild red raspberry	G5T	S5			L5
*	<i>Rumex crispus</i>	curly-leaf dock	G?	SE5			L+
*	<i>Salix fragilis</i>	crack willow	G?	SE5			L+
*	<i>Salix X rubens</i>	reddish willow	HYB	SE4			L+
	<i>Sambucus nigra</i> ssp. <i>canadensis</i>	common elderberry	G5	S5			L5
	<i>Sanguinaria canadensis</i>	bloodroot	G5	S5			L5
*	<i>Scilla siberica</i>	squill	G?	SE2			L+
*	<i>Solanum dulcamara</i>	bitter nightshade	G?	SE5			L+

Int	Scientific Name	Common	GRank	SRank	MNR	COSEWIC	Local Status TRCA 2012
	<i>Solidago canadensis</i>	canada goldenrod	G5	S5			L5
*	<i>Sonchus arvensis</i> ssp. <i>arvensis</i>	field sow-thistle	G?T?	SE5			L+
*	<i>Taraxacum officinale</i>	common dandelion	G5	SE5			L+
	<i>Tilia americana</i>	basswood	G5	S5			L5
*	<i>Tilia cordata</i>	small leaf linden	G?	SE1			L+
	<i>Toxicodendron rydbergii</i>	western poison- ivy	G5T	S5			L5
	<i>Ulmus americana</i>	white elm	G5?	S5			L5
*	<i>Ulmus pumila</i>	Siberian elm	G?	SE3			L+
*	<i>Urtica dioica</i> ssp. <i>dioica</i>	European stinging nettle	G5T?	SE2			L+
	<i>Viola sororia</i>	woolly blue violet	G5	S5			L4
	<i>Vitis riparia</i>	riverbank grape	G5	S5			L5

Table 2. LGL Ltd. East Trunk Sewer Locally Rare Plant List

<b>Scientific Name</b>	<b>Common</b>	<b>MNR</b>	<b>COSEWIC</b>	<b>Local Status TRCA 2021</b>
Juglans cinerea	butternut	END	END	L3
Physocarpus opulifolius	ninebark			L3
Picea glauca	white spruce			L3
Acer saccharinum	silver maple			L4
Geum aleppicum	yellow avens			L4
Pinus strobus	eastern white pine			L4
Quercus macrocarpa	bur oak			L4
Quercus rubra	red oak			L4
Viola sororia	woolly blue violet			L4

## Appendix B Legend

### 1) G-Rank Global Rank

Global ranks are assigned by a consensus of the network of Conservation Data Centres, scientific experts, and the Nature Conservancy to designate a rarity rank based on the range-wide status of a species, subspecies or variety.

G1=

Extremely rare; usually 5 or fewer occurrences in the overall range or very few remaining individuals; or because of some factor(s) making it especially vulnerable to extinction.

G2 = Very rare; usually between 5 and 20 occurrences in the overall range or with many individuals in fewer occurrences; or because of some factor(s) making it vulnerable to extinction.

G3 = Rare to uncommon; usually between 20 and 100 occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances.

G4 = Common; usually more than 100 occurrences; usually not susceptible to immediate threats.

G5 = Very common; demonstrably secure under present conditions.

GH = Historic, no records in the past 20 years.

GU = Status uncertain, often because of low search effort or cryptic nature of the species; more data needed.

GX = Globally extinct. No recent records despite specific searches.

? = Denotes inexact numeric rank (i.e. G4?).

G" " = A "G" (or "T") followed by a blank space means that the NHIC has not yet obtained the Global Rank from The Nature Conservancy.

G? = Unranked, or, if following a ranking, rank tentatively assigned (e.g. G3?).

Q = Denotes that the taxonomic status of the species, subspecies, or variety is questionable.

T = Denotes that the rank applies to a subspecies or variety.

### 2) S-Rank Provincial Rank

Provincial (or Sub-national) ranks are used by the Ontario Ministry of Natural Resources Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for the global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated list at least annually.

S1 = Critically imperiled in Ontario because of extreme rarity (often 5 or fewer occurrences) or because of some factor (s) such as very steep declines making it especially vulnerable to extirpation.

S2 = Imperiled in Ontario because of rarity due to very restricted range, very few populations (often 20 or fewer occurrences) steep declines or other factors making it very vulnerable to extirpation.

S3 = Vulnerable in Ontario due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 = Apparently secure - uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 = Secure - common, widespread, and abundant in Ontario.

SX = Presumed Extirpated - specie or community is believed to be extirpated from Ontario.  
SNR = Unranked - conservation status in Ontario not yet assessed  
SU = Unrankable - currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

SNA = Not applicable - a conservation status rank is not applicable because the species is not a suitable target for conservation activities.

S#S# = Range rank - a numeric range rank (e.g. S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g. SU is used rather than S1S4).

### 3) COSEWIC Committee On The Status Of Endangered Wildlife in Canada

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the national status of wild species that are considered to be at risk in Canada.

Extinct (X) A wildlife species that no longer exists.  
Extirpated (XT) A wildlife species no longer existing in the wild in Canada, but occurring elsewhere.  
Endangered (E) A wildlife species facing imminent extirpation or extinction.  
Threatened (T) A wildlife species likely to become endangered if limiting factors are not reversed.  
Special Concern (SC) A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.  
Not at Risk (NAR) A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.  
Data Deficient (DD) A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

### 4) COSSARO/OMNR Committee On The Status Of Species At Risk In Ontario/Ontario Ministry Of Natural Resources

The Committee on the Status of Species at Risk in Ontario (COSSARO)/Ontario Ministry of Natural Resources (OMNR) assess the provincial status of wild species that are considered to be at risk in Ontario.

Extinct (EXT) A species that no longer exists anywhere.  
Extirpated (EXP) A species that no longer exist in the wild in Ontario but still occurs elsewhere.  
Endangered (Regulated) (END-R) A species facing imminent extinction or extirpation in Ontario which has been regulated under Ontario's *Endangered Species Act*.  
Endangered (END) A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's *Endangered Species Act*.  
Threatened (THR) A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.  
Special Concern (SC) A species with characteristics that make it sensitive to human activities or natural events.  
Not at Risk (NAR) A species that has been evaluated and found to be not at risk.  
Data Deficient (DD) A species for which there is insufficient information for a provincial status recommendations.

**5) Local Status - Toronto**

x Species status was cross-referenced with the Ontario status list to determine vascular plant status for the study area.

Plant rarity is based on the number of occurrences within the physiographic region. The following species status was taken from TRCA Flora Species (2012).

**Toronto and Region Conservation Authority (TRCA) Regional Species Status**

RANK	LEVEL OF CONSERVATION CONCERN IN TRCA REGION
L5	Able to withstand high levels of disturbance; generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas.
L4	Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix.
L3	Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern.
L2	Unable to withstand disturbance; some criteria are very limiting factors; generally occur in high-quality natural areas, in natural matrix; probably rare in the TRCA jurisdiction; of concern regionally.
L1	Unable to withstand disturbance; many criteria are limiting factors; generally occur in high-quality natural areas in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally.
LX	Extirpated from our region with remote chance of rediscovery. Presumably highly sensitive.
LH	Hybrid between two native species. Usually not scored unless highly stable and behaves like a species (e.g. <i>Equisetum x nelsonii</i> )
L+	Exotic. Not native to TRCA jurisdiction. Includes hybrids between a native species and an exotic
L+?	Origin uncertain or disputed, i.e. may or may not be native.



## Appendix C Acronyms and Definitions Used in Species Lists

### Species Rank

GRANK	Global Rank
<p>Global ranks are assigned by a consensus of the network of Conservation Data Centres, scientific experts, and The Nature Conservatory to designate a rarity rank based on the range-wide status of a species, subspecies or variety.</p> <p>The most important factors considered in assigning global ranks are the total number of known, extant sites world-wide, and the degree to which they are potentially or actively threatened with destruction. Other criteria include the number of known populations considered to be securely protected, the size of the various populations, and the ability of the taxon to persist at its known sites. The taxonomic distinctness of each taxon has also been considered. Hybrids, introduced species, and taxonomically dubious species, subspecies and varieties have not been included.</p>	
Short Form	Definition
G1	<b>Extremely rare;</b> usually 5 or fewer occurrences in the overall range or very few remaining individuals; or because of some factor(s) making it especially vulnerable to extinction.
G2	<b>Very rare;</b> usually between 5 and 20 occurrences in the overall range or with many individuals in fewer occurrences; or because of some factor(s) making it vulnerable to extinction.
G3	<b>Rare to uncommon;</b> usually between 20 and 100 occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances.
G4	<b>Common;</b> usually more than 100 occurrences; usually not susceptible to immediate threats.
G5	<b>Very common;</b> demonstrably secure under present conditions.
GH	Historic, no records in the past 20 years.
GU	Status uncertain, often because of low search effort or cryptic nature of the species; more data needed.

GX	Globally extinct. No recent records despite specific searches.
?	Denotes inexact numeric rank (i.e. G4?).
G	A "G" (or "T") followed by a blank space means that the NHIC has not yet obtained the Global Rank from The Nature Conservancy.
G?	Unranked, or, if following a ranking, rank tentatively assigned (e.g. G3?).
Q	Denotes that the taxonomic status of the species, subspecies, or variety is questionable.
T	Denotes that the rank applies to a subspecies or variety.

SRANK	Provincial Rank
<p>Provincial (or Sub-national) ranks are used by the Ontario Ministry of Natural Resources Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated lists at least annually.</p>	
Short Form	Definition
S1	<b>Critically Imperiled</b> in Ontario because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation.
S2	<b>Imperiled</b> in Ontario because of rarity due to very restricted range, very few populations (often 20 or fewer occurrences) steep declines or other factors making it very vulnerable to extirpation.
S3	<b>Vulnerable</b> in Ontario due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

<b>SRANK</b>	<b>Provincial Rank</b>
<p>Provincial (or Sub-national) ranks are used by the Ontario Ministry of Natural Resources Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated lists at least annually.</p>	
<b>Short Form</b>	<b>Definition</b>
S4	<b>Apparently Secure</b> —Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5	<b>Secure</b> —Common, widespread, and abundant in Ontario.
SX	<b>Presumed Extirpated</b> – Species or community is believed to be extirpated from Ontario.
SH	<b>Possibly Extirpated</b> – Species or community occurred historically in Ontario and there is some possibility that it may be rediscovered.
SNR	<b>Unranked</b> —Conservation status in Ontario not yet assessed
SU	<b>Unrankable</b> —Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA	<b>Not Applicable</b> —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#S#	<b>Range Rank</b> —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

<b>COSEWIC</b>	<b>Committee on the Status of Endangered Wildlife in Canada</b>
<p>The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the national status of wild species that are considered to be at risk in Canada.</p>	
<b>Status</b>	<b>Definition</b>

Extinct (X)	A wildlife species that no longer exists.
Extirpated (XT)	A wildlife species no longer existing in the wild in Canada, but occurring elsewhere.
Endangered (E)	A wildlife species facing imminent extirpation or extinction.
Threatened (T)	A wildlife species likely to become endangered if limiting factors are not reversed.
Special Concern (SC)	A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.
Not at Risk (NAR)	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient (DD)	A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

<b>COSSARO/OMNR</b>	<b>Committee on the Status of Species at Risk in Ontario/Ontario Ministry of Natural Resources</b>
The Committee on the Status of Species at Risk in Ontario (COSSARO)/Ontario Ministry of Natural Resources (OMNR) assesses the provincial status of wild species that are considered to be at risk in Ontario.	
<b>Status</b>	<b>Definition</b>
Extinct (EXT)	A species that no longer exists anywhere.
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Endangered (END)	A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's <i>Endangered Species Act</i> .
Threatened (THR)	A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.
Special Concern (SC)	A species with characteristics that make it sensitive to human activities or natural events.
Not at Risk (NAR)	A species that has been evaluated and found to be not at risk.
Data Deficient (DD)	A species for which there is insufficient information for a provincial status recommendation.

### Species Status under Federal Legislation

<b>MBCA</b>	<b>Migratory Birds Convention Act</b>
The Canada <i>Migratory Birds Convention Act</i> provides for the protection of migratory birds in Canada and the United States. The provisions of this Act are implemented through the Migratory Bird Regulations.	

Bird species that are regulated under the *Migratory Birds Convention Act* are noted in the applicable species lists.

<b>SARA</b>	<b>Species at Risk Act</b>
	<p>The Canada <i>Species at Risk Act</i> provides a framework for actions across Canada to ensure the survival of wildlife species and the protection of our natural heritage. It sets out how to decide which species are a priority for action and what to do to protect a species. It identifies ways governments, organizations and individuals can work together, and it establishes penalties for a failure to obey the law. Regulated species are listed in Schedules 1, 2 and 3 of the Act.</p>
<p>Schedule 1 SARA (1)</p>	<p>Species that are currently covered under the Act.</p>
<p>Schedule 2 SARA (2)</p>	<p>Species that are endangered or threatened that have not been re-assessed by COSEWIC for inclusion on Schedule 1.</p>
<p>Schedule 3 SARA (3)</p>	<p>Species that are of special concern that have not yet been re-assessed by COSEWIC for inclusion on Schedule 1.</p>

**Species Status under Provincial Legislation**

<b>ESA</b>		<b>Endangered Species Act</b>
<p>The Ontario <i>Endangered Species Act</i> provides for the conservation, protection, restoration and propagation of species of fauna and flora of the Province of Ontario that are threatened with extinction. Regulated species are listed in Ontario Regulation 338.</p>		
<b>Schedule No.</b>	<b>Short Form</b>	<b>Status</b>
Schedule 1 ESA (1)	EXT	The species of flora and fauna listed in Schedule 1 are declared to be threatened with extinction.
Schedule 2 ESA (2)	EXP	The species of flora and fauna listed in Schedule 2 are declared to be extirpated.
Schedule 3 ESA (3)	END	The species of flora and fauna listed in Schedule 3 are declared to be endangered.
Schedule 4 ESA (4)	THR	The species of flora and fauna listed in Schedule 4 are declared to be threatened.
Schedule 5 ESA (5)	SC	The species of flora and fauna listed in Schedule 5 are declared to be special concern.

FWCA	Fish and Wildlife Conservation Act	
<p>The Ontario <i>Fish and Wildlife Conservation Act</i> outlines the restrictions for hunting, trapping and fishing; handling of live wildlife; sale, purchase and transport of wildlife; and, licences that can be secured under the Act. Under Schedules 1 to 11 of the Act, wildlife are grouped for the purpose of regulating these species. These schedules are further defined below.</p>		
<p>Note: where there is a conflict between this Act and the Ontario <i>Endangered Species Act</i>, the provision with the most protection will prevail (s. 2 of the <i>Fish and Wildlife Conservation Act</i>).</p>		
Schedule No.	Short Form	Status
Schedule 1	Furbearing – M	The species of fauna listed in Schedule 1 are declared to be furbearing mammals.
Schedule 2	Game – M	The species of fauna listed in Schedule 2 are declared to be game mammals.
Schedule 3	Game – B	The species of fauna listed in Schedule 3 are declared to be game birds.
Schedule 4	Game – R	The species of fauna listed in Schedule 4 are declared to be game reptiles.
Schedule 5	Game – A	The species of fauna listed in Schedule 5 are declared to be game amphibians.
Schedule 6	Specially Protected – M	The species of fauna listed in Schedule 6 are declared to be specially protected mammals.
Schedule 7	Specially Protected – R	The species of fauna listed in Schedule 7 are declared to be specially protected birds (raptors).
Schedule 8	Specially Protected – B	The species of fauna listed in Schedule 8 are declared to be specially protected birds (other than raptors).
Schedule 9	Specially Protected – R	The species of fauna listed in Schedule 9 are declared to be specially protected reptiles.



<b>FWCA</b>	<b>Fish and Wildlife Conservation Act</b>	
<p>The Ontario <i>Fish and Wildlife Conservation Act</i> outlines the restrictions for hunting, trapping and fishing; handling of live wildlife; sale, purchase and transport of wildlife; and, licences that can be secured under the Act. Under Schedules 1 to 11 of the Act, wildlife are grouped for the purpose of regulating these species. These schedules are further defined below.</p> <p>Note: where there is a conflict between this Act and the Ontario <i>Endangered Species Act</i>, the provision with the most protection will prevail (s. 2 of the <i>Fish and Wildlife Conservation Act</i>).</p>		
<b>Schedule No.</b>	<b>Short Form</b>	<b>Status</b>
Schedule 10	Specially Protected – A	The species of fauna listed in Schedule 10 are declared to be specially protected amphibians.
Schedule 11	Specially Protected – I	The species of fauna listed in Schedule 11 are declared to be specially protected invertebrates.

### Local Species Status

<b>BSC</b>	<b>Bird Studies Canada</b>
<p>The Bird Studies Canada <i>Conservation Priorities for the Birds of Southern Ontario</i> (1999), based on work completed by Bird Studies Canada, the Canadian Wildlife Service and the MNR identifies bird species of high conservation priority. This list was prepared to assist municipalities in identifying significant natural heritage features, through using the information regarding the presence of birds of conservation priority in their municipality.</p> <p>Birds of conservation priority have been noted (BSC) in the appropriate species lists.</p>	

<b>Local</b>
<b>SWH (Significant Wildlife Habitat)</b>
Indicator species of woodland area-sensitive bird breeding habitat

**INT (Interior Forest Species)**

Indicator species of interior forest bird breeding habitat

# Appendix B – Fluvial Geomorphological and Erosion Hazard Assessment

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# East Trunk Sanitary Sewer

## Fluvial Geomorphological and Erosion Hazard Assessment

### Etobicoke Creek, City of Mississauga



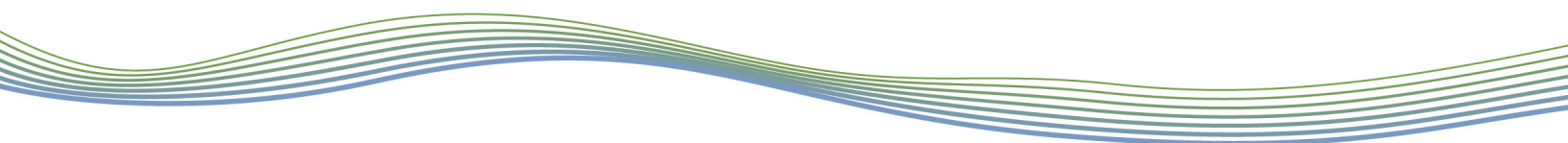
Prepared for:  
Region of Peel  
c/o IBI Group  
70 Valleywood Drive  
Markham Ontario L3R 4T5

June 23, 2021  
PN21027

**GEO**

**M O R P H I X**

Geomorphology  
Earth Science  
Observations



Report Prepared by: GEO Morphix Ltd.  
36 Main Street North, PO Box 205  
Campbellville, ON L0P 1B0

Report Title: East Trunk Sanitary Sewer  
Fluvial Geomorphological and Erosion Hazard  
Assessment

Project Number: PN21027

Status: Final

Version: 1.0

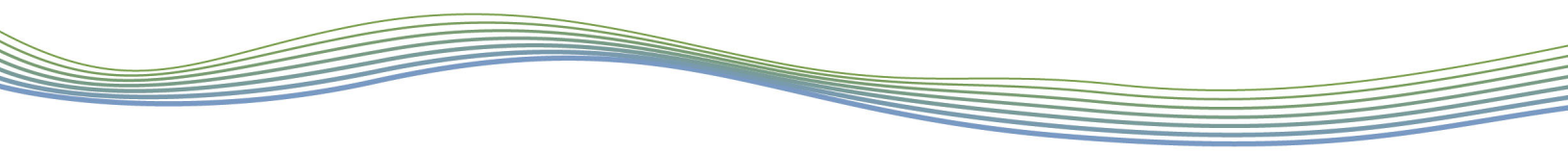
First Submission Date: June 23, 2021

Revision Date --

Prepared by: Suzanne St. Onge, M.Sc., Tye Rusnak, B.Sc. Env.

Approved by: Paul Villard, Ph.D., P.Geo., CAN-CISEC, EP, CERP

Approval Date: June 23, 2021



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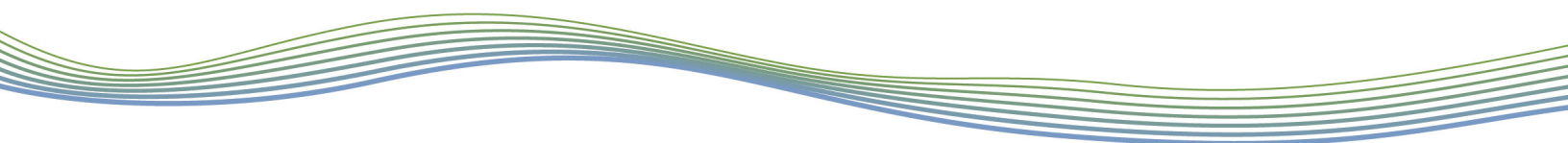
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## Appendices

- Appendix A Historical Aerial Imagery
- Appendix B Historical Channel Position
- Appendix C Reach Map
- Appendix D Photographic Record
- Appendix E Field Sheets
- Appendix F Detailed Assessment Summary



Appendix G Erosion Hazard Envelope  
Appendix H Vegetated Rock Buttress Detail



## 1 Introduction

The Region of Peel wastewater system has two main trunk systems. The west trunk system conveys flows along and adjacent to the Credit River Valley to the Clarkson Wastewater Treatment Plant. The east trunk system, commonly called the East Trunk Sanitary Sewer (ETSS), conveys flows along and in vicinity of the Etobicoke Creek valley to the G.E. Booth Wastewater Treatment Plant. Forecasted growth within the Region of Peel to 2041 and beyond requires expansion and enhancement of infrastructure to accommodate the projected near future flow capacity of their waste systems. As such, the Region of Peel is undertaking a Schedule B Municipal Class Environmental Assessment (EA), and detailed design for an ETSS offline storage facility in the City of Mississauga. The study area is located within the Etobicoke Valley Park near the municipal boundary with the City of Toronto.

Inspections of the ETSS and associated energy dissipation chamber (EDC) within the study area between 1999 and 2006 indicated that this infrastructure was extensively corroded and in poor condition due to hydrogen sulfide (H<sub>2</sub>S) generation. A Class EA was subsequently carried out by the Region in 2008 to investigate renewal of this section of trunk sewer to address concerns that potential failure would result in the discharge of raw sewage to Etobicoke Creek or flows from Etobicoke Creek entering the ETSS. Following recommendations in the Class EA, a portion of the ETSS was abandoned and a new 2,100 mm diameter parallel trunk sewer was constructed in 2010 (**Figure 1**).

A Feasibility Study was then completed by IBI Group in 2020 to investigate alternatives for adding capacity to the ETSS. Recommendations included decommissioning of the previously abandoned trunk sewer and EDC and the implementation of large diameter storage pipes. The requirement for a Schedule B Class EA was identified in the Feasibility Study and a geomorphic assessment was recommended to determine the extent of the erosion hazard associated with Etobicoke Creek and provide recommendations for bank stabilization.

GEO Morphix Ltd (GEO Morphix) is part of the multi-disciplinary team supporting the Class EA and detailed design of the ETSS offline storage facility and decommissioning of the abandoned section of sewer and EDC. The following tasks have been completed in support of the fluvial geomorphic assessment:

- Review of previously completed reporting and geologic and topographic mapping relevant to channel form and function
- Confirm reach breaks delineated by others in the context of the current assignment
- Review historical and recent aerial photographs and confirm the hazard envelope in vicinity of existing and proposed infrastructure
- Conduct reach-based rapid field reconnaissance along Etobicoke Creek with a focus on areas adjacent to the abandoned sewer line and maintenance access to characterize instream conditions, identify dominant systematic adjustments and delineate areas of erosion concern
- Conduct a detailed geomorphic assessment including a survey of the longitudinal profile, channel planform, and cross sections
- Collect detailed measurements and observations of riparian conditions, bank conditions, and channel substrate
- Prepare technical reporting and mapping to characterize existing conditions, the limit of the erosion hazard, and recommendations for bank and channel stabilization measures to protect existing and proposed infrastructure





**Etobicoke Creek East Trunk Sanitary Sewer**  
**Existing Infrastructure**  
 Region of Peel, Ontario

**Legend**

- ⊕ Exposed Sanitary Manhole
- Sanitary Manhole
- ⊙ Storm Sewer Outfall
- 1 m Contour
- Storm Sewer
- In-Service Sanitary Sewer
- - - Abandoned Sanitary Sewer
- Watermain
- Abandoned Energy Dissipation Chamber



## 2 Previous Studies

### 2.1 Renewal of Etobicoke Creek Sanitary Trunk Sewer Municipal Class Environmental Assessment

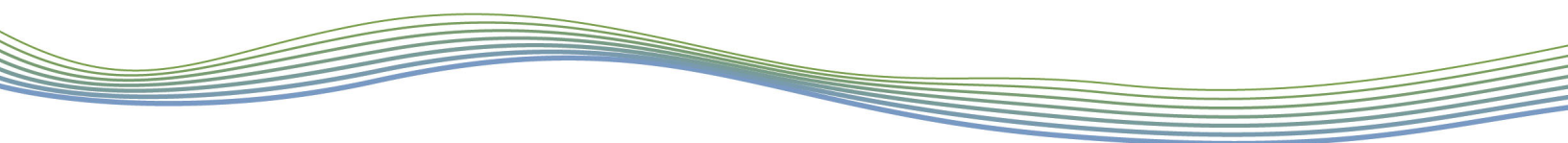
As noted previously, a Schedule B Municipal Class EA was undertaken by the Region of Peel to address concerns regarding the poor structural condition of the EDC south of Southcreek Road and trunk sewer immediately downstream. The trunk sewer downstream of the EDC was also vulnerable to erosion due to its proximity to Etobicoke Creek. In 2002, the Region installed temporary bank stabilization works to protect an exposed maintenance access in the bank of Etobicoke Creek, although the upper 2 m of the maintenance access chimney remained exposed and vulnerable to flooding and ongoing bank erosion (R.V. Anderson Associates Limited, 2008). In addition, the bank stabilization works were observed to locally redirect flows and exacerbate erosion upstream of the maintenance access. Five alternatives were evaluated according to natural environment, social/cultural environment, economic/financial, legal/jurisdictional and technical criteria. Construction of a new trunk sewer and drop structure in Etobicoke Valley Park and abandonment of the EDC and a portion of the downstream ETSS was selected as the preferred alternative.

As part of the Class EA, a geomorphic assessment was completed between Dundas Street East and the CP Rail Line to estimate the 100-year erosion rate and delineate the meander belt width. The field assessment, completed in the late fall of 2007, indicated that Etobicoke Creek was in a state of active adjustment due to urbanization and historical channel alterations, as shown by increases in cross-section area and evidence of planform adjustment (i.e., increase in meander amplitude) (Parish Geomorphic Ltd, 2008). A preliminary belt width of 125 m was delineated by drawing tangential lines along the outside bends of the laterally extreme meanders following valley central tendency. The 100-year erosion rate was calculated using available aerial photographs from 1978 onwards and applied as a factor of safety. This period of record was used as the channel was realigned and hardened between 1964 and 1978. Migration rates ranged from 0.06 m/yr to 0.44 m/yr resulting in an average 100-year erosion rate of 21 m. The 100-year erosion rate was then applied to both sides of the meander belt width, resulting in a final belt width of 167 m (Parish Geomorphic Ltd, 2008). The delineated meander belt width provides limited guidance as it simply confirms that the existing and proposed infrastructure are located within the limits of the long-term erosion hazard.

Two restoration options were provided to protect the maintenance access and the trunk sewer adjacent to Etobicoke Creek. The first alternative was to repair the existing bank stabilization measures and install offset protection along the sewer alignment. The second alternative was to realign the channel and install spurs along the bank for flow training. A monitoring program was also recommended along the sewer alignment to identify any risks to infrastructure over the long-term, which included the collection of a monumented photographic record or annual cross section measurements (Parish Geomorphic Ltd, 2008).

### 2.2 Condition Assessment and Feasibility Study

Following recommendations in the Class EA, a 439 m section of sewer was abandoned in 2010 through the construction of a 2,100 mm diameter concrete pressure pipe and T-Lock protective liner (**Figure 1**). In 2020, IBI Group completed a Feasibility Study on behalf of the Region of Peel to identify if and how the existing abandoned ETSS could be utilized for the storage of peak flows. The most recent condition assessment, which was completed in 2019, indicated that while the EDC and ETSS were in bad condition with severe levels of corrosion, the EDC and ETSS saw little advancement in corrosion from the previous assessment, which was completed in 2012. In



addition, the condition assessment of the operating portion of the ETSS revealed the sewer was in good condition.

Five alternatives were developed and evaluated, and replacement of the EDC and construction of a new storage system was identified as the preferred solution. Several different configurations for the new storage system were evaluated as part of the conceptual design process, including the installation of storage tanks or parallel pipes. Each configuration had common design elements, which included demolition and removal of the existing EDC and installation of a vortex drop structure, retrofitting the existing diversion chamber, and demolition and decommissioning of the abandoned section of the ETSS. Decommissioning of the abandoned trunk sewer included a combination of removal and grout filling. The section of abandoned sewer closest to Etobicoke Creek was proposed for decommissioning by filling it with a cementitious grout material to eliminate the risk of collapse and mitigate environmental impacts. The remaining sections of abandoned sewer were to be removed offsite. Consideration was also to be given to relocation of the existing 975 mm storm sewer to minimize conflicts with the proposed storage facility.

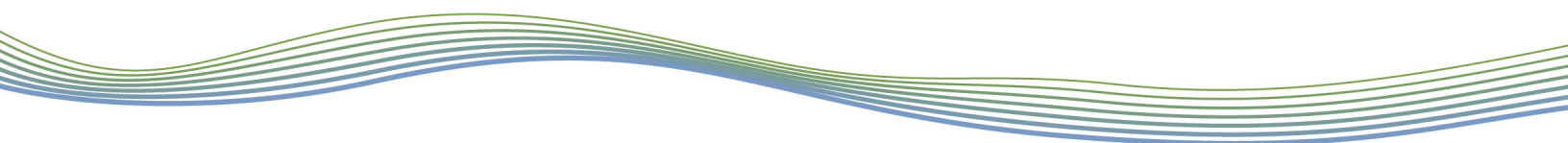
Each option considered in the Feasibility Study was identified as requiring bank stabilization works. A geotechnical slope stability study was completed by Peto MacCallum Ltd (2020) along Etobicoke Creek in vicinity of the maintenance access and abandoned portion of the ETSS. The assessment evaluated existing conditions from a geotechnical perspective due to the potential for the section of abandoned sewer to be compromised. Results indicated that Etobicoke Creek showed failures in the form of sloughing and undercutting due to water action erosion, stream erosion, and gully and rill erosion. Future study requirements identified as part of the slope stability study and the larger Feasibility Study included a geomorphological assessment to determine the extent of the erosion hazard and to provide recommendations for bank stabilization, which is addressed herein.

### 3 Site History

A series of historical aerial photographs were reviewed to determine changes to the channel and surrounding land use and land cover. This information, in part, provides an understanding of the historical factors that have contributed to current channel morphodynamics and potentially how past changes may affect channel planform in the future. Aerial photographs from the City of Toronto were reviewed for multiple years between 1939 and 2018 to understand site history. Copies of select imagery are provided in **Appendix A** for reference.

In 1939, the study area and upstream lands were dominated by agriculture. The riparian area was cultivated to the channel edge in multiple locations, although within the study area the riparian zone was largely forested. Development began to encroach towards the channel from the southeast by 1954, with forest vegetation cleared from large areas on the tablelands. Construction of Highway 427 and the interchange with Dundas Street were also underway east of Etobicoke Creek by 1954.

Significant changes in land use occurred between 1954 and 1965. Natural riparian vegetation had been largely cleared from the south side of Etobicoke Creek and portions of the channel had been straightened within and upstream of the study area. Grading within the floodplain was also likely completed to accommodate development on the east side of Etobicoke Creek. Additional roadways including portions of what are now The West Mall, Manstor Drive and Westside Drive were constructed during this time period. Residential developments had also replaced agricultural lands northeast (upstream) and southwest (downstream) of the study area. Given the timing of their construction it is assumed that these adjacent developments lacked appropriate stormwater management controls.



Industrial development and the associated road network expanded further between 1965 and 1978, including construction of The West Mall in its current alignment. Erosion control measures were apparent along the eastern channel bank of Etobicoke Creek adjacent to The West Mall in the 1978 image. Modification of Etobicoke Creek is also apparent along a meander upstream of the study area south of Dundas Street West. In addition, the remaining natural woody vegetation on the north side of the Etobicoke Creek corridor had been cleared. This was likely completed to facilitate installation of the ETSS and associated infrastructure. Industrial/commercial development had also expanded towards Etobicoke Creek, particularly near the upstream limit of the study area.

Between 1978 and 2005 industrial and commercial development expanded further, with the construction of several facilities along Dundas Street and encroachment of development to the top of slope on the east side of Etobicoke Creek. By 2005, relatively narrow areas of woody riparian vegetation had been permitted to establish adjacent to the channel. This may have resulted in local improvements to bank stability. Since 2005 there have been no significant changes to channel planform or surrounding land uses within or upstream of the study area.

To support the analysis of changes to channel planform and delineation of the hazard envelope, channel position was digitized for select years between 1965 and 2018 (**Appendix B**). Between 1965 and 1978 the large meander in the central portion of the study area had migrated to the northwest, while there was limited change in channel position south of Southcreek Road. This meander migration pattern generally persisted between 1978 and 1992. Between 1992 and 2011, the meander had continued to migrate to the northwest; however, erosion control measures were installed to protect the exposed manhole in 2002. When 2011, 2015 and 2018 imagery was compared channel migration was limited, suggesting that the erosion control measures installed in 2002 may have locally stabilized the channel.

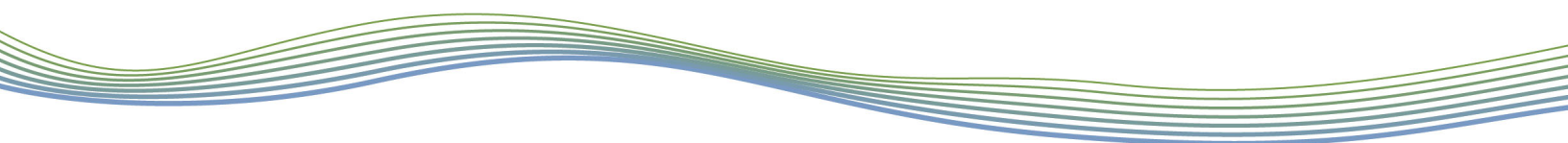
## 4 Watershed Characteristics

The Etobicoke Creek watershed originates in the Oak Ridges Moraine and traverses Brampton, Caledon, Mississauga and Toronto, eventually outletting to Lake Ontario. It has a drainage area of approximately 211 km<sup>2</sup> and is largely urbanized, with often limited or outdated stormwater management measures (TRCA, 2018 and TRCA, 2010). Only approximately 45% of the watershed contains natural riparian vegetation (TRCA, 2010). The combination of urbanization (i.e., increased impervious surfaces) and inadequate stormwater management measures has led to degraded water quality and significant instream erosion. Analyses completed by the TRCA (2010) indicated that mean streamflow has increased by 44% over the past 40 years and has continued to accelerate (TRCA, 2010).

### 4.1 Physiography and Geology

Channel morphodynamics are largely governed by the flow regime and the availability and type of sediments (i.e., surficial geology) within the stream corridor. These factors are explored as they not only offer insight into existing conditions, but also potential changes that could be expected in the future as they relate to a proposed activity.

The study area is located the Lower Etobicoke Creek subwatershed in proximity to the transition between the South Slope and Iroquois Plain physiographic regions (Chapman and Putnam, 1984). Physiographic landform mapping shows an east-west beach form in vicinity of Dundas Street East, and a sand plain to the south, which extends to south of Queen Elizabeth Way (Chapman and Putnam, 2007).



Published surficial geology mapping indicates that the section of Etobicoke Creek within the study area flows through modern alluvial deposits comprised of clay, silt, sand, and gravel. Shale bedrock is mapped near the downstream extent of the study area. Clay to silt-textured till and coarse-textured glaciolacustrine deposits comprised of sand, gravel, minor silt and clay are located on the tablelands (OGS, 2010).

This mapping is generally consistent with geotechnical and hydrogeological conditions documented in the Class EA (R.V. Anderson Associates Limited, 2008) and Feasibility Study (IBI Group, 2020). Local soils are generally composed of a thin layer of topsoil (< 10 mm thick), underlain by a layer of fill (0.7 m to 2.1 m thick). These materials overly shallow overburden (0.7 m to 0.8 m thick) comprised of well-graded sandy silt to clayey silt, followed by thick sand and gravel deposits (0.5 m to 1.8 m thick). Shale bedrock ranged in depth from 3.4 m to 3.8 m within the floodplain (IBI Group, 2020).

## 5 Watercourse Characteristics

### 5.1 Reach Delineation

Reaches are homogeneous segments of channel used in geomorphological investigations. They are studied semi-independently as each is expected to function in a manner that is at least slightly different from adjoining reaches. This allows for the meaningful characterization of a watercourse as the aggregate of reaches, or an understanding of a particular reach, for example, as it relates to a proposed activity. Reaches are typically delineated based on changes in the following:

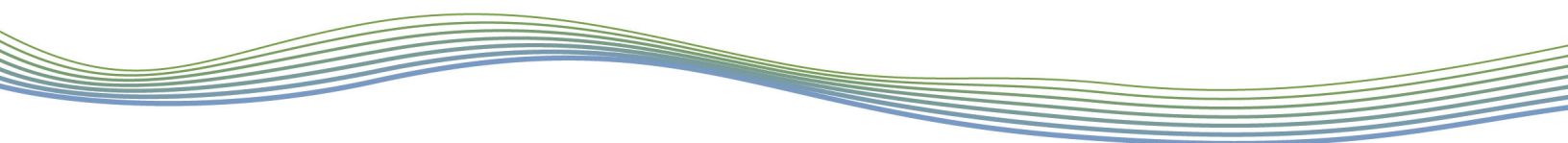
- Channel planform
- Channel gradient
- Physiography
- Land cover (land use or vegetation)
- Flow, due to tributary inputs
- Soil type and surficial geology
- Certain types of anthropogenic channel modifications

This follows scientifically defensible methodology proposed by Montgomery and Buffington (1997), Richards et al. (1997), Brierley and Fryirs (2005), and the Toronto and Region Conservation Authority (2004). A single reach, extending from Dundas Street to the CPR bridge, was previously delineated in the geomorphic assessment completed as part of the Class EA (PARISH Geomorphics Ltd, 2008) and was carried forward to the current study for consistency. A reach map is provided in **Appendix C**. The desktop and field components of this study focused on the area of concern in vicinity of the abandoned portion of the ETSS.

### 5.2 General Reach Observations

Field reconnaissance was completed on April 7, 2021 and included the following activities:

- Observations of riparian conditions
- Estimates of bankfull channel dimensions
- Characterization of bed and bank material composition and structure
- Observations of erosion, scour, or deposition
- Collection of georeferenced photographs



These observations and measurements are summarized below. The description is supplemented and supported with representative photographs, which are included in **Appendix D**. Reach summary field sheets are provided in **Appendix E**.

The channel contained riffle and pool morphology, with riffle substrate comprised of gravel, cobble, boulders, and exposed shale, while pools contained sand, gravel, cobble and exposed shale. Bankfull channel width ranged from approximately 19.7 m to 31.5 m, with an average of 25.1 m. Maximum bankfull depth ranged from approximately 1.2 m to 1.7 m. Bank angles were relatively steep, ranging from 60° to 90°, and bank erosion was observed along 30% to 60% of the length of channel assessed. Leaning trees and exposed tree roots were present, along with scour along both sides of the channel through riffles. Existing erosion control measures were outflanked (e.g., armourstone retaining wall near The West Mall) and sediment deposition was observed in the overbank zone.

The erosion protection measures installed in 2002 were in fair condition, with significant bank scour downstream of the erosion protection, maintenance access and storm sewer outfall. Channel erosion in vicinity of the storm sewer outfall and the orientation of the erosion control measures currently redirects flows to the opposite channel bank. The upstream wingwall of the storm sewer outfall also protrudes into the channel and is vulnerable to continued erosion.

### 5.3 Rapid Field Reconnaissance

Channel instability was semi-quantified through the application of the Rapid Geomorphic Assessment (RGA), where appropriate (MOE, 2003). Observations were quantified using an index that identifies channel sensitivity based on evidence of aggradation, degradation, channel widening, and planimetric form adjustment. The index produces values that indicate whether the channel is stable/in regime (score <0.20), stressed/transitional (score 0.21-0.40) or adjusting (score >0.41).

The Rapid Stream Assessment Technique (RSAT) is typically used to provide a broader view of the system and considers the ecological function of the watercourse (Galli, 1996). Observations regarding channel stability, channel scouring or sediment deposition, instream and riparian habitats, and water quality are collected to generate a score that ranks the channel as maintaining a poor (<13), fair (13-24), good (25-34), or excellent (35-42) degree of stream health.

Reaches were also classified according to a modified Downs (1995) Channel Evolution Model and the River Styles Framework (Brierley and Fryirs, 2005). The Downs (1995) model describes successional stages of a channel as a result of a perturbation, namely hydromodification. Understanding the current stage of the system is beneficial as this allows one to predict how the channel will continue to evolve or respond to an alteration to the system. The River Styles Framework (Brierley and Fryirs, 2005) provides a geomorphological approach to examining river character, behaviour, condition, and recovery potential.

The results of the RGA indicate that the channel is in transition, with a score of 0.34. The dominant systematic adjustment was evidence of channel widening; however, channel degradation and aggradation also scored relatively high due to the presence of medial bars, overbank deposits and exposed shale in the channel bed. The RSAT results indicate the channel is in overall good health, with a score of 25. The dominant limiting factors were riparian habitat, channel stability and channel scouring. The reach was assigned a Downs (1995) classification of 'M', due to evidence of lateral migration.

## 5.4 Detailed Geomorphological Assessment

A detailed geomorphological assessment was completed on April 7, 2021 within **Reach EC-1** to help inform any recommended bank stabilization measures. The assessment included a longitudinal survey of the channel bed and water level to determine gradients, and the completion of seven detailed cross-section surveys. Two of these cross-sections were monumented and included the installation of erosion pins. At each cross section, bankfull geometry was recorded, as well as riparian conditions, bank material, bank height/angle, the presence of undercutting, and bank root density. Characterization of channel bed material at each cross section was completed using a modified Wolman (1954) pebble count technique. Photographs of each cross section and both channel banks were also collected at the time of the survey. Results from the detailed assessment are presented in **Table 1**. A summary of the detailed assessment is provided in **Appendix F**.

**Table 1: Measured and calculated bankfull channel parameters according to existing conditions along Reach EC-1**

Channel Parameter	EC-1
Measured	
Average bankfull channel width (m)	25.10
Average bankfull channel depth (m)	0.87
Average cross-sectional area (m <sup>2</sup> )	21.33
Bankfull channel gradient (%)	0.56
D <sub>50</sub> (mm)	48.0
D <sub>84</sub> (mm)	179.0
Manning's n roughness coefficient	0.038
Computed	
Bankfull discharge (m <sup>3</sup> /s)*	39.40
Average bankfull velocity (m/s)*	1.80
Unit stream power at bankfull (W/m <sup>2</sup> )	86.21
Tractive force at bankfull (N/m <sup>2</sup> )	47.95
Critical shear stress (N/m <sup>2</sup> ) **	3.96
Flow competency for D <sub>50</sub> (m/s) ***	1.17
Flow competency for D <sub>84</sub> (m/s) ***	2.15

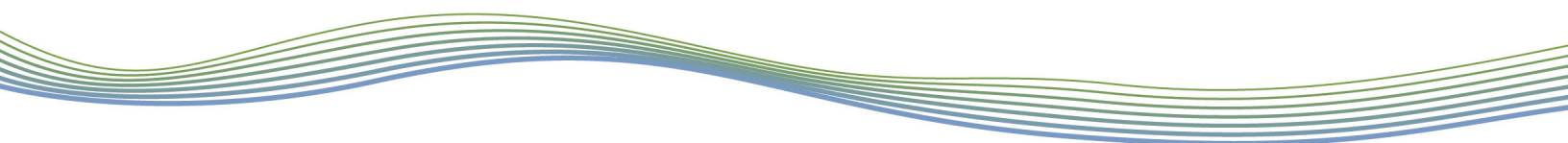
\* Based on Manning's equation

\*\* Based on Shields diagram from Miller et al. (1977)

\*\*\* Based on Komar (1987)

## 6 Hazard Envelope

Most watercourses in southern Ontario have a natural tendency to develop and maintain a meandering planform, provided there are no topographical constraints. A meander belt width assessment estimates the lateral extent that a meandering channel has historically occupied and



will likely occupy in the future. This assessment is therefore useful for determining the potential hazard to proposed activities in the vicinity of a stream.

When defining the meander belt width for a creek system, the TRCA (2004) protocol treats watercourses differently based on the degree of valley confinement. Unconfined systems are those with poorly defined valleys or slopes well-outside where the channel could realistically migrate. In unconfined systems, the meander belt boundaries centre along the general valley orientation and are defined as parallel lines drawn tangentially to the outside bends of the most laterally extreme meanders within the reach (TRCA, 2004). Georeferenced historic aerial imagery can be used to examine past positions and configurations of the channel planform and to delineate the channel centreline, and its central tendency (i.e., meander belt axis).

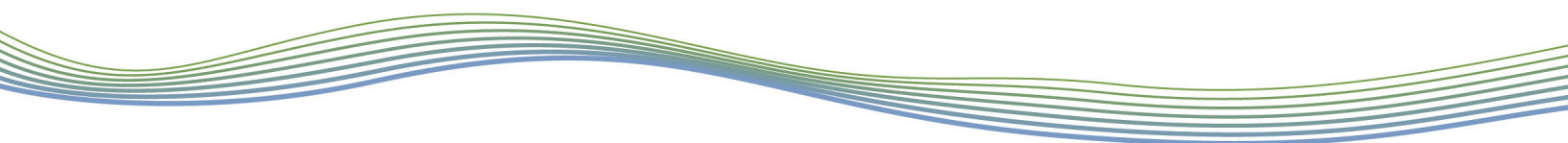
Partially confined systems are those where meander bends are adjacent to only one valley wall and the watercourse is therefore restricted in migration and floodplain occupation on one side of the valley system. Confined systems are those where the watercourse position is such that meander bends are adjacent to both valley walls and meander migration is restricted on both sides of the valley.

Within the study area, Etobicoke Creek flows through a confined valley system with exposed shale bedrock frequently observed along the channel. As noted previously, a preliminary belt width of 125 m was delineated as part of the Class EA by drawing tangential lines along the outside bends of the laterally extreme meanders following valley central tendency. The 100-year erosion rate was then calculated using available aerial photographs from 1978 onwards and applied as a factor of safety. Migration rates ranged from 0.06 m/yr to 0.44 m/yr resulting in an average 100-year erosion rate of 21 m. The 100-year erosion rate was then applied to both sides of the meander belt width, resulting in a final belt width of 167 m (PARISH Geomorphic Ltd, 2008).

The meander belt width was not refined as part of the current study. To determine the extent of the hazard envelope in vicinity of the abandoned portion of the ETSS and proposed infrastructure, historical channel position was digitized from City of Toronto aerial photography for the years 1965, 1978, 1985, 1992, 2011, 2015 and 2018 (**Appendix B**). Channel migration rates were then measured for two time periods. The period from 1978 to 1992 represents the timeframe following modifications to Etobicoke Creek and prior to the installation of erosion control measures to protect the exposed ETSS maintenance access and adjacent storm sewer. A channel migration rate of 0.58 m/yr was measured, which is similar to the maximum erosion rate measured by PARISH Geomorphic Ltd (2008). This measurement results in a 100-year erosion limit of 58 m and is considered a conservative approximation of the hazard envelope. The channel migration rate was also measured for the period 1978 to 2018, which resulted in a migration rate of 0.23 m/yr, or a 100-year erosion limit of 23 m. Based on 2011 and 2018 imagery and the differing migration rates, the erosion control measures installed in 2002 to protect the exposed ETSS maintenance access and storm sewer outfall have acted to limit local channel migration in recent years.

Both erosion hazard envelopes were applied to the large meander where the exposed ETSS maintenance access and storm sewer outfall are located, as well as the portion of channel south of Southcreek Road (**Appendix G**). The 58 m hazard envelope is considered conservative as it represents the potential 100-year erosion limit in an unarmoured state, while the 23 m hazard envelope considers channel conditions following installation of stabilization measures. **Appendix G** illustrates the erosion hazard envelopes in the context of the preferred alternative for the offline storage facility developed through the Class EA process. As illustrated, a significant portion of the abandoned ETSS is located within the migration potential of Etobicoke Creek when both the 58 m and 23 m hazard envelopes are considered. While the extent of the proposed storage facility





within the 23 m hazard envelope is reduced, the portion closest to Etobicoke Creek is still located within the hazard envelope.

## 7 Restoration Recommendations

Multiple approaches were considered to address concerns regarding potential failure of the abandoned portion of the ETSS into Etobicoke Creek and the proposed offline storage pipes. The existing erosion control measures are located in front of the maintenance access and adjacent to the storm sewer outfall. Bank erosion was observed downstream of the maintenance access based on field work completed in April 2021. Should the existing erosion control measures be maintained with no intervention, it is likely that they would be outflanked and the abandoned portion of the ETSS and maintenance access would become compromised and eventually fail into the channel. The adjacent storm sewer would likely also be compromised. Although proposed infrastructure is currently set back from the channel, it could also potentially be impacted over the long-term based on the extent of the 23 m and 58 m erosion hazard envelopes.

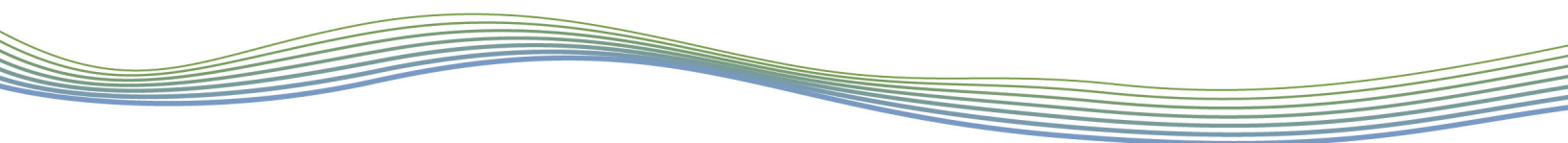
The second approach included reinforcement of the existing bank treatment. This approach may be sufficient over the short- to medium-term; however, due to bank scour observed in the field downstream of the exposed ETSS maintenance access, it is likely that the maintenance access and sewer would be compromised, and proposed infrastructure may be impacted over the long-term.

Given the extent of infrastructure proposed in the valley and to reduce future erosion, it is recommended that a larger section of the channel bank be protected in the two locations identified. **Appendix G** shows the overall extent of where bank treatments are recommended; however, the extent of bank treatments can be further refined at detailed design. Due to the highly urbanized nature of the lower watershed, multiple, relatively hard bank stabilization options were considered at the conceptual level, including gabion baskets, live crib walls, armourstone retaining walls, and vegetated rock buttresses.

Gabion baskets are considered a more traditional engineering approach and while they are relatively easy to install and in certain environments, a cost-effective erosion control solution, in riverine environments the wire mesh tends to corrode, leading to the loss of stone from lower basket tiers and eventual failure of the treatment. Live crib walls were deemed inappropriate given anticipated hydraulic conditions in the channel during higher flow events, the extent of excavation typically required to install this type of treatment, and the typical mode of failure (i.e., undercutting and collapse of the entire structure). Armourstone retaining walls are an effective treatment along channels in urbanized areas with flashy flow regimes; however, this type of treatment is relatively costly and provides limited opportunity for riparian plantings.

Vegetated rock buttresses were therefore selected as a preferred treatment and are recommended along a significant portion of the northern channel bank. This type of bank treatment includes the installation of stone lifts and native plantings, which provide microhabitat and riparian vegetation immediately adjacent to the bankfull channel. The footprint of this type of treatment is relatively small as it can be installed at a relatively steep angle and does not require substantive excavation. This will also reduce vegetation loss. A typical detail for this type of treatment is included in **Appendix H**.

The following recommendations are provided from a fluvial geomorphic perspective for consideration during detailed design:

- 
- Any proposed bank treatments should be keyed into the channel bed and properly tied in upstream and downstream
  - Stone used for any restoration treatments should be hydraulically sized to ensure it is stable over a range of flow events
  - Detailed design should consider relocation of the existing storm sewer outfall as due to channel erosion, the wingwalls now protrude into the channel
  - Phasing, erosion and sediment control plans should be prepared that allow for any channel works to occur in the dry
  - Any inwater works should respect timing windows, as prescribed by the MNRF and/or TRCA
  - A post-construction compliance monitoring plan should be developed in accordance with agency permitting requirements

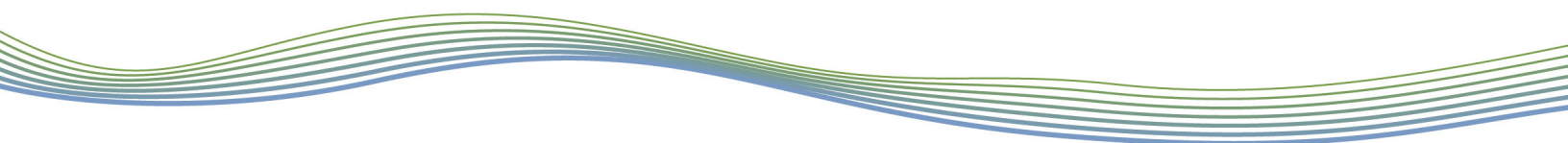
## 8 Summary

The ETSS conveys flows along and in vicinity of the Etobicoke Creek valley to the G.E. Booth Wastewater Treatment Plant. Forecasted growth within the Region of Peel to 2041 and beyond requires expansion and enhancement of infrastructure to accommodate the projected near future flow capacity of their waste systems. As such, the Region of Peel is undertaking a Schedule B Municipal Class Environmental Assessment (EA), and detailed design for an ETSS offline storage facility in the City of Mississauga.

GEO Morphix was retained as part of a multi-disciplinary team to complete a fluvial geomorphic assessment along Etobicoke Creek in support of the Class EA. The study area is located in Etobicoke Valley Park south of Dundas Street in the City of Mississauga. A single reach of lower Etobicoke Creek traverses the study area, extending from Dundas Street to the CP Rail Line. The assessment included a detailed review of previously completed studies, a historical assessment, field reconnaissance, approximation of the hazard envelope, and recommendations for detailed design from a fluvial geomorphological perspective.

Detailed field reconnaissance was conducted on April 7, 2021 and focussed on the section of Etobicoke Creek in vicinity of sections of the ETSS abandoned in 2010 and the proposed offline storage facility. Rapid geomorphic assessments and a survey of the longitudinal profile and 7 cross sections were completed. Results of the field assessment indicate that this reach of Etobicoke Creek is in transition, while overall stream health was considered good.

To determine the hazard envelope in vicinity of existing and proposed Region of Peel infrastructure, historical channel position was delineated using a series of historical aerial photos from the City of Toronto. Channel migration rates were then measured for two time periods, 1978 to 1992 and 1978 to 2018. The 1978 to 1992 timeframe represents the time period following historical modifications to Etobicoke Creek and prior to the installation of erosion control measures to protect the exposed ETSS maintenance access and adjacent storm sewer. A channel migration rate of 0.58 m/yr was measured during this period. The resulting 100-year erosion limit of 58 m is considered a conservative approximation of the hazard envelope for this portion of Etobicoke Creek in an unprotected state. The 1978 to 2018 timeframe includes the entire period of available record following historical channel modification. A meander migration rate of 0.23 m/year was measured, resulting in a 23 m 100-year erosion hazard envelope. As evident in the meander migration rate for the period 1978 to 2018, the erosion control measures installed in 2002 to protect the exposed ETSS maintenance access and storm sewer outfall have acted to limit local channel migration in recent years.



As a conservative approach, both hazard envelopes were applied to the large meander where the abandoned ETSS maintenance access and active storm sewer outfall are located, as well as the portion of channel south of Southcreek Road. As illustrated in **Appendix G**, the majority of the abandoned ETSS is located with the migration potential of Etobicoke Creek for both the 58 m and 23 m hazard envelopes. While the extent of the proposed storage facility within the 23 m hazard envelope is reduced, the portion closest to Etobicoke Creek is still located within the hazard envelope.

Due to the proximity of abandoned infrastructure to Etobicoke Creek and the extent of infrastructure proposed within the valley, it is recommended that bank stabilization measures be installed along the northern bank of Etobicoke Creek. These measures will prevent failure of existing and proposed infrastructure, provide a more uniform meander bend, and limit erosion over the long-term. The extent of the recommended bank treatments can be refined at detailed design. As part of the detailed design, consideration should also be given to relocation of the existing storm sewer adjacent to the ETSS maintenance access. Channel erosion has progressed since the infrastructure was first installed such that the wingwalls now project into the channel and are vulnerable to impacts from flows.

We trust this report meets your requirements at this time. Should you have any questions please contact the undersigned.

Respectfully submitted,



Paul Villard Ph.D., P.Geo., CAN-CISEC, EP, CERP  
Director, Principal Geomorphologist



Suzanne St Onge, M.Sc.  
Senior Environmental Scientist



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## **Appendix A**

### **Historical Aerial Imagery**



**Location:** Etobicoke Creek at Dundas Street West (Yellow Dot)

**Year:** 1954

**Scale:** Not applicable

**Source:** City of Toronto



**Location:** Etobicoke Creek at Dundas Street West (Yellow Dot)

**Year:** 1965

**Scale:** Not applicable

**Source:** City of Toronto



**Location:** Etobicoke Creek at Dundas Street West (Yellow Dot)

**Year:** 1978

**Scale:** Not applicable

**Source:** City of Toronto





**Location:** Etobicoke Creek at Dundas Street West (Yellow Dot)

**Year:** 1985

**Scale:** Not applicable

**Source:** City of Toronto

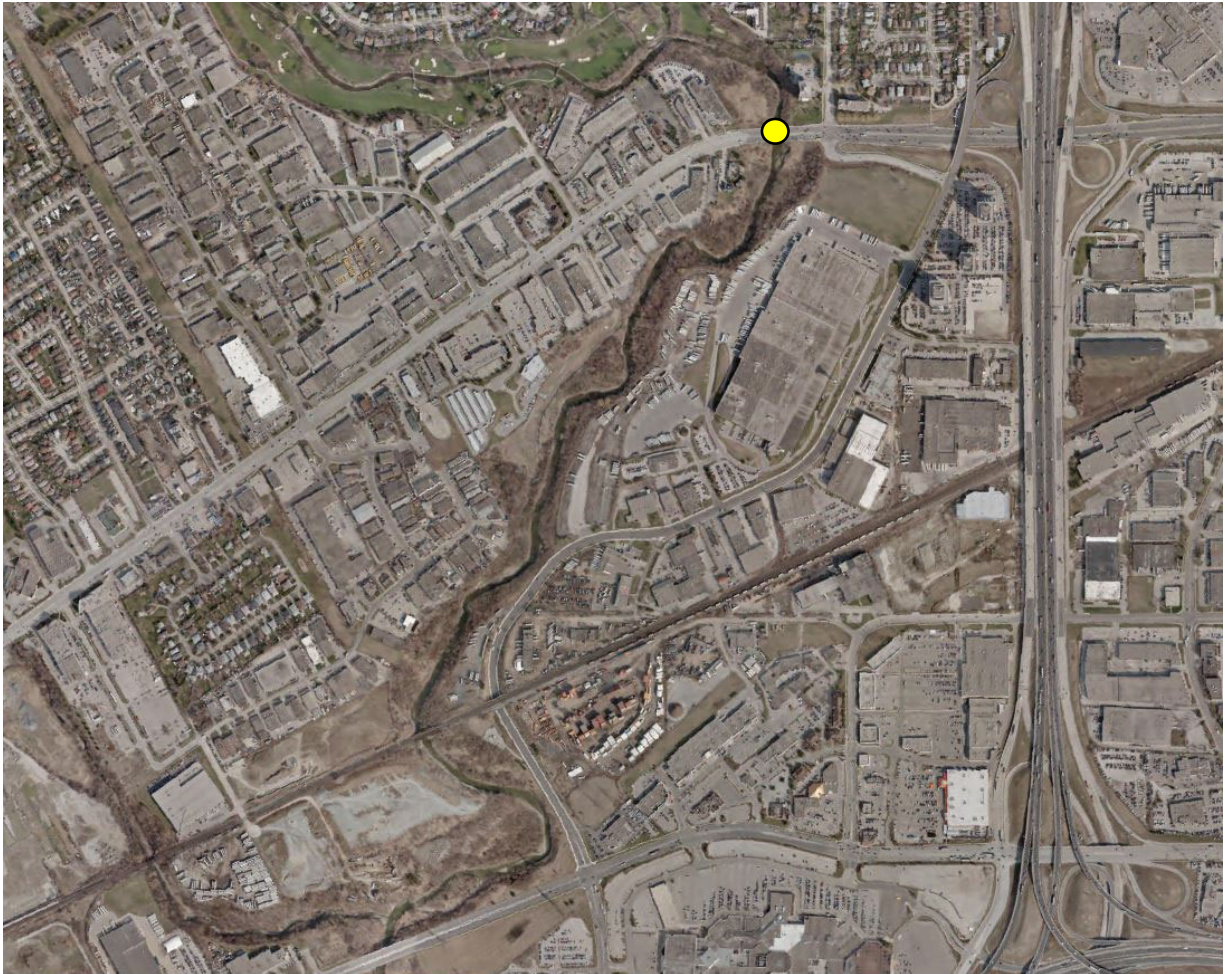


**Location:** Etobicoke Creek at Dundas Street West (Yellow Dot)

**Year:** 1992

**Scale:** Not applicable

**Source:** City of Toronto

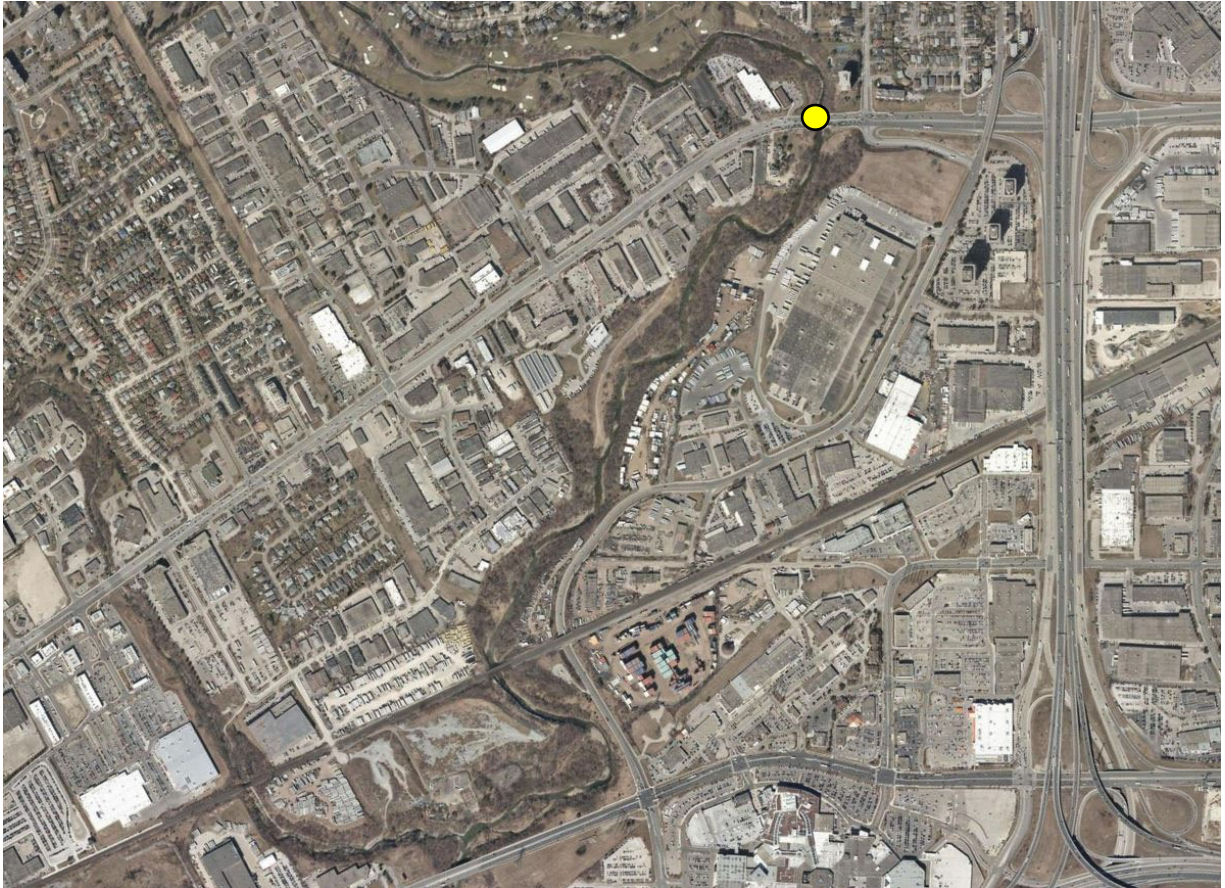


**Location:** Etobicoke Creek at Dundas Street West (Yellow Dot)

**Year:** 2011

**Scale:** Not applicable

**Source:** City of Toronto



**Location:** Etobicoke Creek at Dundas Street West (Yellow Dot)

**Year:** 2018

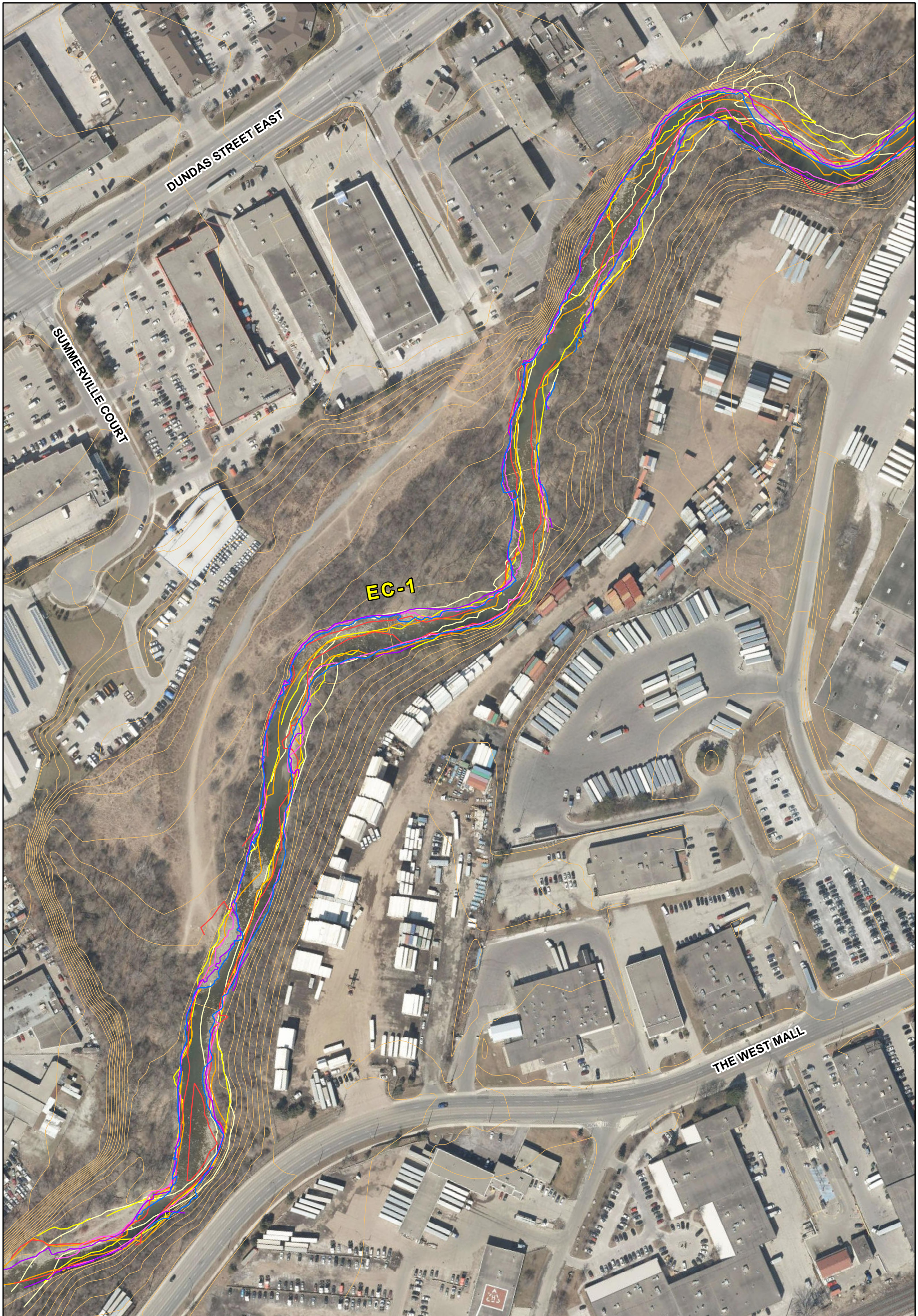
**Scale:** Not applicable

**Source:** City of Toronto



## **Appendix B**

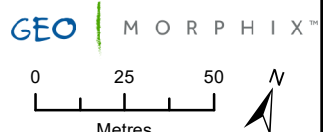
### **Historical Channel Position**



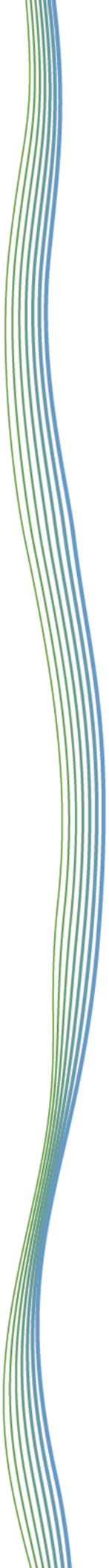
Legend			
<b>EC-1</b>	Reach Label		2018 Watercourse
	1 m Contour		2015 Watercourse
			2011 Watercourse
			1992 Watercourse
			1985 Watercourse
			1978 Watercourse
			1965 Watercourse

**Etobicoke Creek East Trunk Sanitary Sewer**  
 Historical Channel Delineation

Region of Peel, Ontario







Imagery: City of Toronto, 2018.  
 Reach Label, and Historical Watercourse  
 Delineation: GEOMorphix Ltd., 2021.  
 1 m Contour: IBI Group, 2021.  
 Printed: May 2021. PN21027. Drawn by M.H., S.S.



## **Appendix C Reach Map**



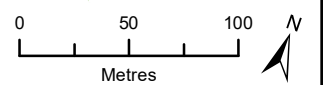
- Legend**
-  EC-1 Reach Break and Label
  -  Watercourse
  -  Field Assessment Extent
  -  1 m Contour

**Etobicoke Creek East Trunk Sanitary Sewer**

Reach Delineation

Region of Peel, Ontario

GEO MORPHIX™



Imagery: City of Toronto, 2018.  
 Watercourse: TRCA, 2021.  
 Reach Break and Label, and  
 Field Assessment Extent: GEOMorphix Ltd., 2021.  
 1 m Contour: IBI Group, 2021.  
 Printed: May 2021. PN21027. Drawn by M.H., S.S.





## **Appendix D**

### **Photographic Record**

Photo 1  
Etobicoke Creek: View Left Bank



Failing erosion control measures on the left bank downstream of the study area near The West Mall (yellow arrow denotes flow direction).

Photo 2  
Etobicoke Creek: View Upstream



Channel bed substrate ranged from sand/gravel to large boulders. Channel has downcut into shale bedrock in several locations.

Photo 3  
Etobicoke Creek: View Left Bank



Channel is a meandering single thread channel. Note valley wall contact on the left bank, resulting in toe erosion through a riffle.

Photo 4  
Etobicoke Creek: View Upstream



Channel is situated within a confined valley. Riparian vegetation consists of established trees with localized gaps. Note medial bar formation.

Photo 5  
Etobicoke Creek: View Upstream



Photo facing upstream towards storm sewer outfall and ETSS manhole. Note extensive erosion on right bank.

Photo 6  
Etobicoke Creek: View Right Bank



Signs of erosion of right bank downstream of manhole and storm sewer outfall. Note position of trash line.

Photo 7  
Etobicoke Creek: View Downstream



Overbank sand deposits along the inner bank of the pool.

Photo 8  
Etobicoke Creek: View Upstream



Photo of ETSS manhole, storm sewer outfall, and bank stabilization works installed in 2002.

Photo 9  
Etobicoke Creek: View Right Bank



Photo of manhole, storm sewer outfall, and bank stabilization works. Storm sewer is slightly elevated above the channel bed.

Photo 10  
Etobicoke Creek: View Right Bank



Photo facing right bank showing erosion downstream. Channel has downcut into shale bedrock in vicinity of the ETSS manhole and storm sewer outfall.

Photo 11  
Etobicoke Creek: View Right Bank



Photo showing erosion control measures installed to protect the storm sewer and ETSS manhole in 2002.

Photo 12  
Etobicoke Creek: View Downstream



Point bar deposition on inside of meander bend across from the sewer outfall.

Photo 13  
Etobicoke Creek: View Left Bank



Point bar deposition on inside of meander bend across from the sewer outfall.

Photo 14  
Etobicoke Creek: View Upstream



Minor erosion of right bank through riffle.



Photo 15  
Etobicoke Creek: View Upstream



Photo of existing erosion control measures along the left bank upstream of the ETSS manhole and storm sewer outfall.

Photo 16  
Etobicoke Creek: View Upstream



Valley wall contact and existing bank stabilization on left bank through large pool.

Photo 17  
Etobicoke Creek: View Left Bank Outfall



Iron staining and small scour pool from left bank outfall near upstream extent of study area.

Photo 18  
Etobicoke Creek: Right Bank Outfall



Elevated storm sewer outfall, undermined gabion baskets, and large scour pool south of Southcreek Road.



**Appendix E**  
**Field Sheets**

# Reach Characteristics Key

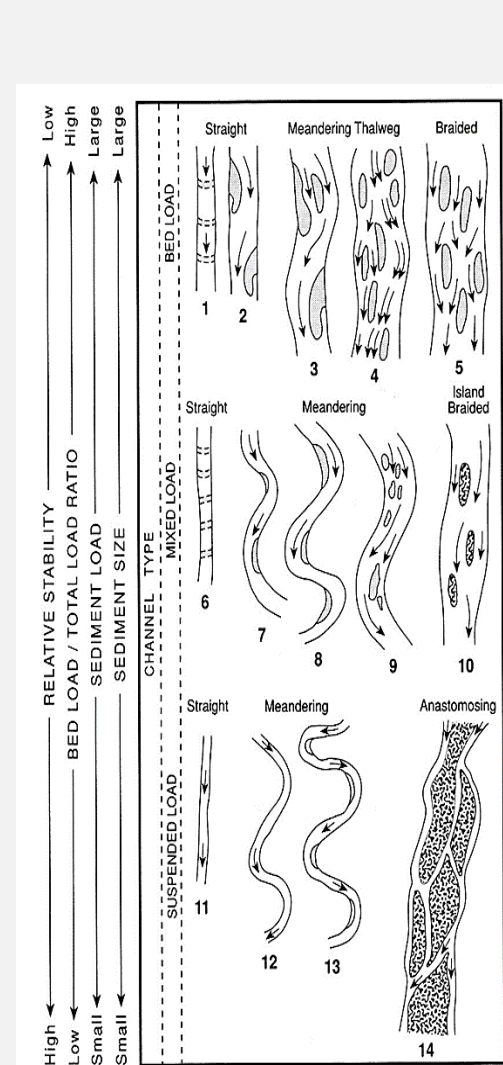
**Table 1 Land Use**

- |                 |                  |
|-----------------|------------------|
| 1. Forest       | 6. Institutional |
| 2. Pasture      | 7. Residential   |
| 3. Agricultural | 8. Golf Course   |
| 4. Industrial   | 9. Commercial    |
| 5. Park         |                  |

**Table 2 Valley Type**

1. Unconfined
2. Confined
3. Partially Confined

**Table 3 Channel Type**



**Table 4 Channel Zone**

1. Headwater zone
2. Transfer zone
3. Deposition zone

**Table 5 Flow Type**

1. Perennial
2. Intermittent
3. Ephemeral

**Table 6 Dominant Vegetation Type**

1. Trees
2. Shrubs
3. Grasses
4. Herbaceous

**Table 7 Extent of Encroachment into Channel**

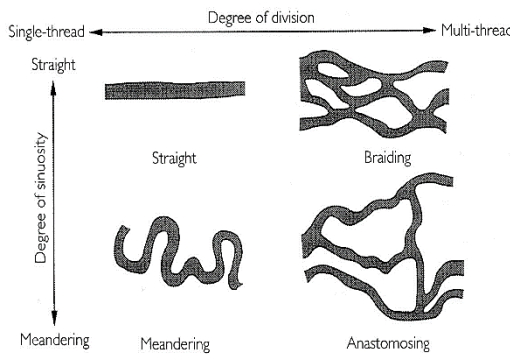
1. None
2. Minimal
3. Moderate
4. Heavy
5. Extreme

**Table 8 Type of Aquatic Vegetation**

1. Rooted Emergent
2. Rooted Submergent
3. Rooted Floating
4. Free Floating Roots
5. Floating Algae
6. Attached Algae

**Table 9 Type of Sinuosity**

1. Sinuous
2. Irregular Meanders
3. Regular Meanders
4. Tortuous Meanders
5. Confined pattern (within valley)



**Table 10 Degree of Sinuosity**

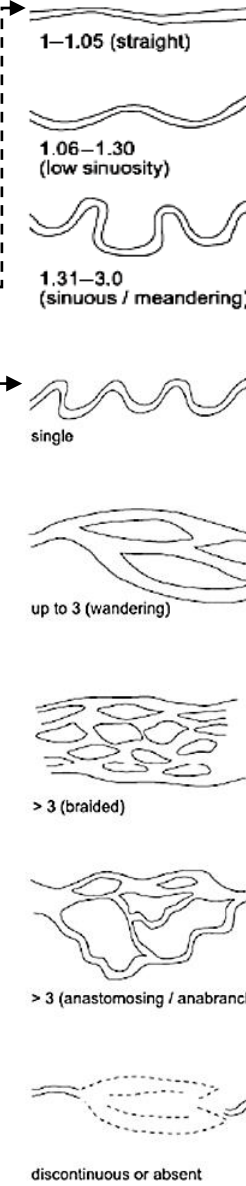
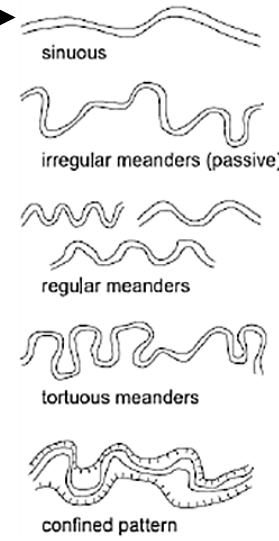
1. Straight (1 – 1.05)
2. Low sinuosity (1.06–1.30)
3. Meandering (1.31 - 3.0)

**Table 11 Gradient**

1. Low
2. Moderate
3. High

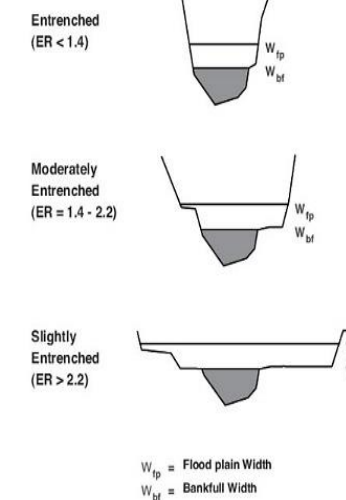
**Table 12 Number of Channels**

1. Single
2. Up to 3 (Wandering)
3. >3 (Braided)
4. >3 (Anastomosing or Anabranching)
5. Discontinuous or Absent



**Table 13 Entrenchment**

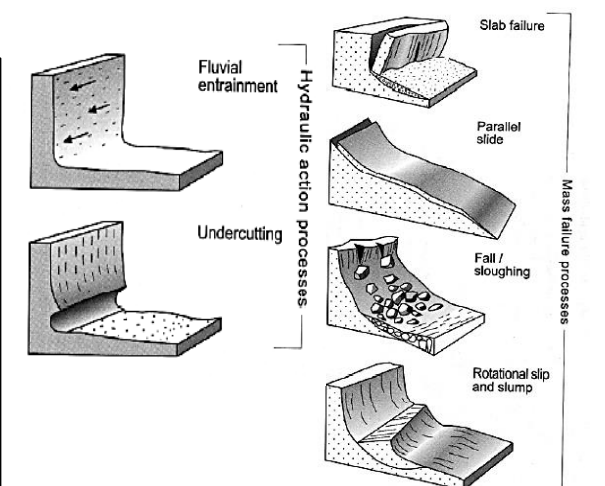
1. Low (>2.2)
2. Moderate (1.4 – 2.2)
3. High (<1.4)



S - 'stable'	D - 'depositional'	M - 'lateral migration'	E - 'enlarging'
No observable morphological adjustment in process <input type="checkbox"/> no bank slumping/failure/undercutting <input type="checkbox"/> old tree roots exposed <input type="checkbox"/> no tree falls <input type="checkbox"/> no alluvial terrace	Consistent decrease in channel width and/or depth <input type="checkbox"/> sediment deposition on bed (e.g. bar development, shadow deposits, high embeddedness) <input type="checkbox"/> sediment deposited along banks <input type="checkbox"/> no bank erosion <input type="checkbox"/> no alluvial terrace	Migration of most bends; cross-sectional dimensions preserved <input type="checkbox"/> erosion along outer bank (e.g. slumping, young tree roots exposed, tree falls, undercutting) <input type="checkbox"/> deposition along inner bank (i.e. point bar development) <input type="checkbox"/> no alluvial terrace	Consistent increase in channel width and/or depth <input type="checkbox"/> erosion along both banks (e.g. slumping, young tree roots exposed, tree falls) <input type="checkbox"/> no bar formation, scoured bed, low embeddedness <input type="checkbox"/> no alluvial terrace
d - 'depositional'	m - 'lateral migration'	e - 'enlarging'	
Selective deposition resulting in reduced channel width <input type="checkbox"/> low-flow channel between outer banks/valley walls <input type="checkbox"/> alluvial terrace/valley wall <input type="checkbox"/> valley wall contacts at few, if any meander bends	Initiation of alternating bank erosion in straightened channels or migration of only sharpest bends <input type="checkbox"/> generally straight <input type="checkbox"/> stable except at sharp bends <input type="checkbox"/> sharp bends with outside bank erosion, point-bar/cut bank development and undercutting <input type="checkbox"/> no alluvial terrace	Initiation of continuous erosion, often at channel toe <input type="checkbox"/> channel downcutting (e.g. bed scour, low embeddedness) <input type="checkbox"/> steep, high banks above bankfull level <input type="checkbox"/> no alluvial terrace	
C - 'compound'	R - 'recovering'	U - 'undercutting'	
Aggradation of channel bed with erosion of channel banks <input type="checkbox"/> bank erosion (slumping, exposed tree roots) <input type="checkbox"/> sediment deposition on bed (e.g. bar development, shadow deposits, high embeddedness) <input type="checkbox"/> alluvial terrace with erosion	Development of a sinuous channel within straightened channel, including erosion of alternating valley walls <input type="checkbox"/> straight alluvial terrace/valley wall <input type="checkbox"/> valley wall contact and erosion at majority of meander bends	Active bed and outer bank erosion; migration of bend; coarse inner bank deposits <input type="checkbox"/> erosion along outer bank (e.g. slumping, young tree roots exposed, tree falls, undercutting) <input type="checkbox"/> deposition along inner bank (i.e. point bar development) <input type="checkbox"/> scoured bed, low embeddedness, no bar formation <input type="checkbox"/> no alluvial terrace	

**Table 14 Type of Bank Failure**

1. Fluvial Entrainment (Hydraulic action)
2. Undercutting (Hydraulic action)
3. Slab Failure (Mass failure)
4. Parallel slide (Mass failure)
5. Fall/Sloughing (Mass failure)
6. Rotational slip and slump (Mass failure)



**Table 15 Downs's Model of Channel Classification**

- S - Stable
- D or d - Depositional
- M or m - Lateral Migration
- E or e - Enlarging
- C - Compound
- R - Recovering
- U - Undercutting

**Table 16 Odours**

1. None
2. Fishy
3. Petroleum
4. Sewage
5. Chemical
6. Other

**Table 17 Turbidity**

1. Clear
2. Slightly turbid
3. Turbid
4. Opaque
5. Stained
6. Other

Reach Characteristics

Project Code: 21027

Date:	2021-04-07	Stream/Reach:	
Weather:	sun 11°C	Location:	Etobicoke
Field Staff:	TR JV	Watershed/Subwatershed:	Etobicoke Creek
UTM (Upstream)		UTM (Downstream)	

Land Use (Table 1)  4/3 Valley Type (Table 2)  2 Channel Type (Table 3)  8 Channel Zone (Table 4)  2 Flow Type (Table 5)  1  Groundwater Evidence: \_\_\_\_\_

**Riparian Vegetation**

Dominant Type: (Table 6)  1 Coverage:  None  1-4  4-10  >10 Age Class (yrs):  Immature (<5)  Established (5-30)  Mature (>30) Encroachment: (Table 7)  1

Species:  Fragmented  Continuous

**Aquatic/Instream Vegetation**

Type (Table 8)  Coverage of Reach (%)  Woody Debris:  Present in Cutbank  Present in Channel  Not Present Density of WD:  Low  Moderate  High WDJ/50m:

**Water Quality**

Odour (Table 16)  1 Turbidity (Table 17)  1

**Channel Characteristics**

Sinuosity (Type) (Table 9)  2 Sinuosity (Degree) (Table 10)  2 Gradient (Table 11)  2 Number of Channels (Table 12)  1

Entrenchment (Table 13)  2 Type of Bank Failure (Table 14)  1 Downs's Classification (Table 15)  M

Riffle Substrate  Pool Substrate  Bank Material  Clay/Silt  Sand  Gravel  Cobble  Boulder  Parent  Rootlets

Bankfull Width (m)  Wetted Width (m)  Bankfull Depth (m)  Wetted Depth (m)  Riffle/Pool Spacing (m)  % Riffles:  % Pools:  Meander Amplitude:  Pool Depth (m)  Riffle Length (m)  Undercuts (m)  Velocity (m/s)  Wiffle ball / ADV / Estimated

Bank Angle:  0-30  30-60  60-90  Undercut Bank Erosion:  <5%  5-30%  30-60%  60-100%

**Notes:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Comments: Detailed Assessment completed

Completed by: JR Checked by: \_\_\_\_\_

**Rapid Geomorphic Assessment**

Project Code: 21027

Date:	2021-04-07	Stream/Reach:	Etobicoke Creek
Weather:	sun 11°C	Watershed/Subwatershed:	
Field Staff:	TR JV	Location:	Etobicoke

Process	Geomorphological Indicator		Present?		Factor Value
	No.	Description	Yes	No	
Evidence of Aggradation (AI)	1	Lobate bar		X	3.7
	2	Coarse materials in riffles embedded		X	
	3	Siltation in pools		X	
	4	Medial bars	X		
	5	Accretion on point bars	X		
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone	X		
Sum of indices =			3	4	0.43

Evidence of Degradation (DI)	1	Exposed bridge footing(s)			3.0
	2	Exposed sanitary / storm sewer / pipeline / etc.		X	
	3	Elevated storm sewer outfall(s)	X		
	4	Undermined gabion baskets / concrete aprons / etc.	X		
	5	Scour pools downstream of culverts / storm sewer outlets		X	
	6	Cut face on bar forms		X	
	7	Head cutting due to knickpoint migration		X	
	8	Terrace cut through older bar material		X	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock	X		
Sum of indices =			3	6	0.33

Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.	X		4.0
	2	Occurrence of large organic debris		X	
	3	Exposed tree roots	X		
	4	Basal scour on inside meander bends		X	
	5	Basal scour on both sides of channel through riffle	X		
	6	Outflanked gabion baskets / concrete walls / etc.	X		
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.		X	
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation		X	
Sum of indices =			4	5	0.44

Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	1.7
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		X	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form	X		
	7	Bar forms poorly formed / reworked / removed		X	
Sum of indices =			1	6	0.14

Additional notes:	<b>Stability Index (SI) = (AI+DI+WI+PI)/4 = 0.34</b>			
	Condition	In Regime	In Transition/Stress	In Adjustment
	SI score =	<input type="checkbox"/> 0.00 - 0.20	<input checked="" type="checkbox"/> 0.21 - 0.40	<input type="checkbox"/> 0.41

Completed by: TR Checked by: \_\_\_\_\_

Rapid Stream Assessment Technique

Project Code: 21027

Date:	2021-04-07	Stream/Reach:	Ellobicke Creek
Weather:	sun 11°C	Location:	Ellobicke
Field Staff:	TR JV	Watershed/Subwatershed:	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability	<ul style="list-style-type: none"> <li>&lt; 50% of bank network stable</li> <li>Recent bank sloughing, slumping or failure frequently observed</li> </ul>	<ul style="list-style-type: none"> <li>50-70% of bank network stable</li> <li>Recent signs of bank sloughing, slumping or failure fairly common</li> </ul>	<ul style="list-style-type: none"> <li>71-80% of bank network stable</li> <li>Infrequent signs of bank sloughing, slumping or failure</li> </ul>	<ul style="list-style-type: none"> <li>&gt; 80% of bank network stable</li> <li>No evidence of bank sloughing, slumping or failure</li> </ul>
	<ul style="list-style-type: none"> <li>Stream bend areas highly unstable</li> <li>Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas)</li> <li>Bank overhang &gt; 0.8-1.0 m</li> </ul>	<ul style="list-style-type: none"> <li>Stream bend areas unstable</li> <li>Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas)</li> <li>Bank overhang 0.8-0.9m</li> </ul>	<ul style="list-style-type: none"> <li>Stream bend areas stable</li> <li>Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas)</li> <li>Bank overhang 0.6-0.8 m</li> </ul>	<ul style="list-style-type: none"> <li>Stream bend areas very stable</li> <li>Height &lt; 0.6 m above stream (&lt; 1.2 m above stream bank for large mainstem areas)</li> <li>Bank overhang &lt; 0.6 m</li> </ul>
	<ul style="list-style-type: none"> <li>Young exposed tree roots abundant</li> <li>&gt; 6 recent large tree falls per stream mile</li> </ul>	<ul style="list-style-type: none"> <li>Young exposed tree roots common</li> <li>4-5 recent large tree falls per stream mile</li> </ul>	<ul style="list-style-type: none"> <li>Exposed tree roots predominantly old and large, smaller young roots scarce</li> <li>2-3 recent large tree falls per stream mile</li> </ul>	<ul style="list-style-type: none"> <li>Exposed tree roots old, large and woody</li> <li>Generally 0-1 recent large tree falls per stream mile</li> </ul>
	<ul style="list-style-type: none"> <li>Bottom 1/3 of bank is highly erodible material</li> <li>Plant/soil matrix severely compromised</li> </ul>	<ul style="list-style-type: none"> <li>Bottom 1/3 of bank is generally highly erodible material</li> <li>Plant/soil matrix compromised</li> </ul>	<ul style="list-style-type: none"> <li>Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material</li> </ul>	<ul style="list-style-type: none"> <li>Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material</li> </ul>
	<ul style="list-style-type: none"> <li>Channel cross-section is generally trapezoidally-shaped</li> </ul>	<ul style="list-style-type: none"> <li>Channel cross-section is generally trapezoidally-shaped</li> </ul>	<ul style="list-style-type: none"> <li>Channel cross-section is generally V- or U-shaped</li> </ul>	<ul style="list-style-type: none"> <li>Channel cross-section is generally V- or U-shaped</li> </ul>
Point range	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8	<input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11

Channel Scouring/ Sediment Deposition	<ul style="list-style-type: none"> <li>&gt; 75% embedded (&gt; 85% embedded for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>50-75% embedded (60-85% embedded for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>25-49% embedded (35-59% embedded for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>Riffle embeddedness &lt; 25% sand-silt (&lt; 35% embedded for large mainstem areas)</li> </ul>
	<ul style="list-style-type: none"> <li>Few, if any, deep pools</li> <li>Pool substrate composition &gt;81% sand-silt</li> </ul>	<ul style="list-style-type: none"> <li>Low to moderate number of deep pools</li> <li>Pool substrate composition 60-80% sand-silt</li> </ul>	<ul style="list-style-type: none"> <li>Moderate number of deep pools</li> <li>Pool substrate composition 30-59% sand-silt</li> </ul>	<ul style="list-style-type: none"> <li>High number of deep pools (&gt; 61 cm deep) (&gt; 122 cm deep for large mainstem areas)</li> <li>Pool substrate composition &lt;30% sand-silt</li> </ul>
	<ul style="list-style-type: none"> <li>Streambed streak marks and/or "banana"-shaped sediment deposits common</li> </ul>	<ul style="list-style-type: none"> <li>Streambed streak marks and/or "banana"-shaped sediment deposits common</li> </ul>	<ul style="list-style-type: none"> <li>Streambed streak marks and/or "banana"-shaped sediment deposits uncommon</li> </ul>	<ul style="list-style-type: none"> <li>Streambed streak marks and/or "banana"-shaped sediment deposits absent</li> </ul>
	<ul style="list-style-type: none"> <li>Fresh, large sand deposits very common in channel</li> <li>Moderate to heavy sand deposition along major portion of overbank area</li> </ul>	<ul style="list-style-type: none"> <li>Fresh, large sand deposits common in channel</li> <li>Small localized areas of fresh sand deposits along top of low banks</li> </ul>	<ul style="list-style-type: none"> <li>Fresh, large sand deposits uncommon in channel</li> <li>Small localized areas of fresh sand deposits along top of low banks</li> </ul>	<ul style="list-style-type: none"> <li>Fresh, large sand deposits rare or absent from channel</li> <li>No evidence of fresh sediment deposition on overbank</li> </ul>
	<ul style="list-style-type: none"> <li>Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand</li> </ul>	<ul style="list-style-type: none"> <li>Point bars common, moderate to large and unstable with high amount of fresh sand</li> </ul>	<ul style="list-style-type: none"> <li>Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand</li> </ul>	<ul style="list-style-type: none"> <li>Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand</li> </ul>
Point range	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2	<input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5 <input type="checkbox"/> 6	<input type="checkbox"/> 7 <input type="checkbox"/> 8

<b>Date:</b>	2021-04-07		<b>Reach:</b>	Etobicoke Cr.		<b>Project Code:</b>	21027	
<b>Evaluation Category</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>				
Physical Instream Habitat	<ul style="list-style-type: none"> <li>Wetted perimeter &lt; 40% of bottom channel width (&lt; 45% for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>Wetted perimeter &gt; 85% of bottom channel width (&gt; 90% for large mainstem areas)</li> </ul>				
	<ul style="list-style-type: none"> <li>Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)</li> </ul>	<ul style="list-style-type: none"> <li>Few pools present, riffles and runs dominant.</li> <li>Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)</li> </ul>	<ul style="list-style-type: none"> <li>Good mix between riffles, runs and pools</li> <li>Relatively diverse velocity and depth of flow</li> </ul>	<ul style="list-style-type: none"> <li>Riffles, runs and pool habitat present</li> <li>Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)</li> </ul>				
	<ul style="list-style-type: none"> <li>Riffle substrate composition: predominantly gravel with high amount of sand</li> <li>&lt; 5% cobble</li> </ul>	<ul style="list-style-type: none"> <li>Riffle substrate composition: predominantly small cobble, gravel and sand</li> <li>5-24% cobble</li> </ul>	<ul style="list-style-type: none"> <li>Riffle substrate composition: good mix of gravel, cobble, and rubble material</li> <li>25-49% cobble</li> </ul>	<ul style="list-style-type: none"> <li>Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand</li> <li>&gt; 50% cobble</li> </ul>				
	<ul style="list-style-type: none"> <li>Riffle depth &lt; 10 cm for large mainstem areas</li> </ul>	<ul style="list-style-type: none"> <li>Riffle depth 10-15 cm for large mainstem areas</li> </ul>	<ul style="list-style-type: none"> <li>Riffle depth 15-20 cm for large mainstem areas</li> </ul>	<ul style="list-style-type: none"> <li>Riffle depth &gt; 20 cm for large mainstem areas</li> </ul>				
	<ul style="list-style-type: none"> <li>Large pools generally &lt; 30 cm deep (&lt; 61 cm for large mainstem areas) and devoid of overhead cover/structure</li> </ul>	<ul style="list-style-type: none"> <li>Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure</li> </ul>	<ul style="list-style-type: none"> <li>Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure</li> </ul>	<ul style="list-style-type: none"> <li>Large pools generally &gt; 61 cm deep (&gt; 122 cm for large mainstem areas) with good overhead cover/structure</li> </ul>				
	<ul style="list-style-type: none"> <li>Extensive channel alteration and/or point bar formation/enlargement</li> </ul>	<ul style="list-style-type: none"> <li>Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement</li> </ul>	<ul style="list-style-type: none"> <li>Slight amount of channel alteration and/or slight increase in point bar formation/enlargement</li> </ul>	<ul style="list-style-type: none"> <li>No channel alteration or significant point bar formation/enlargement</li> </ul>				
	<ul style="list-style-type: none"> <li>Riffle/Pool ratio 0.49:1 ; <math>\geq 1.51:1</math></li> </ul>	<ul style="list-style-type: none"> <li>Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1</li> </ul>	<ul style="list-style-type: none"> <li>Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1</li> </ul>	<ul style="list-style-type: none"> <li>Riffle/Pool ratio 0.9-1.1:1</li> </ul>				
	<ul style="list-style-type: none"> <li>Summer afternoon water temperature &gt; 27°C</li> </ul>	<ul style="list-style-type: none"> <li>Summer afternoon water temperature 24-27°C</li> </ul>	<ul style="list-style-type: none"> <li>Summer afternoon water temperature 20-24°C</li> </ul>	<ul style="list-style-type: none"> <li>Summer afternoon water temperature &lt; 20°C</li> </ul>				
Point range	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 5 <input checked="" type="checkbox"/> 6	<input type="checkbox"/> 7 <input type="checkbox"/> 8				
Water Quality	<ul style="list-style-type: none"> <li>Substrate fouling level: High (&gt; 50%)</li> </ul>	<ul style="list-style-type: none"> <li>Substrate fouling level: Moderate (21-50%)</li> </ul>	<ul style="list-style-type: none"> <li>Substrate fouling level: Very light (11-20%)</li> </ul>	<ul style="list-style-type: none"> <li>Substrate fouling level: Rock underside (0-10%)</li> </ul>				
	<ul style="list-style-type: none"> <li>Brown colour</li> <li>TDS: &gt; 150 mg/L</li> </ul>	<ul style="list-style-type: none"> <li>Grey colour</li> <li>TDS: 101-150 mg/L</li> </ul>	<ul style="list-style-type: none"> <li>Slightly grey colour</li> <li>TDS: 50-100 mg/L</li> </ul>	<ul style="list-style-type: none"> <li>Clear flow</li> <li>TDS: &lt; 50 mg/L</li> </ul>				
	<ul style="list-style-type: none"> <li>Objects visible to depth &lt; 0.15m below surface</li> </ul>	<ul style="list-style-type: none"> <li>Objects visible to depth 0.15-0.5m below surface</li> </ul>	<ul style="list-style-type: none"> <li>Objects visible to depth 0.5-1.0m below surface</li> </ul>	<ul style="list-style-type: none"> <li>Objects visible to depth &gt; 1.0m below surface</li> </ul>				
	<ul style="list-style-type: none"> <li>Moderate to strong organic odour</li> </ul>	<ul style="list-style-type: none"> <li>Slight to moderate organic odour</li> </ul>	<ul style="list-style-type: none"> <li>Slight organic odour</li> </ul>	<ul style="list-style-type: none"> <li>No odour</li> </ul>				
Point range	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 5 <input type="checkbox"/> 6	<input checked="" type="checkbox"/> 7 <input type="checkbox"/> 8				
Riparian Habitat Conditions	<ul style="list-style-type: none"> <li>Narrow riparian area of mostly non-woody vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Riparian area predominantly wooded but with major localized gaps</li> </ul>	<ul style="list-style-type: none"> <li>Forested buffer generally &gt; 31 m wide along major portion of both banks</li> </ul>	<ul style="list-style-type: none"> <li>Wide (&gt; 60 m) mature forested buffer along both banks</li> </ul>				
	<ul style="list-style-type: none"> <li>Canopy coverage: &lt;50% shading (30% for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>Canopy coverage: 50-60% shading (30-44% for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>Canopy coverage: 60-79% shading (45-59% for large mainstem areas)</li> </ul>	<ul style="list-style-type: none"> <li>Canopy coverage: &gt;80% shading (&gt; 60% for large mainstem areas)</li> </ul>				
Point range	<input type="checkbox"/> 0 <input type="checkbox"/> 1	<input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4 <input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7				
<b>Total overall score (0-42) = 25</b>		<b>Poor (&lt;13)</b>	<b>Fair (13-24)</b>	<b>Good (25-34)</b>		<b>Excellent (&gt;35)</b>		

Completed by: TR Checked by: \_\_\_\_\_





**Appendix F**  
**Detailed Assessment Summary**

## Detailed Geomorphological Assessment Summary

### Etobicoke Creek Reach EC-1

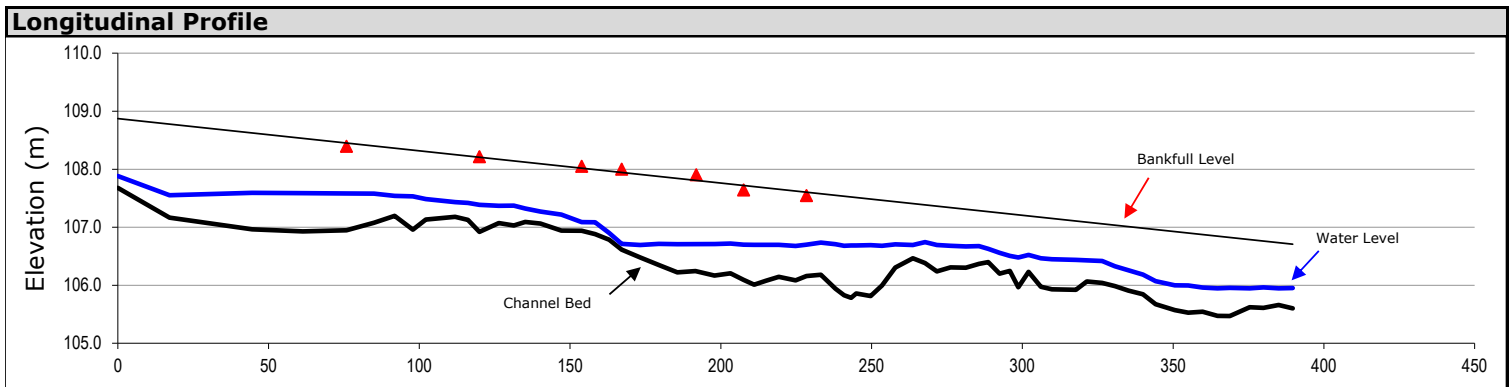
<b>Project Number:</b>	PN21027	<b>Date:</b>	2021-04-07
<b>Client:</b>	IBI Group Professional Services Inc.	<b>Length Surveyed (m):</b>	389.6
<b>Location:</b>	Etobicoke Valley Park	<b># of Cross-Sections:</b>	7

Reach Characteristics			
<b>Drainage Area:</b>	Not measured	<b>Dominant Riparian Vegetation Type:</b>	Trees
<b>Geology/Soils:</b>	Alluvium/shale bedrock	<b>Extent of Riparian Cover:</b>	Fragmented
<b>Surrounding Land Use:</b>	Commercial/industrial	<b>Width of Riparian Cover:</b>	1-4 channel widths
<b>Valley Type:</b>	Confined	<b>Age Class of Riparian Vegetation:</b>	Established (5-30 yrs)
<b>Dominant Instream Vegetation Type:</b>	N/A	<b>Extent of Encroachment into Channel:</b>	None
<b>Portion of Reach with Vegetation:</b>	0%	<b>Density of Woody Debris:</b>	None

Hydrology			
<b>Measured Discharge (m<sup>3</sup>/s):</b>	Not measured	<b>Calculated Bankfull Discharge (m<sup>3</sup>/s):</b>	39.40
<b>Modelled 2-year Discharge (m<sup>3</sup>/s):</b>	Not modelled	<b>Calculated Bankfull Velocity (m/s):</b>	1.80
<b>Modelled 2-year Velocity (m/s):</b>	Not modelled		

Profile Characteristics	
<b>Bankfull Gradient (%):</b>	0.56
<b>Channel Bed Gradient (%):</b>	0.50
<b>Riffle Gradient (%):</b>	0.64
<b>Riffle Length (m):</b>	47.59
<b>Riffle-Pool Spacing (m):</b>	0.00

Planform Characteristics	
<b>Sinuosity:</b>	1.14
<b>Meander Belt Width (m):</b>	Not measured
<b>Radius of Curvature (m):</b>	Not measured
<b>Meander Amplitude (m):</b>	Not measured
<b>Meander wavelength (m):</b>	Not measured



Bank Characteristics						
	Minimum	Maximum	Average	Minimum	Maximum	Average
<b>Bank Height (m):</b>	1.10	3.80	2.11			
<b>Bank Angle (deg):</b>	20	80	50	<b>Torvane Value (kg/cm<sup>2</sup>):</b>	Not measured	
<b>Root Depth (m):</b>	0.10	2.50	0.66	<b>Penetrometer Value (kg/cm<sup>3</sup>):</b>	Not measured	
<b>Root Density (%):</b>	10	40	19	<b>Bank Material (range):</b>	Clay/silt, sand	
<b>Bank Undercut (m):</b>	0.00	0.20	0.04			

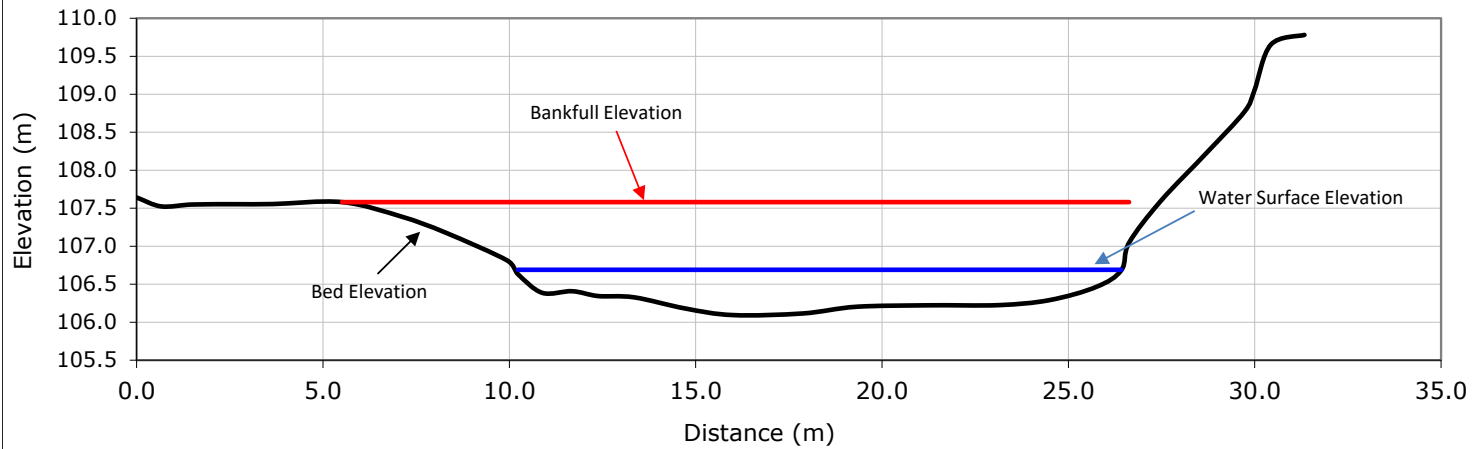
### Cross-Sectional Characteristics

	Minimum	Maximum	Average
<b>Bankfull Width (m):</b>	19.68	31.56	25.10
<b>Average Bankfull Depth (m):</b>	0.87	1.15	0.87
<b>Bankfull Width/Depth (m/m):</b>	21	33	25
<b>Wetted Width (m):</b>	14.21	22.22	15.28
<b>Average Water Depth (m):</b>	0.11	0.43	0.24
<b>Wetted Width/Depth (m/m):</b>	33	170	84
<b>Entrenchment (m):</b>		Not measured	
<b>Entrenchment Ratio (m/m):</b>		Not measured	
<b>Maximum Water Depth (m):</b>	0.15	0.87	0.41
<b>Manning's n :</b>		0.038	



Photograph at cross section 6 (looking upstream)

### Representative Cross-Section #6



### Substrate Characteristics

#### Particle Size (mm)

<b>D<sub>10</sub> :</b>	<2
<b>D<sub>50</sub> :</b>	48.0
<b>D<sub>84</sub> :</b>	179.0

#### Subpavement:

Shale bedrock

#### Particle shape:

Platy, angular to sub rounded

#### Embeddedness (%):

Not measured

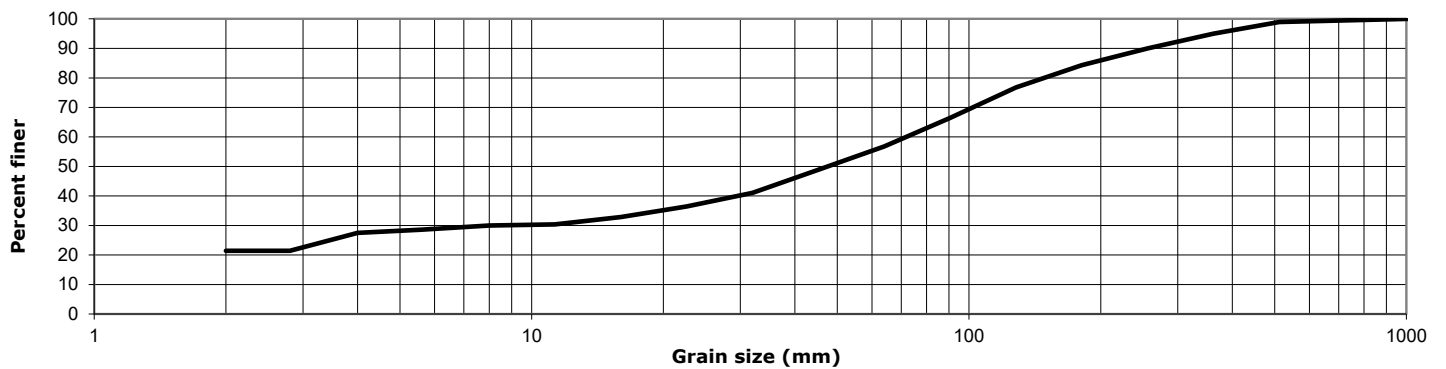
#### Particle range (riffle):

gravel - large boulder

#### Particle Range (pool):

silt/sand - small cobble

### Cumulative Particle Size Distribution



### Channel Thresholds

<b>Flow Competency (m/s):</b>		<b>Tractive Force at Bankfull (N/m<sup>2</sup>):</b>	47.95
for D <sub>50</sub> :	1.17	<b>Tractive Force at 2-year flow (N/m<sup>2</sup>):</b>	Not modelled
for D <sub>84</sub> :	2.15	<b>Critical Shear Stress (D<sub>50</sub>) (N/m<sup>2</sup>):</b>	34.96
<b>Unit Stream Power at Bankfull (W/m<sup>2</sup>):</b>	86.21		

### General Field Observations

#### Channel Description

Reach EC-1 is a meandering mixed load channel conveying flows through a park with a riparian corridor consisting predominantly of mature deciduous trees. The channel has a well developed riffle and pool morphology, with riffle substrate comprised of gravel, cobble, boulders, and exposed shale bedrock. Pools contained sand, gravel, cobble, and exposed shale. Bank angles were relatively steep, ranging from 60 to 90 degrees, and bank erosion was observed along 30% to 60% of the length of channel assessed. Leaning trees and exposed tree roots were present, along with scour along both sides of the channel through riffles. Existing erosion control measures were outflanked and sediment deposition was commonly observed in the overbank zone.

**Cross Section 7 - Facing Right Bank**





## **Appendix G**

### **Erosion Hazard Envelope**



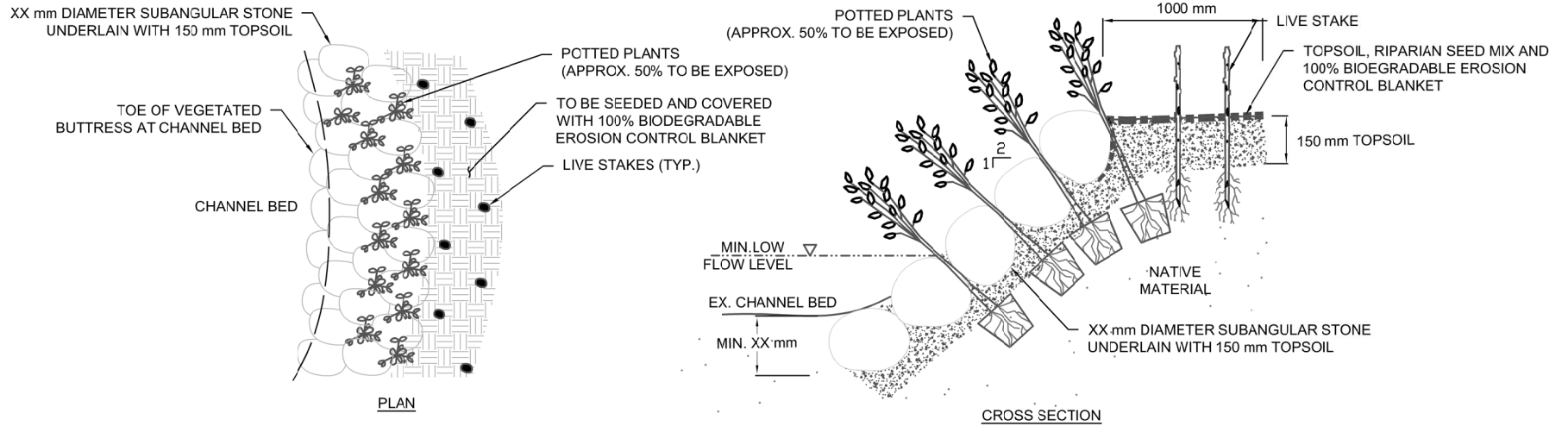
<b>Legend</b>		<b>Etobicoke Creek East Trunk Sanitary Sewer</b>	<b>GEO MORPHIX™</b>
EC-1 Reach Label	Storm Sewer	Existing and Proposed Infrastructure	
⊕ Exposed Sanitary Manhole	In-Service Sanitary Sewer	and Approximate 100-yr Hazard Envelope	
○/● Sanitary Manhole	Abandoned Sanitary Sewer		Region of Peel, Ontario
● Storm Sewer Outfall	Proposed Collection/Access Chamber		
1 m Contour	Abandoned Energy Dissipation Chamber		
Toe of Slope	100-year Erosion Limit (With No Erosion Protection – 58 m)		
Top of Slope	100-year Erosion Limit (With Recently Installed Bank Protection – 23 m)		
Watercourse Edge			
Watermain			

Imagery: City of Toronto, 2018. Watercourse: TRCA, 2021  
 Reach Label and Erosion Limits: GEO Morphix Ltd., 2021.  
 Manhole, Outfall, Sanitary Sewer and Manhole,  
 Abandoned Sanitary Sewer and Energy Dissipation Chamber,  
 Watermain, Storm Sewer, Proposed Chamber,  
 and 1 m Contour: IBI Group, 2021.  
 Printed: June 2021. PN21027. Drawn by W.B., M.H., S.S.



## **Appendix H**

### **Vegetated Rock Buttress Detail**



**CONSTRUCTION NOTES**

1. VEGETATED ROCK BUTTRESS TO BE INSTALLED IN LIFTS.
2. TOE STONES TO BE EMBEDDED INTO CHANNEL BED.
3. INSTALL PLANTS 1 m O/C IN EACH LAYER.
4. LATERALLY STAGGER EACH SUCCESSIVE LAYER OF PLANTS TO AVOID VERTICAL STACKING.
5. PLANTING SPECIES PLACEMENT SHOULD BE RANDOM.

**POTTED PLANTINGS SPECIES AND QUANTITIES**

COMMON NAME	SPECIES	QUANTITY	CONDITION
RED OSIER DOGWOOD	<i>Salix discolor</i>	XX	1 m ht. POTTED
SANDBAR WILLOW	<i>Salix exigua</i>	XX	1 m ht. POTTED
SHINING WILLOW	<i>Salix lucida</i>	XX	1 m ht. POTTED

**VEGETATED ROCK BUTTRESS**

N.T.S

# CONCEPTUAL RESTORATION DETAIL



# Appendix C – Butternut Health Assessment

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Jennifer Noël BHA# 40  
LGL Limited  
445 Thompson Drive, Unit 2  
Cambridge, Ontario  
N1T 2K7  
519-622-3300  
[jnoel@lgl.com](mailto:jnoel@lgl.com)

Toronto and Region Conservation Authority  
101 Exchange Avenue  
Concord, ON  
L4K 5R6

July 20, 2021 (vs2)

RE: East Trunk Sanitary Sewer Offline Storage Facility (Etobicoke Valley – Offleash Dog Park)  
Butternut Health Assessment  
BHA Report Number: [040- 059]  
Date(s) of Butternut health assessment: [May 25, 2020](#)

This letter is in regard to my assessment of the Butternut trees on your property within the Etobicoke Creek Offleash Dog Park for the East Trunk Sanitary Sewer Offline Storage Facility in the City of Mississauga. The trees are in proximity to the proposed construction disturbance limits and therefore require an assessment of health.

As a designated Butternut Health Assessor (BHA), I am providing the following Butternut Health Assessor's Report for the trees located at the above noted property, for which I completed an assessment during the site visit on the above noted date. If there are other Butternut trees at the site that may be affected by the activity and they are not identified in this report, they too must be assessed by a BHA. Please read this letter carefully as it contains important information about the Endangered Species Act, 2007 (ESA).

Butternut is listed as an endangered species on the Species at Risk in Ontario List, and as such, it is protected under the ESA from being killed, harmed, or removed. If you are planning to undertake an activity that may affect Butternut, you may be eligible to follow the requirements set out in section 23.7 of Ontario Regulation 242/08 under the ESA, or you may need to seek an authorization under the ESA (e.g., a permit).

Please visit e-laws at the link provided below for the legal requirements of eligible activities under section 23.7 of Ontario Regulation 242/08 and conditions that must be fulfilled. Information about Butternut is also available at: <http://www.ontario.ca/environment-and-energy/butternut-trees-your-property>.

If you are eligible to kill, harm or take Butternut under section 23.7 of the regulation, your first step is to submit the BHA Report and the original data forms enclosed in this package to the local

MECP District Manager. Note that the Ministry of Environment, Conservation and Parks (MECP) will not accept photocopies. The BHA Report must be submitted at least 30 days prior to registering to kill, harm, or remove a Butternut tree. During this 30 day period, no Butternut trees (of any category) may be killed, harmed, or removed, and MECP may contact you for an opportunity to examine the tree. If MECP chooses to examine the trees, a representative of the MECP will contact you using the information you supplied when you submitted the BHA Report.

If you are eligible to follow the rules in regulation under section 23.7, you may register your activity using the “Notice of Butternut Impact” form on the [MECP Registry](#) **after the 30 day period has elapsed**.

If you are **not** eligible to follow the rules in regulation under section 23.7, please contact the local MECP office to determine whether you will need to seek an authorization (e.g., a permit). A link to the directory of MECP offices is provided below.

Note that municipal by-laws and legislation other than the ESA may also be applicable to the removal or harming of trees.

Please retain this letter and a copy of the BHA Report for your records, along with any other documentation you may receive from the MECP should an examination of the trees occur. If you have any questions, please contact your [local MECP district office](#).

**Links:**

Endangered Species Act, 2007:

[http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_07e06\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_07e06_e.htm)

Ontario Regulation 242/08 (refer to section 23.7):

[http://www.e-laws.gov.on.ca/html/regs/english/elaws\\_regs\\_080242\\_e.htm](http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080242_e.htm)

Summary of changes related to Butternut:

<http://www.ontario.ca/environment-and-energy/butternut-trees-your-property>

MECP office locations:

<https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>

Sincerely,

Jennifer Noel

**Enclosures:**

1. Butternut Health Assessor’s Report
2. Original data forms
3. Electronic and printed copies of the Excel data spreadsheet (BHA Tree Analysis)
4. Photo Appendix

# Butternut Health Assessor's Report Number 040-059

Jennifer Noël BHA# 40  
 LGL Limited  
 445 Thompson Drive, Unit 2  
 Cambridge, Ontario  
 N1T 2K7  
 519-622-3300  
 jnoel@lgl.com

Toronto and Region Conservation Authority  
 101 Exchange Avenue  
 Concord, ON  
 L4K 5R6

Site Location: Etobicoke Valley Off Leash Dog Park  
 Southcreek Road, Toronto, Ontario

Date(s) of Butternut health assessment: [May 26, 2021](#)  
 Date BHA Report prepared: [July 6, 2021](#)

Map datum used: x NAD83  WGS84

Total number of trees assessed in this BHA Report: 2

The assessed tree was numbered on site using [black permanent marker](#). The number at the site correspond to the tree numbers used in this report. See Figures 1 and 2 for locations.

This BHA Report includes the following tables:

- Table 1: Butternut trees proposed to be killed, harmed, or taken
- Table 2: Summary of Assessment Results
- Table 3: Butternut Health Assessment Tree Analysis

Table 1: Butternut trees proposed to be killed, harmed, or taken

Tree #	UTM coordinates	Category <sup>1</sup> (1, 2, or 3 <sup>2</sup> )	dbh <sup>3</sup> (cm)	Cultivated? (Y/N)	Proposed to be: (enter one: killed, harmed or taken)	Reason tree is proposed to be killed, harmed or taken:
1	<a href="#">616508E 4834935N</a>	2	39	N		<a href="#">Tree found within the retained forest with several trees between it and the proposed disturbance site. Disturbance proposed outside of the 25m species regulation area.</a>

<sup>1</sup> The extent to which the tree is affected by Butternut Canker is presented in the Excel document titled, "BHA Tree Analysis" that accompanies this BHA Report.

<sup>2</sup> The rules in regulation under section 23.7 of O. Reg. 242/08 are not applicable to Category 3 trees.

<sup>3</sup> dbh: diameter at breast height, rounded to nearest cm (if tree is shorter than breast height, enter zero)

Tree #	UTM coordinates	Category <sup>1</sup> (1, 2, or 3)	dbh <sup>3</sup> (cm)	Cultivated? (Y/N)	Proposed to be: (enter one: killed, harmed or taken)	Reason tree is proposed to be killed, harmed or taken:
2	615580E 4830570N	2	37	N		Tree found within the retained forest with several trees between it and the proposed disturbance site. Disturbance proposed outside of the 25m species regulation area.

Table 2: Summary of Assessment Results

Result:	Total #:	Important information for persons planning activities that may affect Butternut:
Category 1	0	<ul style="list-style-type: none"> <li>A Category 1 tree is one that is affected by butternut canker to such an advanced degree that retaining the tree would not support the protection or recovery of butternut in the area in which the tree is located; and is considered “non-retainable”.</li> <li>During the 30 day period that follows your submission of this BHA Report to the MECP District Manager, no Butternut trees (of Category 1, 2, or 3) may be killed, harmed, or taken, and MECP may contact you for an opportunity to examine the trees.</li> <li>Category 1 trees may be killed, harmed or taken <b>after</b> the 30 day period that follows submission of this BHA Report to the MECP District Manager, unless the results of an MECP examination indicate that the assessment has not been conducted in accordance with the document entitled “Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the <i>Endangered Species Act, 2007</i>”.</li> </ul>
Category 2	2	<ul style="list-style-type: none"> <li>A Category 2 tree is one that is not affected by Butternut Canker, or is affected by Butternut Canker but the degree to which it is affected is not too advanced and retaining the tree could support the protection or recovery of butternut in the area in which the tree is located, and is considered “retainable”.</li> <li>During the 30 day period that follows your submission of this BHA Report to the MECP District Manager, no Butternut trees (of Category 1, 2, or 3) may be killed, harmed, or taken, and MECP may contact you for an opportunity to examine the trees.</li> <li>Activities that may kill, harm or take up to a maximum of ten (10) Category 2 trees may be eligible to follow the rules in section 23.7 of Ontario Regulation 242/08, in accordance with the conditions and requirements set out in the regulation.</li> <li>Refer to e-Laws for the legal requirements of eligible activities under section 23.7 of Ontario Regulation 242/08 and conditions that must be fulfilled: <a href="http://www.e-laws.gov.on.ca/html/reg/english/elaws_regs_080242_e.htm">http://www.e-laws.gov.on.ca/html/reg/english/elaws_regs_080242_e.htm</a></li> </ul>
Category 3	0	<ul style="list-style-type: none"> <li>A Category 3 tree is one that may be useful in determining sources of resistance to Butternut Canker, and is considered “archivable”.</li> <li>Category 3 trees are not eligible to be killed, harmed or taken under section 23.7 of Ontario Regulation 242/08.</li> <li>Visit the MECP website using the link below for information on how to seek an ESA authorization, or consider an alternative that will avoid killing, harming or taking any Category 3 trees: <a href="http://www.MECP.gov.on.ca/en/Business/Species/2ColumnSubPage/MECP_SAR_HOW_DO_GET_PER_EN.html">http://www.MECP.gov.on.ca/en/Business/Species/2ColumnSubPage/MECP_SAR_HOW_DO_GET_PER_EN.html</a></li> </ul>
Cultivated	0	<ul style="list-style-type: none"> <li>An activity that involves killing, harming, or taking a cultivated Butternut tree that was not required to be planted to fulfill a condition of an ESA permit or a condition of a regulation, may be eligible for the exemption provided by subsection 23.7 (11) of O. Reg. 242/08.</li> </ul>

Result:	Total #:	Important information for persons planning activities that may affect Butternut:
		<ul style="list-style-type: none"> <li>• Prior to undertaking the activity, the owner or occupier of the land on which the Butternut is located (or person acting on their behalf) will need to determine whether the exemption for cultivated trees is applicable by determining whether or not the tree was cultivated as a result of the requirements for an exemption under O. Reg. 242/08 or a condition of a permit issued under the ESA. This information can be accessed by contacting the local MECP district office: <a href="http://www.MECP.gov.on.ca/en/ContactUs/2ColumnSubPage/STEL02_179002.html">http://www.MECP.gov.on.ca/en/ContactUs/2ColumnSubPage/STEL02_179002.html</a></li> <li>• The owner or occupier of the land on which the Butternut is located (or person acting on their behalf) is encouraged to append the details regarding whether the tree was planted to satisfy a requirement (e.g., the permit number or registration number) to this BHA Report for their records.</li> </ul>
Hybrid	0	<ul style="list-style-type: none"> <li>• Hybrid Butternut trees are not protected under the ESA, but their removal may be subject to municipal by-laws and other legislation.</li> </ul>

**Butternut Health Assessor’s Comments:**

The Region of Peel is planning to install a large sanitary sewer offline storage facility, to be used to reduce peak flows entering the G.E. Booth Wastewater Treatment Plant during major wet weather events. Butternut trees are located in the within the Etobicoke Creek Valley south of Southcreek Road within the Offleash park in the City of Mississauga. The trees are located within the lowland forest away from the anticipated construction disturbance area for the installation of the offline storage facility within the park. Tree 1 is located 25m and tree 2 is located 25m beyond the disturbance limits which is outside of the tree protection setback. As such, from an arborist perspective, although construction is within the 50m habitat setback, no portion of the tree is considered to be harmed or injured during the temporary construction. There are several trees between the Butternut and the disturbance zone providing protection to the tree. Soils will be restored once complete and seeded with a native seed mix.

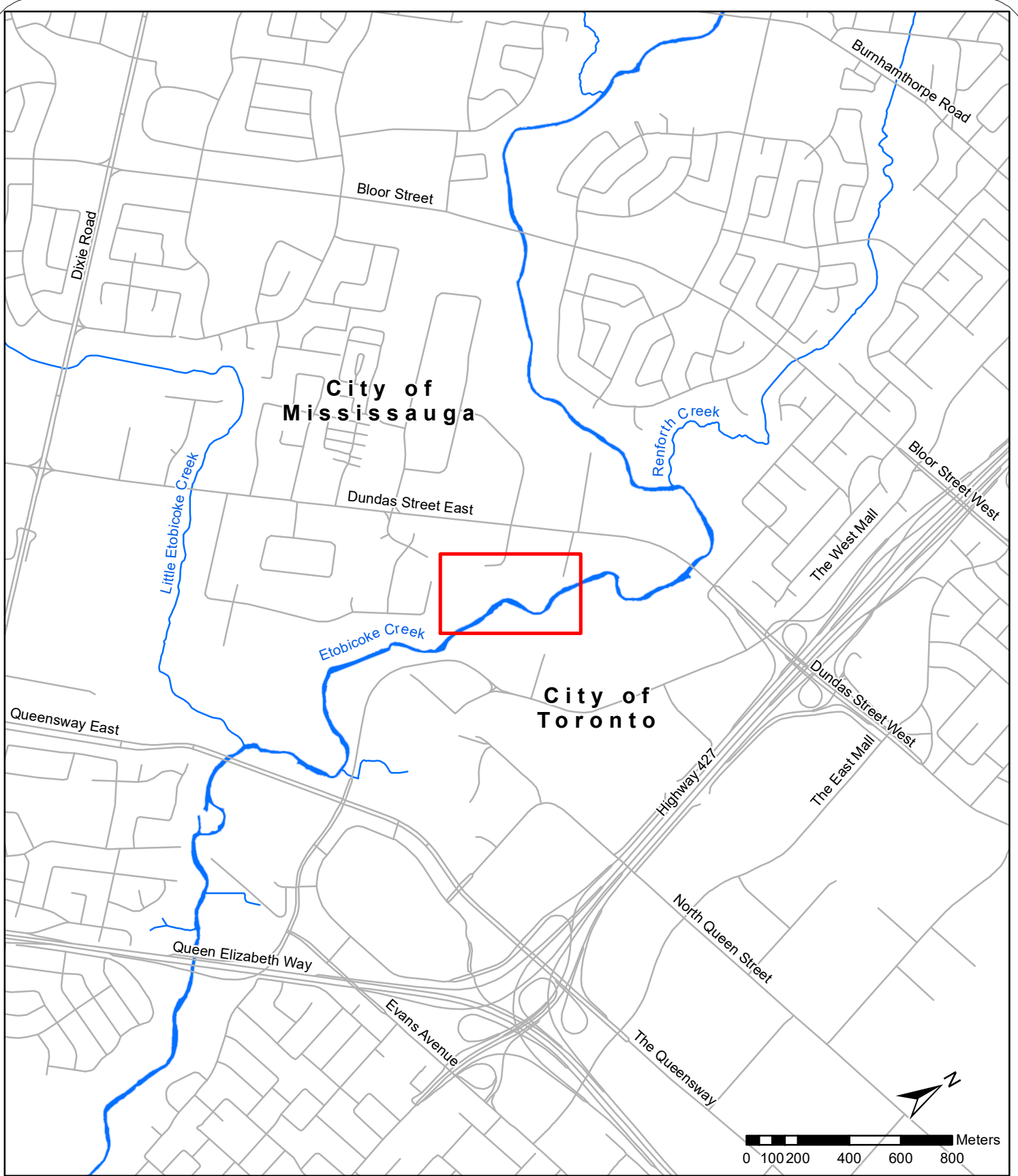
**Table 3. Butternut Health Assessment Tree Analysis**

**2013 ESA 2007 Butternut retainable tree analysis**  
 using data collected by a designated BHA (ESA 2007)

Contact the OMNR Provincial SAR Branch for a more detailed explanation of its derivation (June 2009/2013).

BHA #	40	Assessment Date(s)	25-May-21						Total # trees	2										
Landowner name	Toronto and Region Conservation Authority																			
Property Location	Etobicoke Valley Park Offleash Park (Southcreek Road)																			
input field data					automatic calculations from field data					Categories: 1=non retainable (NR), 2=retainable (R), 3= Archivable (A)										
Tree #	Live Crown %	tree dbh (cm)	# bole cankers				# root flare (RF) cankers		y or n 40 m from cankered tree	Circ. (cm) = Pi x dbh	total bole canker width (sooty x 2.5 + open x 5)	total RF canker width (sooty x 2.5 + open x 5)	bole canker % of circ.	RF canker % of circ.	total bole & root canker % of 2xCirc	'2' cases			'3' cases	
			sooty (S) (will be assigned 2.5 cm per canker)	open (O) (will be assigned 5 cm per canker)	RF S	RF O	LC% >= 50 and BC% = 0	LC %> 70 & BRC %< 20								LC %> 70 & BC %< 20	Final R Tree Call	FINAL TREE CALL R, dbh>20cm <40m from NR		
1	100	39	1	0	0	0	1	2	n	122	2.5	12.5	2	10	6	1	2	2	2	2
2	95	37	1	0	0	0	2	1	n	116	2.5	10	2	9	5	1	2	2	2	2

NOTE: This concludes the summary of the BHA Report. A complete BHA Report must include the original (hard copy) data forms (i.e., all completed sets of Form 1 and Form 2), an electronic copy of the Excel data analysis spreadsheet, and one printed copy of the Excel data analysis spreadsheet.



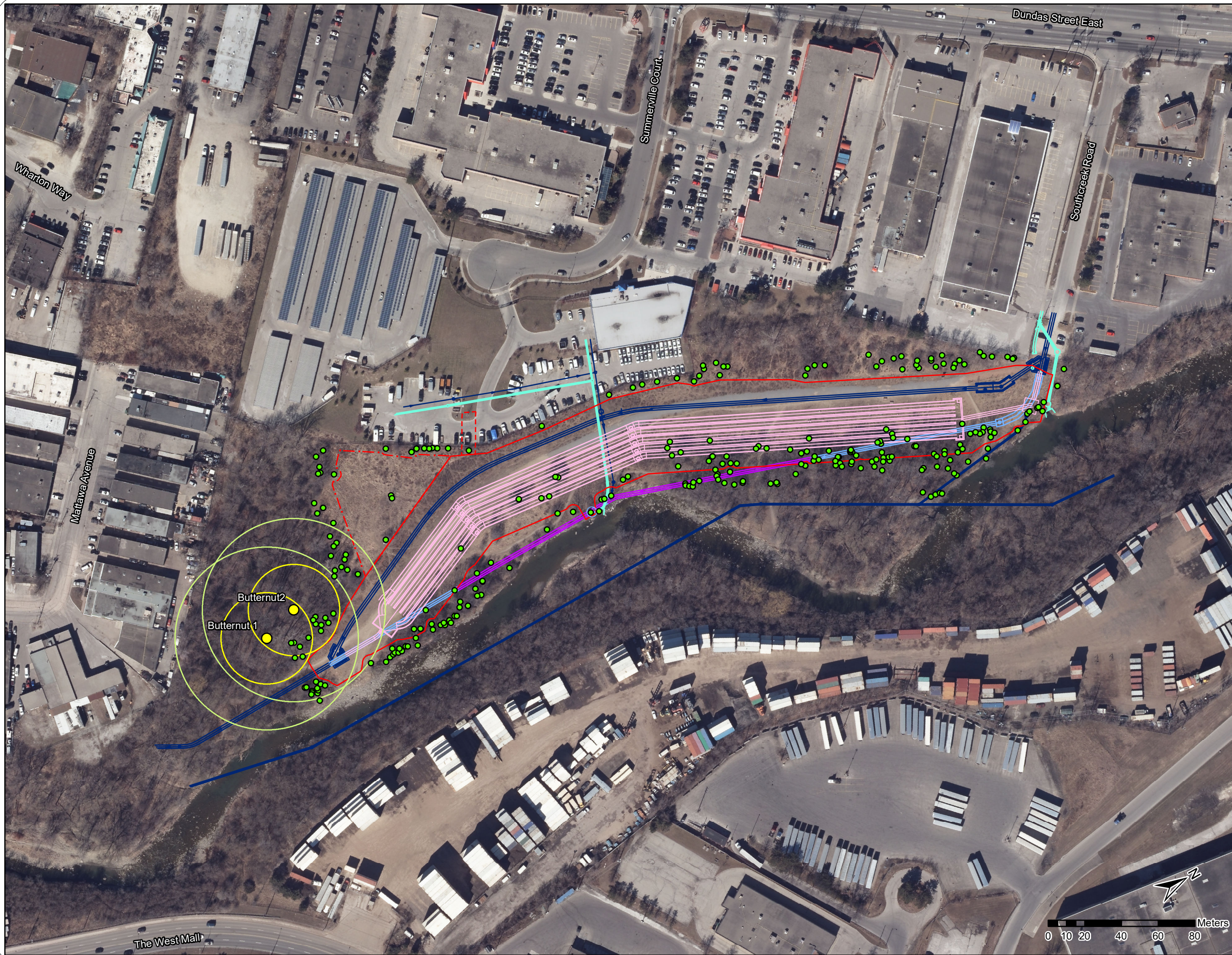
## East Trunk Sewer Key Map

 Approximate Location of Study Area
















Project	TA9109	Figure	1
Date	May 2021	Prepared By	KC
Scale	1:20,000	Verified By	JCN





**LEGEND**

-  Butternut Location
-  25m Butternut Protection Zone
-  50m Butternut Protection Zone
-  Tree Location
-  Proposed Sanitary Sewer
-  Existing Sanitary Sewer
-  Manhole to be Decommissioned
-  Abandoned Sanitary Sewer to be Decommissioned
-  Abandoned Sanitary Sewer
-  Existing Storm Sewer
-  Excavation Limit and Construction Disturbance
-  Construction Laydown Area
-  Temporary Construction Access

**East Trunk Sewer**  
Butternut Location



<b>Project</b>	TA9109	<b>Figure</b>	
<b>Date</b>	June 2021	<b>Prepared By:</b>	KC
<b>Scale</b>	1:2,000	<b>Verified By:</b>	JCN



# PHOTO APPENDIX

## Butternut 1



Photo 1: Butternut canker on the root flare .

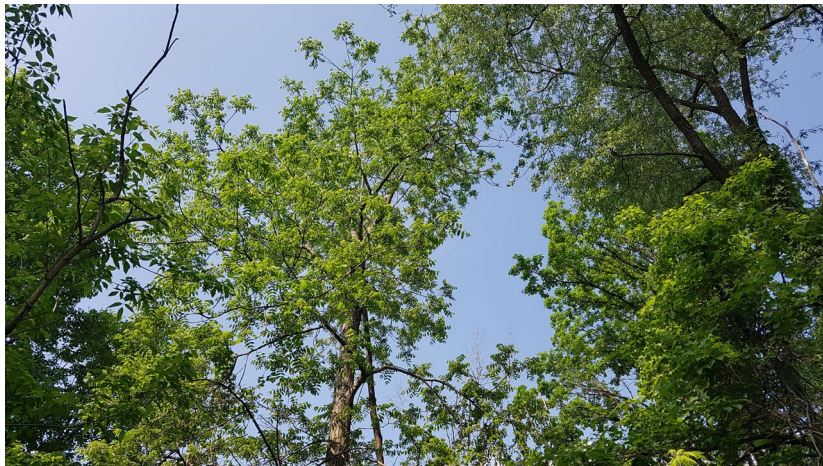


Photo 2: Canopy view of the Butternut. 100% live crown.



Photo 3: View of canker on root flare of the tree..

## PHOTO APPENDIX Butternut 2



Photo 1: View of canopy of tree with 95% live crown.



Photo 2: Butternut canker in the root flare.



Photo 3: No canker observed on upper stem.

# Appendix D – TRCA Archaeology Screening Record

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March 9, 2021

**RE: Archaeology Screening Record: EC21-01 East Trunk Sanitary Sewer**

**Project Contact: Suzanne Bevin**

Your project area has been evaluated to determine whether an archaeological assessment is required. This includes all areas that may be impacted by project activities, including – but not limited to: the main project area, temporary storage, staging and working areas, temporary access roads and detours. It has been determined that the project area will **not require an archaeological assessment - see Section 2 for justification.**

REVIEW RESULTS
<b>SECTION 1 – Evidence of Archaeological Potential</b>
<input type="checkbox"/> Review of archaeological potential model <ul style="list-style-type: none"> <li><input type="checkbox"/> TRCA <i>Includes: Elevated topography, pockets of well-drained sandy soil,</i></li> <li><input type="checkbox"/> Regional/Municipal <i>distinctive land formations, resource areas, water sources</i></li> </ul> <input type="checkbox"/> Known archaeological sites on or within 300 metres of the project area <ul style="list-style-type: none"> <li><input type="checkbox"/> Early historic settlements</li> <li><input type="checkbox"/> Early historic transportation routes</li> <li><input type="checkbox"/> Lost or Buried Water Course</li> <li><input type="checkbox"/> Historic aerial photography</li> <li><input type="checkbox"/> Indigenous or local knowledge of archaeological sites on or within 300 metres of the project area</li> <li><input type="checkbox"/> Indigenous knowledge or historically documented evidence of past Indigenous use on or within 300 metres of the project area</li> <li><input type="checkbox"/> Known burial site or cemetery on or adjacent to the project area</li> <li><input type="checkbox"/> The project area has been recognized for its cultural heritage value</li> <li><input type="checkbox"/> Potentially intact deeply buried archaeological resources</li> </ul>
<b>SECTION 2 – Survey Exemptions</b>
<input checked="" type="checkbox"/> Previously assessed and has no further archaeological concerns <input checked="" type="checkbox"/> Evidence for deep and extensive land alterations (i.e. major grading below topsoil, building footprints, sewage/infrastructure development, quarrying) <ul style="list-style-type: none"> <li><input type="checkbox"/> Steep slope (greater than 20 degrees)</li> <li><input type="checkbox"/> Permanently wet</li> <li><input type="checkbox"/> No subsurface disturbance or heavy machinery on TRCA land</li> <li><input type="checkbox"/> Other: Describe/List Reasons For (or No) further work.</li> </ul>

**Additional Comments**

**A small portion of the project area was tested and cleared in 2009 (see Figure 2). The remainder of the area has been subjected to extensive impacts as indicated in the attached aerial photographs. In 1967, the area was treed and relatively undisturbed (Figure 3). By 1970, the area has been cleared and graded (Figure 4), with further disturbance occurring in 1973 at the northern extent of the project area (Figure 5).**

**Accordingly, given this project area is situated in an area that has been previously disturbed, TRCA has no further archaeological concerns. However, if there is any deviation from the agreed upon project area, additional assessment may be necessary.**

**Furthermore, in the unlikely event that any deeply buried deposits or human remains are encountered, all activities will cease and the TRCA Archaeology Resource Management Services as well as the proper authorities will be contacted immediately.**

**Please contact me if you have any questions or concerns. Thank you.**

If there is any deviation from the agreed upon project area (see Figure 1, yellow polygon), additional archaeological assessment may be necessary.

Please contact me if you have any questions or concerns.

Thank you,



Alistair R. Jolly, M.A.  
Supervisor, Archaeology  
Restoration and Infrastructure  
Toronto and Region Conservation Authority  
Tel: (416) 661-6600 ext. 6405  
Cell: (416) 771-2004

/attached



**Figure 1: Project Area**







Figure 3: 1967



**Figure 4: 1970**



**Figure 5: 1973**

# Appendix E – Stage 1 Archaeological Assessment

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# Stage 1 Archaeological Assessment East Trunk Sanitary Sewer Offline Storage Facility Municipal Class Environmental Assessment Lot 1, Concession 1 South of Dundas (Former Township of Toronto, County of Peel) City of Mississauga, Region of Peel

---

## Original Report

Prepared for:

## IBI Group

2620 Bristol Circle Suite 300

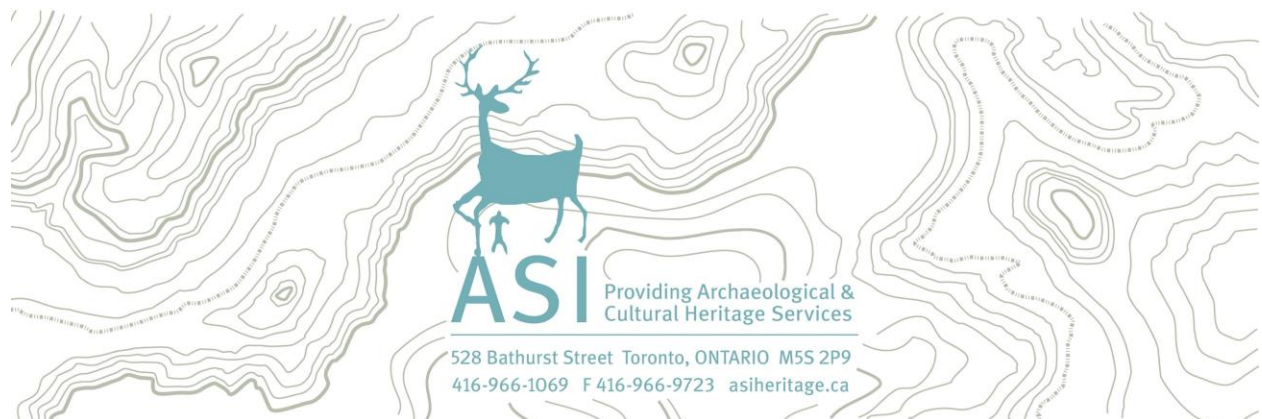
Oakville ON L6H 6Z7

Archaeological Licence: P383 (Williams)

PIF P383-0252-2021

Archaeological Services Inc. File: 21EA-006

26 April 2021



## Executive Summary

Archaeological Services Inc. (ASI) was contracted by IBI Group to conduct a Stage 1 Archaeological Assessment (Background Research and Property Inspection) as part of the East Trunk Sanitary Sewer Offline Storage Facility Municipal Class Environmental Assessment. The Region of Peel is undertaking this study to identify if, and how the existing abandoned East Trunk Sanitary Sewer or a new offline storage facility could be utilized for storage of peak sanitary flows. The primary benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population.

The Stage 1 background study determined one previously registered archaeological site is located within one kilometre of the Study Area and is not within 50 metres. The property inspection determined that the Study Area does not retain archaeological potential and will not require Stage 2 assessment.

In light of these results, the following recommendations are made:

- 1 The Study Area does not retain archaeological potential on account of deep and extensive land disturbance, slopes in excess of 20 degrees and previously assessed areas. These lands do not require further archaeological assessment; and,
- 2 Should the proposed work extend beyond the current Study Area, further Stage 1 archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.



## Project Personnel

- **Senior Project Manager:** Lisa Merritt, MSc. (P094) Partner, Director, Environmental Assessment Division
- **Project Coordinator:** Katrina Thach, Hon. BA (R1225), Archaeologist, Project Coordinator, Environmental Assessment Division
- **Project Administrator:** Hannah Brouwers, Hon. BA (R1270), Archaeologist, Project Administrator, Environmental Assessment Division
- **Project Director:** Blake Williams, MLitt (P383), Lead Archaeologist, Project Manager, Environmental Assessment Division
- **Project Manager:** Caitlin Lacy, BA (R303), Lead Archaeologist, Project Manager, Environmental Assessment Division
- **Report Preparation:** Caitlin Lacy
- **Graphics:** Jonas Fernandez, MSc (R281), Lead Archaeologist, Manager Geomatics, Operations Division
- **Report Reviewer:** Lisa Merritt



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## 1.0 Project Context

Archaeological Services Inc. (ASI) was contracted by IBI Group to conduct a Stage 1 Archaeological Assessment (Background Research and Property Inspection) as part of the East Trunk Sanitary Sewer Offline Storage Facility Municipal Class Environmental Assessment (Figure 1). The Region of Peel is undertaking this study to identify if, and how the existing abandoned East Trunk Sanitary Sewer or a new offline storage facility could be utilized for storage of peak sanitary flows. The primary benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population.

All activities carried out during this assessment were completed in accordance with the *Ontario Heritage Act* (Ontario Heritage Act, R.S.O. c. O.18, 1990, as amended in 2019) and the 2011 *Standards and Guidelines for Consultant Archaeologists (S & G)*, administered by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI 2011).

### 1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act, RSO* (Ministry of the Environment, 1990 as amended 2020) and regulations made under the Act, and are therefore subject to all associated legislation. This project is being conducted in accordance with the Municipal Engineers' Association document *Municipal Class Environmental Assessment* (Municipal Class Environmental Assessment, 2000, as amended 2015).

Authorization to carry out the activities necessary for the completion of the Stage 1 archaeological assessment and property inspection was granted by IBI Group on March 12, 2021.

### 1.2 Historical Context

The purpose of this section, according to the S & G, Section 7.5.7, Standard 1, is to describe the past and present land use and the settlement history and any other



relevant historical information pertaining to the Study Area. A summary is first presented of the current understanding of the Indigenous land use of the Study Area. This is then followed by a review of the historical Euro-Canadian settlement history.

### **1.2.1 Indigenous Land Use and Settlement**

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years before present (BP) (Ferris, 2013). Populations at this time would have been highly mobile, inhabiting a boreal-parkland similar to the modern sub-arctic. By approximately 10,000 BP, the environment had progressively warmed (Edwards & Fritz, 1988) and populations now occupied less extensive territories (Ellis & Deller, 1990).

Between approximately 10,000-5,500 BP, the Great Lakes basins experienced low-water levels, and many sites which would have been located on those former shorelines are now submerged. This period produces the earliest evidence of heavy wood working tools, an indication of greater investment of labour in felling trees for fuel, to build shelter, and watercraft production. These activities suggest prolonged seasonal residency at occupation sites. Polished stone and native copper implements were being produced by approximately 8,000 BP; the latter was acquired from the north shore of Lake Superior, evidence of extensive exchange networks throughout the Great Lakes region. The earliest evidence for cemeteries dates to approximately 4,500-3,000 BP and is indicative of increased social organization, investment of labour into social infrastructure, and the establishment of socially prescribed territories (Brown, 1995, p. 13; Ellis et al., 1990, 2009).

Between 3,000-2,500 BP, populations continued to practice residential mobility and to harvest seasonally available resources, including spawning fish. Exchange and interaction networks broaden at this time (Spence et al., 1990, pp. 136, 138) and by approximately 2,000 BP, evidence exists for macro-band camps, focusing on the seasonal harvesting of resources (Spence et al., 1990, pp. 155, 164). It is also during this period that maize was first introduced into southern Ontario, though it would have only supplemented people's diet (Birch & Williamson, 2013, pp. 13–15). Bands likely retreated to interior camps during the winter. It is generally understood that these populations were Algonquian-speakers during these millennia of settlement and land use.



From approximately 1,000 BP until approximately 300 BP, lifeways became more similar to that described in early historical documents. During the Early Iroquoian phase (AD 1000-1300), the communal site is replaced by the village focused on horticulture. Seasonal disintegration of the community for the exploitation of a wider territory and more varied resource base was still practised (Williamson, 1990, p. 317). By the second quarter of the first millennium BP, during the Middle Iroquoian phase (AD 1300-1450), this episodic community disintegration was no longer practised and populations now communally occupied sites throughout the year (Dodd et al., 1990, p. 343). In the Late Iroquoian phase (AD 1450-1649) this process continued with the coalescence of these small villages into larger communities (Birch & Williamson, 2013). Through this process, the socio-political organization of the First Nations, as described historically by the French and English explorers who first visited southern Ontario, was developed.

By 1600 CE, the Huron- Wendat communities within Simcoe County had formed the Confederation of Nations encountered by the first European explorers and missionaries. In the 1640s, the traditional enmity between the Haudenosaunee and the Huron-Wendat (and their Algonquian allies such as the Nipissing and Odawa) led to the dispersal of the Huron-Wendat. Shortly afterwards, the Haudenosaunee established a series of settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. By the 1690s however, the Anishinaabeg were the only communities with a permanent presence in southern Ontario. From the beginning of the eighteenth century to the assertion of British sovereignty in 1763, there was no interruption to Anishinaabeg control and use of southern Ontario.

## 1.2.2 Treaties

The Study Area is within Treaty 13a, or the Toronto Purchase, signed on August 2, 1805 by the Mississaugas and the British Crown in Port Credit at the Government Inn. A provisional agreement was reached with the Crown on August 2, 1805, in which the Mississaugas ceded 70,784 acres of land bounded by the Toronto Purchase of 1787 in the east, the Brant Tract in the west, and a northern boundary that ran six miles back from the shoreline of Lake Ontario. The Mississaugas also reserved the sole right of fishing at the Credit River and were to retain a 1 mile strip of land on each of its banks, which became the Credit Indian



Reserve. On September 5, 1806, the signing of Treaty 14 confirmed the Head of the Lake Purchase between the Mississaugas of the Credit and the Crown (Mississauga of the New Credit First Nation, 2001; Mississaugas of the Credit First Nation, 2017).

### 1.2.3 Post-Contact Settlement

Historically, the Study Area is located in the Former Township of Toronto, County of Peel, in part of Lot 1, Concession 1, South of Dundas (SD).

The S & G stipulates that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches, and early cemeteries are considered to have archaeological potential. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site are also considered to have archaeological potential.

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those that are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be located in proximity to water. The development of the network of concession roads and railroads through the course of the nineteenth century frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The first Europeans to arrive in the area were transient merchants and traders from France and England, who followed Indigenous pathways and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls and convenient access, by means of the various waterways and overland trails, into the hinterlands. Early transportation routes followed existing Indigenous trails, both along the lakeshore and adjacent to various creeks and rivers (ASI 2006).



## Toronto Township

The Township of Toronto was original surveyed in 1806 by Mr. Wilmot, Deputy Surveyor. The first settler in this Township, and also the County of Peel, was Colonel Thomas Ingersoll. The whole population of the Township in 1808 consisted of seven families, scattered along Dundas Street. The number of inhabitants gradually increased until the war broke out in 1812, which gave considerable check to its progress. When the war was over, the Townships growth revived and the rear part of the Township was surveyed and called the “New Survey”. The greater part of the New Survey was granted to a colony of Irish settlers from New York City, who suffered persecution during the war.

## Village of Summerville

Summerville was a small settlement on Dundas Street where it crosses the Etobicoke Creek. Originally called Silverthorn’s, Silverthorn’s Mill or Mill Place, the first settlers arrived prior to 1810, including mostly loyalist families. In 1810, Abraham Markle built a sawmill on the creek south of Dundas Street. In 1818, Thomas Silverthorn opened an inn on the northeast corner of what is today Southcreek Road and Dundas Street, later named the Wayside Inn and the Summerville Hotel. A second inn was operated by William O’Brien east of Thomas’ inn. By 1820, Thomas’ son John Silverthorn opened a blacksmith shop, a grist mill and a saw mill north of Dundas Street, as well as cleared a road connecting his mills with Dundas Street and Burnhamthorpe Road. By the mid-1850s, the village also had post office, carriage factory, cooper shop and chair factory, two blacksmith shops, two schools, a Methodist Church, a general store and a population of about 100. The Credit Valley Railway was built near Summerville in 1879, and the paving of Dundas Street in 1917, meant that travelers no longer had to stop in the village. Settlement began to disperse (Heritage Mississauga, 2009b).

## Credit Valley Railway

The Credit Valley Railway (CVR) was constructed between 1877 and 1879 to improve trade opportunities in southern Ontario (Town of Caledon 2009). The project was backed by George Laidlaw and was intended to connect Toronto with Orangeville via Streetsville. Construction began in 1874 and over several subsequent years several branches were added to the proposed line. The first



section of track from Parkdale (Toronto) to Milton was opened in 1877. In 1873, survey work was completed and track was first laid in 1876. Construction on the railway reached the Forks of the Credit by 1879, with a station at the northern end of the longest curved timber trestle of the time, which spanned 1,146 feet through the river valley at a height of 85 feet (Town of Caledon 2009:7.30). The line was completed in 1881 but nearly bankrupted the company. It was established in direct competition with the Toronto, Grey and Bruce Railway in the hopes of stimulating trade and economic opportunities in the outlying areas. In 1883 the line was taken over by the Canadian Pacific Railway (CPR) (Heritage Mississauga, 2009a; Town of Caledon, 2009). CPR strongly resisted passenger traffic until after the 1979 Mississauga freight derailment incident. In exchange for dropping the lawsuit threatened against CPR by the city to cover costs associated with the incident, CPR agreed to allow passenger service on what became the GO Transit Milton line in 1981 (Stewart, 2016).

## Dundas Street

Formerly known as Governor's Road, Dundas Street was surveyed by Augustus Jones and constructed by the Queens Rangers, commissioned by Lieutenant Governor Simcoe to be the first major roadway in Upper Canada. Dundas Street was opened through Toronto Township in 1798. It was originally a crooked winding road, following existing Indigenous trails, crossing Etobicoke Creek south of its present location, until 1806 when it was straightened between the surveyed concessions. It became a corduroy road in 1812 to accommodate the movement of troops, and in 1836 was macadamized from Toronto to Cooksville and two tolls booths put in place at Dixie and Streetsville Roads. In 1850, the road was purchased by the Toronto Road Company, bringing it under the authority of the Township, who improved the road many times over into the mid-twentieth century, when it was widened to four lanes. As of 1970, the road is owned and maintained by the City of Mississauga (City of Mississauga, n.d.; Hicks, 2006, pp. xiii–xv).

### 1.2.4 Map Review

The 1859 Map of the County of Peel (Tremaine, 1859) and the south half of Toronto Township in the 1877 Illustrated Historical Atlas of the County of Peel (Walker and Miles, 1877) were examined to determine the presence of historic features within the Study Area during the nineteenth century (Figures 2 and 3).



It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

In addition, the use of historical map sources to reconstruct/predict the location of former features within the modern landscape generally proceeds by using common reference points between the various sources. These sources are then geo-referenced in order to provide the most accurate determination of the location of any property on historic mapping sources. The results of such exercises are often imprecise or even contradictory, as there are numerous potential sources of error inherent in such a process, including the vagaries of map production (both past and present), the need to resolve differences of scale and resolution, and distortions introduced by reproduction of the sources. To a large degree, the significance of such margins of error is dependent on the size of the feature one is attempting to plot, the constancy of reference points, the distances between them, and the consistency with which both they and the target feature are depicted on the period mapping.

The 1859 atlas map illustrates Dundas Street East as a plank and gravel road. Etobicoke Creek is illustrated just east of the Study area and William Ward is shown as the owner of Lot 1. No structures or historic features are depicted within the Study Area. The Summerville Post Office can be seen just north of the Study Area, on the south side of Dundas Street East.

The 1877 atlas map illustrates J.O. Howard as the owner of Lot 1. Roads and watercourses are as depicted on earlier mapping. Once again, no features structures or historic features are depicted within the Study Area.

Early topographic mapping was also reviewed for the presence of potential historical features. Figure 4 illustrates the Study Area located on the 1909 Brampton topographic sheet (Department of Militia and Defence, 1909). Land features such as waterways, woodlots and elevation are clearly illustrated. The Study Area is predominately indicated as cleared of vegetation, with the





exception of small wooded locales. Roadways and watercourses are illustrated in the same configuration as the early atlas mapping with Etobicoke Creek illustrated east of the Study Area.

Early aerial photography was also reviewed for the presence of potential historical features. Image 8 illustrates the Study Area located on the 1954 aerial photograph (Hunting Survey Corporation Limited, 1954). The aerial photograph shows much of the Study Area to be covered by trees. Etobicoke Creek now flanks the east limit of the Study Area.

A review of available Google satellite imagery since 2003 shows that the Study Area has undergone some changes. In 2007 some earthmoving and grading activities had occurred at the base of Summerville Court and are associated with the construction of Secure Self Storage and its associated parking lot (Image 9). In 2012, additional earthmoving and grading activities associated with the existing in-service sanitary sewer can be seen (Image 10). Between 2013 and the 2020 the area was rehabilitated, and a network of dirt and paved trails are visible across the Study Area.

## 1.3 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the Study Area, its environmental characteristics (including drainage, soils or surficial geology and topography, etc.), and current land use and field conditions. Three sources of information were consulted to provide information about previous archaeological research: the site record forms for registered sites available online from the MHSTCI through “Ontario’s Past Portal”; published and unpublished documentary sources; and the files of ASI.

### 1.3.1 Current Land Use and Field Conditions

The Study Area is located south of Dundas Street East and west of The West Mall and consists of greenspace on the east and west sides of Etobicoke Creek, including the Etobicoke Creek Offleash Dog Park, and is generally bounded by commercial development on the west and east sides of the Creek.



The property inspection was conducted on April 16, 2021 under the field direction of Alexis Dunlop (P1146).

### 1.3.2 Geography

In addition to the known archaeological sites, the state of the natural environment is a helpful indicator of archaeological potential. Accordingly, a description of the physiography and soils are briefly discussed for the Study Area.

The S & G stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario since 5,000 BP (Karrow & Warner, 1990, p. Figure 2.16), proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location.

Other geographic characteristics that can indicate archaeological potential include: elevated topography (eskers, drumlins, large knolls, and plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including; food or medicinal plants (migratory routes, spawning areas) are also considered characteristics that indicate archaeological potential (S & G, Section 1.3.1).



The Study Area is located on sand plains within the Iroquois Plain physiographic region of southern Ontario. This is a lowland region bordering Lake Ontario. This region is characteristically flat, and formed by lacustrine deposits laid down by the inundation of Lake Iroquois, a body of water that existed during the late Pleistocene. This region extends from the Trent River, around the western part of Lake Ontario, to the Niagara River, spanning a distance of 300 km (Chapman & Putnam, 1984, p. 190). The old shorelines of Lake Iroquois include cliffs, bars, beaches and boulder pavements. The old sandbars in this region are good aquifers that supply water to farms and villages. The gravel bars are quarried for road and building material, while the clays of the old lake bed have been used for the manufacture of bricks (Chapman and Putnam 1984:196).

The Study Area is situated immediately south of a beach ridge.

Surficial geology mapping demonstrates that the Study Area is underlain by modern alluvial deposits consisting of clay, silt, sand, gravel, and may contain organic remains (Ontario Geological Survey, 2010).

The Study Area is within Lower Etobicoke Creek subwatersheds. Etobicoke Creek, derived from the Algonkian word “Wah-do-be kaug” meaning “place where the alders grow”. The Etobicoke Creek watershed, including its major tributaries Spring Creek, Little Etobicoke Creek, and West Etobicoke Creek, drains an area of approximately 211 square kilometres within the cities of Brampton, Mississauga, Toronto, and the Town of Caledon. The creeks flow south from its headwaters in Caledon into Lake Ontario through 68% urban, 27% rural and 5% urbanizing land (TRCA, 2018).

### **1.3.3 Previously Registered Archaeological Sites**

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MHSTCI. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 km east to west, and approximately 18.5 km north to south. Each Borden block is referenced by a four-



letter designator, and sites within a block are numbered sequentially as they are found. The Study Area under review is located in Borden block *AjGv*.

According to the OASD, one previously registered archaeological site is located within one kilometre of the Study Area (MHSTCI, 2021). Site *AjGv-89* was located during the archaeological assessment for the Metro – West Mall Frozen Distribution Centre at 170 The West Mall, 21 Waulron Street and 30 Waulron Street in the City of Toronto (ARA, 2018). A scatter of Euro-Canadian archaeological material was recovered. Based on detailed background research and analysis of artifacts the site was determined to represent an occupation dating after 1894 and no further archaeological assessment was recommended. Site *AjGv-89* is situated over 400 m from the current Study Area.

### **1.3.4 Previous Archaeological Assessments**

According to the background research, two previous reports detail fieldwork within 50 m of the Study Area:

**Archaeological Assessment of TRCA Property in the City of Mississauga (Stages 1 and 2), Etobicoke Creek Trunk Sewer Project, Lots 1 & 2, Concession 1 SD (South of Dundas), City of Mississauga, Peel Region** (TRCA, 2010 P303-002-2008 and P303-046-2009)

In 2008 and 2009, the Toronto and Region Conservation Authority (TRCA) conducted a Stage 1-2 archaeological assessment in advance of a proposed sewer trunk installation within the west floodplain of Etobicoke Creek. The area was assessed by test pit survey at five and ten metre intervals. No archaeological resources were encountered and a recommendation for no further archaeological assessment was made. A portion of the TRCA study area falls within the current East Trunk Study Area.

## **2.0 Field Methods**

A Stage 1 property inspection must adhere to the S & G, Section 1.2, Standards 1-6, which are discussed below. The entire property and its periphery must be inspected. The inspection may be either systematic or random. Coverage must be



sufficient to identify the presence or absence of any features of archaeological potential. The inspection must be conducted when weather conditions permit good visibility of land features. Natural landforms and watercourses are to be confirmed if previously identified. Additional features such as elevated topography, relic water channels, glacial shorelines, well-drained soils within heavy soils and slightly elevated areas within low and wet areas should be identified and documented, if present. Features affecting assessment strategies should be identified and documented such as woodlots, bogs or other permanently wet areas, areas of steeper grade than indicated on topographic mapping, areas of overgrown vegetation, areas of heavy soil, and recent land disturbance such as grading, fill deposits and vegetation clearing. The inspection should also identify and document structures and built features that will affect assessment strategies, such as heritage structures or landscapes, cairns, monuments or plaques, and cemeteries.

The Stage 1 archaeological assessment property inspection was conducted under the field direction of Alexis Dunlop (P1146), on April 16, 2021, in order to gain first-hand knowledge of the geography, topography, and current conditions and to evaluate and map archaeological potential of the Study Area. It was a systematic visual inspection from publicly accessible lands/public right-of-ways (ROWs) only and did not include excavation or collection of archaeological resources.

Fieldwork was conducted when weather conditions were deemed clear with good visibility (sunny and 11°C), per S & G Section 1.2., Standard 2. Field observations are compiled onto the existing conditions of the Study Area in Section 7.0 (Figure 5) and associated photographic plates are presented in Section 8.0 (Images 1-7).

### **3.0 Analysis and Conclusions**

The historical and archaeological contexts have been analyzed to help determine the archaeological potential of the Study Area. Results of the analysis of the Study Area property inspection and background research are presented in Section 3.1.



## 3.1 Analysis of Archaeological Potential

The S & G, Section 1.3.1, lists criteria that are indicative of archaeological potential. According to the S & G, Section 1.4 Standard 1e, no areas within a property containing locations listed or designated by a municipality can be recommended for exemption from further assessment unless the area can be documented as disturbed. The Municipal Heritage Register was consulted and no properties within the Study Area are Listed or Designated under the Ontario Heritage Act.

The Study Area meets the following criteria indicative of archaeological potential:

- Water sources: primary, secondary, or past water source (Etobicoke Creek);
- Early historic transportation routes (Dundas Street); and
- Proximity to early settlements (Summerville).

These criteria are indicative of potential for the identification of archaeological resources, depending on soil conditions and the degree to which soils have been subject to deep disturbance.

Approximately 63% of the Study Area has been previously assessed and does not require further archaeological assessments (Figure 5: areas highlighted in orange).

The property inspection determined that parts of the Study Area has been subjected to deep soil disturbance events due to the previous installation of a trunk sewer and the surrounding industrial developments (Figure 5: areas highlighted in yellow) and consists of steeply sloping conditions of more than 20 degrees (Figure 5: areas highlighted in pink). According to the S & G Section 1.3.2 and 2.1 Standard 2a (iii) these areas do not retain archaeological potential (Plates 1-7). These areas do not require further survey.

## 3.1 Conclusions

The Stage 1 background study determined one previously registered archaeological site is located within one kilometre of the Study Area and is not within 50 metres and that the majority of the Study Area has been previously



subject to a Stage 1-2 by TRCA. The property inspection determined that the remainder of the Study Area does not retain archaeological potential due to steep slopes and deep and extensive disturbance and will not require Stage 2 assessment.

## 4.0 Recommendations

In light of these results, the following recommendations are made:

- 1 The Study Area does not retain archaeological potential on account of deep and extensive land disturbance (Figure 5: areas highlighted in yellow), slopes in excess of 20 degrees (Figure 5: areas highlighted in pink), and previously assessed areas (Figure 5: areas highlighted in orange). These lands do not require further archaeological assessment; and,
- 2 Should the proposed work extend beyond the current Study Area, further Stage 1 archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

**NOTWITHSTANDING** the results and recommendations presented in this study, ASI notes that no archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Cultural Programs Unit of the Ministry of Heritage, Sport, Tourism and Culture Industries should be immediately notified.

The above recommendations are subject to Ministry approval and it is an offence to alter any archaeological site without Ministry of Heritage, Sport, Tourism and Culture Industries concurrence. No grading or other activities that may result in the destruction or disturbance of any archaeological sites are permitted until notice of MHSTCI approval has been received.



## 5.0 Legislation Compliance Advice

ASI advises compliance with the following legislation:

- This report is submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, RSO 2005, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological field work and report recommendations ensure the conservation, preservation and protection of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Heritage, Sport, Tourism and Culture Industries, a letter will be issued by the Ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological field work on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the Ontario Heritage Act.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.
- The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the





Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.

- Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48(1) of the Ontario Heritage Act and may not be altered, nor may artifacts be removed from them, except by a person holding an archaeological license.



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## 7.0 Images

### 7.1 Field Photography



**Image 1: View from base of Southcreek Road into dog park. Area has been previously disturbed, no potential**



**Image 2: View from entrance of dog park looking down steep slope, no potential**



**Image 3: View from trail looking up steep slope along north limit of dog park, previously assessed**



**Image 4: Overview of Study Area with storage facility on left and Etobicoke Creek on right, previously subject to Stage 2 assessment**



**Image 5: View across Etobicoke Creek with remediated banks and steep slope on east side of creek, no potential**



**Image 6: View across Etobicoke Creek with steep remediated banks on east side of creek, no potential**





**Image 7: View across Etobicoke Creek with steep slopes and remediated banks on east side of creek, no potential**

## 7.2 Aerial Imagery



Image 8: Study Area overlaid on the 1954 Aerial Photograph



Image 9: General vicinity of Study Area circa 2007 showing construction of storage facility at 2605 Summerville Court



**Image 10: General vicinity of Study Area circa 2012 showing disturbances associated with trunk sewer installation**

## 8.0 Maps



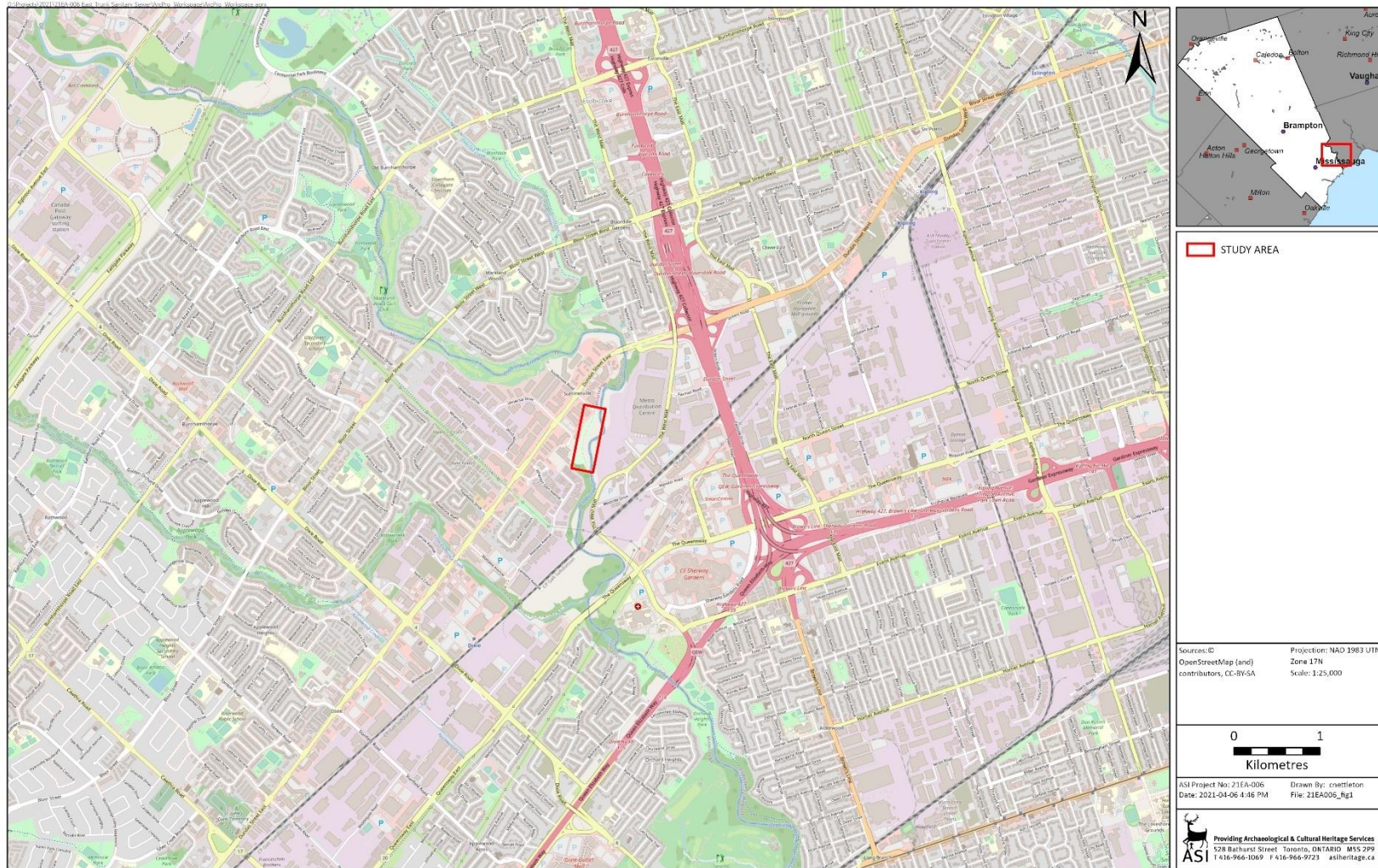


Figure 1: Location of the Study Area



Figure 2: Study Area overlaid on the 1859 Map of the County of Peel



Figure 3: Study Area overlaid on the 1877 Illustrated Historical Atlas of the County of Peel

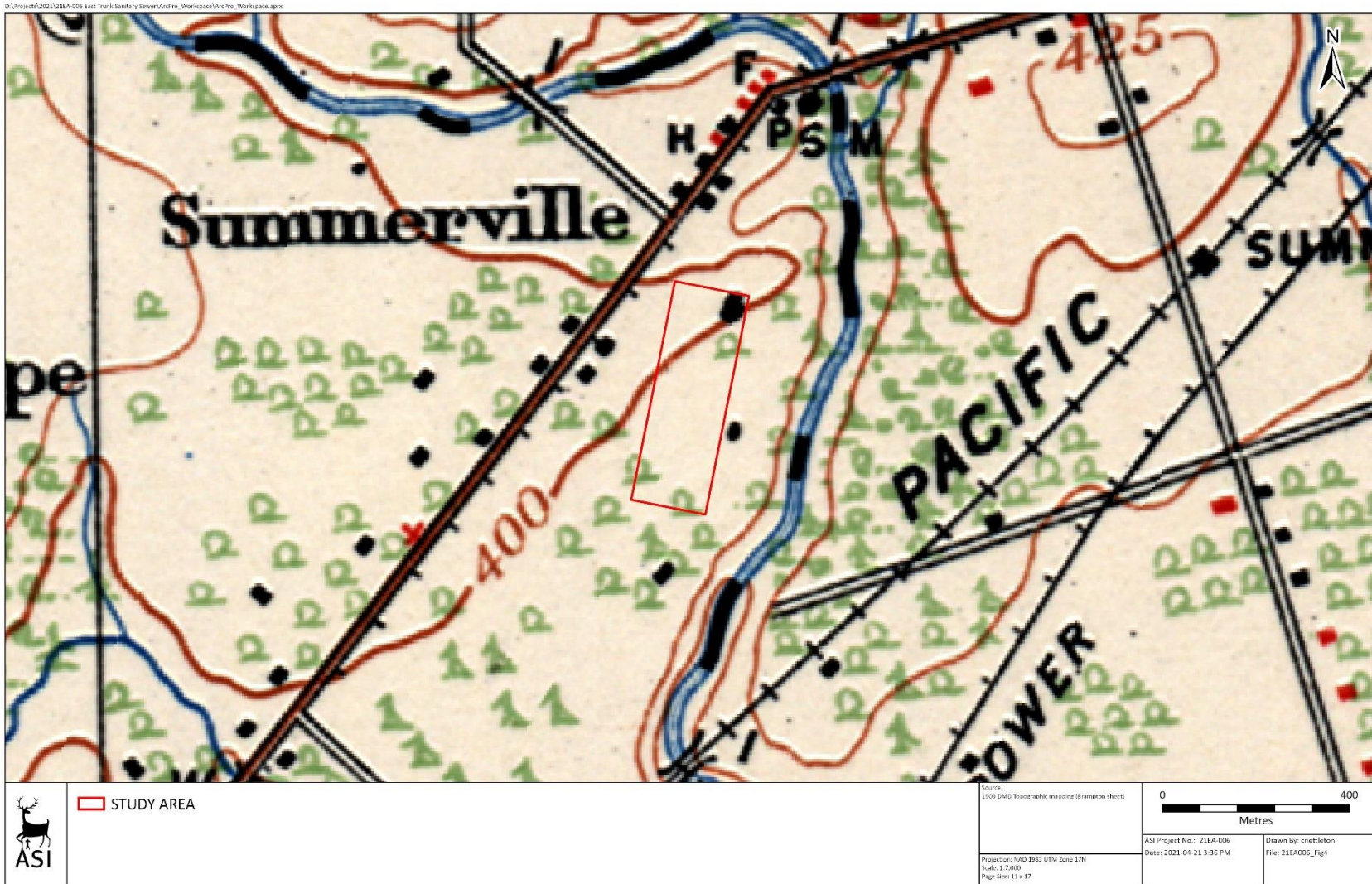


Figure 4: Study Area overlaid on 1909 Department of Militia and Defence topographic mapping (Brampton sheet)



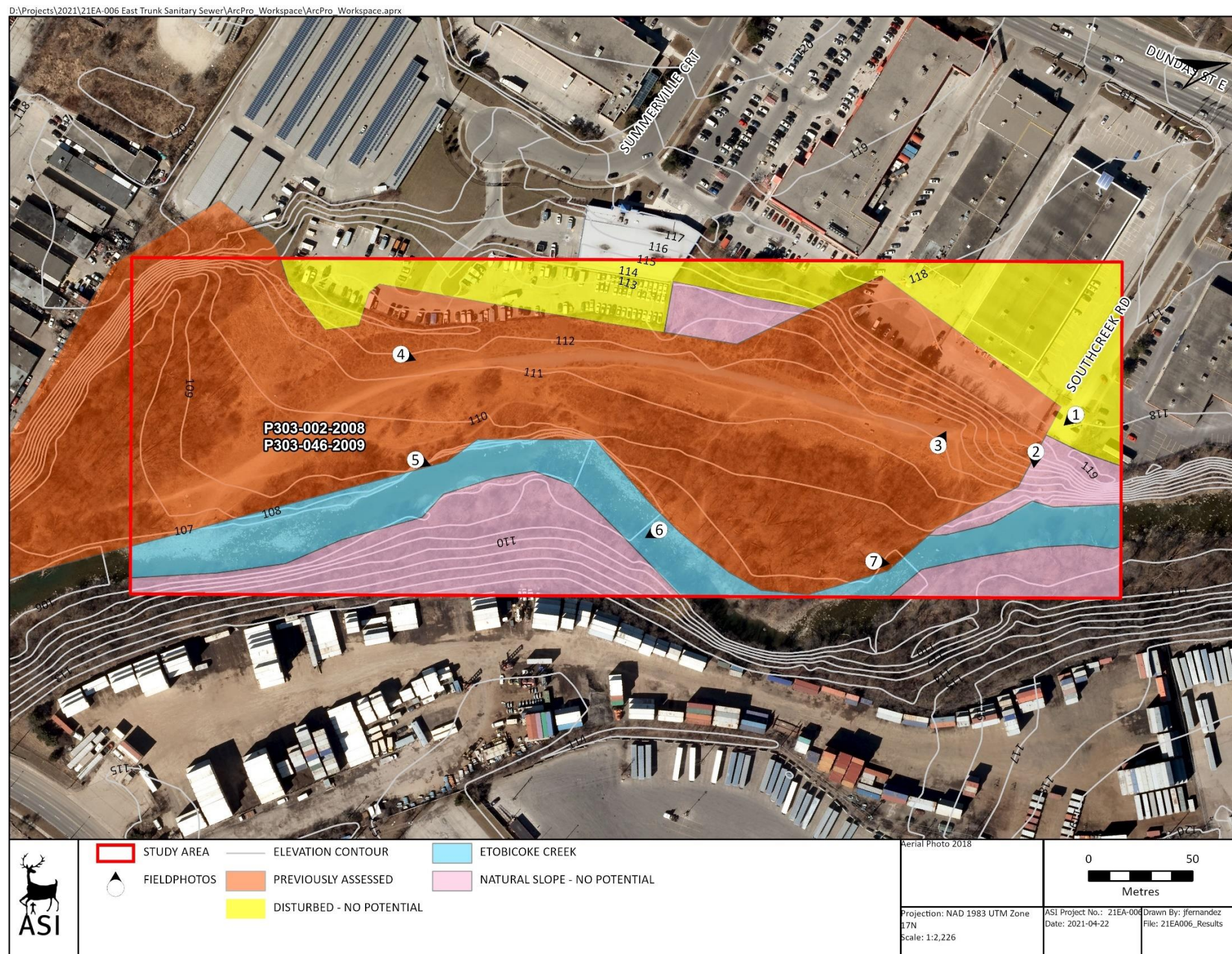


Figure 5: Results of the Stage 1 Archaeological Assessment

# Appendix F – Cultural Heritage Report

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**CULTURAL HERITAGE REPORT:  
EXISTING CONDITIONS**

**EAST TRUNK SANITARY SEWER OFFLINE STORAGE FACILITY  
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

**CITY OF MISSISSAUGA AND CITY OF TORONTO  
REGION OF PEEL, ONTARIO**

**FINAL REPORT**

Prepared for:

**IBI Group**  
2620 Bristol Circle Suite 300  
Oakville ON L6H 6Z7

ASI File: 21CH-006

April 2021 (Updated June 2021)



**CULTURAL HERITAGE REPORT:  
EXISTING CONDITIONS**

**EAST TRUNK SANITARY SEWER OFFLINE STORAGE FACILITY  
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

**CITY OF MISSISSAUGA AND CITY OF TORONTO  
REGION OF PEEL, ONTARIO**

**EXECUTIVE SUMMARY**

ASI was contracted by IBI Group, on behalf of the Region of Peel, to conduct a Cultural Heritage Report as part of the East Trunk Sanitary Sewer Offline Storage Facility Municipal Class Environmental Assessment. The Region of Peel is undertaking this study to identify if, and how, the existing abandoned East Trunk Sanitary Sewer or a new offline storage facility could be utilized for storage of peak sanitary flows. The primary benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. The project study area consists of greenspace on the east and west sides of Etobicoke Creek, including the Etobicoke Creek Off Leash Dog Park, and is generally bounded by commercial and industrial development on the west and east sides of the Creek. The purpose of this report is to describe the existing conditions of the study area and present an inventory of known and potential built heritage resources (BHRs) and cultural heritage landscapes (CHLs).

The results of background historical research and a review of secondary source material, including historical mapping, indicate a study area with a rural land use history dating back to the mid-nineteenth century. A review of federal, provincial, and municipal registers, inventories, and databases revealed that there are no previously identified features of cultural heritage value within the East Trunk Sanitary Sewer study area. No additional features were identified during the fieldwork. As such, from a cultural heritage perspective, no mitigation measures are required. Based on the results of the assessment, the following recommendations have been developed:

1. Should future work require an expansion of the study area then a qualified heritage consultant should be contracted in order to confirm the impacts of the proposed work on potential heritage resources.
2. This report should be submitted by the proponent to heritage staff at the City of Mississauga, the City of Toronto, the Ministry of Heritage, Sport, Tourism, and Culture Industries, and any other local heritage stakeholders that may have an interest in this project.



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**PROJECT PERSONNEL**

<i>Senior Project Manager:</i>	Lindsay Graves, MA, CAHP Senior Cultural Heritage Specialist   Senior Project Manager - Cultural Heritage Division
<i>Project Coordinator:</i>	Katrina Thatch, Hon. BA Associate Archaeologist   Project Coordinator - Environmental Assessment Division
<i>Project Manager:</i>	Laura Wickett, BA (Hon), Dip. Heritage Conservation Cultural Heritage Analyst   Project Manager - Cultural Heritage Division
<i>Field Review:</i>	Laura Wickett
<i>Report Production:</i>	Laura Wickett
<i>Graphics Production:</i>	Andrew Clish, BES Senior Archaeologist - Planning Assessment Division
<i>Report Reviewer(s):</i>	Johanna Kelly, MSc Cultural Heritage Analyst   Project Manager - Cultural Heritage Division  Lindsay Graves



## QUALIFIED PERSONS INVOLVED IN THE PROJECT

*Lindsay Graves, MA, CAHP*

*Senior Cultural Heritage Specialist | Senior Project Manager - Cultural Heritage Division*

The Senior Project Manager for this Cultural Heritage Report is **Lindsay Graves** (MA, Heritage Conservation), Senior Cultural Heritage Specialist and the Environmental Assessment Coordinator for the Cultural Heritage Division at ASI. She was responsible for: overall project scoping and approach; development and confirmation of technical findings and study recommendations; application of relevant standards, guidelines and regulations; and implementation of quality control procedures. Lindsay is academically trained in the fields of heritage conservation, cultural anthropology, archaeology, and collections management and has over 15 years of experience in the field of cultural heritage resource management. This work has focused on the assessment, evaluation, and protection of above ground cultural heritage resources. Lindsay has extensive experience undertaking archival research, heritage survey work, heritage evaluation and heritage impact assessment. She has also contributed to cultural heritage landscape studies and heritage conservation plans, led heritage commemoration and interpretive programs, and worked collaboratively with multidisciplinary teams to sensitively plan interventions at historic sites/places. In addition, she is a leader in the completion of heritage studies required to fulfill Class EA processes and has served as Project Manager for over 100 heritage assessments during her time at ASI. Lindsay is a member of the Canadian Association of Heritage Professionals.

*Laura Wickett, BA (Hon.), Dipl. Heritage Conservation*

*Cultural Heritage Analyst | Project Manager - Cultural Heritage Division*

The Project Manager for this Cultural Heritage Report is **Laura Wickett** (BA (Hon.), Diploma Heritage Conservation), who is a Cultural Heritage Analyst and Project Manager within the Cultural Heritage Division at ASI. She was responsible for day-to-day management activities, including scoping and conducting research activities and drafting of study findings and recommendations. Trained in the theoretical and technical aspects of heritage conservation, Laura has five years' experience working in the field of cultural heritage resource management. She began working in ASI's Cultural Heritage Division as a Cultural Heritage Technician in 2017, providing support for a range of cultural heritage assessment reports, including Cultural Heritage Resource Assessments, Cultural Heritage Evaluation Reports, Heritage Impact Assessments, and Secondary Plan assessments. She has also contributed to Heritage Conservation District studies, Cultural Heritage Landscape inventories and Heritage Register reviews.



**GLOSSARY**

<b>Term</b>	<b>Definition</b>
Adjacent	“contiguous properties as well as properties that are separated from a heritage property by narrow strip of land used as a public or private road, highway, street, lane, trail, right-of-way, walkway, green space, park, and/or easement or as otherwise defined in the municipal official plan” (Ministry of Tourism, Culture and Sport 2010).
Built Heritage Resource (BHR)	“...a building, structure, monument, installation or any manufactured remnant that contributes to a property’s cultural heritage value or interest as identified by a community, including an Indigenous community. Built heritage resources are located on property that may be designated under Parts IV or V of the <i>Ontario Heritage Act</i> , or that may be included on local, provincial, federal and/or international registers” (Government of Ontario 2020:41).
Cultural Heritage Landscape (CHL)	“...a defined geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Indigenous community. The area may include features such as buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association. Cultural heritage landscapes may be properties that have been determined to have cultural heritage value or interest under the <i>Ontario Heritage Act</i> , or have been included on federal and/or international registers, and/or protected through official plan, zoning by-law, or other land use planning mechanisms” (Government of Ontario 2020:42).
Cultural Heritage Resource	Includes above-ground resources such as built heritage resources and cultural heritage landscapes, and built or natural features below-ground including archaeological resources (Government of Ontario 2020).
Known Cultural Heritage Resource	A known cultural heritage resource is a property that has recognized cultural heritage value or interest. This can include a property listed on a Municipal Heritage Register, designated under Part IV or V of the <i>Ontario Heritage Act</i> , or protected by a heritage agreement, covenant or easement, protected by the <i>Heritage Railway Stations Protection Act</i> or the <i>Heritage Lighthouse Protection Act</i> , identified as a Federal Heritage Building, or located within a UNESCO World Heritage Site (Ministry of Tourism, Culture and Sport 2016).
Impact	Includes negative and positive, direct and indirect effects to an identified cultural heritage resource. Direct impacts include destruction of any, or part of any, significant heritage attributes or features and/or unsympathetic or incompatible alterations to an identified resource. Indirect impacts include, but are not limited to, creation of shadows, isolation of heritage attributes, direct or indirect obstruction of significant views, change in land use, land disturbances (Ministry of Tourism and Culture 2006). Indirect impacts also include potential vibration impacts



	(See Section 2.5 for complete definition and discussion of potential impacts).
Mitigation	Mitigation is the process of lessening or negating anticipated adverse impacts to cultural heritage resources and may include, but are not limited to, such actions as avoidance, monitoring, protection, relocation, remedial landscaping, and documentation of the cultural heritage landscape and/or built heritage resource if to be demolished or relocated.
Potential Cultural Heritage Resource	A potential cultural heritage resource is a property that has the potential for cultural heritage value or interest. This can include properties/project area that contain a parcel of land that is the subject of a commemorative or interpretive plaque, is adjacent to a known burial site and/or cemetery, is in a Canadian Heritage River Watershed, or contains buildings or structures that are 40 or more years old (Ministry of Tourism, Culture and Sport 2016).
Significant	With regard to cultural heritage and archaeology resources, significant means “resources that have been determined to have cultural heritage value or interest. Processes and criteria for determining cultural heritage value or interest are established by the Province under the authority of the <i>Ontario Heritage Act</i> . While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation” (Government of Ontario 2020:51).
Vibration Zone of Influence	Area within a 50 m buffer of construction-related activities in which there is potential to affect an identified cultural heritage resource. A 50 m buffer is applied in the absence of a project-specific defined vibration zone of influence based on existing secondary source literature and direction provided from the MHSTCI (Wiss 1981; Rainer 1982; Ellis 1987; Crispino and D’Apuzzo 2001; Carman et al. 2012). This buffer accommodates the additional threat from collisions with heavy machinery or subsidence (Randl 2001).





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## **1.0 INTRODUCTION**

### **1.1 Report Purpose**

ASI was contracted by IBI Group, on behalf of the Region of Peel, to conduct a Cultural Heritage Report as part of the East Trunk Sanitary Sewer Offline Storage Facility Municipal Class Environmental Assessment. The purpose of this report is to describe the existing conditions of the study area and present an inventory of known and potential built heritage resources (BHRs) and cultural heritage landscapes (CHLs).

### **1.2 Project Overview**

The Region of Peel is undertaking this study to identify if, and how, the existing abandoned East Trunk Sanitary Sewer or a new offline storage facility could be utilized for storage of peak sanitary flows. The primary benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. The project study area consists of greenspace on the east and west sides of Etobicoke Creek, including the Etobicoke Creek Off Leash Dog Park, and is generally bounded by commercial and industrial development on the west and east sides of the Creek. A map showing the project study area is provided in Appendix A.

### **1.3 Description of Study Area**

This Cultural Heritage Report will focus on the project study area with an additional 50 m buffer (Figure 1). This study area has been defined as inclusive of those lands that may contain BHRs or CHLs that may be subject to direct or indirect impacts as a result of the proposed undertaking. Properties within the study area are located in the City of Mississauga and the City of Toronto.



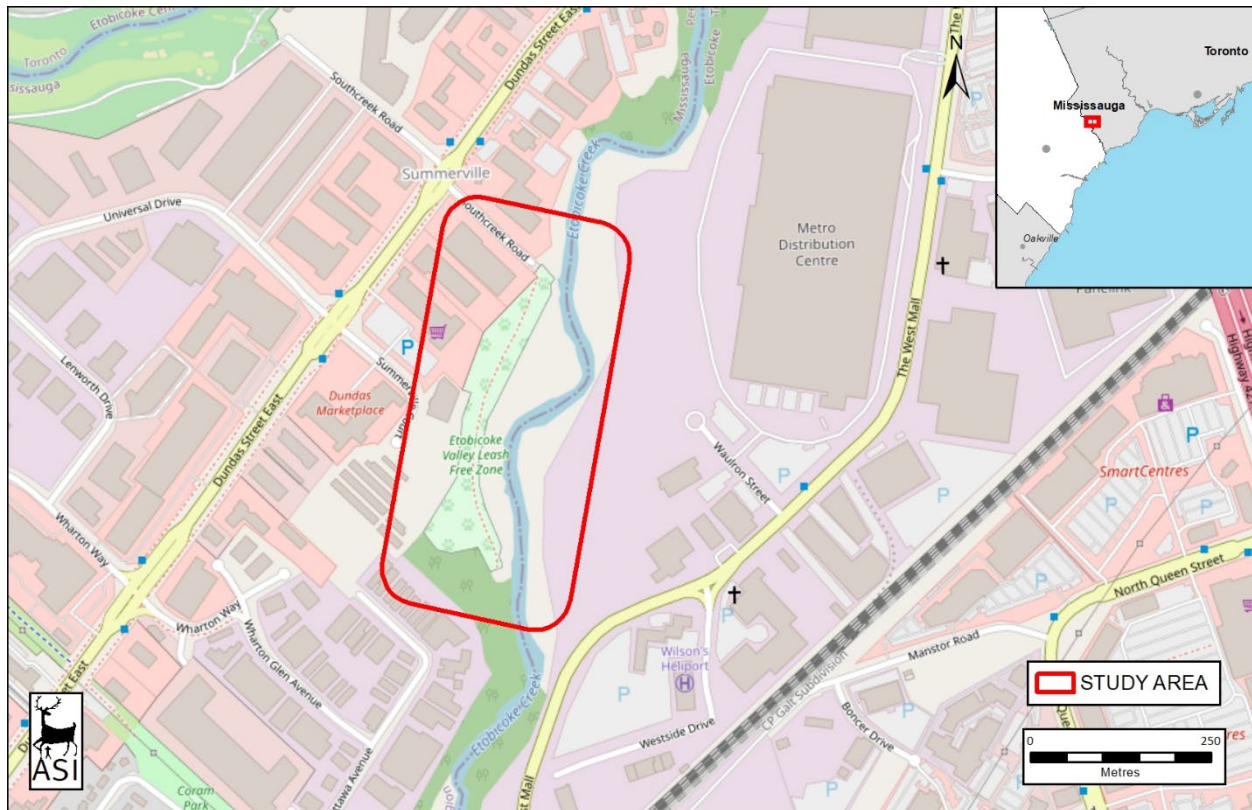


Figure 1: Location of the study area

Base Map: ©OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

## 2.0 METHODOLOGY

### 2.1 Regulatory Requirements

The *Ontario Heritage Act* (OHA) (Ministry of Culture 1990) is the primary piece of legislation that determines policies, priorities and programs for the conservation of Ontario’s heritage. There are many other provincial acts, regulations and policies governing land use planning and resource development support heritage conservation including:

- The *Planning Act* (Ministry of Municipal Affairs and Housing 1990), which states that “conservation of features of significant architectural, cultural, historical, archaeological or scientific interest” (cultural heritage resources) is a “matter of provincial interest”. The Provincial Policy Statement (Government of Ontario 2020), issued under the Planning Act, links heritage conservation to long-term economic prosperity and requires municipalities and the Crown to conserve significant cultural heritage resources.
- The *Environmental Assessment Act* (Ministry of the Environment 1990), which defines “environment” to include cultural conditions that influence the life of humans or a community. Cultural heritage resources, which includes archaeological resources, built heritage resources and cultural heritage landscapes, are important components of those cultural conditions.



The Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) is charged under Section 2.0 of the OHA with the responsibility to determine policies, priorities, and programs for the conservation, protection, and preservation of the heritage of Ontario. The Ministry of Tourism, Culture and Sport (now the MHSTCI) published *Standards and Guidelines for Conservation of Provincial Heritage Properties* (Ministry of Tourism, Culture and Sport 2010) (hereinafter “Standards and Guidelines”). These Standards and Guidelines apply to properties the Government of Ontario owns or controls that have cultural heritage value or interest (CHVI). The Standards and Guidelines provide a series of guidelines that apply to provincial heritage properties in the areas of identification and evaluation; protection; maintenance; use; and disposal. For the purpose of this report, the Standards and Guidelines provide points of reference to aid in determining potential heritage significance in identification of BHRs and CHLs. While not directly applicable for use in properties not under provincial ownership, the Standards and Guidelines are regarded as best practice for guiding heritage assessments and ensure that additional identification and mitigation measures are considered.

Similarly, the *Ontario Heritage Tool Kit* (Ministry of Culture 2006) provides a guide to evaluate heritage properties. To conserve a BHR or CHL, the *Ontario Heritage Tool Kit* states that a municipality or approval authority may require a heritage impact assessment and/or a conservation plan to guide the approval, modification, or denial of a proposed development.

## 2.2 Municipal/Regional Heritage Policies

The study area is located within the City of Mississauga (in the Region of Peel) and the City of Toronto. Policies relating to cultural heritage resources were reviewed from the following sources:

- City of Mississauga *Official Plan* (City of Mississauga 2019)
- City of Toronto *Official Plan* (City of Toronto 2019)

## 2.3 Identification of Built Heritage Resources and Cultural Heritage Landscapes

This Cultural Heritage Report follows guidelines presented in the *Ontario Heritage Tool Kit* (Ministry of Culture 2006) and *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* (Ministry of Tourism, Culture and Sport 2016). The objective of this report is to present an inventory of known and potential BHRs and CHLs, and to provide a preliminary understanding of known and potential BHRs and CHLs located within areas anticipated to be directly or indirectly impacted by the proposed project.

In the course of the cultural heritage assessment process, all potentially affected BHRs and CHLs are subject to identification and inventory. Generally, when conducting an identification of BHRs and CHLs within a study area, three stages of research and data collection are undertaken to appropriately establish the potential for and existence of BHRs and CHLs in a geographic area: background research and desktop data collection; field review; and identification.

Background historical research, which includes consultation of primary and secondary source research and historical mapping, is undertaken to identify early settlement patterns and broad agents or themes of change in a study area. This stage in the data collection process enables the researcher to determine the presence of sensitive heritage areas that correspond to nineteenth- and twentieth-century settlement and development patterns. To augment data collected during this stage of the research



process, federal, provincial, and municipal databases and/or agencies are consulted to obtain information about specific properties that have been previously identified and/or designated as having cultural heritage value. Typically, resources identified during these stages of the research process are reflective of particular architectural styles or construction methods, associated with an important person, place, or event, and contribute to the contextual facets of a particular place, neighbourhood, or intersection.

A field review is then undertaken to confirm the location and condition of previously identified BHRs and CHLs. The field review is also used to identify potential BHRs or CHLs that have not been previously identified on federal, provincial, or municipal databases or through other appropriate agency data sources.

During the cultural heritage assessment process, a property is identified as a potential BHR or CHL based on research, the MHSTCI screening tool, and professional expertise. In addition, use of a 40-year-old benchmark is a guiding principle when conducting a preliminary identification of BHRs and CHLs. While identification of a resource that is 40 years old or older does not confer outright heritage significance, this benchmark provides a means to collect information about resources that may retain heritage value. Similarly, if a resource is slightly younger than 40 years old, this does not preclude the resource from having cultural heritage value or interest.

## **2.4 Background Information Review**

To make an identification of previously identified known or potential BHRs and CHLs within the study area, the following resources were consulted as part of this Cultural Heritage Report.

### **2.4.1 Review of Existing Heritage Inventories**

A number of resources were consulted in order to identify previously identified BHRs and CHLs within the study area. These resources, reviewed on 6 April 2021, include:

- The City of Mississauga's *Heritage Register* (City of Mississauga 2020)
- The City of Toronto's *Heritage Register* (City of Toronto n.d.)
- The City of Mississauga's *Cultural Heritage Landscape Inventory* (City of Mississauga 2005)
- The *Ontario Heritage Act Register* (Ontario Heritage Trust n.d.);
- The *Places of Worship Inventory* (Ontario Heritage Trust n.d.);
- The inventory of Ontario Heritage Trust easements (Ontario Heritage Trust n.d.);
- The Ontario Heritage Trust's *Ontario Heritage Plaque Guide: an online, searchable database of Ontario Heritage Plaques* (Ontario Heritage Trust n.d.);
- Inventory of known cemeteries/burial sites in the Ontario Genealogical Society's online databases (Ontario Genealogical Society n.d.);
- Canada's Historic Places website: available online, the searchable register provides information on historic places recognized for their heritage value at the local, provincial, territorial, and national levels (Parks Canada n.d.);
- Directory of Federal Heritage Designations: a searchable on-line database that identifies National Historic Sites, National Historic Events, National Historic People, Heritage Railway Stations, Federal Heritage Buildings, and Heritage Lighthouses (Parks Canada n.d.);



- Canadian Heritage River System: a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage (Canadian Heritage Rivers Board and Technical Planning Committee n.d.); and,
- United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites (UNESCO World Heritage Centre n.d.).

#### **2.4.2 Review of Previous Heritage Reporting**

No previous additional cultural heritage studies are known to have been undertaken within the study area.

#### **2.4.3 Stakeholder Data Collection**

The following individuals, groups, and/or organizations were contacted to gather information on known and potential BHRs and CHLs, active and inactive cemeteries, and areas of identified Indigenous interest within the study area:

- Paula Wubbenhorst, Senior Heritage Coordinator, City of Mississauga (email communication 13 April 2021). A response indicated that there are no previously identified heritage resources within the study area.
- Yasmina Shamji, Urban Design, Heritage Planning, City of Toronto (email communication 19 April 2021). A response indicated that there are no previously identified heritage resources within the study area.
- The MHSTCI (email communication 14 April 2021). A response indicated that there are no previously identified heritage resources within the study area.
- The Ontario Heritage Trust (email communication 14 April 2021). A response indicated that there are no conservation easements or Trust-owned properties within the study area.

#### **2.5 Preliminary Impact Assessment Methodology**

To assess the potential impacts of the undertaking, identified BHRs and CHLs are considered against a range of possible negative impacts, based on the *Ontario Heritage Tool Kit InfoSheet #5: Heritage Impact Assessments and Conservation Plans* (Ministry of Tourism and Culture 2006). These include:

- Direct impacts:
  - Destruction of any, or part of any, significant heritage attributes or features; and
  - Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance.
- Indirect impacts
  - Shadows created that alter the appearance of a heritage attribute or change the viability of a natural feature or plantings, such as a garden;
  - Isolation of a heritage attribute from its surrounding environment, context or a significant relationship;
  - Direct or indirect obstruction of significant views or vistas within, from, or of built and natural features;



- A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces; and
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect an archaeological resource.

Indirect impacts from construction-related vibration have the potential to negatively affect BHRs or CHLs depending on the type of construction methods and machinery selected for the project and proximity and composition of the identified resources. Potential vibration impacts are defined as having potential to affect an identified BHRs and CHLs where work is taking place within 50 m of features on the property. A 50 m buffer is applied in the absence of a project-specific defined vibration zone of influence based on existing secondary source literature and direction provided from the MHSTCI (Wiss 1981; Rainer 1982; Ellis 1987; Crispino and D'Apuzzo 2001; Carman et al. 2012). This buffer accommodates any additional or potential threat from collisions with heavy machinery or subsidence (Randl 2001).

Several additional factors are also considered when evaluating potential impacts on identified BHRs and CHLs. These are outlined in a document set out by the Ministry of Culture and Communications (now MHSTCI) and the Ministry of the Environment entitled *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (1992) and include:

- Magnitude: the amount of physical alteration or destruction which can be expected;
- Severity: the irreversibility or reversibility of an impact;
- Duration: the length of time an adverse impact persists;
- Frequency: the number of times an impact can be expected;
- Range: the spatial distribution, widespread or site specific, of an adverse impact; and
- Diversity: the number of different kinds of activities to affect a heritage resource.

The proposed undertaking should endeavor to avoid adversely affecting known and potential BHRs and CHLs and interventions should be managed in such a way that identified significant cultural heritage resources are conserved. When the nature of the undertaking is such that adverse impacts are unavoidable, it may be necessary to implement alternative approaches or mitigation strategies that alleviate the negative effects on identified BHRs and CHLs. Mitigation is the process of lessening or negating anticipated adverse impacts to cultural heritage resources and may include, but are not limited to, such actions as avoidance, monitoring, protection, relocation, remedial landscaping, and documentation of the BHR or CHL if to be demolished or relocated.

Various works associated with infrastructure improvements have the potential to affect BHRs and CHLs in a variety of ways, and as such, appropriate mitigation measures for the undertaking need to be considered.

### **3.0 SUMMARY OF HISTORICAL DEVELOPMENT WITHIN THE STUDY AREA**

This section provides a brief summary of historical research. A review of available primary and secondary source material was undertaken to produce a contextual overview of the study area, including a general description of physiography, Indigenous land use, and Euro-Canadian settlement.





### 3.1 Physiography

The study area is located on sand plains within the Iroquois Plain physiographic region of southern Ontario. This is a lowland region bordering Lake Ontario. This region is characteristically flat and formed by lacustrine deposits laid down by the inundation of Lake Iroquois, a body of water that existed during the late Pleistocene. This region extends from the Trent River, around the western part of Lake Ontario, to the Niagara River, spanning a distance of 300 km (Chapman and Putnam 1984:190).

The study area is within the Lower Etobicoke Creek subwatershed. The name Etobicoke Creek is derived from the Algonkian word “Wah-do-be kaug” meaning “place where the alders grow”. The Etobicoke Creek watershed, including its major tributaries Spring Creek, Little Etobicoke Creek, and West Etobicoke Creek, drains an area of approximately 211 square kilometres within the cities of Brampton, Mississauga, Toronto, and the Town of Caledon. The creeks flow south from its headwaters in Caledon into Lake Ontario through 68% urban, 27% rural and 5% urbanizing land (TRCA 2018).

### 3.2 Summary of Early Indigenous History in Southern Ontario

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years ago, or 11,000 Before the Common Era (B.C.E.) (Ferris 2013).<sup>1</sup> During the Paleo period (c. 11,000 B.C.E. to 9,000 B.C.E), groups tended to be small, nomadic, and non-stratified. The population relied on hunting, fishing, and gathering for sustenance, though their lives went far beyond subsistence strategies to include cultural practices including but not limited to art and astronomy. Fluted points, beaked scrapers, and graters are among the most important artifacts to have been found at various sites throughout southern Ontario, and particularly along the shorelines of former glacial lakes. Given the low regional population levels at this time, evidence concerning Paleo-Indian period groups is very limited (Ellis and Deller 1990).

Moving into the Archaic period (c. 9,000 B.C.E. to 1,000 B.C.E.), many of the same roles and responsibilities continued as they had for millennia, with groups generally remaining small, nomadic, and non-hierarchical. The seasons dictated the size of groups (with a general tendency to congregate in the spring/summer and disperse in the fall/winter), as well as their various sustenance activities, including fishing, foraging, trapping, and food storage and preparation. There were extensive trade networks which involved the exchange of both raw materials and finished objects such as polished or ground stone tools, beads, and notched or stemmed projectile points. Furthermore, mortuary ceremonialism was evident, meaning that there were burial practices and traditions associated with a group member’s death (Ellis and Deller 1990; Ellis et al. 2009).

The Woodland period (c. 1,000 B.C.E. to 1650 C.E.) saw several trends and aspects of life remain consistent with previous generations. Among the more notable changes, however, was the introduction of pottery, the establishment of larger occupations and territorial settlements, incipient horticulture, more stratified societies, and more elaborate burials. Later in this period, settlement patterns, foods, and the socio-political system continued to change. A major shift to agriculture occurred in some regions, and the ability to grow vegetables and legumes such as corn, beans, and squash ensured long-

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<sup>1</sup> While many types of information can inform the precontact settlement of Ontario, such as oral traditions and histories, this summary provides information drawn from archaeological research conducted in southern Ontario over the last century.



term settlement occupation and less dependence upon hunting and fishing. This development contributed to population growth as well as the emergence of permanent villages and special purpose sites supporting those villages. Furthermore, the socio-political system shifted from one which was strongly kinship based to one that involved tribal differentiation as well as political alliances across and between regions (Ellis and Deller 1990; Williamson 1990; Dodd et al. 1990; Birch and Williamson 2013).

The arrival of European trade goods in the sixteenth century, Europeans themselves in the seventeenth century, and increasing settlement efforts in the eighteenth century all significantly impacted traditional ways of life in Southern Ontario. Over time, war and disease contributed to death, dispersion, and displacement of many Indigenous peoples across the region. The Euro-Canadian population grew in both numbers and power through the eighteenth and nineteenth centuries and treaties between colonial administrators and First Nations representatives began to be negotiated.

The study area is within Treaty 13a, or the Toronto Purchase, signed on August 2, 1805 by the Mississaugas and the British Crown in Port Credit at the Government Inn. A provisional agreement was reached with the Crown on August 2, 1805, in which the Mississaugas ceded 70,784 acres of land bounded by the Toronto Purchase of 1787 in the east, the Brant Tract in the west, and a northern boundary that ran six miles back from the shoreline of Lake Ontario. The Mississaugas also reserved the sole right of fishing at the Credit River and were to retain a 1 mile strip of land on each of its banks, which became the Credit Indian Reserve. On September 5, 1806, the signing of Treaty 14 confirmed the Head of the Lake Purchase between the Mississaugas of the Credit and the Crown (Mississaugas of the Credit First Nation 2017; Mississauga of the New Credit First Nation 2001).

### **3.3 Historical Euro-Canadian Township Survey and Settlement**

Historically, the study area is located in the Former Township of Toronto, County of Peel, in part of Lots 1 and 2, Concession 1, South of Dundas (SD).

#### **3.3.1 Township of Toronto**

The Township of Toronto was original surveyed in 1806 by Mr. Wilmot, Deputy Surveyor. The first settler in this Township, and also the County of Peel, was Colonel Thomas Ingersoll. The whole population of the Township in 1808 consisted of seven families, scattered along Dundas Street. The number of inhabitants gradually increased until the war broke out in 1812, which gave considerable check to its progress. When the war was over, the Township's growth revived and the northern part of the Township was surveyed and called the "New Survey". The greater part of the New Survey was granted to a colony of Irish settlers from New York City, who suffered persecution during the war.

The Hamilton and Toronto Railway was formed in 1852, and in 1855, completed its lake shore route across the south end of Lot 11, south of the study area. In 1871, the railway was amalgamated with the Great Western Railway, which in turn, was amalgamated in 1882, with the Grand Trunk Railway. The Grand Trunk Railway was amalgamated in 1923, with Canadian National Railway (Andreae 1997).

#### **3.3.2 Village of Summerville**

Summerville was a small settlement on Dundas Street where it crosses the Etobicoke Creek. Originally called Silverthorn's, Silverthorn's Mill or Mill Place, the first settlers arrived prior to 1810, including



mostly loyalist families. In 1810, Abraham Markle built a sawmill on Etobicoke Creek south of Dundas Street. In 1818, Thomas Silverthorn opened an inn on the northeast corner of what is today Southcreek Road and Dundas Street, later named the Wayside Inn and the Summerville Hotel. A second inn was operated by William O'Brien east of Thomas' inn. By 1820, Thomas' son John Silverthorn opened a blacksmith shop, a grist mill and a saw mill north of Dundas Street, as well as cleared a road connecting his mills with Dundas Street and Burnhamthorpe Road. By the mid-1850s, the village also had post office, carriage factory, cooper shop and chair factory, two blacksmith shops, two schools, a Methodist Church, a general store and a population of about 100. The Credit Valley Railway was built near Summerville in 1879, and the paving of Dundas Street in 1917 meant that travelers no longer had to stop in the village. The settlement began to disperse and the Summerville area was redeveloped over the latter half of the twentieth century. Few visible remnants of Summerville remain. (Heritage Mississauga 2009a).

### **3.3.3 Transportation Development**

#### *Credit Valley Railway*

The Credit Valley Railway (CVR) was constructed between 1877 and 1879 to improve trade opportunities in southern Ontario (Town of Caledon 2009). The project was backed by George Laidlaw and was intended to connect Toronto with Orangeville via Streetsville. Construction began in 1874 and over several subsequent years several branches were added to the proposed line. The first section of track from Parkdale (Toronto) to Milton was opened in 1877. In 1873, survey work was completed and track was first laid in 1876. Construction on the railway reached the Forks of the Credit by 1879, with a station at the northern end of the longest curved timber trestle of the time, which spanned 1,146 feet through the river valley at a height of 85 feet (Town of Caledon 2009). The line was completed in 1881 but nearly bankrupted the company. It was established in direct competition with the Toronto, Grey and Bruce Railway in the hopes of stimulating trade and economic opportunities in the outlying areas. In 1883 the line was taken over by the Canadian Pacific Railway (CPR) (Heritage Mississauga 2009b; Town of Caledon 2009). CPR strongly resisted passenger traffic until after the 1979 Mississauga freight derailment incident. In exchange for dropping the lawsuit threatened against CPR by the city to cover costs associated with the incident, CPR agreed to allow passenger service on what became the GO Transit Milton line in 1981 (Stewart 2016).

#### *Dundas Street*

Formerly known as Governor's Road, Dundas Street was surveyed by Augustus Jones and constructed by the Queens Rangers, commissioned by Lieutenant Governor Simcoe to be the first major roadway in Upper Canada. Dundas Street was opened through Toronto Township in 1798. It was originally a crooked winding road, following existing Indigenous trails, crossing Etobicoke Creek south of its present location, until 1806 when it was straightened between the surveyed concessions. It became a corduroy road in 1812 to accommodate the movement of troops, and in 1836 was macadamized from Toronto to Cooksville and two toll booths put in place at Dixie and Streetsville Roads. In 1850, the road was purchased by the Toronto Road Company, bringing it under the authority of the Township, who improved the road many times over into the mid-twentieth century, when it was widened to four lanes. As of 1970, the road is owned and maintained by the City of Mississauga (City of Mississauga n.d.; Hicks 2006).



### 3.4 Review of Historical Mapping

The 1859 Map of the County of Peel (Tremaine 1859) and the south half of Toronto Township in the 1877 Illustrated Historical Atlas of the County of Peel (Walker and Miles 1877) were examined to determine the presence of historical features within the Study Area during the nineteenth century (Figures 2 and 3). Historically, the study area is located on Lots 1 and 2, Concession 1, South of Dundas (SD), in the Former Township of Toronto, County of Peel.

It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases. For instance, they were often financed by subscription limiting the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases. The use of historical map sources to reconstruct or predict the location of former features within the modern landscape generally begins by using common reference points between the various sources. The historical maps are geo-referenced to provide the most accurate determination of the location of any property on a modern map. The results of this exercise can often be imprecise or even contradictory, as there are numerous potential sources of error inherent in such a process, including differences of scale and resolution, and distortions introduced by reproduction of the sources.

The 1859 Tremaine map shows a study area with rural land use, located southeast of Dundas Street East and south of the village of Summerville, which has a post office. Dundas Street East is illustrated as a plank and gravel road. Etobicoke Creek is illustrated just east of the study area. William Ward is shown as the owner of Lot 1 and James Alderson is shown as the owner of Lot 2. No structures or historical features are illustrated within the study area. The 1877 atlas map shows much the same conditions as the 1859 map, with J.O. Howard illustrated as the owner of Lot 1. Farmhouses and orchards are illustrated on Lot 2, just outside of the study area, and along the west side of Dundas Street. The CVR is depicted to the south of the study area. Once again, no structures or historical features are depicted within the study area.

In addition to nineteenth-century mapping, historical topographic mapping and aerial photographs from the twentieth century were examined. This report presents maps and aerial photographs from 1915, 1954, and 1994 (Figures 4 to 6). These do not represent the full range of maps consulted for the purpose of this study but were judged to cover the full range of land uses that occurred in the area during this period.

The 1915 topographic map (Figure 4) shows a continuation of rural land use, with incremental development along Dundas Street. Roadways and watercourses are illustrated in the same configuration as the nineteenth-century mapping. By this time, the CVR had been acquired by the CPR. One wood frame structure is depicted within the study area, at the north end.

The 1954 aerial photograph (Figure 5) shows much of the study area to be covered by trees. The 1994 NTS Map (Figure 6) shows that by the late twentieth century the area had undergone significant development and become a commercial area along Dundas Street East, with industrial land use along Mattawa Avenue. Several commercial and industrial buildings are depicted within the north and south ends of the study area.





Figure 2: The study area overlaid on the 1859 Tremain's Map of the County of Peel and the 1860 Tremain's Map of the County of York.

Base Maps: Tremain 1859, Tremain 1860



Figure 3: The study area overlaid on the 1877 Historical Atlas of the County of Peel and the 1878 Historical Atlas of the County of York.

Base Maps: Walker and Miles 1877, Miles & Co. 1878

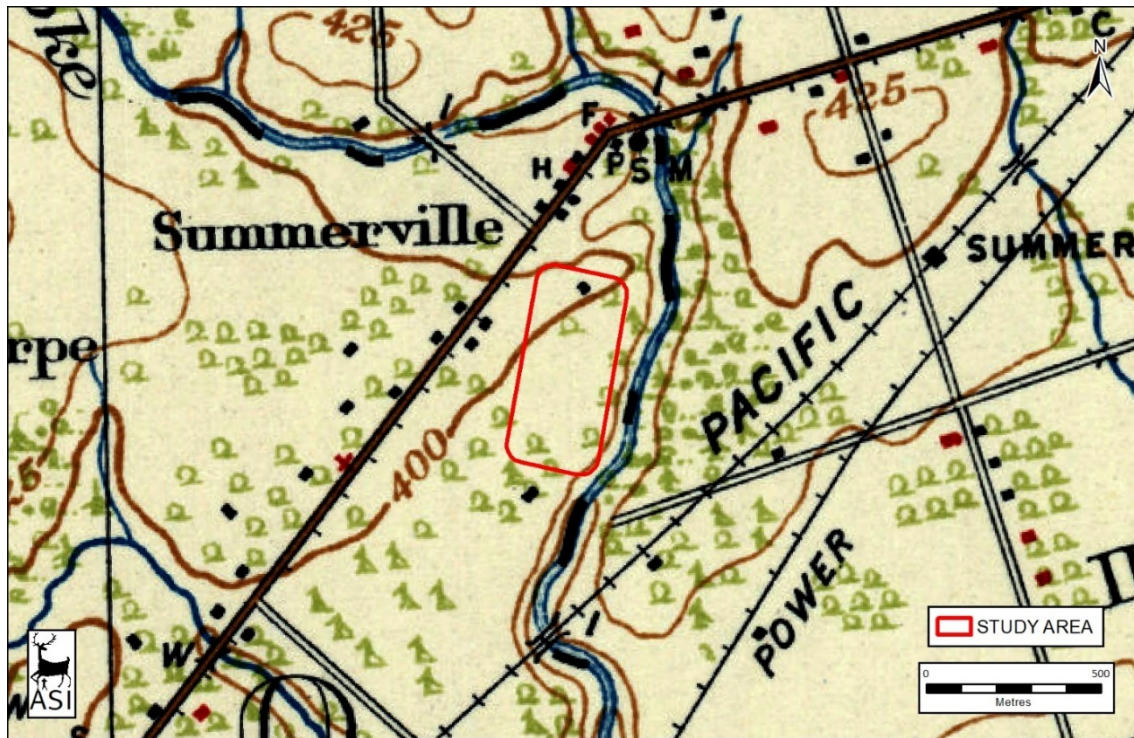


Figure 4: The study area overlaid on the 1915 topographic map of Brampton  
Base Map: Department of Militia and Defence 1915



Figure 5: The study area overlaid on the 1954 aerial photograph of the area.  
Base Map: Hunting Survey Corporation Limited 1954



Figure 6: The study area overlaid on the 1994 NTS map of Brampton  
Base Map: Department of Energy, Mines and Resources 1994

#### 4.0 EXISTING CONDITIONS

##### 4.1 Description of Field Review

A field review of the study area was undertaken by Laura Wickett of ASI on 16 April 2021 to document the existing conditions of the study area from existing rights-of-way. The existing conditions of the study area are described below and captured in Plates 1 to 11. A map showing the location of photographic plates is provided in Appendix B.

The study area is generally bounded by Dundas Street East to the west, Southcreek Road to the north, Mattawa Avenue to the South, and the West Mall to the east.

Dundas Street East is a busy six-lane roadway lined with large retail outlets and plazas constructed in the late-twentieth and early twenty-first centuries (Plate 1). The properties on the southeast side of Dundas Street East back onto the greenspace along the western bank of Etobicoke Creek.

Southcreek Road (Plate 2) intersects with Dundas Street East and provides access to the commercial properties along Dundas Street East. A parking lot and access point for the Etobicoke Creek Off Leash Dog Park is located at the southwest terminus of Southcreek Road.

Summerville Court also intersects with Dundas Street East and provides access to the commercial properties along Dundas Street East. A large storage facility is located at the southern terminus of Summerville Court, backing onto the western bank of Etobicoke Creek (Plate 3).



Mattawa Avenue is located southwest of Dundas Street East. It contains primarily small-scale industrial buildings constructed in the mid-to-late twentieth century, backing onto Etobicoke Creek (Plate 4).

The west bank of Etobicoke Creek is located at the rear of the properties along Dundas Street East, Summerville Court and Mattawa Avenue. This area of the creek is designated as the Etobicoke Creek Off Leash Dog Park. The area includes an open gravel trail running north-south for use by dog owners (Plate 5). East of this trail is the natural creek bank with trees, vegetations and several dirt trails following the creek (Plate 6). A concrete sewer is located along the west bank of the creek, surrounded by a low barrier wall comprised of gabion baskets containing stone (Plate 8 and Plate 9).

The eastern boundary of the study area falls on the east bank of Etobicoke Creek and includes the rear edge of a distribution centre located along the West Mall. Views from the west creek bank to the east bank show that the property contains shipping containers (Plate 10 and Plate 11).



Plate 1: View along the southeast side of Dundas Street East from Southcreek Road.



Plate 2: Looking southwest along Southcreek Road towards the access point to the Etobicoke Creek Off Leash Dog Park.





Plate 3: Looking south towards the storage facility at the southern terminus of Summerville Court.



Plate 4: View along the northwest side of Mattawa Avenue (Google Streetview 2021).



Plate 5: Looking south along the gravel trail within the Etobicoke Creek Off Leash Dog Park.



Plate 6: Looking south along Etobicoke Creek.



Plate 7: Looking south along the trail on the west bank of Etobicoke Creek.



Plate 8: Sewer located on the west bank of Etobicoke Creek.



Plate 9: Detail of sewer located on the west bank of Etobicoke Creek.



Plate 10: View across Etobicoke Creek to the east bank, with shipping containers visible behind the trees.



Plate 11: Looking south towards the south end of the off-leash dog area, with shipping containers on the east side of the creek visible behind the trees.

## **4.2 Identification of Known and Potential Built Heritage Resources and Cultural Heritage Landscapes**

Based on the results of the background research and field review, no known or potential built heritage resources or cultural heritage landscapes were identified within the study area.

## **5.0 SUMMARY OF COMMUNITY DATA COLLECTION**

Consultation with the community will be undertaken through submission of this report for review and comment to municipal heritage staff, the MHSTCI, and any other relevant stakeholder with an interest in this project. Consultation will also be undertaken through Public Information Centres (PICs) conducted as part of the EA project. This section will be updated following receipt of any feedback.

## **6.0 RESULTS AND MITIGATION RECOMMENDATIONS**

The results of background historical research and a review of secondary source material, including historical mapping, indicate a study area with a rural land use history dating back to the mid-nineteenth century. A review of federal, provincial, and municipal registers, inventories, and databases revealed that there are no previously identified features of cultural heritage value within the East Trunk Sanitary Sewer study area. No additional features were identified during the fieldwork. As such, from a cultural heritage perspective, no mitigation measures are required.

### **6.1 Recommendations**

Based on the results of the assessment, the following recommendations have been developed:

1. Should future work require an expansion of the study area then a qualified heritage consultant should be contracted in order to confirm the impacts of the proposed work on potential heritage resources.
2. This report should be submitted by the proponent to heritage staff at the City of Mississauga, the City of Toronto, the Ministry of Heritage, Sport, Tourism, and Culture Industries, and any other local heritage stakeholders that may have an interest in this project.



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APPENDIX A: EAST TRUNK SANITARY SEWER PROJECT STUDY AREA



Region of Peel



— EX. IN-SERVICE SAN SEWER — ABANDONED SECTIONS

FIGURE 1: PROJECT LOCATION MAP



**APPENDIX B: LOCATION OF PHOTOGRAPHIC PLATES IN THE EAST TRUNK SANITARY SEWER AREA**



# Appendix G – Sewer Condition Summary Map

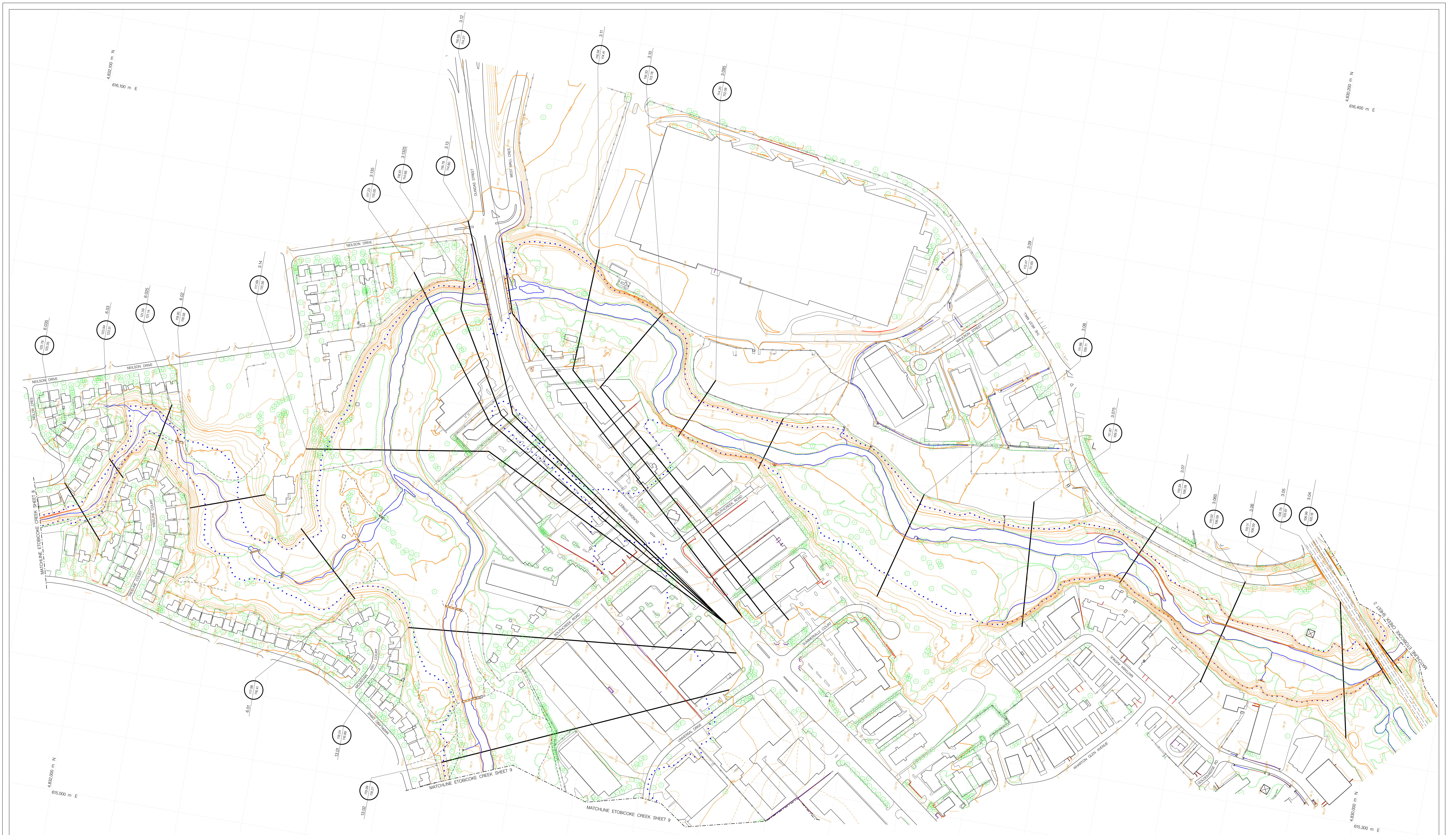
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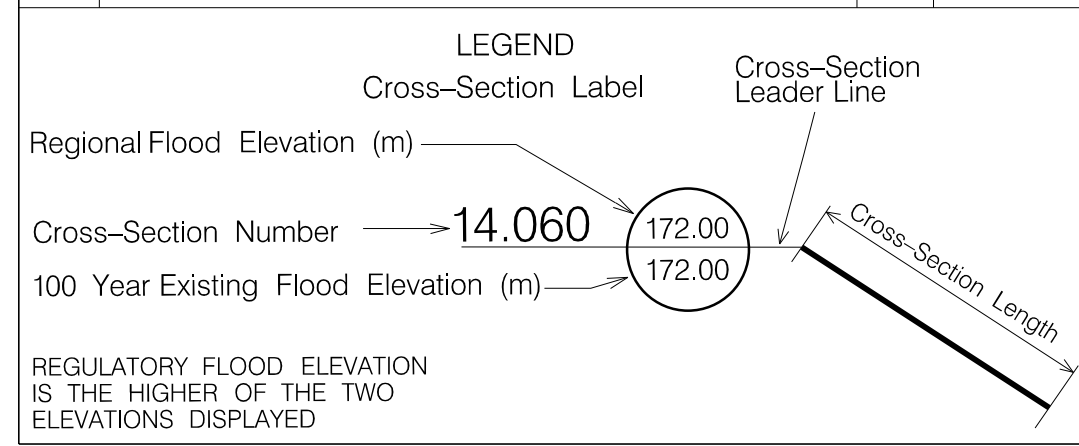
	<p>1:1,000</p> <p>Meters</p>	<p><b>Condition Grade</b></p> <ul style="list-style-type: none"> <li>● Good</li> <li>● Bad</li> <li>● Not Found</li> <li>● Fair</li> <li>● Failed</li> <li>● Pending Inspection</li> <li>● Poor</li> <li>● Not Inspectable</li> <li>○ Other</li> </ul>			<p><b>SANITARY MAIN</b></p> <ul style="list-style-type: none"> <li>— Good</li> <li>— Bad</li> <li>— Not Found</li> <li>— Fair</li> <li>— Failed</li> <li>— Pending Inspection</li> <li>— Poor</li> <li>— Not Inspectable</li> <li>— Other</li> </ul>			<p><b>19-06 Cole East Trunk Sewer Condition Assessment</b></p> <p>Map 1 of 1</p> <p>Date: 28/10/2019</p>	<p>Ottawa 222 Laurier Ave. E. Suite 200 Ottawa, Ontario K1N 6P2 Tel: 613-264-2000</p> <p>Toronto 55 Hornum Ave. Unit 2A Etobicoke, MBZ 4X6 Tel: 416-264-3065</p> <p> andrews.engineer</p>
		<p><b>SANITARY MANHOLE</b></p>	<p><b>SANITARY MAIN</b></p>						

# Appendix H – TRCA Floodplain Map

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NO.	DESCRIPTION	BY	DATE



LEGEND	
Contour Index	Trail
Contour Intermediate	Bridge
Contour Auxiliary	Wooded Area
Contour Depression	Tree
Contour Text	Hedge
Spot Height	Fence
Road	Water Feature
Parking Lot	Culvert Symbol
Race Track	Culvert to Scale
Wall	Dam
Retaining Wall	Pool
Rail Line	Building
Runway	Runway
Silo, Smoke, Tank	Pile
Marsh Symbol	Regulatory Flood Line
Marsh Boundary	
Township Fabric	
Hydro Tower	

This map was compiled photogrammetrically from 1/50000 aerial photography flown in 2002.  
 The vertical datum is mean sea level as established by the Geodetic Survey of Canada.  
 CGVD 1928-1978 Ontario Adjusted Version.  
 The horizontal datum is North American Datum 1983, U.T.M. 6° projection Zone 17, Central Meridian 81° W.  
 Grid Interval 100 metres.  
 PLEASE NOTE: FLOODLINE ELEVATIONS ARE SUBJECT TO CHANGE DUE TO REVISED INFORMATION.

DATE ISSUED: JUNE 17, 2004

44-202-2600 SKYMARK AVE.  
MIDLAND, ONTARIO L4R 3Z7  
PHONE: (905) 629-0099 FAX: (905) 629-0089

G.R. FREW  
PROFESSIONAL ENGINEER  
PROPERTY OF TORONTO

## FLOOD PLAN MAPPING PROGRAM

FLOODLINE APPROVED DATE: 2015-01-20

5 Shoreham Drive Downsview Ontario M3N 1S4 (416) 661-6600

Scale 1:2000

CONTOUR INTERVAL 1.0 METRE

ETOBICOKE CREEK

SHEET No. 7

# Appendix I – Alternative Solutions

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- EX. IN-SERVICE SAN SEWER
- PROPOSED SEWER AND OFFLINE STORAGE
- FILL ABANDONED SANITARY WITH GROUT
- ABANDONED SANITARY REMOVAL
- EX. STORM SEWER

**ALTERNATIVE SOLUTION 1 (A1)**

REPLACEMENT OF THE CHAMBER AND CONSTRUCTION OF FIVE SETS OF BURIED PARALLEL STORAGE SEWER PIPES



DECOMMISSIONING IS REQUIRED AND THE SAME AS DESCRIBED IN ALTERNATIVE 4

- EX. IN-SERVICE SAN SEWER
- PROPOSED MANHOLE
- FILL ABANDONED SANITARY WITH GROUT
- ABANDONED SANITARY REMOVAL
- PROPOSED TANKS 1 & 2
- EX. STORM SEWER
- ACCESS HATCH

### ALTERNATIVE SOLUTION 2 (A2)

REPLACEMENT OF THE CHAMBER AND CONSTRUCTION OF BURIED CAST-IN-PLACE CONCRETE STORAGE TANKS



- EX. IN-SERVICE SAN SEWER
- PROPOSED MH
- REHABILITATION OF THE ABANDONED SANITARY
- ENERGY DISSIPATION CHAMBER REPLACEMENT
- EX. STORM SEWER

### ALTERNATIVE SOLUTION 3 (A3)

REHABILITATION OF THE ABANDONED ETSS AND REPLACEMENT OF THE CHAMBER



- EX. IN-SERVICE SAN SEWER
- PLUG ABANDONED SANITARY WITH CONCRETE
- FILL ABANDONED SANITARY WITH GROUT
- ABANDONED SANITARY REMOVAL
- EX. STORM SEWER

### ALTERNATIVE SOLUTION 4 (A4)

DECOMMISSIONING OF THE CHAMBER AND THE ABANDONED ETSS

# Appendix J – Project Notifications and Contact List

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**Project Name:** Engineering Services for Class EA, Detailed Design, Contract Administration and Inspection for East Trunk Sanitary Sewer Offline Storage Facility

**Client:** Region of Peel

**Project Number:** 18-2441

	Organization	First Name	Last Name	Position	Address	Ct_Pr_Postal Code	Telephone	Email	Note/Comment
FEDERAL AGENCIES	Fisheries and Oceans Canada			Communications Manager - Central and Arctic Region	867 Lakeshore Road	Burlington, ON L7R 4A6	P: 905-336-4974 C: 905-630-5668	<a href="mailto:info@dfo-mpo.gc.ca">info@dfo-mpo.gc.ca</a> <a href="mailto:fwisar@dfo-mpo.gc.ca">fwisar@dfo-mpo.gc.ca</a> <a href="mailto:FisheriesProtection@dfo-mpo.gc.ca">FisheriesProtection@dfo-mpo.gc.ca</a>	
	Environment Canada	Sandro	Leonardelli	Manager, Environmental Assessment Section	Box 5050: 867 Lakeshore Road	Burlington, ON L7R 4A6	905-336-4953		
	Indigenous and Northern Affairs Canada							<a href="mailto:cau-uca@aadnc-aandc.gc.ca">cau-uca@aadnc-aandc.gc.ca</a>	
PROVINCIAL AGENCIES AND CONSERVATION AUTHORITY	Ministry of the Environment, Conservation and Parks	Trevor	Bell	Environmental Planner & EA Coordinator	8th Flr, 5775 Yonge Street	Toronto, ON M2M 4J1	416-326-3577	<a href="mailto:trevor.bell@ontario.ca">trevor.bell@ontario.ca</a>	
	Ministry of the Environment, Conservation and Parks							<a href="mailto:ClassEAnotices@ontario.ca">ClassEAnotices@ontario.ca</a>	Generic email for Class EA Notices
	Ministry of the Environment, Conservation and Parks							<a href="mailto:eanotification.cregion@ontario.ca">eanotification.cregion@ontario.ca</a>	Send Project Information Form
	Ministry of the Environment, Conservation and Parks	Loralyn	Wild	District Manager				<a href="mailto:Loralyn.Wild@ontario.ca">Loralyn.Wild@ontario.ca</a>	
	Ministry of the Environment, Conservation and Parks			Species at Risk				<a href="mailto:SAROntario@ontario.ca">SAROntario@ontario.ca</a>	
	Ministry of Natural Resources and Forestry	Steven	Strong	Senior District Planner	50 Bloomington Road	Aurora, ON L4G 0L8	905-713-7366	<a href="mailto:steven.strong@ontario.ca">steven.strong@ontario.ca</a>	
	Ministry of Heritage, Sport, Tourism and Culture Industries	Karla	Barboza	Team Lead, Heritage			416-314-7120	<a href="mailto:karla.barboza@ontario.ca">karla.barboza@ontario.ca</a>	
	Ministry of Heritage, Sport, Tourism and Culture Industries	Joseph	Harvey					<a href="mailto:Joseph.Harvey@ontario.ca">Joseph.Harvey@ontario.ca</a>	
	Ministry of Heritage, Sport, Tourism and Culture Industries	Dan	Minkin	Heritage Planner	401 Bay Street, Suite 1700	Toronto, ON M7A 0A7	416-314-7147	<a href="mailto:dan.minkin@ontario.ca">dan.minkin@ontario.ca</a>	
	Ministry of Heritage, Sport, Tourism and Culture Industries	Rosi	Zirger	Heritage Advisor (Acting)	401 Bay Street, Suite 1700	Toronto, ON M7A 0A7	416-314-7159	<a href="mailto:rosi.zirger@ontario.ca">rosi.zirger@ontario.ca</a>	
	Infrastructure Ontario	Erica	Anderson	Environmental Specialist, Environmental Management	1 Dundas Street West, Suite 2000	Toronto, ON M5G 1Z3	519-826-4685	<a href="mailto:erica.anderson@infrastructureontario.ca">erica.anderson@infrastructureontario.ca</a>	
	Ministry of Municipal Affairs and Housing	Heather	Watt	Manager, Community Planning and Development	College Park, 13th Floor, 777 Bay Street	Toronto, ON M7A 2J3	416-585-6048	<a href="mailto:heather.watt@ontario.ca">heather.watt@ontario.ca</a>	
	Toronto and Region Conservation Authority	Suzanne	Bevan	Project Manager	101 Exchange Avenue	Vaughan, ON		<a href="mailto:suzanne.bevan@trca.ca">suzanne.bevan@trca.ca</a>	
Emma		Benko	Planner	101 Exchange Avenue	Vaughan, ON	647-924-5467	<a href="mailto:emma.benko@trca.ca">emma.benko@trca.ca</a>		



**Project Name:** Engineering Services for Class EA, Detailed Design, Contract Administration and Inspection for East Trunk Sanitary Sewer Offline Storage Facility

**Client:** Region of Peel

**Project Number:** 18-2441

	Organization	First Name	Last Name	Position	Address	Ct_Pr_Postal Code	Telephone	Email	Note/Comment
OTHER AGENCIES	Region of Peel - Property Acquisition	Scott G	Beveridge	Capital Acquisition Agent, Real Estate Section	10 Peel Centre Drive	Brampton, ON L6T 4B9	905-791-7800 ext. 7653	<a href="mailto:scott.beveridge@peelregion.ca">scott.beveridge@peelregion.ca</a>	
	City of Mississauga	Thomas	Nightingale	Project Lead, Stormwater Asset Management Plan				<a href="mailto:Thomas.Nightingale@mississauga.ca">Thomas.Nightingale@mississauga.ca</a>	
	City of Mississauga	Auryn	Soares	Storm Drainage Coordinator: Watercourses	300 City Centre Drive	Mississauga, ON L5B 3C1	905-615-3200 ext. 3363	<a href="mailto:auryn.soares@mississauga.ca">auryn.soares@mississauga.ca</a>	
	City of Mississauga	Evelyn	Krolicka	Storm Drainage Technologist				<a href="mailto:evelyn.krolicka@mississauga.ca">evelyn.krolicka@mississauga.ca</a>	
	City of Mississauga	Ghazwan	Yousif	Storm Drainage Technologist, environmental services	201 City Centre Drive	Mississauga, ON L5B 2T4	905-615-3200 ext. 3526	<a href="mailto:ghazwan.yousif@mississauga.ca">ghazwan.yousif@mississauga.ca</a>	
	City of Mississauga - Transportation and Works Development	Su-Won	Yang	Transit Infrastructure Technologist			905-615-3200 ext. 8243	<a href="mailto:su-won.yang@mississauga.ca">su-won.yang@mississauga.ca</a>	
	City of Mississauga	Jane	Darragh	Senior Planner, Community Services Department			905 615 3200 ext. 4946	<a href="mailto:jane.darragh@mississauga.ca">jane.darragh@mississauga.ca</a>	
	City of Mississauga	Jevito	Marchese	Supervisor of Maintenance Standards & Permits			905 615 3200 ext. 4024	<a href="mailto:jevito.marchese@mississauga.ca">jevito.marchese@mississauga.ca</a>	
	Peel District School Board	Bianca	Bielski	Planning & Accommodation Support Services	5650 Hurontario Street	Mississauga, ON L5R 1C6	905-890-1010 ext. 2221	<a href="mailto:bianca.bielski@peelsb.com">bianca.bielski@peelsb.com</a>	
	Meadow Wood - Rattray Ratepayers Association	Sue	Shanly	President			905-822-2409	<a href="mailto:mwrra@rogers.com">mwrra@rogers.com</a>	
PUCC	Region of Peel	Susan	De Jesus	PUCC Coordinator	10 Peel Centre Drive	Brampton ON L6T 4B9	905-791-7800 ext.7898	<a href="mailto:susan.dejesus@peelregion.ca">susan.dejesus@peelregion.ca</a>	Contacted Through Utility Coordination
	Region of Peel	Jenny	Saito	PUCC Coordinator	10 Peel Centre Drive	Brampton ON L6T 4B9	905-791-7800	<a href="mailto:pucc.applications@peelregion.ca">pucc.applications@peelregion.ca</a>	Contacted Through Utility Coordination
INDIGENOUS COMMUNITIES	Six Nations of the Grand River First Nation	Robbin	Vanstone	Consultation Supervisor	1695 Chiefswood Rd	Oshweken ON, N0A 1M0	519-753-0665 ex 5433.	<a href="mailto:rvanstone@sixnations.ca">rvanstone@sixnations.ca</a>	
	Six Nations of the Grand River First Nation	Dawn	LaForme	Secretary/Receptionist		Oshweken, ON		<a href="mailto:dlaforme@sixnations.ca">dlaforme@sixnations.ca</a>	
	Mississaugas of the Credit First Nation	Cathie	Jamieson		2789 Mississauga Rd, R.R. #6	Hagersville, ON N0A 1H0	905-869-5761	<a href="mailto:CathieJ@mncfn.ca">CathieJ@mncfn.ca</a>	
	Mississaugas of the Credit First Nation	Fawn	Sault					<a href="mailto:Fawn.Sault@mncfn.ca">Fawn.Sault@mncfn.ca</a>	
		Megan	DeVries		4065 Highway 6 North	Hagersville, ON N0A 1H0	289-527-2763	<a href="mailto:Megan.DeVries@mncfn.ca">Megan.DeVries@mncfn.ca</a>	
	Chippewas of Mnjikaning (Rama) First Nation	Sharday	James		200-5884 Rama Road	Rama, ON L3V 6H6	705-325-3611	<a href="mailto:ShardayJ@ramafirstnation.ca">ShardayJ@ramafirstnation.ca</a>	
	Alderville First Nation	David	Mowat		P.O. Box 46 11696 Second Line Road	Roseneath, ON K0K 2X0	905-352-2011	<a href="mailto:dmowat@alderville.ca">dmowat@alderville.ca</a>	
		Dave	Simpson				905-352-2011	<a href="mailto:consultation@alderville.ca">consultation@alderville.ca</a>	
	Haudenosaunee Confederacy Development Institute	Hazel	Hill		16 Sunrise Court, Suite 600	Oshweken, Ontario N0A 1M0		<a href="mailto:hazelehill@gmail.com">hazelehill@gmail.com</a> <a href="http://HaudenosauneeConfederacy.ca">HaudenosauneeConfederacy.ca</a>	
	Metis Nation of Ontario	MNO Head Office		Lands, Resources and Consultation Branch				<a href="mailto:consultations@metisnation.org">consultations@metisnation.org</a>	
Metis Nation of Ontario Head Office			Metis Consultation Unit	Suite 1100 - 11th Floor, 66 Slater Street	Ottawa, ON K1P 5H1	613-798-1488	<a href="mailto:mno@metisnation.org">mno@metisnation.org</a>		



# Notices

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## Notice of Commencement



## Environmental Assessment Study

### NOTICE OF STUDY COMMENCEMENT EAST TRUNK SANITARY SEWER OFFLINE STORAGE FACILITY

#### Study Background:

There is a section of the East Trunk Sanitary Sewer (ETSS) (constructed in 1975, with an energy dissipation chamber (EDC) constructed in 1970), that has been abandoned for approximately nine years as a result of extensive corrosion in various locations within the sewer.

The Region of Peel is undertaking this study to identify if, and how the existing abandoned ETSS or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population.

A Schedule B Municipal Class Environmental Assessment (EA) study has been initiated to identify the best solution for the assignment. The Class EA includes opportunities for public, Indigenous community and stakeholder discussion and feedback.

#### How to Get Involved

As part of the Study, online public engagement will be arranged to allow local residents and interested members of the public the first opportunity to review and comment on the alternatives, including the recommended alternative, the evaluation process, and next steps in the Study process.

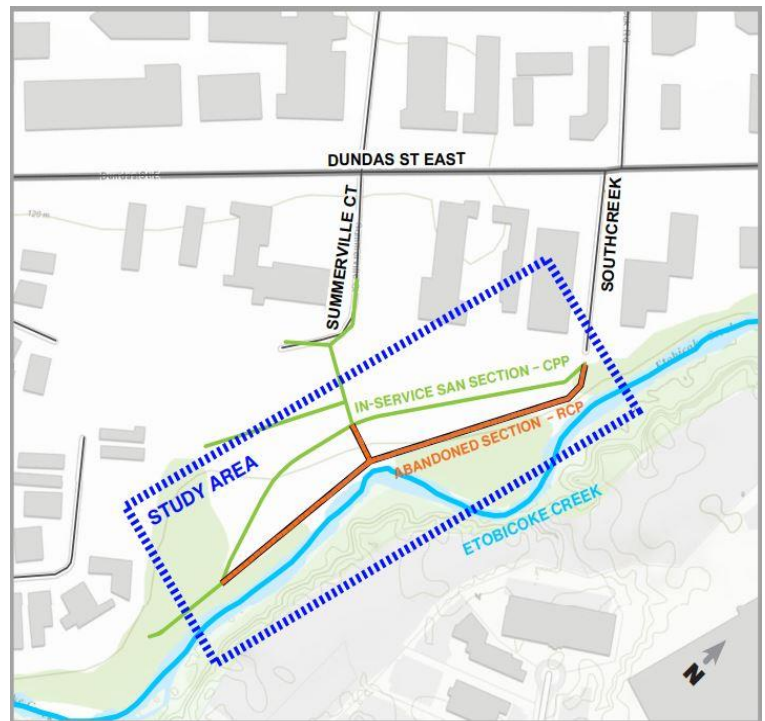
Display boards will be available to the public on [peelregion.ca/public-works/environmental-assessments](https://peelregion.ca/public-works/environmental-assessments), at a later date.

#### Keeping You Informed

The study is currently in the early stages and a date for online public engagement will be communicated in a future notice. For further information and to provide your comments, please contact:

#### Dan Bennington, C.E.T.

Project Manager, Wastewater Capital - Region of Peel  
10 Peel Centre Drive, Suite B, 4th Floor  
Brampton, ON L6T 4B9  
Tel. 905-791-7800 x7927  
[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)



This notice was first issued on Feb. 25, 2021



# Notices

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## E-Blast - Notice of Commencement

## Hedieh Hashtroudi

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**From:** Hedieh Hashtroudi  
**Sent:** Monday, March 1, 2021 8:07 PM  
**To:** Hedieh Hashtroudi  
**Cc:** Christine Hill; Bennington, Dan  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement  
**Attachments:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement .pdf

Hello,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

Best Regards,

**Hedieh Hashtroudi**  
Engineering Designer

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

70 Valleywood Drive  
Markham Ontario L3R 4T5  
tel +1 905 754 8060 ext 478 fax +1 905 940 2064



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# Notices

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## Notice of Online Public Engagement

## Environmental Assessment Study

### NOTICE OF ONLINE PUBLIC ENGAGEMENT EAST TRUNK SANITARY SEWER OFFLINE STORAGE FACILITY

#### Study Background

Within the City of Mississauga there is a section of the East Trunk Sanitary Sewer (ETSS) (constructed in 1975, with an energy dissipation chamber (EDC) constructed in 1970), that has been abandoned for approximately nine years as a result of extensive corrosion in various locations within the sewer.

The Region of Peel is undertaking a study to identify if, and how the existing abandoned ETSS or a new offline storage facility could be used for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant (WWTP) while continuing to meet the sanitary service demands from a growing population.

A Schedule B Municipal Class Environmental Assessment (EA) study has been initiated to identify the best sanitary storage solution. The Class EA includes opportunities for public, Indigenous community and stakeholder discussion and feedback.

#### Online Public Engagement

Online Public Engagement has been arranged to provide details regarding the Class EA study, including project background, evaluation of alternatives, conceptual designs, proposed mitigation measures, and the anticipated schedule for construction. Electronic display boards will be available to the public on [peelregion.ca/public-works/environmental-assessments](https://peelregion.ca/public-works/environmental-assessments) starting **April 22, 2021**.

The Online Public Engagement provides an opportunity for local residents, businesses and interested members of the public to review and comment on the evaluation of alternatives, including selection of the recommended alternative.

#### How to Get Involved

Please submit any comments or concerns by **May 05, 2021**. Any input received by that date will be incorporated into the Project File Report, which will be available for public review when the study is completed.

For further information and to provide your comments, please contact:

#### **Dan Bennington, C.E.T.**

Project Manager, Wastewater Capital - Region of Peel

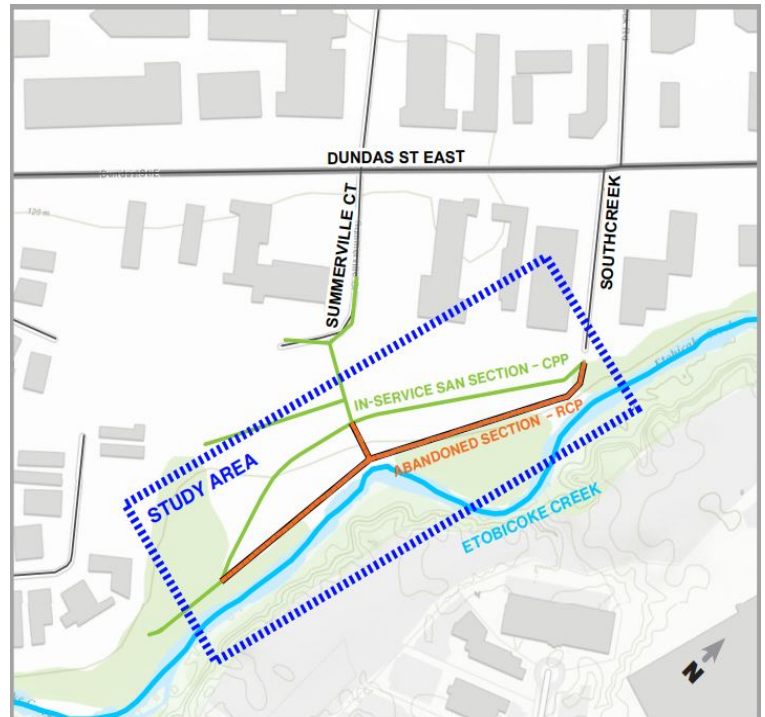
10 Peel Centre Drive, Suite B, 4th Floor

Brampton, ON L6T 4B9

Tel. 905-791-7800 x7927

[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)

This notice was first issued on April 15, 2021.





# Notices

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## E-Blast - Notice of Online Public Engagement

## Hedieh Hashtroudi

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**From:** Hedieh Hashtroudi  
**Sent:** Wednesday, April 21, 2021 6:40 AM  
**To:** Hedieh Hashtroudi  
**Cc:** Bennington, Dan  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation  
**Attachments:** 18-2441 ETSS Offline Storage Facility \_ Notice of OPE.pdf

Good morning,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. The Notice of Study Commencement was issued and forwarded to you on February 25, 2021.

An evaluation of alternative solutions has been completed and the recommended alternative is “Replacement of the chamber and construction of five sets of buried parallel storage sewer pipe”. The recommended alternative also includes decommissioning of the abandoned ETSS.

Due to the current restrictions for public meetings, the Region is conducting an Online Public Engagement to replace the typical Public Information Centre and to address the Schedule B Class EA consultation requirement. The attached Public Notice provides information on the project and a link to the Online Public Engagement presentation (presentation will be available on [peelregion.ca/public-works/environmental-assessments](https://peelregion.ca/public-works/environmental-assessments) starting **April 22, 2021**). The Notice indicates that comments are due by **May 05, 2021**.

We thank you in advance for your participation in the project.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

70 Valleywood Drive  
Markham Ontario L3R 4T5  
tel +1 905 754 8060 ext 478 fax +1 905 940 2064



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# Appendix K – Public and Agency Correspondence

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**Project Name:** Engineering Services for Class EA, Detailed Design, Contract Administration and Inspection for East Trunk Sanitary Sewer Offline Storage Facility  
**Client:** Region of Peel  
**Project Number:** 18-2441

	Organization	First Name	Last Name	Via	Date	Type of Project Communication	Response	Date	IBI ACTION/RESPONSE
FEDERAL AGENCIES	Fisheries and Oceans Canada	Fisheries and Oceans Canada (Jessica Epp-Martindale) Fish and Fish Habitat Program		Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
				Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	Email from Fisheries and Oceans Canada confirming the Fish and Fish Habitat Program at FisheriesProtection@dfo-mpo.gc.ca, they deal with any projects near water.	April 21, 2021	We confirmed that the he Fish and Fish Habitat Program at FisheriesProtection@dfo-mpo.gc.ca has been contacted.
	Environment Canada	Sandro	Leonardelli	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
				Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
	Indigenous and Northern Affairs Canada			Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
				Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
Ministry of the Environment, Conservation and Parks	Trevor	Bell	Email	March 1, 2021	<u>Notice of Commencement</u>	Email received informing that the Notice of Commencement and the completed Project Information Form were submitted to the MECP Central Region EA Notification inbox (eanotification.cregion@ontario.ca).	March 2, 2021	We confirmed that Project Information Form and a copy of the Notice of Commencement were sent in to the Central Region EA Notification Inbox (eanotification.cregion@ontario.ca).	
			Email			A response letter received from the MECP, Environmental Approvals Branch, providing the following: *guidance regarding the ministry's interests with respect to the Class EA process *procedural aspects of rights-based consultation to the proponent *Consultation with potential affected Indigenous communities *Required circumstances that Environmental Approvals Branch must be contacted	April 1, 2021		
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response			
	Tina Loralyn	Dufresne Wild	Email	March 1, 2021	<u>Notice of Commencement</u>	Email received confirming that Loralyn Wild is acting as the District Manager for the MECP's Halton-Peel District Office.	March 1, 2021	Loralyn Wild added as a main contact	
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response			
	Species at Risk Ontario			Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
				Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	Email received stating proponent's responsibility to ensure that SAR are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the proposed activities to be carried out on the site. If the proposed activities can not avoid impacting protected species and their habitats then an authorization under the Endangered Species Act might be required.	April 30, 2021	We informed SAR MECP that in conducting the Natural Heritage Assessment, it was identified that there are some SAR present in the project area. To minimize potential impacts, we are developing mitigation measures that will be further refined during detailed design. If it is determined that we will impact SAR, the appropriate authorization will be obtained. In addition, we confirmed that our infrastructure construction is in close proximity to the creek however, we are not proposing any in-water works. Therefore, it is anticipated that the proposed construction will not cause impacts to protected fish species. Mitigation measures are being developed to also ensure any potential impacts associated with construction works will be minimized.
	Ministry of Natural Resources and Forestry	Steven	Strong	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
Email				April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response			



**Project Name:** Engineering Services for Class EA, Detailed Design, Contract Administration and Inspection for East Trunk Sanitary Sewer Offline Storage Facility  
**Client:** Region of Peel  
**Project Number:** 18-2441

PROVINCIAL AGENCIES AND CONSERVATION AUTHORITY

Organization	First Name	Last Name	Via	Date	Type of Project Communication	Response	Date	IBI ACTION/RESPONSE
Ministry of Heritage, Sport, Tourism and Culture Industries	Karla	Barboza				Confirmation email received stating project file number at MHSTCI: File 0013777. It was advised to continue to send any notices and/or information to Joseph Harvey, MHSTCI Heritage Planner, and Karla.	March 2, 2021	Joseph Harvey was added to the contact list and included in all Correspondences.
	Joseph	Harvey	Email	March 1, 2021	<u>Notice of Commencement</u>	MHSTCI Letter was received providing the followings:  * Identifying Cultural Heritage Resources through screening and evaluation * Determine if an archaeological assessment is needed * The MHSTCI Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes should be completed to help determine whether this EA project may impact cultural heritage resources	March 26, 2021	As the study area straddles the municipalities of Peel and Toronto, the heritage registers for both municipalities were reviewed. No listed or designated heritage properties are located within the study area. Based on the current assessment and review of historical mapping from the nineteenth and twentieth centuries, no known or potential heritage structures or landscapes have been identified within the study area.  Completed Stage 1 Archeological Assessment and concluded there is low potential for archaeological resources within study area. The construction of existing sanitary sewers in the eastern and western portions of the of the study area is considered to be deep disturbances in that zone. Consequently, there is low potential for archaeological resources within the study area.
	Dan Rosi	Minkin Zirger	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
Infrastructure Ontario	Erica	Anderson	Email	March 1, 2021	<u>Notice of Commencement</u>	Email received confirming that an initial scan indicates that there are no properties owned by the Minister of Government and Consumer Services within the project's study area,  If the proponent confirms that no provincial government property exists in the project area, please remove Infrastructure Ontario from the contact list. If provincial government property is in the study area but not required for the project, it is required to continue to consult IO as a directly affected stakeholder.	March 3, 2021	We confirmed that there is no provincial property in the study area.
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
Ministry of Municipal Affairs and Housing	Heather	Watt	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
Toronto and Region Conservation Authority	Suzanne Emma	Bevan Benko	Email	February 25, 2021	<u>Notice of Commencement</u>	Held a Pre-submission Consultation meeting on Feb 25, 2021.	February 25, 2021	Notice of completion was sent along with holding Pre-submission Consultation meeting on Feb 25, 2021. A requested package of background data (incl. Feasibility Study Report, Geotechnical and Hydrogeological Services Scopes, Archaeological Assessment, Etobicoke Creek Trunk Sewer Project, Prepared by TRCA, 2008, Geomorphic Assessment, Etobicoke Creek Trunk Sewer, (Prepared as a part of Class EA, Renewal of Etobicoke Creek Trunk Sewer, May 2008) was sent for TRCA review.
			Email	February 25, 2021	Followed up email on <u>Notice of Commencement</u> and <u>submitted package</u>	TRCA confirmed that additional archeological work is not required. And, no permit is required for borehole investigation.  A response letter received providing comments/recommendations scopes to be undertaken for Construction permit.	April 15, 2021	
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
			Email	June 28, 2021	Request for <u>EA Review meeting</u> & Submit <u>Response Letter</u> along with <u>Class EA Investigative Services Reports</u> for TRCA review	Held a EA review meeting on July 14th.		Investigative services conducted for class EA were discussed with TRCA staff.



**Project Name:** Engineering Services for Class EA, Detailed Design, Contract Administration and Inspection for East Trunk Sanitary Sewer Offline Storage Facility  
**Client:** Region of Peel  
**Project Number:** 18-2441

	Organization	First Name	Last Name	Via	Date	Type of Project Communication	Response	Date	IBI ACTION/RESPONSE
OTHER AGENCIES	City of Mississauga	Evelyn	Krolicka	Email	March 1, 2021	<u>Notice of Commencement</u>	Email received confirming that all correspondence regarding the EA to Evelyn as the main contact for the City of Mississauga.	March 2, 2021	Response letter was sent providing the following answers: *For Alternatives 1 and 2, the impact to the existing 975mm storm sewer would be refined/explored during the detailed design including evaluating the possibility of maintaining/protecting the pipe during construction, or to remove, by-pass, and reinstalling. * The Region of Peel Real State department is currently in discussion with the City of Mississauga and TRCA to obtain a consent to enter for the construction.
				Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	Comment letter received stating following consideration: *Alternative 2 allows for the preservation of the existing 975 mm storm sewer *Alternative 1 be selected as the preferred option, proposing to secure easement rights is required	May 10, 2021	
	City of Mississauga - Transportation and Works Development	Su-Won	Yang	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
				Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
	Peel District School Board	Bianca	Bielski	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
				Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
	Meadow Wood - Rattray Ratepayers Association	Sue	Shanly	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
				Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
PUBLIC	Dog Park Representative	[REDACTED]	[REDACTED]	Email	March 1, 2021	<u>Notice of Commencement</u>	Email received raising a concern regarding the flooding and erosion.	May 4, 2021	We confirmed that slope stabilization measures are being proposed to ensure that the bank does not undergo any further erosion. We will be evaluating if there is a more suitable location for Storm outlets.  It was also added that any disturbances to the natural environment will be restored accordingly.
					April 21, 2021	<u>Notice of Online Public Engagement</u>			
	Official Business	[REDACTED]	[REDACTED]	Email	March 1, 2021	<u>Notice of Commencement</u>	Email received raising a concern regarding the construction impacts on the business access road.	June 24, 2021	We confirmed that the project area will be located within the offleash Dog Park. The Business will continue to have access to their property throughout the duration of the construction. Further assessment will be carried out to minimize any impacts over detailed desing stage.
					April 21, 2021	<u>Notice of Online Public Engagement</u>			
INFC	Over Class EA, INFC requested a documented summary of the communication with Indigenous communities. Accordingly, a summary of communication was provided, and confirmation was received from INFC stating that they were satisfied with with the Indigenous engagement efforts completed by the Region of Peel and confirms that Infrastructure Canada's Indigenous Consultation obligations for the proposed project have been met,								



**Project Name:** Engineering Services for Class EA, Detailed Design, Contract Administration and Inspection for East Trunk Sanitary Sewer Offline Storage Facility  
**Client:** Region of Peel  
**Project Number:** 18-2441

Organization	First Name	Last Name	Via	Date	Type of Project Communication	Response	Date	IBI ACTION/RESPONSE
Six Nations of the Grand River First Nation	Robbin Dawn	Vanstone LaForme	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
			Email	March 11, 2021	<u>Followed up email</u> on Notice of Commencement	No Response		
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	Email confirming Robbin Vanstone as the main contact for future correspondence.	April 22, 2021	
			Phone Call	May 4, 2021	<b>Phone call</b>	No Response		
			Email	May 4, 2021	<b>Followed up email</b> on call	No Response		
Mississaugas of the Credit First Nation (MCFN)	Cathie Megan Fawn	Jamieson DeVries Sault	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
			Email	March 11, 2021	<u>Followed up email</u> on Notice of Commencement	No Response		
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	MCFN reaffirmed their established Treaty rights and un-surrendered Aboriginal title to the waters. Requested their Field Liaison Representative to participate in environmental and archaeological fieldwork with their treaty territory. Indicated that additional consultation was necessary related to the project.	May 3, 2021	We confirmed the status of the project and the stage 1 Archaeological Assessment have been completed and study area does not retain Archaeological potential.  In Addition, confirmed the Natural Heritage Study is completed and species at risk bat habitat and butternut were present. Proposed mitigation measures to adjust these issues. We also provided a confirmation that infrastructure is not proposed within the Etobicoke Creek and in-water works are not anticipated during the construction.
			Email	May 19, 2021	Response to the MCFN's Comment Letter	MCFN-DOCA encouraged Region to proceed with report submission.	May 25, 2021	
Chippewas of Mnjikaning (Rama) First Nation	Sharday	James	Email	March 1, 2021	<u>Notice of Commencement</u>			
			Email	March 11, 2021	<u>Followed up email</u> on Notice of Commencement			
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>			
			Phone Call	April 28, 2021	<b>Phone Call</b>	They confirmed receipt of the Notice and they will review and let Region know if they have any comments.	April 28, 2021	
Alderville First Nation	Dave Dave	Mowat Simpson	Email	March 1, 2021	<u>Notice of Commencement</u>			
			Email	March 11, 2021	<u>Followed up email</u> on Notice of Commencement			
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>			
			Phone Call	May 4, 2021	<b>Phone call</b>			
			Email	May 4, 2021	<b>Followed up email</b> on call	They confirmed that the project falls outside of their treaty area. They requested to be kept updated on the results of the EA study, since any impacts to wildlife, fish or bat habitat may affect the species in areas located outside of where the project is taking place.	June 6, 2021	

INDIGENOUS COMMUNITIES



**Project Name:** Engineering Services for Class EA, Detailed Design, Contract Administration and Inspection for East Trunk Sanitary Sewer Offline Storage Facility

**Client:** Region of Peel

**Project Number:** 18-2441

Organization	First Name	Last Name	Via	Date	Type of Project Communication	Response	Date	IBI ACTION/RESPONSE
Haudenosaunee Confederacy Development Institute	Hazel	Hill	Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
			Email	March 11, 2021	<u>Followed up email</u> on Notice of Commencement	No Response		
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
			Phone Call	May 4, 2021	<b>Phone call</b>	No Response		
Metis Nation of Ontario	MNO Head Office		Email	March 1, 2021	<u>Notice of Commencement</u>	No Response		
			Email	March 11, 2021	<u>Followed up email</u> on Notice of Commencement	No Response		
			Email	April 21, 2021	<u>Notice of Online Public Engagement</u>	No Response		
			Phone Call	May 4, 2021	<b>Phone call</b>	No Response		
			Email	June 25, 2021	<b>Followed up email</b>	No Response		



# Federal Agencies

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Fisheries and Oceans Canada

## Hedieh Hashtroudi

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**From:** Hedieh Hashtroudi  
**Sent:** Wednesday, April 21, 2021 9:17 AM  
**To:** C&A SARA Consultations / C&A LEP Consultations (DFO/MPO)  
**Cc:** Bennington, Dan  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Good morning Jessica,

Thank you for your email. It has been forwarded to [FisheriesProtection@dfo-mpo.gc.ca](mailto:FisheriesProtection@dfo-mpo.gc.ca) as well.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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**From:** C&A SARA Consultations / C&A LEP Consultations (DFO/MPO) <[fwisar@dfo-mpo.gc.ca](mailto:fwisar@dfo-mpo.gc.ca)>  
**Sent:** Wednesday, April 21, 2021 7:37 AM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Good Morning,

This email should be sent to the Fish and Fish Habitat Program at [FisheriesProtection@dfo-mpo.gc.ca](mailto:FisheriesProtection@dfo-mpo.gc.ca), they deal with any projects near water. This email is for species at risk issues and reviewing SAR permit applications for research only.

Kind regards,

Jessica Epp-Martindale

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**From:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Sent:** Wednesday, April 21, 2021 6:40 AM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Good morning,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. The Notice of Study Commencement was issued and forwarded to you on February 25, 2021.

An evaluation of alternative solutions has been completed and the recommended alternative is "Replacement of the chamber and construction of five sets of buried parallel storage sewer pipe". The recommended alternative also includes decommissioning of the abandoned ETSS.

Due to the current restrictions for public meetings, the Region is conducting an Online Public Engagement to replace the typical Public Information Centre and to address the Schedule B Class EA consultation requirement. The attached Public Notice provides information on the project and a link to the Online Public Engagement presentation (presentation will be available on [peelregion.ca/public-works/environmental-assessments](http://peelregion.ca/public-works/environmental-assessments) starting **April 22, 2021**). The Notice indicates that comments are due by **May 05, 2021**.

We thank you in advance for your participation in the project.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

70 Valleywood Drive  
Markham Ontario L3R 4T5  
tel +1 905 754 8060 ext 478 fax +1 905 940 2064







# Provincial Agencies

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Ministry of the Environment, Conservation and Parks

## Hedieh Hashtroudi

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**From:** Bell, Trevor (MECP) <Trevor.Bell@ontario.ca>  
**Sent:** Tuesday, March 2, 2021 4:38 PM  
**To:** Hedieh Hashtroudi  
**Cc:** Christine Hill; Bennington, Dan  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Hello Hedieh,

Thanks for your email. I would like to inform you of our process related to providing Class EA notifications to the Ministry of the Environment, Conservation and Parks that is in effect as of **May 1, 2018**. The information is below. Please read carefully and ensure that the Notice of Commencement and the completed Project Information Form are submitted to our Central Region EA Notification inbox ([eanotification.cregion@ontario.ca](mailto:eanotification.cregion@ontario.ca)).

Feel free to contact me if you have any questions.

Thanks,

**Trevor Bell** | Environmental Planner/Environmental Assessment Coordinator  
*Project Review Unit, Environmental Assessment and Permissions Branch*  
*Ministry of the Environment, Conservation and Parks*  
5775 Yonge Street, 8<sup>th</sup> floor, Toronto ON, M2M 4J1  
**New Phone: 437-770-3731** | [trevor.bell@ontario.ca](mailto:trevor.bell@ontario.ca)

**Please follow the process outlined below and submit an electronic version of the Notice and completed Project Information Form to the Central Region email ([eanotification.cregion@ontario.ca](mailto:eanotification.cregion@ontario.ca)). All Notices of commencement and completion are to follow the new process.** If you have any questions, please feel free to contact me. Please feel free to pass along this information to your colleagues.

### **New Notification Procedure:**

The Ministry of the Environment, Conservation and Parks becomes aware of streamlined environmental assessments (e.g., class environmental assessment projects, electricity projects and waste management projects) through notifications by project owners. Notifying the ministry is an important step in the streamlined environmental assessment processes. As part of the ministry's ongoing efforts to improve processes and ensure the ministry has an opportunity to provide input on projects undergoing streamlined environmental assessments, the ministry has established dedicated email accounts in each regional office. These accounts will be used to receive notices as required in your class environmental assessment process along with a new "Project Information Form". As of May 1, 2018, proponents must use this new process.

### **4 Step Process for Submitting Notices for Streamlined Eas**

To submit your notice you need to do the following:

1. **Download and complete the Project Information Form.** (The Form can be found [here](#) under “Streamlined EAs”. It is an excel spreadsheet with columns that need to be filled out by the proponent. The form has been developed for ease of use (i.e. drop down pick list for most fields). Instructions on filling out the form are contained in 2 tabs within the form itself).
2. **Create an email. The subject line of your email must include in this order: project location, type of streamlined EA and project name**  
For example:
  - York Region, MEA Class EA, Elgin Mills Rd East (Bayview to Woodbine)
  - Durham Region, Electricity Screening Process, New Cogeneration Station
  - City of Ottawa, Waste Management Screening Process, Landfill Expansion
3. **Attach the completed Project Information Form (in excel format) and a copy of your project notice (in PDF format) to the email.**
4. **Send by email to the appropriate ministry regional office:**  
Central Region – [eanotification.cregion@ontario.ca](mailto:eanotification.cregion@ontario.ca)  
Eastern Region – [eanotification.eregion@ontario.ca](mailto:eanotification.eregion@ontario.ca)  
Northern Region – [eanotification.nregion@ontario.ca](mailto:eanotification.nregion@ontario.ca)  
South West Region – [eanotification.swregion@ontario.ca](mailto:eanotification.swregion@ontario.ca)  
West Central Region – [eanotification.wcregion@ontario.ca](mailto:eanotification.wcregion@ontario.ca)

Notes:

- The hyperlink to the [MECP District Officer Locator](#) website, can be used to assist with determining what ministry region your project is located.
- The minimum requirement is to send project initiation and completion notices (and where applicable, Revised Notice of Completion, Notice of Filing of Addendum, Statement of Completion). All other notices (e.g. Notice of PIC/OH) can be sent to the Regional email address but not required.
- If your project is located in more than one ministry region, you need to submit your notices to all appropriate regions.

---

**From:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>

**Sent:** March 1, 2021 8:07 PM

**To:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>

**Cc:** Christine Hill <christine.hill@ibigroup.com>; Bennington, Dan <dan.bennington@peelregion.ca>

**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Hello,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

Best Regards,

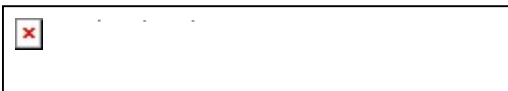
**Hedieh Hashtroudi**

Engineering Designer

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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tel +1 905 754 8060 ext 478 fax +1 905 940 2064



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## Hedieh Hashtroudi

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**Subject:** FW: Peel Region, MEA Class EA, East Trunk Sanitary Sewer Offline Storage Facility  
**Attachments:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement .pdf; Peel Region\_MEA Class EA\_East Trunk Sewer Project Information Form\_Feb 25 2021.xlsx

**From:** Pat Becker <[pbecker@pathcom.com](mailto:pbecker@pathcom.com)>

**Subject:** Peel Region, MEA Class EA, East Trunk Sanitary Sewer Offline Storage Facility

**Date:** March 4, 2021 at 3:57:04 PM EST

**To:** [eanotification.cregion@ontario.ca](mailto:eanotification.cregion@ontario.ca)

**Cc:** "Bennington, Dan" <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>, Christine Hill <[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>

Attached is a copy of the Project Information Form and the Notice of Commencement for the East Trunk Sanitary Sewer Offline Storage Facility that Peel Region is undertaking through the Schedule B, MEAClass EA process.

A copy of the Notice of Commencement was previously sent on February 25 but we have did not include the Project Information Form. We are re-sending the Notice ofCommencement along with the Project Information Form.

Pat

**Patricia Becker, MES**

Environmental-Consultation Specialist  
IBI Group (formerly Cole Engineering)

c: 416-529-3613

## Hedieh Hashtroudi

---

**From:** Bell, Trevor (MECP) <Trevor.Bell@ontario.ca>  
**Sent:** Thursday, April 1, 2021 3:03 PM  
**To:** Bennington, Dan  
**Cc:** Potter, Katy (MECP); Wild, Loralyn (MECP); Pat Becker; Hedieh Hashtroudi  
**Subject:** East Trunk Sanitary Sewer Offline Storage Facility  
**Attachments:** MECP Response Letter\_Notice of Commencement\_East Trunk Sanitary Sewer Offline Storage Facility.pdf

Good afternoon,

Please find attached a letter from the Ministry of the Environment, Conservation and Parks, Environmental Approvals Branch, regarding the above mentioned project. Feel free to contact me directly with any questions or concerns you may have.

Sincerely,

**Trevor Bell** | Environmental Planner/Environmental Assessment Coordinator

*Project Review Unit, Environmental Assessment and Permissions Branch*

*Ministry of the Environment, Conservation and Parks*

5775 Yonge Street, 8<sup>th</sup> floor, Toronto ON, M2M 4J1

New Phone: 437-770-3731 | [trevor.bell@ontario.ca](mailto:trevor.bell@ontario.ca)

Ministry of the Environment,  
Conservation and Parks

*Environmental Assessment Branch*

1<sup>st</sup> Floor  
135 St. Clair Avenue W  
Toronto ON M4V 1P5  
Tel.: 416 314-8001  
Fax.: 416 314-8452

Ministère de l'Environnement, de la  
Protection de la nature et des Parcs

*Direction des évaluations  
environnementales*

Rez-de-chaussée  
135, avenue St. Clair Ouest  
Toronto ON M4V 1P5  
Tél. : 416 314-8001  
Télé. : 416 314-8452



April 1, 2021

Dan Bennington, C.E.T.  
Project Manager, Wastewater Capital  
Region of Peel  
[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)  
BY EMAIL ONLY

Re: **East Trunk Sanitary Sewer Offline Storage Facility  
Region of Peel  
Schedule B Municipal Class Environmental Assessment  
Notice of Study Commencement**

Dear Mr. Bennington,

This letter is in response to the Notice of Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the Region of Peel has indicated that the study is following the approved environmental planning process for a Schedule B project under the Municipal Engineers Association's Municipal Class Environmental Assessment (Class EA).

The attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please identify the areas of interest which are applicable to the project and ensure they are addressed. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

The proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to the proposed project, **the MECP is delegating the procedural aspects of rights-based consultation to the proponent through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information provided to date and the Crown's preliminary assessment the proponent is required to consult with the following communities who have been identified as potentially affected by the proposed project:

- Mississaugas of the Credit First Nation;
- Six Nations of the Grand River (Both Six Nations Elected Council and Haudenosaunee Confederacy Chiefs Council); and
- Huron-Wendat Nation (if there is potential for the project to impact archeological resources).

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the "[Code of Practice for Consultation in Ontario's Environmental Assessment Process](#)".

Additional information related to Ontario's *Environmental Assessment Act* is available online at: [www.ontario.ca/environmentalassessments](http://www.ontario.ca/environmentalassessments)

Please also refer to the attached document "A Proponent's Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities" for further information.

The proponent must contact the Director of Environmental Assessment Branch under the following circumstances after initial discussions with the communities identified by MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities;
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right;
- Consultation with Indigenous communities or other stakeholders has reached an impasse; or
- A Part II Order request is expected based on impacts to Aboriginal or treaty rights.

The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

Once the report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the Proponent.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, Part II Order requests on those matters should be addressed in writing to:

Minister Jeff Yurek  
Ministry of Environment, Conservation and Parks  
777 Bay Street, 5<sup>th</sup> Floor  
Toronto ON M7A 2J3  
[minister.mecp@ontario.ca](mailto:minister.mecp@ontario.ca)

and



Director, Environmental Assessment Branch  
Ministry of Environment, Conservation and Parks  
135 St. Clair Ave. W, 1<sup>st</sup> Floor  
Toronto ON, M4V 1P5  
[EABDirector@ontario.ca](mailto:EABDirector@ontario.ca)

Please note the project cannot proceed until at least 30 days after the end of the public review period provided for in the Notice of Completion.

Further, the project may not proceed after this time if:

- a Part II Order request has been submitted to the ministry regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights; or
- the Director has issued a Notice of Proposed Order regarding the project.

The public can request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent.

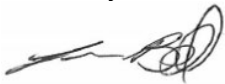
Once the requested information has been received, the Minister will have 30 days to make a decision or impose conditions on your project.

A draft copy of the report should be sent to me prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments.

Please also ensure a copy of the final notice is sent to the ministry's Central Region EA notification email account ([eanotification.cregion@ontario.ca](mailto:eanotification.cregion@ontario.ca)) after the report is finalized.

Should you or your project team members have any questions regarding the material above, please contact me at [trevor.bell@ontario.ca](mailto:trevor.bell@ontario.ca).

Sincerely,



Trevor Bell  
Regional Environmental Assessment Coordinator

cc: Loralyn WlId, Manager (A), Halton Peel District Office, MECP  
Katy Potter, Supervisor, Project Review Unit, MECP  
Patricia Becker, Environmental Consultation Specialist, IBI Group  
Hedieh Hashtroudi, Engineering Designer, IBI Group

Attachments: Areas of Interest  
A Proponent's Introduction to the Delegation of Procedural Aspects of  
consultation with Aboriginal Communities

## AREAS OF INTEREST

*It is suggested that you check off each applicable area after you have considered / addressed it.*

### **Species at Risk**

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. For any questions related to subsequent permit requirements, please contact [SAROntario@ontario.ca](mailto:SAROntario@ontario.ca).

### **Planning and Policy**

- Ontario has released "A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019)" which replaces the "Growth Plan for the Greater Golden Horseshoe (2017)". More information, including the Plan, is found here: <https://www.placestogrow.ca>.
- Parts of the study area may be subject to the [A Place to Grow: Growth Plan for the Greater Golden Horseshoe](#) (2019), [Oak Ridges Moraine Conservation Plan](#) (2017), [Niagara Escarpment Plan](#) (2017), [Greenbelt Plan](#) (2017) or [Lake Simcoe Protection Plan](#) (2014). Applicable policies should be referenced in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.
- The [Provincial Policy Statement](#) (2020) contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies.

### **Source Water Protection (all projects)**

The *Clean Water Act*, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- In October 2015, the MEA Parent Class EA document was amended to include reference to the

Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the report on source water protection.**

- The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.
- If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.
- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.
- In order to determine if this project is occurring within a vulnerable area, proponents can use this mapping tool: <http://www.applications.ene.gov.on.ca/swp/en/index.php>. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.
- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. The contact for this project is Jennifer Stephens at (416) 661-6600 ext 5568 or [jstephens@trca.on.ca](mailto:jstephens@trca.on.ca). Please document the results of that consultation within the report and include all communication documents/correspondence.**

#### More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to Conservation Ontario's website where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in section 1.1 of Ontario Regulation 287/07 made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.

#### **Climate Change**

Ontario is leading the fight against climate change through the [Climate Change Action Plan](#). Recently released, the plan lays out the specific actions Ontario will take in the next five years to meet its 2020 greenhouse gas reduction targets and establishes the framework necessary to meet its long-term

targets. As a commitment of the action plan, **the province has now finalized a guide, "[Considering Climate Change in the Environmental Assessment Process](#)" (Guide).**

The Guide is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. **Proponents should review this Guide in detail.**

- The MECP expects proponents to:
  1. Consider during the assessment of alternative solutions and alternative designs, the following:
    - a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
    - b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
  2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature, and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "[Community Emissions Reduction Planning: A Guide for Municipalities](#)" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

#### □ **Air Quality, Dust and Noise**

- If there are sensitive receptors in the surrounding area of this project, an air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**
- **If a full Air Quality Impact Assessment is not required for the project, the report should still contain:**
  - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
  - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
  - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
  - A discussion of potential mitigation measures.

- As a common practice, “air quality” should be used as an evaluation criterion for all road projects.
- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.
- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to [Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities](#). report prepared for Environment Canada. March 2005.
- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

#### □ **Ecosystem Protection and Restoration**

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.
- All natural heritage features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
  - Areas of Natural and Scientific Interest (ANSIs)
  - Rare Species of flora or fauna
  - Watercourses
  - Wetlands
  - Woodlots

We recommend consulting with the Ministry of Natural Resources and Forestry (MNR), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, you may consider the provisions of the Rouge Park Management Plan if applicable.

#### □ **Surface Water**

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.
- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry’s [Stormwater Management Planning and Design Manual \(2003\)](#) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process** that includes:
  - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained

- Watershed information, drainage conditions, and other relevant background information
  - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
  - Information on maintenance and monitoring commitments.
- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If the proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.
  - Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information. Additionally, an Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

#### □ **Groundwater**

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.
- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.
- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.
- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information.

#### □ **Contaminated Soils**

- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up.

Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites.
- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.
- The report should identify any underground transmission lines in the study area. The owners should be consulted to avoid impacts to this infrastructure, including potential spills.

#### **Excess Materials Management**

- Activities involving the management of excess soil should be completed in accordance with the MECP's current guidance document titled "[Management of Excess Soil – A Guide for Best Management Practices](#)" (2014).
- All waste generated during construction must be disposed of in accordance with ministry requirements

#### **Servicing and Facilities**

- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with the Environmental Approvals Access and Service Integration Branch (EAASIB) to determine whether a new or amended ECA will be required for any proposed infrastructure.
- We recommend referring to the ministry's [environmental land use planning guides](#) to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

#### **Mitigation and Monitoring**

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.
- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.
- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

## □ Consultation

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the SR that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The Class EA also directs proponents to include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments.

## □ Class EA Process

- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.
- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. The Master Plan should clearly indicate the selected approach for conducting the plan, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Part II Order Requests under the *Environmental Assessment Act*, although the plan itself would not be.
- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The Class EA also directs proponents to include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments.
- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment. The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.
- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, and approvals under the *Impact Assessment Act*, 2019.
- Ministry guidelines and other information related to the issues above are available at <http://www.ontario.ca/environment-and-energy/environment-and-energy>. We encourage you to review all the available guides and to reference any relevant information in the report.



## A PROPONENT'S INTRODUCTION TO THE DELEGATION OF PROCEDURAL ASPECTS OF CONSULTATION WITH ABORIGINAL COMMUNITIES

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### Definitions

The following definitions are specific to this document and may not apply in other contexts:

**Aboriginal communities** – the First Nation or Métis communities identified by the Crown for the purpose of consultation.

**Consultation** – the Crown's legal obligation to consult when the Crown has knowledge of an established or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. This is the type of consultation required pursuant to s. 35 of the *Constitution Act, 1982*. Note that this definition does not include consultation with Aboriginal communities for other reasons, such as regulatory requirements.

**Crown** – the Ontario Crown, acting through a particular ministry or ministries.

**Procedural aspects of consultation** – those portions of consultation related to the process of consultation, such as notifying an Aboriginal community about a project, providing information about the potential impacts of a project, responding to concerns raised by an Aboriginal community and proposing changes to the project to avoid negative impacts.

**Proponent** – the person or entity that wants to undertake a project and requires an Ontario Crown decision or approval for the project.

### I. Purpose

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that may adversely impact that right. In outlining a framework for the duty to consult, the Supreme Court of Canada has stated that the Crown may delegate procedural aspects of consultation to third parties. This document provides general information about the Ontario Crown's approach to delegation of the procedural aspects of consultation to proponents.

This document is not intended to instruct a proponent about an individual project, and it does not constitute legal advice.

### II. Why is it Necessary to Consult with Aboriginal Communities?

The objective of the modern law of Aboriginal and treaty rights is the *reconciliation* of Aboriginal peoples and non-Aboriginal peoples and their respective rights, claims and interests. Consultation is an important component of the reconciliation process.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. For example, the Crown's duty to consult is triggered when it considers issuing a permit, authorization or approval for a project which has the potential to adversely impact an Aboriginal right, such as the right to hunt, fish, or trap in a particular area.

The scope of consultation required in particular circumstances ranges across a spectrum depending on both the nature of the asserted or established right and the seriousness of the potential adverse impacts on that right.

Depending on the particular circumstances, the Crown may also need to take steps to accommodate the potentially impacted Aboriginal or treaty right. For example, the Crown may be required to avoid or minimize the potential adverse impacts of the project.

### **III. The Crown's Role and Responsibilities in the Delegated Consultation Process**

The Crown has the responsibility for ensuring that the duty to consult, and accommodate where appropriate, is met. However, the Crown may delegate the procedural aspects of consultation to a proponent.

There are different ways in which the Crown may delegate the procedural aspects of consultation to a proponent, including through a letter, a memorandum of understanding, legislation, regulation, policy and codes of practice.

If the Crown decides to delegate procedural aspects of consultation, the Crown will generally:

- Ensure that the delegation of procedural aspects of consultation and the responsibilities of the proponent are clearly communicated to the proponent;
- Identify which Aboriginal communities must be consulted;
- Provide contact information for the Aboriginal communities;
- Revise, as necessary, the list of Aboriginal communities to be consulted as new information becomes available and is assessed by the Crown;
- Assess the scope of consultation owed to the Aboriginal communities;
- Maintain appropriate oversight of the actions taken by the proponent in fulfilling the procedural aspects of consultation;
- Assess the adequacy of consultation that is undertaken and any accommodation that may be required;
- Provide a contact within any responsible ministry in case issues arise that require direction from the Crown; and
- Participate in the consultation process as necessary and as determined by the Crown.

### **IV. The Proponent's Role and Responsibilities in the Delegated Consultation Process**

Where aspects of the consultation process have been delegated to a proponent, the Crown, in meeting its duty to consult, will rely on the proponent's consultation activities and documentation of those activities. The consultation process informs the Crown's decision of whether or not to approve a proposed project or activity.

A proponent's role and responsibilities will vary depending on a variety of factors including the extent of consultation required in the circumstance and the procedural aspects of consultation the Crown has delegated to it. Proponents are often in a better position than the Crown to discuss a project and its potential impacts with Aboriginal communities and to determine ways to avoid or minimize the adverse impacts of a project.

A proponent can raise issues or questions with the Crown at any time during the consultation process. If issues or concerns arise during the consultation that cannot be addressed by the proponent, the proponent should contact the Crown.

#### **a) What might a proponent be required to do in carrying out the procedural aspects of consultation?**

Where the Crown delegates procedural aspects of consultation, it is often the proponent's responsibility to provide notice of the proposed project to the identified Aboriginal communities. The notice should indicate that the Crown has delegated the procedural aspects of consultation to the proponent and should include the following information:

- a description of the proposed project or activity;
- mapping;
- proposed timelines;
- details regarding anticipated environmental and other impacts;
- details regarding opportunities to comment; and
- any changes to the proposed project that have been made for seasonal conditions or other factors, where relevant.

Proponents should provide enough information and time to allow Aboriginal communities to provide meaningful feedback regarding the potential impacts of the project. Depending on the nature of consultation required for a project, a proponent also may be required to:

- provide the Crown with copies of any consultation plans prepared and an opportunity to review and comment;
- ensure that any necessary follow-up discussions with Aboriginal communities take place in a timely manner, including to confirm receipt of information, share and update information and to address questions or concerns that may arise;
- as appropriate, discuss with Aboriginal communities potential mitigation measures and/or changes to the project in response to concerns raised by Aboriginal communities;
- use language that is accessible and not overly technical, and translate material into Aboriginal languages where requested or appropriate;
- bear the reasonable costs associated with the consultation process such as, but not limited to, meeting hall rental, meal costs, document translation(s), or to address technical & capacity issues;
- provide the Crown with all the details about potential impacts on established or asserted Aboriginal or treaty rights, how these concerns have been considered and addressed by the proponent and the Aboriginal communities and any steps taken to mitigate the potential impacts;
- provide the Crown with complete and accurate documentation from these meetings and communications; and
- notify the Crown immediately if an Aboriginal community not identified by the Crown approaches the proponent seeking consultation opportunities.

#### **b) What documentation and reporting does the Crown need from the proponent?**

Proponents should keep records of all communications with the Aboriginal communities involved in the consultation process and any information provided to these Aboriginal communities.

As the Crown is required to assess the adequacy of consultation, it needs documentation to satisfy itself that the proponent has fulfilled the procedural aspects of consultation delegated to it. The documentation required would typically include:

- the date of meetings, the agendas, any materials distributed, those in attendance and copies of any minutes prepared;
- the description of the proposed project that was shared at the meeting;
- any and all concerns or other feedback provided by the communities;

- any information that was shared by a community in relation to its asserted or established Aboriginal or treaty rights and any potential adverse impacts of the proposed activity, approval or disposition on such rights;
- any proposed project changes or mitigation measures that were discussed, and feedback from Aboriginal communities about the proposed changes and measures;
- any commitments made by the proponent in response to any concerns raised, and feedback from Aboriginal communities on those commitments;
- copies of correspondence to or from Aboriginal communities, and any materials distributed electronically or by mail;
- information regarding any financial assistance provided by the proponent to enable participation by Aboriginal communities in the consultation;
- periodic consultation progress reports or copies of meeting notes if requested by the Crown;
- a summary of how the delegated aspects of consultation were carried out and the results; and
- a summary of issues raised by the Aboriginal communities, how the issues were addressed and any outstanding issues.

In certain circumstances, the Crown may share and discuss the proponent's consultation record with an Aboriginal community to ensure that it is an accurate reflection of the consultation process.

### **c) Will the Crown require a proponent to provide information about its commercial arrangements with Aboriginal communities?**

The Crown may require a proponent to share information about aspects of commercial arrangements between the proponent and Aboriginal communities where the arrangements:

- include elements that are directed at mitigating or otherwise addressing impacts of the project;
- include securing an Aboriginal community's support for the project; or
- may potentially affect the obligations of the Crown to the Aboriginal communities.

The proponent should make every reasonable effort to exempt the Crown from confidentiality provisions in commercial arrangements with Aboriginal communities to the extent necessary to allow this information to be shared with the Crown.

The Crown cannot guarantee that information shared with the Crown will remain confidential. Confidential commercial information should not be provided to the Crown as part of the consultation record if it is not relevant to the duty to consult or otherwise required to be submitted to the Crown as part of the regulatory process.

## **V. What are the Roles and Responsibilities of Aboriginal Communities' in the Consultation Process?**

Like the Crown, Aboriginal communities are expected to engage in consultation in good faith. This includes:

- responding to the consultation notice;
- engaging in the proposed consultation process;
- providing relevant documentation;
- clearly articulating the potential impacts of the proposed project on Aboriginal or treaty rights; and
- discussing ways to mitigate any adverse impacts.

Some Aboriginal communities have developed tools, such as consultation protocols, policies or processes that provide guidance on how they would prefer to be consulted. Although not legally binding, proponents are encouraged to respect these community processes where it is reasonable to do so. Please note that there is no obligation for a proponent to pay a fee to an Aboriginal community in order to enter into a consultation process.

To ensure that the Crown is aware of existing community consultation protocols, proponents should contact the relevant Crown ministry when presented with a consultation protocol by an Aboriginal community or anyone purporting to be a representative of an Aboriginal community.

#### **VI. What if More Than One Provincial Crown Ministry is Involved in Approving a Proponent's Project?**

Depending on the project and the required permits or approvals, one or more ministries may delegate procedural aspects of the Crown's duty to consult to the proponent. The proponent may contact individual ministries for guidance related to the delegation of procedural aspects of consultation for ministry-specific permits/approvals required for the project in question. Proponents are encouraged to seek input from all involved Crown ministries sooner rather than later.

## Hedieh Hashtroudi

---

**From:** Dufresne, Tina (MECP) <Tina.Dufresne@ontario.ca>  
**Sent:** Monday, March 1, 2021 8:08 PM  
**To:** Hedieh Hashtroudi  
**Subject:** Automatic reply: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Thank you for your e-mail. Please note that Loralyn Wild is acting in my place as the District Manager for the MECP's Halton-Peel District Office. She can be reached at [Loralyn.Wild@ontario.ca](mailto:Loralyn.Wild@ontario.ca).

I will not be checking email messages sent to this account. Please follow up with Ms. Wild.

Thank You



# Provincial Agencies

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Species at Risk Branch

Ministry of Environment, Conservation and Parks

## Hedieh Hashtroudi

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**From:** Hedieh Hashtroudi  
**Sent:** Tuesday, May 18, 2021 3:11 PM  
**To:** Species at Risk (MECP)  
**Cc:** Bennington, Dan; Christine Hill; Gord Gajich  
**Subject:** RE: MECP SARB Response: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Hi Shamus,

Thank you so much for your email. In conducting the Natural Heritage Assessment, it was identified that there are some SAR present in the project area. To minimize potential impacts, we are developing mitigation measures that will be further refined during detailed design. If it is determined that we will impact SAR, the appropriate authorization will be obtained.

Please note that our infrastructure construction is in close proximity to the creek however, we are not proposing any in-water works. Therefore, it is anticipated that the proposed construction will not cause impacts to protected fish species. Mitigation measures are being developed to also ensure any potential impacts associated with construction works will be minimized.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

70 Valleywood Drive  
Markham Ontario L3R 4T5  
tel +1 905 754 8060 ext 478 fax +1 905 940 2064



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**From:** Species at Risk (MECP) <[SAROntario@ontario.ca](mailto:SAROntario@ontario.ca)>  
**Sent:** Friday, April 30, 2021 11:15 AM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** MECP SARB Response: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Hi Hedieh,



Please be aware that the Ministry of the Environment, Conservation and Parks (MECP) Species at Risk Branch (SARB) will only provide comments and engage in meetings when they specifically requested to do so. This is due to the high volume of requests SARB receives. SARB is simply unable to attend every meeting and review all documentation that is available.

It is the responsibility of the proponent to ensure that SAR are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the proposed activities to be carried out on the site. If the proposed activities can not avoid impacting protected species and their habitats then the proponent will need to apply for a authorization under the Endangered Species Act (ESA).

Regards,

Shamus Snell  
A/ Management Biologist  
Species at Risk Branch  
Ministry of Environment, Conservation and Parks  
Email: [shamus.snell@ontario.ca](mailto:shamus.snell@ontario.ca)

---

**From:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Sent:** April 21, 2021 6:40 AM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Good morning,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. The Notice of Study Commencement was issued and forwarded to you on February 25, 2021.

An evaluation of alternative solutions has been completed and the recommended alternative is "Replacement of the chamber and construction of five sets of buried parallel storage sewer pipe". The recommended alternative also includes decommissioning of the abandoned ETSS.

Due to the current restrictions for public meetings, the Region is conducting an Online Public Engagement to replace the typical Public Information Centre and to address the Schedule B Class EA consultation requirement. The attached Public Notice provides information on the project and a link to the Online Public Engagement presentation (presentation will be available on [peelregion.ca/public-works/environmental-assessments](http://peelregion.ca/public-works/environmental-assessments) starting **April 22, 2021**). The Notice indicates that comments are due by **May 05, 2021**.

We thank you in advance for your participation in the project.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

70 Valleywood Drive  
Markham Ontario L3R 4T5  
tel +1 905 754 8060 ext 478 fax +1 905 940 2064



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# Provincial Agencies

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Ministry of Heritage, Sport, Tourism and Culture  
Industries

## Hedieh Hashtroudi

---

**From:** Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>  
**Sent:** Tuesday, March 2, 2021 11:29 AM  
**To:** Hedieh Hashtroudi  
**Cc:** Christine Hill; dan.bennington@peelregion.ca; Harvey, Joseph (MHSTCI)  
**Subject:** FW: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement  
**Attachments:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement .pdf  
**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Hedieh (et al.),

I hope this email finds you well.

Thanks for sending the notice of commencement for the East Trunk Sewer Offline Storage Facility project to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) .

Please note that there has been some changes in our unit (see full MHSTCI contact below). For this project, (MHSTCI File 0013777), please continue to send any notices and/or information to Joseph Harvey, MHSTCI Heritage Planner, and me. Joseph will review and provide preliminary comments by March 31. You may also want to contact the Ministry of the Environment, Conservation and Parks for an updated Government Review Team List at 416-314-8001 or 1-800-461-6290.

In the meantime, please let us know if you have any questions.

Regards,  
Karla

Karla Barboza MCIP, RPP, CAHP | (A) Team Lead, Heritage  
Ministry of Heritage, Sport, Tourism and Culture Industries  
Heritage, Tourism and Culture Division | Programs and Services Branch | Heritage Planning Unit  
T. 416.314.7120 | Email: [karla.barboza@ontario.ca](mailto:karla.barboza@ontario.ca)

Ministry of Heritage, Sport, Tourism and Culture Industries			
Heritage, Tourism and Culture Division			
Name, Position, Agency and Address	Document Form	Phone, Fax and Email	Types of EA Projects to be Circulated
Karla Barboza, Team Lead(A), Heritage Planning Unit Programs and Services Branch	1 electronic/ email copy each (preferred)	T: 416-314 7120 <a href="mailto:karla.barboza@ontario.ca">karla.barboza@ontario.ca</a>	Receives the initial circulations for all individual and site-specific Class EAs for all regions of the province. The Team Lead will assign to a Heritage Planner for review.

Ministry of Heritage, Sport, Tourism and Culture Industries 401 Bay Street, Suite 1700 Toronto ON M7A 0A7			EA matters of province-wide significance (including Parent Class EAs and Environmental Assessment policies and guidelines).
<b>Heritage Planners: Site-specific individual and Class EA projects</b> – Heritage Planners review site-specific EAs impacts on cultural heritage resources.			
Katherine Kirzati, Heritage Planner Heritage Planning Unit Programs and Services Branch Ministry of Heritage, Sport, Tourism and Culture Industries 401 Bay Street, Suite 1700 Toronto ON M7A 0A7	1 electronic/ email copy each (preferred)	T: 416-728-3494 <a href="mailto:katherine.kirzati@ontario.ca">katherine.kirzati@ontario.ca</a>	Contact Karla Barboza as initial step prior to circulating documents.  All individual and site-specific Class EAs for South-western Ontario which covers upper- and single-tier municipalities from Grey, Wellington, Waterloo, Brant and Norfolk, westward, plus Northern Ontario (Kenora, Rainy River, Thunder Bay, Cochrane Algoma).
Laura Hatcher, Heritage Planner Heritage Planning Unit Programs and Services Branch Ministry of Heritage, Sport, Tourism and Culture Industries 401 Bay Street, Suite 1700 Toronto ON M7A 0A7	1 electronic/ email copy each (preferred)	T: 437-239-3404 <a href="mailto:aura.e.hatcher@ontario.ca">aura.e.hatcher@ontario.ca</a>	Contact Karla Barboza as initial step prior to circulating documents.  All individual and site-specific Class EAs in Central Ontario, which covers upper- and single-tier municipalities of: Hamilton, Halton, Niagara, Peel, Dufferin; Durham, York, Toronto, Simcoe, Muskoka, Kawartha Lakes, Haliburton, Peterborough and Northumberland.
Dan Minkin, Heritage Planner Heritage Planning Unit Programs and Services Branch Ministry of Heritage, Sport, Tourism and Culture Industries 401 Bay Street, Suite 1700 Toronto ON M7A 0A7	1 electronic/ email copy each (preferred)	T: 416-786-7553 <a href="mailto:dan.minkin@ontario.ca">dan.minkin@ontario.ca</a>	Contact Karla Barboza as initial step prior to circulating documents.  All individual and site-specific Class EAs in Central Ontario, which covers upper- and single-tier municipalities of: Hamilton, Halton, Niagara, Peel, Dufferin; Durham, York, Toronto, Simcoe, Muskoka, Kawartha Lakes, Haliburton, Peterborough and Northumberland.

Joseph Harvey, Heritage Planner(A) Heritage Program Unit Programs and Services Branch Ministry of Heritage, Sport, Tourism and Culture Industries 401 Bay Street, Suite 1700 Toronto ON M7A 0A7	1 electronic/ email copy each (preferred)	T. 613-242-3743 <a href="mailto:joseph.harvey@ontario.ca">joseph.harvey@ontario.ca</a>	Contact Karla Barboza as initial step prior to circulating documents.
---	---	---	---

**From:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Sent:** March 1, 2021 8:07 PM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Christine Hill <[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

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Hello,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

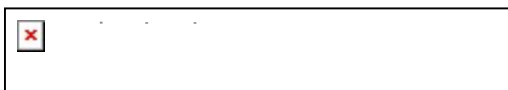
Best Regards,

**Hedieh Hashtroudi**  
Engineering Designer

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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Markham Ontario L3R 4T5  
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## Hedieh Hashtroudi

---

**From:** Harvey, Joseph (MHSTCI) <Joseph.Harvey@ontario.ca>  
**Sent:** Friday, March 26, 2021 3:39 PM  
**To:** dan.bennington@peelregion.ca  
**Cc:** Hedieh Hashtroudi; Barboza, Karla (MHSTCI)  
**Subject:** File 0013777: East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement  
**Attachments:** 2021-03-26\_EastTrunk-MHSTCI-Ltr.pdf

Dan Bennington,

Please see attached MHSTCI's comments on the above referenced undertaking. Do not hesitate to contact me with any questions or concerns.

Regards,

**Joseph Harvey | Heritage Planner (A)**

**Heritage, Tourism and Culture Division | Programs and Services Branch | Heritage Planning Unit**

Ministry of Heritage, Sport, Tourism and Culture Industries

401 Bay Street

17<sup>th</sup> Floor, Suite 1700

Toronto, ON M7A 0A7

613.242.3743

[Joseph.Harvey@ontario.ca](mailto:Joseph.Harvey@ontario.ca)

**Ministry of Heritage, Sport,  
Tourism and Culture Industries**

Programs and Services Branch  
401 Bay Street, Suite 1700  
Toronto, ON M7A 0A7  
Tel: 613.242.3743

**Ministère des Industries du Patrimoine,  
du Sport, du Tourisme et de la Culture**

Direction des programmes et des services  
401, rue Bay, Bureau 1700  
Toronto, ON M7A 0A7  
Tél: 613.242.3743



March 26, 2021

EMAIL ONLY

Dan Bennington, C.E.T.  
Project Manager, Wastewater Capital  
Region of Peel  
10 Peel Centre Drive, Suite B, 4th Floor  
Brampton, ON L6T 4B9  
[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)

**MHSTCI File : 0013777**  
**Proponent : The Region of Peel**  
**Subject : Notice of Study Commencement – Schedule B MCEA**  
**Project : East Trunk Sanitary Sewer Offline Storage Facility**  
**Location : The Region of Peel**

---

Dear Dan Bennington:

Thank you for providing the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) with the Notice of Study Commencement for the above-referenced project. MHSTCI's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage.

Under the EA process, the proponent is required to determine a project's potential impact on cultural heritage resources.

### **Project Summary**

The Region of Peel is undertaking this study to identify if, and how the existing abandoned ETSS or a new offline storage facility could be utilized for storage of peak sanitary flows. A Schedule B Municipal Class Environmental Assessment (EA) study has been initiated to identify the best solution for the assignment.

### **Identifying Cultural Heritage Resources**

While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. Municipal Heritage Committees, historical societies and other local heritage organizations may also have knowledge that contributes to the identification of cultural heritage resources.



### **Archaeological Resources**

This EA project may impact archaeological resources and should be screened using the MHSTCI [Criteria for Evaluating Archaeological Potential](#) to determine if an archaeological assessment is needed. MHSTCI archaeological sites data are available at [archaeology@ontario.ca](mailto:archaeology@ontario.ca). If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) should be undertaken by an archaeologist licenced under the *OHA*, who is responsible for submitting the report directly to MHSTCI for review.

### **Built Heritage Resources and Cultural Heritage Landscapes**

The MHSTCI [Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes](#) should be completed to help determine whether this EA project may impact cultural heritage resources. If potential or known heritage resources exist, MHSTCI recommends that a Heritage Impact Assessment (HIA), prepared by a qualified consultant, should be completed to assess potential project impacts. Our Ministry's [Info Sheet #5: Heritage Impact Assessments and Conservation Plans](#) outlines the scope of HIAs. Please send the HIA to MHSTCI for review, and make it available to local organizations or individuals who have expressed interest in review.

### **Environmental Assessment Reporting**

All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MHSTCI whether any technical cultural heritage studies will be completed for this EA project, and provide them to MHSTCI before issuing a Notice of Completion or commencing any work on the site. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Thank you for consulting MHSTCI on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, do not hesitate to contact me.

Sincerely,

Joseph Harvey  
Heritage Planner  
[joseph.harvey@Ontario.ca](mailto:joseph.harvey@Ontario.ca)

Copied to: Hedieh Hashtroudi, Engineering Designer. IBI Group

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MHSTCI makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MHSTCI be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MHSTCI if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists*.

If human remains are encountered, all activities must cease immediately and the local police as well as the Registrar, Burials of the Ministry of Government and Consumer Services (416-326-8800) must be contacted. In situations where human remains are associated with archaeological resources, MHSTCI should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.



# Provincial Agencies

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Infrastructure Ontario

## Hedieh Hashtroudi

---

**From:** Hedieh Hashtroudi  
**Sent:** Tuesday, March 9, 2021 7:26 PM  
**To:** Maskell, Hayley (IO); noticereview@infrastructureontario.ca  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement  
**Attachments:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement .pdf

Hello Hayley,

Thank you so much for your response. We can confirm that there is no provincial property in the study area.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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Markham Ontario L3R 4T5  
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**From:** Maskell, Hayley (IO) <[Hayley.Maskell@infrastructureontario.ca](mailto:Hayley.Maskell@infrastructureontario.ca)>  
**Sent:** Wednesday, March 03, 2021 11:34 AM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Good morning Ms. Hashtroudi,

Thank you for sending us the Notice of Commencement for the East Trunk Sanitary Sewer Offline Storage Facility in Mississauga.

While our initial scan indicates that there are no properties owned by the Minister of Government and Consumer Services within your project's study area, it is the proponent's responsibility to verify if any provincial government property is within the study area. Title documents may identify owners of provincial government property as any of the following or variations:

- Her Majesty the Queen
- His Majesty the King
- Hydro One
- Hydro One Networks Inc.
- Management Board Secretariat (MBS)

- Minister of Economic Development, Employment and Infrastructure (MEDEI)
- Minister of Energy and Infrastructure (MEI)
- Minister of Government and Consumer Services (MGCS)
- Minister of Infrastructure (MOI)
- Minister of Natural Resources and Forestry (MNRF)
- Minister of Public Infrastructure Renewal (PIR)
- Minister of Public Works
- Minister of Transportation (MTO)
- Ontario Lands Corporation (OLC)
- Ontario Realty Corporation (ORC)

If the proponent confirms that no provincial government property exists in the project area, please remove Infrastructure Ontario from the contact list.

If provincial government property is in the study area but not required for the project, you should continue to consult IO as a directly affected stakeholder. However, if government property is required for the project, the proponent should contact us so that we can advise about requirements for obtaining government property.

Additionally, please remember to send notices to our dedicated notice email address: [noticereview@infrastructureontario.ca](mailto:noticereview@infrastructureontario.ca)

Sincerely,  
Hayley Maskell

---

**From:** Hedieh Hashtroudi [<mailto:hedieh.hashtroudi@ibigroup.com>]

**Sent:** Monday, March 01, 2021 8:07 PM

**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>

**Cc:** Christine Hill <[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>

**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Hello,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

Best Regards,

**Hedieh Hashtroudi**  
Engineering Designer

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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# Conservation Authority

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Toronto and Region Conservation Authority

## Hedieh Hashtroudi

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**From:** Hedieh Hashtroudi  
**Sent:** Friday, July 23, 2021 3:29 PM  
**To:** Emma Benko; Suzanne Bevan; Gord Gajich; Bennington, Dan  
**Cc:** Pat Becker; Christine Hill; Gan, Nicholas; Sena McClean  
**Subject:** RE: CFN 64369 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_ Class EA  
**Attachments:** CFN 64369 \_18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_ Class EA.zip

Hi Emma and Suzanne,

As per our conversation over the meeting held on July 14, 2021, please see the attached IBI package including the following:

- Meeting Minutes – Kindly circulate it with all TRCA attendees;
- EA Review Meeting Presentation; and
- Butternut Trees Health Assessment.

If you have any questions or comments, please do not hesitate to contact us.

Regards,

Hedieh Hashtroudi

Mob +1 647 879 7005

Engineering Designer

*WE HAVE MOVED: Our new address is 8133 Warden Ave, Unit 300, Markham, ON L6G 1B3. Our phone and fax number remain the same.*

### IBI GROUP

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Markham ON L6G 1B3 Canada  
tel +1 905 763 2322 ext 63536



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**From:** Emma Benko <emma.benko@trca.ca>  
**Sent:** Thursday, July 8, 2021 3:44 PM  
**To:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>  
**Cc:** Pat Becker <pbecker@pathcom.com>; Bennington, Dan <dan.bennington@peelregion.ca>; Christine Hill <christine.hill@ibigroup.com>; Gan, Nicholas <nicholas.gan@peelregion.ca>; Suzanne Bevan <Suzanne.Bevan@trca.ca>; Sena McClean <senamcclean@ibigroup.com>; Gord Gajich <gord.gajich@ibigroup.com>  
**Subject:** RE: CFN 64369 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_ Class EA Review Meeting Request

Hi Hedieh,

Thank you for sending over time slots. Staff are available July 14<sup>th</sup> from 9:00 am to 10:00 am. Please let me know if this works for you and your team.

Thank you,

**Emma Benko (she, her, hers)**

Planner

Infrastructure Planning and Permits | Development and Engineering Services

T:  [\(416\) 661-6600](tel:(416)661-6600)  ext. 5648

E: [emma.benko@trca.ca](mailto:emma.benko@trca.ca)

A: [101 Exchange Avenue, Vaughan, ON, L4K 5R6](https://www.trca.ca) | [trca.ca](https://www.trca.ca)



---

**From:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>

**Sent:** Monday, July 5, 2021 1:56 PM

**To:** Suzanne Bevan <[Suzanne.Bevan@trca.ca](mailto:Suzanne.Bevan@trca.ca)>; Emma Benko <[emma.benko@trca.ca](mailto:emma.benko@trca.ca)>

**Cc:** Pat Becker <[pbecker@pathcom.com](mailto:pbecker@pathcom.com)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>; Christine Hill <[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>; Gan, Nicholas <[nicholas.gan@peelregion.ca](mailto:nicholas.gan@peelregion.ca)>; Sena McClean <[sena.mcclean@ibigroup.com](mailto:sena.mcclean@ibigroup.com)>; Gord Gajich <[gord.gajich@ibigroup.com](mailto:gord.gajich@ibigroup.com)>

**Subject:** RE: CFN 64369 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_ Class EA Review Meeting Request

**Importance:** High

Hello Suzanne and Emma,

Following up on the previous email, could you please confirm your availability on the outlined below dates/times?

Best,

Hedieh Hashtroudi

Engineering Designer

*WE HAVE MOVED: Our new address is 8133 Warden Ave, Unit 300, Markham, ON L6G 1B3. Our phone and fax number remain the same.*

**IBI GROUP**

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tel +1 905 763 2322 ext 63536



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**From:** Hedieh Hashtroudi

**Sent:** Monday, June 28, 2021 5:56 PM

**To:** [suzanne.bevan@trca.ca](mailto:suzanne.bevan@trca.ca); Emma Benko <[emma.benko@trca.ca](mailto:emma.benko@trca.ca)>

**Cc:** Pat Becker <[pbecker@pathcom.com](mailto:pbecker@pathcom.com)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>; Christine Hill



<[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>; Gan, Nicholas <[nicholas.gan@peelregion.ca](mailto:nicholas.gan@peelregion.ca)>; Sena McClean <[sena.mcclean@ibigroup.com](mailto:sena.mcclean@ibigroup.com)>; Gord Gajich <[gord.gajich@ibigroup.com](mailto:gord.gajich@ibigroup.com)>

**Subject:** CFN 64369 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_ Class EA Review Meeting Request

Hello Suzanne and Emma,

Hope this message finds you well. As you are aware, the Region of Peel, along with their Consultant (IBI Group) provided the Online Public Engagement (from **April 22, 2021** to **May 05, 2021**) to TRCA which included details regarding the Class EA study, project background, evaluation of alternatives, conceptual designs, proposed mitigation measures, and the anticipated schedule for the construction.

Thus far, the following investigative services were completed for the Class EA study stage:

- Stage 1 Archaeological Assessment
- Cultural Heritage Report
- Natural Sciences Report
- Fluvial Geomorphological and Erosion Hazard Assessment

The noted reports and our response letter can be found via the link below:

 [CFN 64369 East Trunk Sanitary Sewer Offline Storage Facility 18-2441](#)

The Region and IBI would like to set up a meeting with TRCA staff to receive your comments/feedbacks. Our next step is to finalize and issue the project file report for the mandatory 30-day public review. Please let us know your availability on the following dates/times:

- July 14<sup>th</sup>, 2021 before 11am
- July 15<sup>th</sup>, 2021 before 10am or 11am to 12pm
- July 16<sup>th</sup>, 2021 before noon

We thank you in advance for your participation in the project.

Best Regards,

Hedieh Hashtroudi

Engineering Designer

*WE HAVE MOVED: Our new address is 8133 Warden Ave, Unit 300, Markham, ON L6G 1B3. Our phone and fax number remain the same.*

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---

**From:** Suzanne Bevan <[Suzanne.Bevan@trca.ca](mailto:Suzanne.Bevan@trca.ca)>  
**Sent:** Wednesday, March 3, 2021 5:45 PM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Emma Benko <[emma.benko@trca.ca](mailto:emma.benko@trca.ca)>  
**Subject:** CFN TBD 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Hi Hedieh,

Thank you for the email and phone mail message.

A file will be opened and documents circulated.

Thank you,  
Suzanne

**Suzanne Bevan**  
Senior Manager  
Infrastructure Planning and Permits – Peel/York | Development and Engineering Services

T: (416) 661-6600 ext. 5759  
C: (647) 924-5467  
E: [suzanne.bevan@trca.ca](mailto:suzanne.bevan@trca.ca)  
A: 101 Exchange Avenue, Vaughan, ON, L4K 5R6 | [trca.ca](http://trca.ca)



---

**From:** Suzanne Bevan <[Suzanne.Bevan@trca.ca](mailto:Suzanne.Bevan@trca.ca)>  
**Sent:** March 3, 2021 5:26 PM  
**To:** Suzanne Bevan <[Suzanne.Bevan@trca.ca](mailto:Suzanne.Bevan@trca.ca)>  
**Subject:** Re: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

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**From:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Sent:** Thursday, February 25, 2021 4:36:30 PM  
**To:** Suzanne Bevan <[Suzanne.Bevan@trca.ca](mailto:Suzanne.Bevan@trca.ca)>  
**Cc:** Gord Gajich <[gord.gajich@ibigroup.com](mailto:gord.gajich@ibigroup.com)>; Christine Hill <[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>; Sena McClean <[sena.mcclean@ibigroup.com](mailto:sena.mcclean@ibigroup.com)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Good afternoon Suzanne,

We would like to thank you for your participation in the pre-submission consultation meeting today. As per our discussion during the meeting, the Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing

to meet the sanitary service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

In addition, please access the requested package including following documents via the FTP link below:

- Pre-submission Consultation Meeting Presentation – February 25<sup>th</sup>, 2021
- Feasibility Study Report (with relevant Appendices)
- Request for Quotation for Geotechnical and Hydrogeological Services
- Archaeological Assessment of TRCA Property in Peel Region, Etobicoke Creek Trunk Sewer Project, Prepared by TRCA, 2008
- Geomorphic Assessment, Etobicoke Creek Trunk Sewer, Class EA, Prepared by PARISH Geomorphic (Prepared as a part of Class EA, Renewal of Etobicoke Creek Trunk Sewer, May 2008)

<https://ftp.coleengineering.net/?ShareToken=26A9A073CEC83BDE25528B4D87BFA76094887BEB>

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

Best Regards,

**Hedieh Hashtroudi**

Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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## Hedieh Hashtroudi

---

**From:** Emma Benko <emma.benko@trca.ca>  
**Sent:** Thursday, April 15, 2021 5:04 PM  
**To:** dan.bennington@peelregion.ca; Hedieh Hashtroudi  
**Cc:** Beth Williston; Suzanne Bevan; Quentin Hanchard; Victoria Kramkowski; Trina Seguin; Estephan, Therese; Gord Gajich; Christine Hill  
**Subject:** CFN 64369 - East Trunk Sanitary Sewer Offline Storage Facility - TRCA Response to NOC and Feasibility Report  
**Attachments:** CFN 64369 - East Trunk Sanitary Sewer - Notice of Commencement Response Letter - Appendix D.docx; CFN 64369 - East Trunk Sanitary Sewer - Notice of Commencement Response Letter.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Good Afternoon Dan and Hedieh,

Please find attached TRCA response to the Notice of Commencement and technical documents received February 25, 2021.

Please let me know if you have any questions. Thank you,

### **Emma Benko**

Planner

Infrastructure Planning and Permits | Development and Engineering Services

T: [416\) 661-6600](tel:4166616600) ext. 5648

E: [emma.benko@trca.ca](mailto:emma.benko@trca.ca)

A: [101 Exchange Avenue, Vaughan, ON, L4K 5R6](https://www.trca.ca) | [trca.ca](https://www.trca.ca)



## APPENDIX D: TRCA COMMENTS AND PROPONENT RESPONSES

ITEM	TRCA COMMENTS (April 14, 2021)	PROPONENT/CONSULTANT RESPONSE (June 28, 2021)
<b>Geotechnical</b>		
1.	<p>The proposed infrastructure should be located outside the 100 year erosion limit. As recommended by the preliminary slope stability report, detailed slope stability study and geomorphology study should be carried out to determine the alignment of the proposed infrastructure.</p> <ul style="list-style-type: none"> <li>a) Where the valley slopes exist, the slope stability and erosion hazard assessment is required to ensure that the proposed work is not undermined by erosion hazard in long-term or does not destabilize the valleys. The position of the Long-Term Stable Top of Slope needs to be delineated with a minimum safety factor of 1.50 to define the setback required from the existing top of bank/slope;</li> <li>b) Where the stabilization is required due to the active erosion in the valleys, the stabilization should be designed by geotechnical engineer to ensure that a minimum safety factor of 1.50 is met after stabilization.</li> </ul>	<p>To minimize erosion risk to the proposed facility a Geomorphology Study (incl. an erosion hazard assessment) was undertaken in support of the current Class EA.</p> <ul style="list-style-type: none"> <li>a) Mitigation measures have been assessed and proposed in support of EA study. Any required bank stabilization measures will be designed at a slope 1.5:1 or 2:1 to ensure they are stable. The design will be refined and completed during detailed design.</li> <li>b) Noted</li> </ul>
<b>Water Resources</b>		
2.	<p>It is noted that the submitted Geomorphic Assessment completed by Parish geomorphic dated April 2008 shows that the proposed the East Trunk Sanitary Sewer Offline Storage Facility will be within the 100-year erosion limit. This means that the facility will be susceptible to structural damage from channel erosion and migration. If the proposed storage facility is located within the 100-year erosion limit, then in order to avoid or minimize erosion risk to the proposed facility, this assessment report recommends implementation of robust bank stabilization</p>	<p>100-year erosion limit and associated erosion risks have been recognized over the Class EA study. Compensation/mitigation measures have been proposed and will be further refined during detailed design.</p> <p>A 100-yr hazard envelope was determined over the Class EA study. The hazard envelope is based on channel position between 1978 and 2018, and includes the time period following historical channel realignment, as well as bank stabilization measures</p>

	measures along with long term channel monitoring program to better understand rates of channel migration and anticipate risk to the structural integrity of the facility. Please ensure that this recommendation is integrated in the project.	installed in 2002. These stabilization measures have limited channel migration in recent years.  Bank stabilization measures will be proposed to limit long-term erosion and protect the proposed storage facility. A long-term monitoring program will be developed at detailed design once the extent of any bank stabilization measures is further refined during detailed design stage.
<b>Planning Ecology</b>		
3.	The current conceptual drawings appear to only show ESC's for the removals. Please ensure that ESC's are provided for each phase of the work. Please also ensure that plans are consistent with TRCA's Erosion and Sediment Control Guidelines for Urban Construction 2019. Based on the conceptual drawings, this will be particularly important as it relates to notes and details.	Erosion and Sediment Control plan will be developed according to the TRCA's Erosion and Sediment Control Guidelines to eliminate/minimize impacts. Detailed plan(s) will be refined during detailed design.
4.	Please ensure that a plan for dewatering the excavation is provided. The plan should provide a strategy for treating sediment laden water and for ensuring that it is discharged in a well vegetated area (preferably sod), 30 meters from the watercourse.	The dewatering plan will be completed during detailed design.
5.	Please clarify the extent of watercourse bank/slope stabilization and please provide greater detail related to any required watercourse bank/slope stabilization.	Please refer to our responses to comment#1 and #2.
6.	Please provide greater information/details related to ecological impacts and any required compensation/mitigation for those impacts. Restoration opportunities should also be explored through this process.	Our sub-consultant LGL Ltd. has conducted natural heritage studies (both desktop and on-site) to document the existing conditions in the Study Area. While these studies included fieldwork, it was non-intrusive and included biologists walking on-site. Mitigation measures are proposed and will be further refined during detailed design. These include measures related to timing of clearing/grubbing activities to avoid sensitive periods for wildlife, tree protection and delineation of the disturbed area with erosion and sedimentation controls.
<b>Hydrogeology</b>		
7.	In reference to Section 2.3.1 of the "Request for Quotation for Geotechnical and Hydrogeological Services" report, TRCA Staff	Agreed, it is our understanding that this is general best practice for well development.

	recommends that purging of the well should continue unless three consecutive reading for PH and Conductivity values have reached stability.	
8.	In reference to Section 2.3.2 of the “Request for Quotation for Geotechnical and Hydrogeological Services” report, Chloride should also be included in the water quality analyses , if not already included in the Peel Region Sewer Use By-Law 53-2010, for comparison with Canadian Council of the Minister of the Environment (CCME) guideline.	Chloride is included in the general inorganics testing package.
9.	In reference to Section 2.3.3 of the “Request for Quotation for Geotechnical and Hydrogeological Services” report, recommendation for treating dewatering effluent should be mentioned for greater clarity.	Noted, to provide recommendation for pre-treatment based on the results of their water quality testing.
10.	<p>The Toronto and Region Conservation Authority is a partner agency within the Oak Ridges Moraine Groundwater Program. As such our staff routinely rely upon and use the data and information provided through the ORMGP to inform our decision making with respect to water and subsurface related decisions.</p> <p>In supporting the ORMGP, we request that all water and subsurface related data, (e.g., borehole logs, water chemistry, water levels, pumping test data, etc.), collected during the course of this project be submitted in a digital format consistent with the data templates provided (attached). The filled in data entry sheets must be submitted as part of the final report and the processing of the final project invoice will be contingent upon the receipt of all required data entry forms, properly filled in with the required project data. All data collected over the course of the current project will potentially be uploaded to the ORMGP web-based data portal and can be used by others into the future to help improve upon the understanding of Ontario’s water and subsurface environments.</p>	Noted, we will comply and provide this information to TRCA



# Other Agencies

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City of Mississauga



## Hedieh Hashtroudi

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**From:** Evelyn Krolicka <Evelyn.Krolicka@mississauga.ca>  
**Sent:** Tuesday, March 2, 2021 10:46 AM  
**To:** Hedieh Hashtroudi  
**Cc:** Christine Hill; Bennington, Dan  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Hedieh,

Thank you for sending this through.

Moving forward please send all correspondence regarding the EA to myself as I am the main contact for the City of Mississauga.

Thanks,

### **Evelyn Krolicka**

905-615-3200 ext. 5921  
evelyn.krolicka@mississauga.ca

---

**From:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>  
**Sent:** Monday, March 1, 2021 8:07 PM  
**To:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>  
**Cc:** Christine Hill <christine.hill@ibigroup.com>; Bennington, Dan <dan.bennington@peelregion.ca>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Hello,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

Best Regards,

**Hedieh Hashtroudi**  
Engineering Designer

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

70 Valleywood Drive  
Markham Ontario L3R 4T5  
tel +1 905 754 8060 ext 478 fax +1 905 940 2064

## Hedieh Hashtroudi

---

**From:** Hedieh Hashtroudi  
**Sent:** Friday, June 4, 2021 12:02 PM  
**To:** Evelyn Krolicka  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation  
**Attachments:** 18-2441\_ Response to City of Mississauga.pdf

Hi Evelyn,

IBI Group on behalf of the Region of Peel would like to thank you for your comments on the East Trunk Sanitary Sewer (ETSS) Offline Storage Facility Project.

Please see attached the response letter. Further details will be included into the Project File Report which is anticipated to be completed in June 2021. You will receive the Notice of Completion indicating that the Project File Report is final and available for review and comment.

Kindly note that we have had site meetings with the City of Mississauga to discuss project scope regarding to trees and natural features within the project site.

Thank you again for your participation. Should you have any questions or require further information please do not hesitate to contact us.

Regards,

Hedieh Hashtroudi  
Engineering Designer

mob +1 647 879 7005

*WE HAVE MOVED: Our new address is 8133 Warden Ave, Unit 300, Markham, ON L6G 1B3. Our phone and fax number remain the same.*

**IBI GROUP**  
8133 Warden Ave, Unit 300  
Markham ON L6G 1B3 Canada  
tel +1 905 763 2322 ext 63536



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ibigroup.com

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**From:** Evelyn Krolicka <Evelyn.Krolicka@mississauga.ca>  
**Sent:** Monday, May 10, 2021 10:59 AM  
**To:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>  
**Cc:** Bennington, Dan <dan.bennington@peelregion.ca>  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Hello Hedieh and Dan,

The comments from the city of Mississauga are attached. Let me know if you have any questions.

Regards,

**Evelyn Krolicka**

905-615-3200 ext. 5921

[evelyn.krolicka@mississauga.ca](mailto:evelyn.krolicka@mississauga.ca)

---

**From:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>

**Sent:** Wednesday, April 21, 2021 6:40 AM

**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>

**Cc:** Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>

**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Good morning,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. The Notice of Study Commencement was issued and forwarded to you on February 25, 2021.

An evaluation of alternative solutions has been completed and the recommended alternative is "Replacement of the chamber and construction of five sets of buried parallel storage sewer pipe". The recommended alternative also includes decommissioning of the abandoned ETSS.

Due to the current restrictions for public meetings, the Region is conducting an Online Public Engagement to replace the typical Public Information Centre and to address the Schedule B Class EA consultation requirement. The attached Public Notice provides information on the project and a link to the Online Public Engagement presentation (presentation will be available on [peelregion.ca/public-works/environmental-assessments](http://peelregion.ca/public-works/environmental-assessments) starting **April 22, 2021**). The Notice indicates that comments are due by **May 05, 2021**.

We thank you in advance for your participation in the project.

Regards,

**Hedieh Hashtroudi**

Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

70 Valleywood Drive  
Markham Ontario L3R 4T5  
tel +1 905 754 8060 ext 478 fax +1 905 940 2064



Hedieh Hashtroudi  
IBI Group  
70 Valleywood Drive  
Markham Ontario  
L3R 4T5

City of Mississauga  
Transportation & Works  
Suite 800 - 201 City Centre Drive  
Mississauga ON L5B 4E4

May 10, 2021

**Re: Region of Peel Wastewater Capacity Improvements in Central Mississauga- City of Mississauga Feedback on Project Briefing.**

Dear Sandra Anastasio,

Thank you for the opportunity to provide feedback on the subject project. The project provided had been circulated to staff at the City of Mississauga and the feedback received has been compiled below for your consideration.

**Transportation & Works**

1. Please clarify whether Alternative 2 allows for the preservation of the existing 975 mm storm sewer.
2. In order for Alternative 1 to be construct ble and operable, it is assumed that relocation of the existing 975 mm storm sewer would be required. The subject lands are owned by TRCA and the existing 975 mm storm sewer lies within an existing 10 m easement (inst. No. LT0555686 and LT0555690). Should Alternative 1 be selected as the preferred option, how does the Region propose to secure easement rights for the City's future access requirements re: future maintenance of the storm infrastructure?

**Community Service**

No comments received.

**Corporate Services**

No comments received.

Should you have any questions or require further information, please do not hesitate to contact the undersigned.

Sincerely,

Evelyn Krolicka  
Storm Drainage Technologist  
Environmental Services  
City of Mississauga  
T 905-615-3200 ext.5921  
[evelyn.krolicka@mississauga.ca](mailto:evelyn.krolicka@mississauga.ca)



**IBI GROUP**  
8133 Warden Ave  
Markham, ON L6G 1B3 Canada  
tel 905 754 8060 fax 905 940 2064  
[ibigroup.com](http://ibigroup.com)

# IBI Response Letter

<b>To/Attention</b>	Evelyn Krolicka City of Mississauga	<b>Date</b>	June 4, 2021
<b>From</b>	Gord Gajich, P.Eng., Project Manager, IBI Group	<b>Project No:</b>	18-2441
<b>Subject</b>	<b>Municipal Class Environmental Assessment Schedule 'B'</b> East Trunk Sanitary Sewer Offline Storage Facility in The City of Mississauga		

We would like to take this opportunity to thank you for your comments on the East Trunk Sanitary Sewer Project.

- **Please clarify whether Alternative 2 allows for the preservation of the existing 975 mm storm sewer.**

For Alternatives 1 and 2, the impact to the existing 975mm storm sewer would be refined/explored during the detailed design. This will include evaluating the possibility of maintaining/protecting the pipe during construction, or to remove, by-pass, and re-installing.

- **In order for Alternative 1 to be constructible and operable, it is assumed that relocation of the existing 975 mm storm sewer would be required. The subject lands are owned by TRCA and the existing 975 mm storm sewer lies within an existing 10 m easement (inst. No. LT0555686 and LT0555690). Should Alternative 1 be selected as the preferred option, how does the Region propose to secure easement rights for the City's future access requirements re: future maintenance of the storm infrastructure?**

The Region of Peel Real State department is currently in discussion with the City of Mississauga and TRCA to obtain a consent to enter for the construction. Following construction, there will be a permanent easement similar to the current existing permanent easement for the in-service 2100mm East Trunk Sanitary Sewer (ETSS).



# Public

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## Etobicoke Valley Leash Free Dog Park and Official Business

## Hedieh Hashtroudi

---

**From:** Bennington, Dan <dan.bennington@peelregion.ca>  
**Sent:** Tuesday, May 4, 2021 4:47 PM  
**To:** [REDACTED]  
**Subject:** RE: Etobicoke Valley Park

Hi Ryan, I am glad you reached out to me. I understand your concerns of which I too share. We are looking at properly abandoning the old sanitary trunk sewer, and that may be in the form of filling with grout only where we can to minimize disturbance. However, there are some areas where it will be removed for safety reasons and to accommodate our new infrastructure being proposed. We are also looking into possible slope stabilization measures to ensure that the bank does not undergo any further erosion, but this will be assessed further and with approval from TRCA. As you can imagine though, by undertaking some of this work, there will be disturbances to the natural environment of which we will restore with native species as approved by the conservation authority. We are also reviewing whether or not to relocate the storm outlet to a more suitable location, with slope stabilization as already mentioned. At the end of the day, we really want to make sure that we make improvements to the area as part of our projects, and I will have more information as the project proceeds through the design and permit/approval phases.

As part of this project we need to undertake certain investigations like geotechnical, hydrogeological, geomorphology, cultural/heritage etc. We are planning to undertake these over the next several weeks and the City has asked us to close the park while we do the more intrusive investigations like geotechnical for the overall safety of the park users. We will need to close the park for 1 week (preliminary estimate). I am working out the details but we will provide advanced signage before the closure, and signage when the park is closed. I plan on providing notification of alternate leash free parks and was wondering if [leashfreemississauga.ca](http://leashfreemississauga.ca) is the right website to reference? We will also provide information on our website and on the signs, but maybe we could coordinate to have this information be provided on that website link as well?

Thanks and take care,

**Dan Bennington, C.E.T.**  
Project Manager  
Condition Assessment and Rehabilitation  
Engineering Services Division  
Public Works  
Region of Peel

---

**From:** [REDACTED]  
**Sent:** May 4, 2021 3:45 PM  
**To:** Bennington, Dan <dan.bennington@peelregion.ca>  
**Subject:** Etobicoke Valley Park

**CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.**

Good afternoon

My name is Ryan and I am the dog park rep for EV park for the city. I was looking to be involved in any discussions for development of the line NOT currently in service. I've spent almost everyday for 5 years down there and have a good

idea of the decommissioned system. Currently if we were to remove those old storm drains as well as the linking concrete the park would be subject to insane erosion in my opinion and would lead to most of the park being washed away. During the floods of which I've been here for many, those storm drains have worked as barriers allowing the flora and fauna to survive. It is almost a catch 22 when doing any work. In 2019 the river rose over 4 feet flooding all the way to the gravel path. The same happened in 2017.

We just lost over 100 ash trees in the area last year and no regrowth has really happened. The most easterly portion is being held in place by the old sewer but any heavy equipment would surely ruin it beyond repair. If I can be of help please let me know or give more context to my comments I dont mind.

Thank you,





## Hedieh Hashtroudi

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**From:** Bennington, Dan <dan.bennington@peelregion.ca>  
**Sent:** Monday, June 28, 2021 11:32 AM  
**To:** [REDACTED]  
**Cc:** Gord Gajich; Sena McClean; Hedieh Hashtroudi  
**Subject:** RE: East Trunk Sanitary

Good morning Karen,

This project involves the construction of an offline wastewater storage facility that will be located within the Offleash Dog Park. It is currently in the Environmental Assessment phase and details of the project can be found at the following link:

<https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpeelregion.ca%2Fpublic-works%2Fenvironmental-assessments%2Fmississauga%2Feast-trunk-ss-offline-storage-facility.asp&data=04%7C01%7Chedieh.hashtroudi%40ibigroup.com%7Cacb6fa06aff44968d28308d93a49d3ea%7C9093f1a387714fb78596d51eeef18cda%7C0%7C0%7C637604912192946547%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C3000&sd=0ZNa7GAP%2BYWxiqhhQg8roH4TP1rCdxv%2F0yqbcxNF%2BCc%3D&reserved=0>

I understand your concern and we will take it into consideration while we work out the details of the potential construction impacts and staging, however, you will continue to have access to your property throughout the duration of the work. We can review with you the details once we have completed the design, and determine if there are any opportunities to minimize disruption to your business.

Regards,

Dan Bennington, C.E.T.  
Project Manager  
Condition Assessment and Rehabilitation  
Engineering Services Division  
Public Works  
Region of Peel

-----Original Message-----

**From:** [REDACTED]  
**Sent:** June 24, 2021 12:49 PM  
**To:** Bennington, Dan <dan.bennington@peelregion.ca>; Gord Gajich <gord.gajich@ibigroup.com>  
**Subject:** East Trunk Sanitary

CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.

Hi Dan and Gord,

We recently been informed about the huge project on Southcreek Road in Mississauga. As you can imagine the hospitality industry has been devastated by Covid 19. In particular the Banquet Halls and Event Spaces which have been hit the hardest with no clear understanding of what will come this summer and the looming

reality in the fall as to capacity limits. We have been in business long enough to know that any construction or city project of this size takes very long with little regard to the small business it effects.

We have a reputable venue with clients expecting not to come to a construction site for their event. Our clients use southcreek rd to enter our premises from Dundas St, this is our front doors, how is this gonna work? This project directly affects our business which we are hoping to restart next year. We need a clear understanding of this project.

We are an award-winning venue with superb in-house cuisine and outstanding service. Endless possibilities with Crystal Grand.

Stay safe, stay healthy, and see you soon.

Thank you

  
General Manager

Crystal Grand Banquet Hall  
2110 Dundas Street East,  
Mississauga, ON L4X 1L9

<https://can01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.crystalgrand.ca%2F&data=04%7C01%7Cchedieh.hashtrouidi%40ibigroup.com%7Cacb6fa06aff44968d28308d93a49d3ea%7C9093f1a387714fb78596d51eeef18cda%7C0%7C0%7C637604912192946547%7CUnknown%7CTWFpbGZsb3d8eyJWljoImCM4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikk1haWwiLCJXVCi6Mn0%3D%7C3000&odata=02VPv2P5OydvEFh3JI6TII0NU7Elg7yqBTH3495pDuc%3D&reserved=0>

**\*\*We are experiencing a large volume of emails, let us know you received this as responses may be delayed\*\***



# Indigenous Communities

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Aboriginal Consultation and Environmental Services  
Infrastructure Canada

## Hedieh Hashtroudi

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**Subject:** FW: Indigenous Consultation and Environmental Assessment Obligations for the East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage Project (ICIP 60209)

---

**From:** Luke Maybury <[luke.maybury@infcc.gc.ca](mailto:luke.maybury@infcc.gc.ca)>

**Sent:** July 6, 2021 3:35 PM

**To:** Gan, Nicholas <[nicholas.gan@peelregion.ca](mailto:nicholas.gan@peelregion.ca)>

**Cc:** Meng Koh <[meng.koh@infcc.gc.ca](mailto:meng.koh@infcc.gc.ca)>; Calvin Kemm <[calvin.kemm@infcc.gc.ca](mailto:calvin.kemm@infcc.gc.ca)>; [stephen.direnzo@ontario.ca](mailto:stephen.direnzo@ontario.ca); POB Ontario CVRIS / Ontario DGOP VIRC (INFC) <[pobontariocvris-ontariodgopvirc@infcc.gc.ca](mailto:pobontariocvris-ontariodgopvirc@infcc.gc.ca)>; Sarah Robbins <[Sarah.Robbins@infcc.gc.ca](mailto:Sarah.Robbins@infcc.gc.ca)>; Gordon Voogd <[gordon.voogd@infcc.gc.ca](mailto:gordon.voogd@infcc.gc.ca)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>; [icip.covid@ontario.ca](mailto:icip.covid@ontario.ca); [rachel.calvelli@ontario.ca](mailto:rachel.calvelli@ontario.ca)

**Subject:** RE: Indigenous Consultation and Environmental Assessment Obligations for the East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage Project (ICIP 60209)

**CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.**

Good afternoon Nicholas,

Please be advised that Infrastructure Canada has received consultation related documents for the East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage Project. Upon review, INFC is satisfied with the Indigenous engagement efforts completed by the Region of Peel and confirms that Infrastructure Canada's Indigenous Consultation obligations for the proposed project have been met, as they were outlined in the letter dated June 9, 2021.

Should the Region of Peel consider future changes to the nature, design, location, start or end date of the Project, please immediately notify INFC so we may re-evaluate our legislative requirements. Notification to INFC is also required if any concerns are raised by Indigenous groups throughout the life of the project.

Please do not hesitate to contact me should you have any questions or concerns and please share this message with any individual who I should have copied to the email.

Kind regards,

Luke Maybury

---

**From:** Gan, Nicholas <[nicholas.gan@peelregion.ca](mailto:nicholas.gan@peelregion.ca)>

**Sent:** Monday, July 5, 2021 4:49 PM

**To:** Luke Maybury <[luke.maybury@infcc.gc.ca](mailto:luke.maybury@infcc.gc.ca)>; Meng Koh <[meng.koh@infcc.gc.ca](mailto:meng.koh@infcc.gc.ca)>

**Cc:** Calvin Kemm <[calvin.kemm@infcc.gc.ca](mailto:calvin.kemm@infcc.gc.ca)>; Gordon Voogd <[gordon.voogd@infcc.gc.ca](mailto:gordon.voogd@infcc.gc.ca)>; Sarah Robbins <[Sarah.Robbins@infcc.gc.ca](mailto:Sarah.Robbins@infcc.gc.ca)>; ICIPCOVID (MOI) <[ICIPCOVID@ontario.ca](mailto:ICIPCOVID@ontario.ca)>; Calvelli, Rachel (MOI) <[Rachel.Calvelli@ontario.ca](mailto:Rachel.Calvelli@ontario.ca)>; Di Renzo, Stephen (MOI) <[Stephen.DiRenzo@ontario.ca](mailto:Stephen.DiRenzo@ontario.ca)>; POB Ontario CVRIS / Ontario DGOP VIRC (INFC) <[pobontariocvris-ontariodgopvirc@infcc.gc.ca](mailto:pobontariocvris-ontariodgopvirc@infcc.gc.ca)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>

**Subject:** RE: Indigenous Consultation and Environmental Assessment Obligations for the East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage Project (ICIP 60209)

**Subject:** RE: Indigenous Consultation and Environmental Assessment Obligations for the East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage Project (ICIP 60209)

Good afternoon Luke and Meng,

Further to email below, please find a letter complete with attachment responding to the points raised by INFC as well as an update on our project.

As always, please do not hesitate to contact me if you have any questions or concerns.

Thanks,

**Nicholas Gan, P.Eng., PMP**

Manager, Engineering

Condition Assessment & Rehabilitation

Engineering Services Division

Public Works

Region of Peel

Cell. 647-403-3711

---

**From:** Gan, Nicholas

**Sent:** June 9, 2021 3:45 PM

**To:** Maybury, Luke (INFC) <[luke.maybury@canada.ca](mailto:luke.maybury@canada.ca)>

**Cc:** Koh, Meng (INFC) <[meng.koh@canada.ca](mailto:meng.koh@canada.ca)>; Kemm, Calvin (INFC) <[calvin.kemm@canada.ca](mailto:calvin.kemm@canada.ca)>; Voogd, Gordon (INFC) <[gordon.voogd@canada.ca](mailto:gordon.voogd@canada.ca)>; Robbins, Sarah (INFC) <[sarah.robbins@canada.ca](mailto:sarah.robbins@canada.ca)>; ICIPCOVID (MOI) <[ICIPCOVID@ontario.ca](mailto:ICIPCOVID@ontario.ca)>; Calvelli, Rachel (MOI) <[Rachel.Calvelli@ontario.ca](mailto:Rachel.Calvelli@ontario.ca)>; Di Renzo, Stephen (MOI) <[Stephen.DiRenzo@ontario.ca](mailto:Stephen.DiRenzo@ontario.ca)>; POB Ontario CVRIS / Ontario DGOP VIRCVC (INFC) <[pobontariocvris-ontariodgopvircv@canada.ca](mailto:pobontariocvris-ontariodgopvircv@canada.ca)>; Bennington, Dan <[Dan.Bennington@peelregion.ca](mailto:Dan.Bennington@peelregion.ca)>

**Subject:** RE: Indigenous Consultation and Environmental Assessment Obligations for the East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage Project (ICIP 60209)

Good afternoon Luke,

Thanks for the email and I acknowledge receipt of this letter. I will review this with our project team and provide an update as soon as possible.

Please don't hesitate to contact me if there are any issues.

Regards,

**Nicholas Gan, P.Eng., PMP**

Manager, Engineering

Condition Assessment & Rehabilitation

Engineering Services Division

Public Works

Region of Peel

Cell. 647-403-3711

---

**From:** Maybury, Luke (INFC) <[luke.maybury@canada.ca](mailto:luke.maybury@canada.ca)>

**Sent:** June 9, 2021 2:31 PM

**To:** Gan, Nicholas <[nicholas.gan@peelregion.ca](mailto:nicholas.gan@peelregion.ca)>

**Cc:** Koh, Meng (INFC) <[meng.koh@canada.ca](mailto:meng.koh@canada.ca)>; Kemm, Calvin (INFC) <[calvin.kemm@canada.ca](mailto:calvin.kemm@canada.ca)>; Voogd, Gordon (INFC) <[gordon.voogd@canada.ca](mailto:gordon.voogd@canada.ca)>; Robbins, Sarah (INFC) <[sarah.robbins@canada.ca](mailto:sarah.robbins@canada.ca)>; ICIPCOVID (MOI) <[ICIPCOVID@ontario.ca](mailto:ICIPCOVID@ontario.ca)>; Calvelli, Rachel (MOI) <[Rachel.Calvelli@ontario.ca](mailto:Rachel.Calvelli@ontario.ca)>; Di Renzo, Stephen (MOI) <[Stephen.DiRenzo@ontario.ca](mailto:Stephen.DiRenzo@ontario.ca)>; POB Ontario CVRIS / Ontario DGOP VIRCVC (INFC) <[pobontariocvris-ontariodgopvircv@canada.ca](mailto:pobontariocvris-ontariodgopvircv@canada.ca)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>

**Subject:** Indigenous Consultation and Environmental Assessment Obligations for the East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage Project (ICIP 60209)

**CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.**

Good afternoon Nicholas Gan,

Please find attached a letter dated June 9, 2021, regarding Infrastructure Canada's Environmental Assessment and Indigenous Consultation determination for the East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage Project (ICIP 60209).

Please do not hesitate to share this letter with any person involved in this project who should have been included in this email. As the letter notes, if you or anyone involved in this project should have any questions please contact Meng Koh using the provided contact information.

Best regards,

**Luke Maybury**

Environmental Officer  
Aboriginal Consultation and Environmental Services  
[Luke.maybury@Canada.ca](mailto:Luke.maybury@Canada.ca)

Agent de l'environnement  
Consultation autochtone et services environnementaux  
[Luke.maybury@canada.ca](mailto:Luke.maybury@canada.ca)

Calvin Kemm  
A/Senior Environmental Review and Approvals Officer  
Aboriginal Consultation and Environmental Services  
Infrastructure Canada

**Attention: Calvin Kemm**

**Public Works**

10 Peel Centre Dr.  
Suite A  
Brampton, ON  
L6T 4B9  
tel: 905-791-7800

peelregion.ca

**Re: Municipal Class Environmental Assessment Schedule 'B'  
East Trunk Sanitary Sewer Offline Storage Facility in The City of Mississauga**

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Thank you for your letter of June 9, 2021 regarding the Regional Municipality of Peel's (Region) East Sanitary Trunk Sewer and EDC Rehabilitation and Inline Storage project that received federal Ministerial Approval under the Invest In Canada Infrastructure Program (ICIP 60209). As requested in your letter we are providing you with an update on the project, specifically regarding the Indigenous community consultation activities.

The Region is currently conducting the Schedule B, Environmental Assessment under the Municipal Engineers Association Municipal Class Environmental Assessment (Class EA) process in Ontario. The Region initiated the study with issuance of a Notice of Study Commencement. This was followed with an Online Public Engagement event conducted to address the Class EA requirements. The next phase of the project is to release the Notice of Completion and the Project File Report. The Notice of Completion provides a 30-day public, Indigenous community, and agency comment period of the final Project File Report.

Since we have not completed the Project File Report and the report review period required under the Class EA, the Indigenous community consultation log is incomplete at this time.

We can confirm that all project notices, including the Notice of Study Commencement, have been emailed to the following list of Indigenous communities:

- Mississaugas of the New Credit First Nation
- Six Nations of the Grand River
- Alderville First Nation
- Chippewas of Rama First Nation
- Métis Nation of Ontario
- Haudenosaunee Confederacy Development Institute

For reference the Region's list included the same Indigenous communities and contacts which were provided by INFC with the addition of the Haudenosaunee who were also forwarded all information.

In addition to emailing notices, we have followed up with each of the communities. We have attached a copy of the consultation log that is being maintained for the project. As

## Public Works

10 Peel Centre Dr.  
Suite A  
Brampton, ON  
L6T 4B9  
tel: 905-791-7800

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mentioned above, since the Class EA is ongoing, the consultation log is currently incomplete and summarizes the consultation conducted to June 30, 2021.

At this time, the Region has received a letter from the Mississaugas of the Credit First Nation (MCFN) related to their archaeological assessment requirements for projects and the natural heritage studies. The Region provided a response, and MCFN replied that the Region could proceed with the project and report submission. We have attached a copy of the above noted correspondence letters for your reference.

The Region also received a reply from the Alderville First Nation who indicated that the project falls outside of their treaty area, but they are interested in remaining on the project contact list and kept updated on the project.

The Notice of Completion with a link to the Project File Report will be provided to the Indigenous communities by email with follow-up to confirm they have received the information and to discuss whether they have any comments or concerns related to the project.

The Region will forward a copy of the Notice of Completion with the link to the Project File Report to INFC. Further to your request, the Region will provide INFC with a copy of the Consultation Appendix (part of the Project File Report) that includes the complete Indigenous community consultation undertaken on the project (e.g., consultation activities, copies of Notices, replies received, and responses provided).

Further to your request, at this time we can provide the following update on the project schedule. It is expected that the Project File Report will be completed in July 2021 with issuance of the Notice of Completion and commencement of the mandatory 30-day comment period. Once the Class EA process is finished the detailed design phase can be completed. Site preparation activities are anticipated to commence in winter 2022. This site preparation includes time sensitive activities such as vegetation removal (which is to be undertaken outside of the April 1 to August 31 timing window) and tree cutting (which is to be done outside of May 1 to September 30 timing window). Construction activities are anticipated to commence in spring 2022. The timeline for site preparation and construction will be further refined during the detailed design stage.

As noted above, we anticipate providing the complete consultation log to you during summer 2021. The Region will wait for confirmation from you that the consultation obligations have been met.

We thank you for your participation in this project and we will ensure that you are also added to the project consultation list for future notices.

Sincerely,



**Dan Bennington, C.E.T.**

Project Manager, Wastewater Capital - Region of Peel  
10 Peel Centre Drive, Suite B, 4th Floor  
Brampton, ON L6T 4B9  
Tel. 905-791-7800 x7927

[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)





# Indigenous Communities

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## Six Nations of the Grand River First Nation

## Hedieh Hashtroudi

---

**From:** Hedieh Hashtroudi  
**Sent:** Tuesday, May 4, 2021 5:03 PM  
**To:** rvanstone@sixnations.ca  
**Cc:** Dawn LaForme  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation  
**Attachments:** 18-2441 ETSS Offline Storage Facility \_ Notice of OPE.pdf  
**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Robbin,

Hope this message finds you well. Following up on previous emails, it would be greatly appreciated if you could please provide us with any comments/concerns you have on the ongoing Municipal Class Environmental Assessment Study described on the attached notice. We tried to reach out to you by phone but we couldn't get through. Please feel free to call undersigned if you wish to discuss.

Thank you for your cooperation.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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**From:** Dawn LaForme <dlaforme@sixnations.ca>  
**Sent:** Thursday, April 22, 2021 3:10 PM  
**To:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>  
**Cc:** Bennington, Dan <dan.bennington@peelregion.ca>  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Good afternoon Hedieh,  
Please add Robbin Vanstone, Consultation Supervisor, to all future messages [rvanstone@sixnations.ca](mailto:rvanstone@sixnations.ca).

I have forwarded her the message for the above mentioned subject.

Thank you kindly,

*Dawn LaForme*

Secretary/Receptionist  
SN Lands & Resources  
(519) 753-0665

---

**From:** Hedieh Hashtroudi [<mailto:hedieh.hashtroudi@ibigroup.com>]  
**Sent:** April 21, 2021 6:40 AM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Good morning,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. The Notice of Study Commencement was issued and forwarded to you on February 25, 2021.

An evaluation of alternative solutions has been completed and the recommended alternative is "Replacement of the chamber and construction of five sets of buried parallel storage sewer pipe". The recommended alternative also includes decommissioning of the abandoned ETSS.

Due to the current restrictions for public meetings, the Region is conducting an Online Public Engagement to replace the typical Public Information Centre and to address the Schedule B Class EA consultation requirement. The attached Public Notice provides information on the project and a link to the Online Public Engagement presentation (presentation will be available on [peelregion.ca/public-works/environmental-assessments](http://peelregion.ca/public-works/environmental-assessments) starting **April 22, 2021**). The Notice indicates that comments are due by **May 05, 2021**.

We thank you in advance for your participation in the project.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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## Hedieh Hashtroudi

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**From:** Hedieh Hashtroudi  
**Sent:** Thursday, March 11, 2021 3:57 PM  
**To:** Hedieh Hashtroudi  
**Cc:** Bennington, Dan; Christine Hill  
**Subject:** FW: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement  
**Attachments:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement .pdf

Good afternoon,

With reference to the email below, we would like to follow up with you and confirm that we have the correct contact information for this project.

Should you have any questions or comments regarding the project please do not hesitate to contact Peel Region's Project Manager, Dan Bennington at [dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca).

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

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**From:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Sent:** Monday, March 01, 2021 8:07 PM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Christine Hill <[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Hello,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary

service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

Best Regards,

**Hedieh Hashtroudi**  
Engineering Designer

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

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# Indigenous Communities

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Mississaugas of the Credit First Nation (MCFN)

## Hedieh Hashtroudi

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**From:** Megan DeVries <Megan.DeVries@mncfn.ca>  
**Sent:** Tuesday, May 25, 2021 2:31 PM  
**To:** Hedieh Hashtroudi  
**Cc:** Gord Gajich; Bennington, Dan; Christine Hill; Sena McClean; archaeology@ontario.ca; Fawn Sault; Mark LaForme  
**Subject:** RE: PIF Notification - East Trunk Sanitary Sewer

Good afternoon,

MCFN-DOCA has been extremely busy the past couple of months and we are currently functioning at a reduced capacity. We will be unable to complete the archaeological report review at this time. Please proceed with report submission.

Sincerely,  
Megan.

**Megan DeVries, M.A. (she/her)**  
**Archaeological Operations Supervisor**



**Department of Consultation and Accommodation (DOCA)**  
**Mississaugas of the Credit First Nation (MCFN)**  
4065 Highway 6 North, Hagersville, ON NOA 1H0  
Mobile: 289-527-2763  
<http://www.mncfn.ca>

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---

**From:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>  
**Sent:** Wednesday, May 19, 2021 12:25 PM  
**To:** Megan DeVries <Megan.DeVries@mncfn.ca>  
**Cc:** Gord Gajich <gord.gajich@ibigroup.com>; Bennington, Dan <dan.bennington@peelregion.ca>; Christine Hill <christine.hill@ibigroup.com>; Sena McClean <sena.mcclean@ibigroup.com>; archaeology@ontario.ca; Fawn Sault <Fawn.Sault@mncfn.ca>; Mark LaForme <Mark.LaForme@mncfn.ca>  
**Subject:** FW: PIF Notification - East Trunk Sanitary Sewer

Hi Megan,

IBI Group on behalf of the Region of Peel would like to thank you for your comments on the East Trunk Sanitary Sewer Offline Storage Facility Project.



Please see attached the response letter from the Region of Peel along with the draft Stage 1 Archaeological Assessment report. The Natural Sciences Report has not been completed. Assessment reports will be appendices to the Project File Report which is anticipated to be completed in June 2021. You will receive the Notice of Completion indicating that the Project File Report is final and available for review and comment.

Thank you again for your participation. Should you have any questions or require further information please do not hesitate to contact us.

Regards,

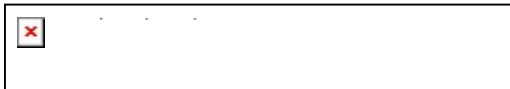
**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

*A Message from IBI Group's CEO on COVID-19: <https://www.ibigroup.com/covid19-response>*

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tel +1 905 754 8060 ext 478 fax +1 905 940 2064



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---

**From:** Megan DeVries <[Megan.DeVries@mncfn.ca](mailto:Megan.DeVries@mncfn.ca)>  
**Sent:** Monday, May 3, 2021 2:01 PM  
**To:** Blake Williams <[bwilliams@asiheritage.ca](mailto:bwilliams@asiheritage.ca)>  
**Cc:** Mark LaForme <[Mark.LaForme@mncfn.ca](mailto:Mark.LaForme@mncfn.ca)>; Fawn Sault <[Fawn.Sault@mncfn.ca](mailto:Fawn.Sault@mncfn.ca)>; Archaeology (MHSTCI) <[archaeology@ontario.ca](mailto:archaeology@ontario.ca)>  
**Subject:** PIF Notification - East Trunk Sanitary Sewer

Good afternoon,

Please see the attached letter from the Mississaugas of the Credit First Nation regarding your upcoming archaeological assessment.

Regards,  
Megan.

**Megan DeVries, M.A. (she/her)**  
Archaeological Operations Supervisor



**Department of Consultation and Accommodation (DOCA)**  
**Mississaugas of the Credit First Nation (MCFN)**  
4065 Highway 6 North, Hagersville, ON N0A 1H0

P: 905-768-4260 | M: 289-527-2763

<http://www.mncfn.ca>

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Megan DeVries, Archaeological Operations Supervisor,  
Department of Consultation and Accommodation (DOCA)  
Mississauga of the Credit First Nation (MCFN)  
4065 Highway 6 North,  
Hagersville, ON N0A 1H0

## Public Works

10 Peel Centre Dr.  
Suite A  
Brampton, ON  
L6T 4B9  
tel: 905-791-7800

[peelregion.ca](http://peelregion.ca)

## Attention: Megan DeVries

### Re: **Municipal Class Environmental Assessment Schedule 'B' East Trunk Sanitary Sewer Offline Storage Facility in The City of Mississauga**

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The Region of Peel would like to take this opportunity to thank you for your submission concerning Document 2021-045P – Class Environmental Assessment, Detailed Design, Contract Administration and Inspection for East Trunk Sanitary Sewer Offline Storage Facility.

We thank you for your comments on the East Trunk Sanitary Sewer Project.

Within the City of Mississauga (near Dundas Street East and South Creek Road) there is a section of the East Trunk Sanitary Sewer (ETSS) (constructed in 1975, with an energy dissipation chamber (EDC) constructed in 1970), that has been abandoned for approximately nine years as a result of extensive corrosion in various locations within the sewer.

The Region of Peel (along with our consultant IBI Group) is undertaking a study to identify if, and how the existing abandoned ETSS or a new offline storage facility could be used for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the Region's G.E. Booth Wastewater Treatment Plant (WWTP) while continuing to meet the sanitary service demands from a growing population.

A Schedule B Municipal Class Environmental Assessment (EA) study has been initiated to identify the best sanitary storage solution. The Class EA includes opportunities for public, Indigenous community and stakeholder discussion and feedback.

A copy of the Notice of Commencement for this project was emailed to Cathie Jamieson on February 25, 2021 at the start of the project. In addition, we have also undertaken an Online Public Engagement to further address the consultation requirements of the Municipal Class Environmental Assessment process. A Notice of the Online Public Engagement was also emailed to Cathie Jamieson. These notices were sent by our engineering consultant, IBI Group.

Online Public Engagement was offered through posting of a presentation and included the opportunity for comments to be received. We have attached a copy of the

## Public Works

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Suite A  
Brampton, ON  
L6T 4B9  
tel: 905-791-7800

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presentation for your review. In addition, a link to the presentation and project notices is as follows:

[peelregion.ca/public-works/environmental-assessments](http://peelregion.ca/public-works/environmental-assessments)

As you are aware our archaeological consultant, Archaeological Services Inc. (ASI), has undertaken a Stage 1 archaeological assessment (April 6, 2021) with the fieldwork involving property inspection to gain knowledge of the geography, topography and current conditions and to evaluate archaeological potential. This was undertaken by systematic visual inspection and did not include excavation or collection of archaeological resources. The results of the Stage 1 have indicated that the Study Area does not retain archaeological potential due to:

- Previous deep and extensive land disturbance due to the previous installation of the trunk sewer and surrounding industrial development;
- Slopes in excess of 20 degrees; and
- 63% of the Study Area was previously assessed by Toronto and Region Conservation Authority (TRCA) in 2008 and 2009 when a Stage 1-2 archaeological assessment was conducted for a previous trunk sewer installation. No archaeological resources were encountered during that study.

In addition to the archaeological assessment, our consultant LGL Limited has conducted natural heritage studies (both desktop and on-site) to document the existing conditions in the Study Area. While these studies included fieldwork, it was non-intrusive and included biologists walking on-site.

Based on background information review and field investigations the Study Area includes significant valleylands, significant woodlands, Candidate SAR Bat habitat and TRCA regulated areas. In addition, two Endangered Species (provincial), Species of Conservation Concern and local (municipal) rarity were identified that could be impacted by the project:

- Species at risk bat habitat (maternal roost cavity trees); and
- Butternut.

Mitigation measures have been proposed and will be further refined during detailed design. These include measures related to timing of clearing/grubbing activities to avoid sensitive periods for wildlife, tree protection and delineation of the disturbed area with erosion and sedimentation controls. No infrastructure is proposed in Etobicoke Creek and in-water works are not anticipated during construction, however due to the close proximity of the creek mitigation measures have been proposed to minimize potential impacts to the creek during construction.

We have provided a copy of the Draft Stage 1 Archaeological Assessment. The Natural Sciences Report has not been completed. These reports will be appendices to the Project File Report which is anticipated to be completed in June 2021. You will receive the Notice of Completion indicating that the Project File Report is final and available for review and comment.

We thank you for your participation in this project and we will ensure that you are also added to the project consultation list for future notices.

Sincerely,



**Dan Bennington, C.E.T.**

Project Manager, Wastewater Capital - Region of Peel

10 Peel Centre Drive, Suite B, 4th Floor

Brampton, ON L6T 4B9

Tel. 905-791-7800 x7927

[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)

## Public Works

10 Peel Centre Dr.  
Suite A  
Brampton, ON  
L6T 4B9  
tel: 905-791-7800

[peelregion.ca](http://peelregion.ca)

## Hedieh Hashtroudi

---

**From:** Hedieh Hashtroudi  
**Sent:** Tuesday, May 4, 2021 5:05 PM  
**To:** CathieJ@mncfn.ca  
**Subject:** FW: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation  
**Attachments:** 18-2441 ETSS Offline Storage Facility \_ Notice of OPE.pdf  
**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Cathie,

Hope this message finds you well. Following up on previous email, it would be greatly appreciated if you could please provide us with any comments/concerns you have on the ongoing Municipal Class Environmental Assessment study described on the attached notice. We tried to reach out to you by phone but we couldn't get through. Please feel free to call undersigned if you wish to discuss.

Thank you for your cooperation.

Regards,

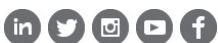
**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

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---

**From:** Hedieh Hashtroudi  
**Sent:** Wednesday, April 21, 2021 6:40 AM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Good morning,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS)

or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population. The Notice of Study Commencement was issued and forwarded to you on February 25, 2021.

An evaluation of alternative solutions has been completed and the recommended alternative is “Replacement of the chamber and construction of five sets of buried parallel storage sewer pipe”. The recommended alternative also includes decommissioning of the abandoned ETSS.

Due to the current restrictions for public meetings, the Region is conducting an Online Public Engagement to replace the typical Public Information Centre and to address the Schedule B Class EA consultation requirement. The attached Public Notice provides information on the project and a link to the Online Public Engagement presentation (presentation will be available on [peelregion.ca/public-works/environmental-assessments](http://peelregion.ca/public-works/environmental-assessments) starting **April 22, 2021**). The Notice indicates that comments are due by **May 05, 2021**.

We thank you in advance for your participation in the project.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

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## Hedieh Hashtroudi

---

**From:** Hedieh Hashtroudi  
**Sent:** Thursday, March 11, 2021 3:57 PM  
**To:** Hedieh Hashtroudi  
**Cc:** Bennington, Dan; Christine Hill  
**Subject:** FW: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement  
**Attachments:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement .pdf

Good afternoon,

With reference to the email below, we would like to follow up with you and confirm that we have the correct contact information for this project.

Should you have any questions or comments regarding the project please do not hesitate to contact Peel Region's Project Manager, Dan Bennington at [dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca).

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

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**From:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Sent:** Monday, March 01, 2021 8:07 PM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Christine Hill <[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

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The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary



service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

Best Regards,

**Hedieh Hashtroudi**  
Engineering Designer

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# Indigenous Communities

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Chippewas of Mnjikaning (Rama) First Nation

## Hedieh Hashtroudi

---

**From:** Hedieh Hashtroudi  
**Sent:** Wednesday, April 28, 2021 4:18 PM  
**To:** Sharday James  
**Cc:** Bennington, Dan; Christine Hill; Gord Gajich  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Sharday,

It was a pleasure speaking with you. Thank you for your cooperation.

Regards,

**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

*Cole Engineering is now a part of IBI Group. Effective Dec 21st, 2020, my email address has changed to [hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com). Please update your contact information accordingly in order to avoid interruptions in e-mail communications.*

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---

**From:** Sharday James <[shardayj@ramafirstnation.ca](mailto:shardayj@ramafirstnation.ca)>  
**Sent:** Wednesday, April 28, 2021 4:10 PM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Hello,

Thank you for your email. I have gotten the notice and I will review and let you know if we have any comments.

Thank you,  
Sharday James

---

**Sharday James**

*Community Consultation Worker, Communications*

**Chippewas of Rama First Nation**

(ph) 705-325-3611,1633

(cell)  
(fax)  
(url) [www.ramafirstnation.ca](http://www.ramafirstnation.ca)

-----  
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By submitting your or another individual's personal information to Chippewas of Rama First Nation, its service providers and agents, you agree and confirm your authority from such other individual, to our collection, use and disclosure of such personal information in accordance with our privacy policy.

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Regards,

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## Hedieh Hashtroudi

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**Sent:** Thursday, March 11, 2021 3:57 PM  
**To:** Hedieh Hashtroudi  
**Cc:** Bennington, Dan; Christine Hill  
**Subject:** FW: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement  
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Regards,

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Engineering Designer

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**Sent:** Monday, March 01, 2021 8:07 PM  
**To:** Hedieh Hashtroudi <[hedieh.hashtroudi@ibigroup.com](mailto:hedieh.hashtroudi@ibigroup.com)>  
**Cc:** Christine Hill <[christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)>; Bennington, Dan <[dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)>  
**Subject:** 18-2441 East Trunk Sanitary Sewer Offline Storage Facility \_Notice of Study Commencement

Hello,

The Region of Peel, along with their Consultant (IBI Group), is undertaking a Schedule B under the Municipal Class Environmental Assessment (EA) process to identify if, and how the existing abandoned East Trunk Sanitary Sewer (ETSS) or a new offline storage facility could be utilized for storage of peak sanitary flows. The main benefit would be a reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary

service demands from a growing population. For further information and study area please see attached the **Notice of Study Commencement**.

If you require further information please do not hesitate to contact us.

We thank you in advance for your participation in the project.

Best Regards,

**Hedieh Hashtroudi**  
Engineering Designer

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# Indigenous Communities

---

Alderville First Nation

## Hedieh Hashtroudi

---

**From:** Dave Simpson <consultation@alderville.ca>  
**Sent:** Wednesday, June 16, 2021 10:29 AM  
**To:** Hedieh Hashtroudi; Dave Mowat  
**Cc:** Dave Mowat  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Thank you for the information on this project, however the project falls outside of our treaty area, please let us know the results of the EA study, although it is outside of our treaty territory any impacts to wildlife , fish or bat habitat will affect the species in areas outside of where the project is taking place.

Thank you

Dave Simpson  
Alderville First Nation  
[consultation@alderville.ca](mailto:consultation@alderville.ca)  
905 375-5480

---

**From:** Hedieh Hashtroudi <hedieh.hashtroudi@ibigroup.com>  
**Sent:** June 16, 2021 8:48 AM  
**To:** Dave Simpson <consultation@alderville.ca>  
**Subject:** RE: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Good morning,

We would like bring to your attention the emails below regarding a Schedule B under the Municipal Class Environmental Assessment undertaking by the Region of Peel.

Please let us know if you have any comments or concerns on the current EA study. We look forward to hearing from you as your input is greatly appreciated.

Regards,

Hedieh Hashtroudi

Engineering Designer

*WE HAVE MOVED: Our new address is 8133 Warden Ave, Unit 300, Markham, ON L6G 1B3. Our phone and fax number remain the same.*

**IBI GROUP**  
8133 Warden Ave, Unit 300  
Markham ON L6G 1B3 Canada  
tel +1 905 763 2322 ext 63536







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---

**From:** Hedieh Hashtroudi  
**Sent:** Tuesday, May 4, 2021 5:10 PM  
**To:** dmowat@alderville.ca  
**Subject:** FW: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation

Hi David,

Hope this message finds you well. Following up on previous email, it would be greatly appreciated if you could please provide us with any comments/concerns you have on the ongoing Municipal Class Environmental Assessment study described on the attached notice. We tried to reach out to you by phone but we couldn't get through. Please feel free to call undersigned if you wish to discuss.

Thank you for your cooperation.

Regards,

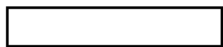
**Hedieh Hashtroudi**  
Engineering Designer

mob +1 647 879 7005

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Regards,

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[Redacted]

[Redacted]

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**From:** Hedieh Hashtroudi  
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**To:** Hedieh Hashtroudi  
**Cc:** Bennington, Dan; Christine Hill  
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Regards,

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Engineering Designer

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# Indigenous Communities

---

Haudenosaunee Confederacy Development Institute

## Hedieh Hashtroudi

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**Sent:** Wednesday, April 21, 2021 6:40 AM  
**To:** Hedieh Hashtroudi  
**Cc:** Bennington, Dan  
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# Indigenous Communities

---

Metis Nation of Ontario

## Hedieh Hashtroudi

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**From:** Hedieh Hashtroudi  
**Sent:** Friday, June 25, 2021 12:12 PM  
**To:** Consultations  
**Cc:** mno@metisnation.org  
**Subject:** FW: 18-2441 East Trunk Sanitary Sewer Offline Storage Facility\_ Notice of Online Public Engagement Presentation  
**Attachments:** 18-2441 ETSS Offline Storage Facility \_ Notice of OPE.pdf; 18-2441 East Trunk OPE Presentation.pdf

Hello,

We would like to bring to your attention the emails below regarding a Schedule B under the Municipal Class Environmental Assessment undertaking by the Region of Peel.

Please let us know if you have any comments or concerns on the current EA study. We tried to reach out to you on May 04, 2021 by phone but we couldn't get through.

We look forward to hearing from you as your input is greatly appreciated. Thank you for your cooperation.

Regards,

Hedieh Hashtroudi

Mob +1 647 879 7005

Engineering Designer

*WE HAVE MOVED: Our new address is 8133 Warden Ave, Unit 300, Markham, ON L6G 1B3. Our phone and fax number remain the same.*

### IBI GROUP

8133 Warden Ave, Unit 300  
Markham ON L6G 1B3 Canada  
tel +1 905 763 2322 ext 63536



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**From:** Hedieh Hashtroudi  
**Sent:** Wednesday, April 21, 2021 6:40 AM  
**To:** Consultations [Consultations@metisnation.org](mailto:Consultations@metisnation.org)  
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# Appendix L – PIC Display Boards

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# ONLINE PUBLIC ENGAGEMENT

**MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT SCHEDULE “B”**

## EAST TRUNK SANITARY SEWER OFFLINE STORAGE FACILITY



PROJECT NO: 18-2441  
APRIL 22, 2021 TO MAY 05, 2021

# PURPOSE OF PUBLIC ENGAGEMENT



Provide information about project scope and background studies



Share current status, constraints and existing conditions



Provide opportunity to obtain input and address any comments or questions raised



Discuss next steps

# CONTENTS

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**1.0 PROJECT BACKGROUND**

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**2.0 WHAT IS AN EA?**

---

**3.0 MUNICIPAL CLASS EA PROCESS**

---

**4.0 PROBLEM/OPPORTUNITY  
STATEMENT**

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**5.0 EXISTING SITE  
CONSIDERATIONS**

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**6.0 STUDIES / ASSESSMENTS**

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**7.0 EVALUATION PROCESS**

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**8.0 ALTERNATIVE SOLUTIONS**

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**9. EVALUATION CRITERIA**

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**10. EVALUATION OF ALTERNATIVE  
SOLUTIONS**

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**11. RECOMMENDED PREFERRED  
SOLUTION**

---

**12. PROPOSED MITIGATION  
MEASURES**

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**13. SCHEDULE AND NEXT STEPS**

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# PROJECT BACKGROUND

There is a section of the East Trunk Sanitary Sewer (ETSS) (constructed in 1975, with an energy dissipation chamber (Chamber) constructed in 1970), that has been abandoned for approximately nine years as a result of extensive corrosion.

Prior to the abandonment, these sanitary sewers had been in service for approximately 42 years, conveying flows from East Mississauga towards the G. E. Booth Wastewater Treatment Plant (WWTP). While in service, these sewers suffered from degradation arising from hydrogen sulphide generation.



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# What is an EA?

A **Municipal Class Environmental Assessment (Class EA)** is a planning and approval process for municipal infrastructure projects, following Ontario's Environmental Assessment Act.

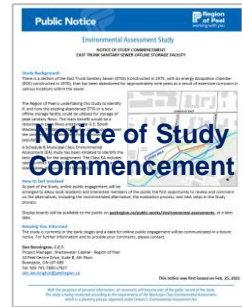
The Class EA study for this project is being conducted in accordance with **Schedule 'B'** of the Municipal Class EA document (October 2000, as amended in 2007, 2011 and 2015).

Schedule B projects have the potential for some adverse environmental effects and require the proponent to proceed through **Phases 1 and 2** of the Class EA process. At the end of the Class EA process, a project file report is prepared to document the planning process and made available for public and agency review for 30 calendar days.

# MUNICIPAL CLASS EA PROCESS

## Phase 1: Problem or Opportunity

- Identify the problems or opportunities



**Online  
Public Engagement**

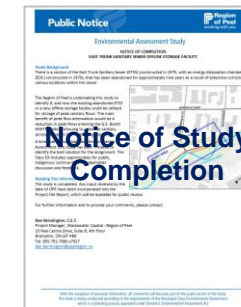
## Phase 2: Alternative Solutions

- Identify alternative solutions
- Inventory natural, cultural and social-economic environments
- Identify potential impacts of the alternative solutions after mitigation
- Evaluate the alternative solutions considering environmental and technical impacts
- Identify a recommended solution
- Confirm the preferred solution based on input from the PIC and review agencies



## Project File Report:

- Prepare project file report to describe the activities undertaken through Phases 1 and 2
- Notify stakeholders of completion of the study and of the Part II Order provision in the EA Act
- Place project file report on public record for review for 30 calendar days



## Implementation:

- Detailed design and construction

# PROBLEM/OPPORTUNITY STATEMENT

Phase 1 of the Municipal Class EA process defines the starting point for any Class EA as the “Problem/Opportunity Statement.”

The Problem/Opportunity Statement for the East Trunk Sanitary Sewer Offline Storage Facility Municipal Class EA is defined as follows:

**Reduction in peak flows entering the G.E. Booth Wastewater Treatment Plant while continuing to meet the sanitary service demands from a growing population.**

In accordance with the requirements of the Municipal Class EA planning process, the Region of Peel initiated this Municipal Class EA to identify and evaluate alternative solutions to address this Problem/Opportunity Statement.



# EXISTING SITE CONSIDERATIONS



**5** **Leash-Free Dog Park** operated by Leash-Free Mississauga, a City of Mississauga affiliate organization. Collaboration with City, and early engagement with stakeholders necessary to maintain public goodwill.



**6** **Grade Change at Abandoned EDC and Ex. Diversion Chamber.** Potential impact access to construction site.



**7** **Parking and Access Point** for construction, maintenance as well as dog park.



**1** **Ex. Junction Chamber** – within proximity to adjacent watercourse and creek bank.



**2** **Tree Inventory**, removal and replanting plan required for this area. Collaborate with the City and TRCA.



- EX. IN-SERVICE SAN SEWER
- ABANDONED SECTIONS INCL. REMOVAL SECTIONS
- EX. STORM SEWER



**3** **Ex. MH** adjacent to watercourse and within the bank; determine proper safeguarding of MH sections while not adversely affecting the watercourse and creek bank.



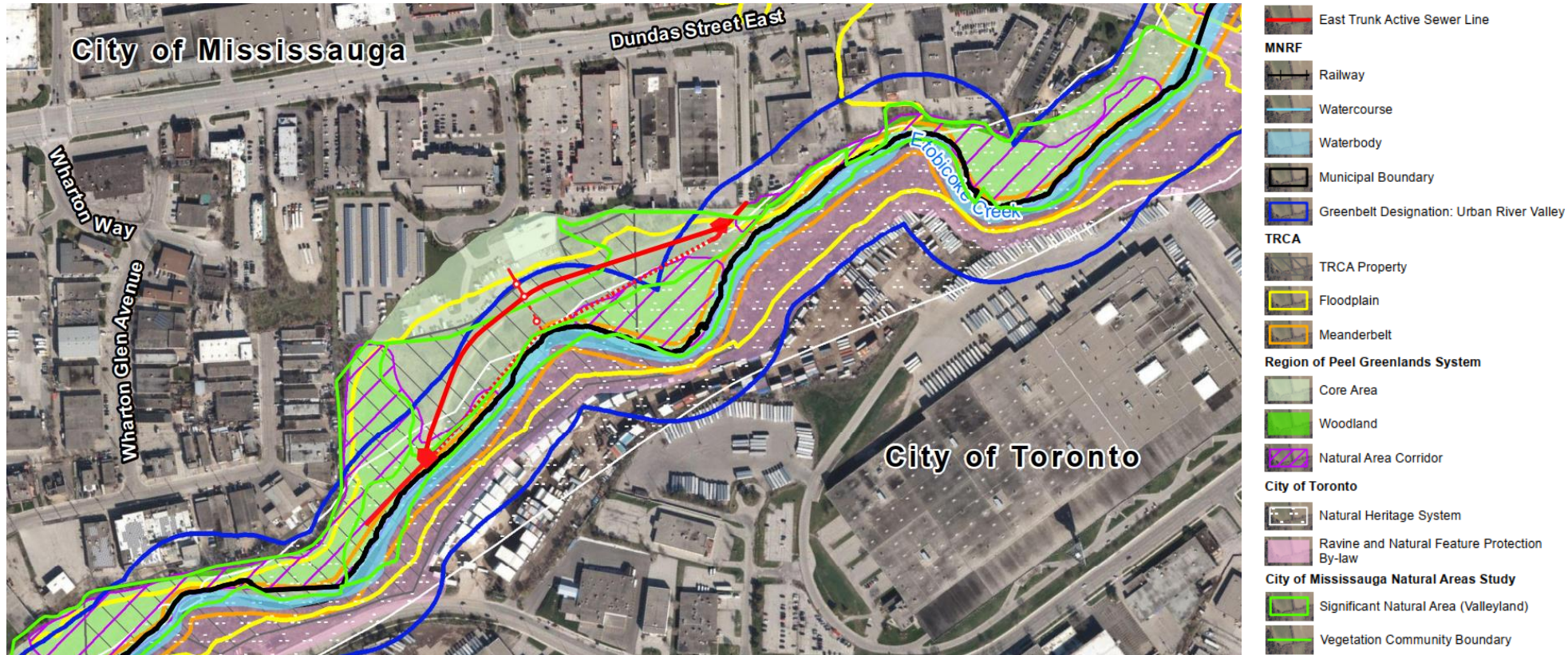
**4** **Ex. Storm Sewer (Outfall)** : maintain and/or remove and replace pipe section during construction.



**8** **Proximity to Creek:** TRCA collaboration and approval required. Early and continuous engagement is a must. **Creek Bank/Slope Stability:** City/TRCA engagement to support approvals and works adjacent to watercourse.



# EXISTING NATURAL HERITAGE CONDITIONS



Through background information review and field investigations, important natural heritage features were identified on and adjacent to the study area include:

- Significant Valleylands;
- Significant Woodlands;
- Candidate Species at Risk (SAR) Bat Habitat (maternal roost cavity trees); and,
- TRCA Regulated Areas.

---

# ARCHAEOLOGICAL & CULTURAL HERITAGE

## CULTURAL HERITAGE

As the study area straddles the municipalities of Peel and Toronto, the heritage registers for both municipalities were reviewed. No listed or designated heritage properties are located within the study area.

Based on the current assessment and review of historical mapping from the nineteenth and twentieth centuries, no known or potential heritage structures or landscapes have been identified within the study area.

## ARCHAEOLOGICAL ASSESSMENT

The southern portion of the study area is situated on an extremely steep slope that has served as a dumping ground for modern garbage. Furthermore, the tableland above this slope has been previously developed, destroying any potential cultural resources.

The construction of existing sanitary sewers in the eastern and western portions of the of the study area is considered to be deep disturbances in that zone. Consequently, there is low potential for archaeological resources within the study area.

# FLUVIAL GEOMORPHIC ASSESSMENT



View of failing erosion control measures on the southern channel bank near The West Mall, downstream of the study area.



Upstream view towards the MH and storm sewer outfall. Erosion was observed downstream of MH along the western channel bank.

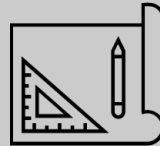
Based on our preliminary findings, a significant portion of existing infrastructure is located within the erosion hazard associated with Etobicoke Creek. Similarly, the majority of infrastructure proposed as part of each alternative is also located within the erosion hazard. As such, bank stabilization measures may be required along the majority of channel length within the study area.

## COMPARATIVELY EVALUATE THE 4 ALTERNATIVES:

Identify evaluation criteria

Evaluation takes into consideration:

- Natural
- Social-cultural
- Technical
- Economic (costs)



Evaluation findings are summarized in the tables

Overall, the 4 considerations are colour coded to easily identify preferences

Rating:	Preferred	Less Preferred	Least Preferred
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Process requires considering trade-offs to select the preferred alternative which needs to take into consideration whether potential impacts can be mitigated or not



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## ALTERNATIVE SOLUTIONS

**Alternative Solution 1 (A1)** – Replacement of the Chamber and construction of five sets of buried parallel storage sewer pipes.

\* This Alternative also requires Decommissioning the abandoned ETSS.

**Alternative Solution 2 (A2)** – Replacement of the Chamber and construction of buried cast-in-place concrete storage tanks.

\* This Alternative also requires Decommissioning the abandoned ETSS.

**Alternative Solution 3 (A3)** – Rehabilitation of the abandoned ETSS and replacement of the Chamber.

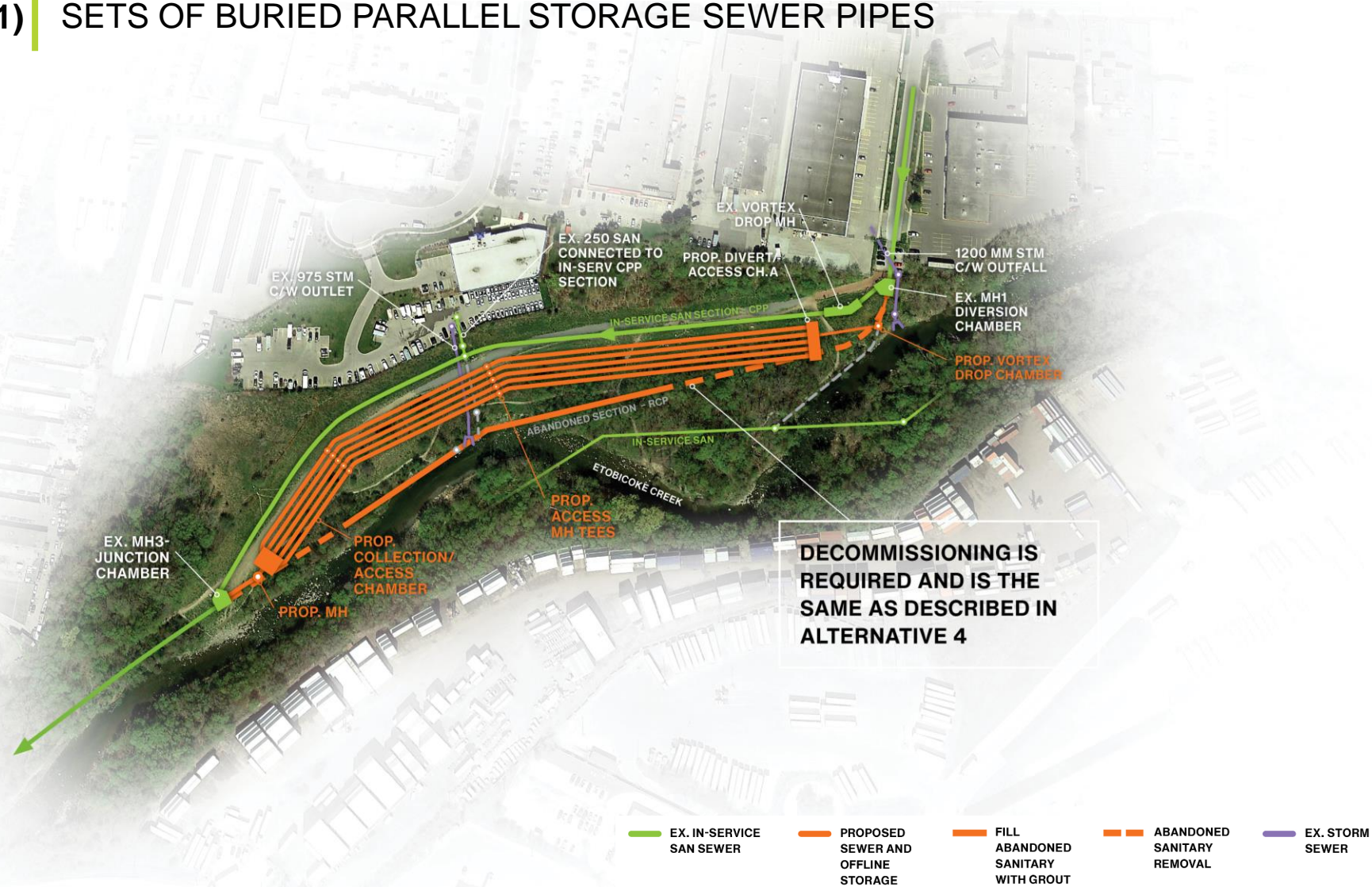
**Alternative Solution 4 (A4)** – Decommissioning of the Chamber and the abandoned ETSS.

\*This Alternative is the equivalent of “Do Nothing” as no Storage Infrastructure is proposed.

# ALTERNATIVE SOLUTIONS

## ALTERNATIVE SOLUTION 1 (A1)

REPLACEMENT OF THE CHAMBER AND CONSTRUCTION OF FIVE SETS OF BURIED PARALLEL STORAGE SEWER PIPES



**DECOMMISSIONING IS REQUIRED AND IS THE SAME AS DESCRIBED IN ALTERNATIVE 4**

- EX. IN-SERVICE SAN SEWER
- PROPOSED SEWER AND OFFLINE STORAGE
- FILL ABANDONED SANITARY WITH GROUT
- ABANDONED SANITARY REMOVAL
- EX. STORM SEWER

# ALTERNATIVE SOLUTIONS

## ALTERNATIVE SOLUTION 2 (A2)

## REPLACEMENT OF THE CHAMBER AND CONSTRUCTION OF BURIED CAST-IN-PLACE CONCRETE STORAGE TANKS



# ALTERNATIVE SOLUTIONS

## ALTERNATIVE SOLUTION 3 (A3)

## REHABILITATION OF THE ABANDONED ETSS AND REPLACEMENT OF THE CHAMBER





# ALTERNATIVE SOLUTIONS

## ALTERNATIVE SOLUTION 4 (A4)

## DECOMMISSIONING OF THE CHAMBER AND THE ABANDONED ETSS (Do Nothing)



# EVALUATION CRITERIA

	CRITERIA	MEASURES
Natural Environment	Surface Water Impacts	Potential for impacts (e.g., erosion) during construction to surface water (Etobicoke Creek) and proximity to regulated areas
	Creek Migration / Bank Erosion Impacts	Vulnerability to the erosion / migration of Etobicoke Creek
	Groundwater / Subsurface Impacts	Potential for water taking during construction
	Vegetation / Greenspace (Trees, Scrublands) Impacts	Loss of vegetation (including impacts to trees and tree canopy)
Social and Cultural Environment	Impacts to Existing Land Uses (e.g., Businesses)	Potential for temporary disruption to traffic flow to nearby businesses
	Traffic Impacts	Potential impacts to traffic flow during construction
	Nuisance Impacts	Potential for vibration, dust and noise issues stemming from construction activities within close proximity to nearby residences, businesses and schools
	Cultural / Heritage Areas / Known Archaeological Resource Impacts	Potential impact to cultural / heritage / built heritage areas and known archaeological resources (including First Nations)
	Potential Impacts on Use of Leash Free Dog Park	Potential for temporary closure of Etobicoke Creek Valley Park and leash free dog park area during construction
Technical Considerations	Ease of Construction (e.g., Construction Constraints)	Potential for encountering problems during construction (e.g. soil stability, geotechnical considerations, ease of excavation)
	Operational Flexibility	Potential for operational flexibility (e.g., redundancy, storage during wet weather) and amount of additional storage provided
	Impacts on Region's Hydraulic Level of Service	Ability to meet the Region's hydraulic level of service requirements and reduce peak flows at G.E. Booth WWTP
	Construction Schedule Impacts	Potential length of construction schedule
Economic Considerations	Capital Costs	Estimate of total capital costs based on preliminary costing
	Operating and Maintenance Costs	Estimate of level of operating and maintenance costs
	Land Acquisition / Easement Requirements	Potential for land acquisition or the need for temporary and permanent easements for access

# EVALUATION OF ALTERNATIVE SOLUTIONS

CRITERIA		Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber And Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
<b>Natural Environment</b>	<b>Surface Water Impacts</b>	<ul style="list-style-type: none"> <li>Requires extensive excavation within TRCA regulated area for Etobicoke Creek which requires permit and sediment controls for open cut construction and to minimize impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Requires extensive excavation within TRCA regulated area for Etobicoke Creek which requires permit and sediment controls for open cut construction and to minimize impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation technology selected can minimize excavation requirements within TRCA regulated area for Etobicoke Creek, but permit required and sediment controls for open cut construction.</li> </ul>	<ul style="list-style-type: none"> <li>Less excavation within TRCA regulated area for Etobicoke Creek but permit required and sediment controls for open cut removal.</li> </ul>
	<b>Creek Migration / Bank Erosion Impacts</b>	<ul style="list-style-type: none"> <li>Creek migration and bank erosion must be addressed.</li> </ul>	<ul style="list-style-type: none"> <li>Creek migration and bank erosion must be addressed.</li> </ul>	<ul style="list-style-type: none"> <li>Creek migration and bank erosion must be addressed to minimize risk of failure of the rehabilitated ETSS.</li> </ul>	<ul style="list-style-type: none"> <li>Creek migration and bank erosion will have less impact on fully decommissioned ETSS.</li> </ul>
	<b>Groundwater / Subsurface Impacts</b>	<ul style="list-style-type: none"> <li>Large amounts of water taking anticipated along the deep open cut sections.</li> </ul>	<ul style="list-style-type: none"> <li>Large amounts of water taking anticipated along the deep open cut sections.</li> </ul>	<ul style="list-style-type: none"> <li>Some water taking anticipated when replacing Chamber.</li> </ul>	<ul style="list-style-type: none"> <li>Some water taking anticipated for the decommissioning of the abandoned ETSS.</li> </ul>
	<b>Vegetation / Greenspace (Trees, Scrublands) Impacts</b>	<ul style="list-style-type: none"> <li>A storage system is required which will be located in an open grassed area.</li> <li>Tree removal may be needed for replacement of existing Chamber and new connecting sewers</li> <li>Potential impacts to existing trees, tree canopy and vegetation along Etobicoke Creek.</li> </ul>	<ul style="list-style-type: none"> <li>A storage system is required which will be located in an open grassed area.</li> <li>Tree removal may be needed for replacement of existing Chamber and new connecting sewers.</li> <li>Potential impacts to existing trees, tree canopy and vegetation along Etobicoke Creek.</li> </ul>	<ul style="list-style-type: none"> <li>Potential impacts to existing trees, tree canopy and vegetation along Etobicoke Creek.</li> </ul>	<ul style="list-style-type: none"> <li>Potential impacts to existing trees, tree canopy and vegetation along Etobicoke Creek.</li> </ul>



# EVALUATION OF ALTERNATIVE SOLUTIONS

		Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber And Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
<b>Social and Cultural Environment</b>	<b>Impacts to Existing Land Uses (e.g., Businesses)</b>	<ul style="list-style-type: none"> <li>Business impacts will be limited to increased road traffic along South Creek Road during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Business impacts will be limited to increased road traffic along South Creek Road during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Business impacts will be limited to increased road traffic along South Creek Road during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Business impacts will be limited to increased road traffic along South Creek Road during construction.</li> </ul>
	<b>Traffic Impacts</b>	<ul style="list-style-type: none"> <li>Anticipated traffic impacts to South Creek Road and Dundas Avenue during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Anticipated traffic impacts to South Creek Road and Dundas Avenue during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Anticipated traffic impacts to South Creek Road and Dundas Avenue during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Anticipated traffic impacts to South Creek Road and Dundas Avenue during construction.</li> </ul>
	<b>Nuisance Impacts</b>	<ul style="list-style-type: none"> <li>Noise, dust and other nuisance impacts during construction can be mitigated through measures identified in design.</li> </ul>	<ul style="list-style-type: none"> <li>Noise, dust and other nuisance impacts during construction can be mitigated through measures identified in design.</li> </ul>	<ul style="list-style-type: none"> <li>Noise, dust and other nuisance impacts during construction can be mitigated through measures identified in design.</li> </ul>	<ul style="list-style-type: none"> <li>Noise, dust and other nuisance impacts during construction can be mitigated through measures identified in design.</li> </ul>
	<b>Cultural / Heritage Areas / Known Archaeological Resource Impacts</b>	<ul style="list-style-type: none"> <li>No cultural heritage areas or known archaeological resources will be impacted.</li> </ul>	<ul style="list-style-type: none"> <li>No cultural heritage areas or known archaeological resources will be impacted.</li> </ul>	<ul style="list-style-type: none"> <li>No cultural heritage areas or known archaeological resources will be impacted.</li> </ul>	<ul style="list-style-type: none"> <li>No cultural heritage areas or known archaeological resources will be impacted.</li> </ul>
	<b>Potential Impacts on Use of Leash-Free Dog Park</b>	<ul style="list-style-type: none"> <li>Etobicoke Creek Valley Park and leash-free area will need to be temporarily closed for a longer period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Etobicoke Creek Valley Park and leash-free area will need to be temporarily closed for a longer period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Etobicoke Creek Valley Park and leash-free area will need to be temporarily closed for a moderate period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Etobicoke Creek Valley Park and leash-free area will need to be temporarily closed for a moderate period during decommissioning period.</li> </ul>

<b>Rating:</b>	Preferred 	Less Preferred 	Least Preferred 
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# EVALUATION OF ALTERNATIVE SOLUTIONS

	CRITERIA	Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber And Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
Technical Considerations	<b>Ease of Construction (e.g., Construction Constraints)</b>	<ul style="list-style-type: none"> <li>Requires construction between 2 parallel pipes and within the bedrock. Requires demolition of Chamber.</li> <li>Permits and approvals will be required from TRCA due to location of facility within floodplain.</li> <li>Construction risks associated with soil conditions and location.</li> <li>Pipe assembly is common industry practice.</li> </ul>	<ul style="list-style-type: none"> <li>Requires construction between 2 parallel pipes and within the bedrock. Requires demolition of Chamber.</li> <li>Permits and approvals will be required from TRCA due to location of facility within floodplain.</li> <li>Construction risks associated with soil conditions and location.</li> <li>Cast-in-place concrete structure is a customized design and relatively complex.</li> </ul>	<ul style="list-style-type: none"> <li>Requires demolition of existing Chamber.</li> <li>Trenchless methods will be used for rehabilitation of ETSS, which has lower construction risks than open cut construction.</li> <li>Permits and approvals will be required from TRCA due to location of facility within floodplain.</li> <li>Specialized industry.</li> </ul>	<ul style="list-style-type: none"> <li>Require demolition of existing Chamber.</li> <li>Removal of sections of the abandoned ETSS.</li> <li>Permits and approvals will be required from TRCA due to location of facility within floodplain.</li> </ul>
	<b>Operational Flexibility</b>	<ul style="list-style-type: none"> <li>Provides additional system redundancy and could be used to facilitate maintenance on in-service ETSS as well as storage during wet weather.</li> <li>Large storage volume provided.</li> </ul>	<ul style="list-style-type: none"> <li>Provides additional system redundancy and could be used to facilitate maintenance on in-service ETSS as well as storage during wet weather.</li> <li>Largest storage volume provided.</li> </ul>	<ul style="list-style-type: none"> <li>Provides additional system redundancy and could be used to facilitate maintenance on in-service ETSS as well as storage during wet weather.</li> <li>Minimal storage volume provided.</li> </ul>	<ul style="list-style-type: none"> <li>Alternative will not increase operational flexibility.</li> <li>No storage provided.</li> </ul>
	<b>Impacts on Region's Hydraulic Level of Service</b>	<ul style="list-style-type: none"> <li>Provides additional volume which will reduce peak flow and duration of peak flows at G.E. Booth WWTP.</li> </ul>	<ul style="list-style-type: none"> <li>Provides additional volume which will reduce peak flow and duration of peak flows at G.E. Booth WWTP.</li> </ul>	<ul style="list-style-type: none"> <li>Provides minimal additional volume which will have minor reduction in peak flow at G.E. Booth WWTP.</li> </ul>	<ul style="list-style-type: none"> <li>No improvement on ability of the system to meet Region's hydraulic level of service.</li> </ul>
	<b>Construction Schedule Impacts</b>	<ul style="list-style-type: none"> <li>Requires longer construction schedule but less than for Alternative 2.</li> </ul>	<ul style="list-style-type: none"> <li>Requires longest construction schedule.</li> </ul>	<ul style="list-style-type: none"> <li>Requires moderate construction schedule.</li> </ul>	<ul style="list-style-type: none"> <li>Requires short to moderate construction schedule.</li> </ul>

Rating:	Preferred	Less Preferred	Least Preferred
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# EVALUATION OF ALTERNATIVE SOLUTIONS

	CRITERIA	Alternative 1 New Offline Storage Parallel Pipe	Alternative 2 New Offline Storage Tank Facility	Alternative 3 Replace Chamber And Rehab the Abandoned Sewer	Alternative 4 Full Decommissioning (Do Nothing)
<b>Economic Considerations</b>	<b>Capital Costs</b>	<ul style="list-style-type: none"> <li>Moderate-High costs</li> </ul>	<ul style="list-style-type: none"> <li>Highest costs</li> </ul>	<ul style="list-style-type: none"> <li>Moderate costs</li> </ul>	<ul style="list-style-type: none"> <li>Lowest costs</li> </ul>
	<b>Operating and Maintenance Costs</b>	<ul style="list-style-type: none"> <li>Storage pipes will require cleaning after use.</li> <li>Requires regular inspection.</li> </ul>	<ul style="list-style-type: none"> <li>Storage tank will require cleaning after use.</li> <li>Requires regular inspection.</li> </ul>	<ul style="list-style-type: none"> <li>Typical operating and maintenance requirements.</li> <li>Requires regular inspection.</li> </ul>	<ul style="list-style-type: none"> <li>No additional operating and maintenance requirements.</li> </ul>
	<b>Land Acquisition / Easement Requirements</b>	<ul style="list-style-type: none"> <li>Working and permanent easements will be required from TRCA and City of Mississauga.</li> </ul>	<ul style="list-style-type: none"> <li>Working and permanent easements will be required from TRCA and City of Mississauga.</li> </ul>	<ul style="list-style-type: none"> <li>No land acquisition - use current easements.</li> </ul>	<ul style="list-style-type: none"> <li>No land acquisition - use current easements.</li> </ul>

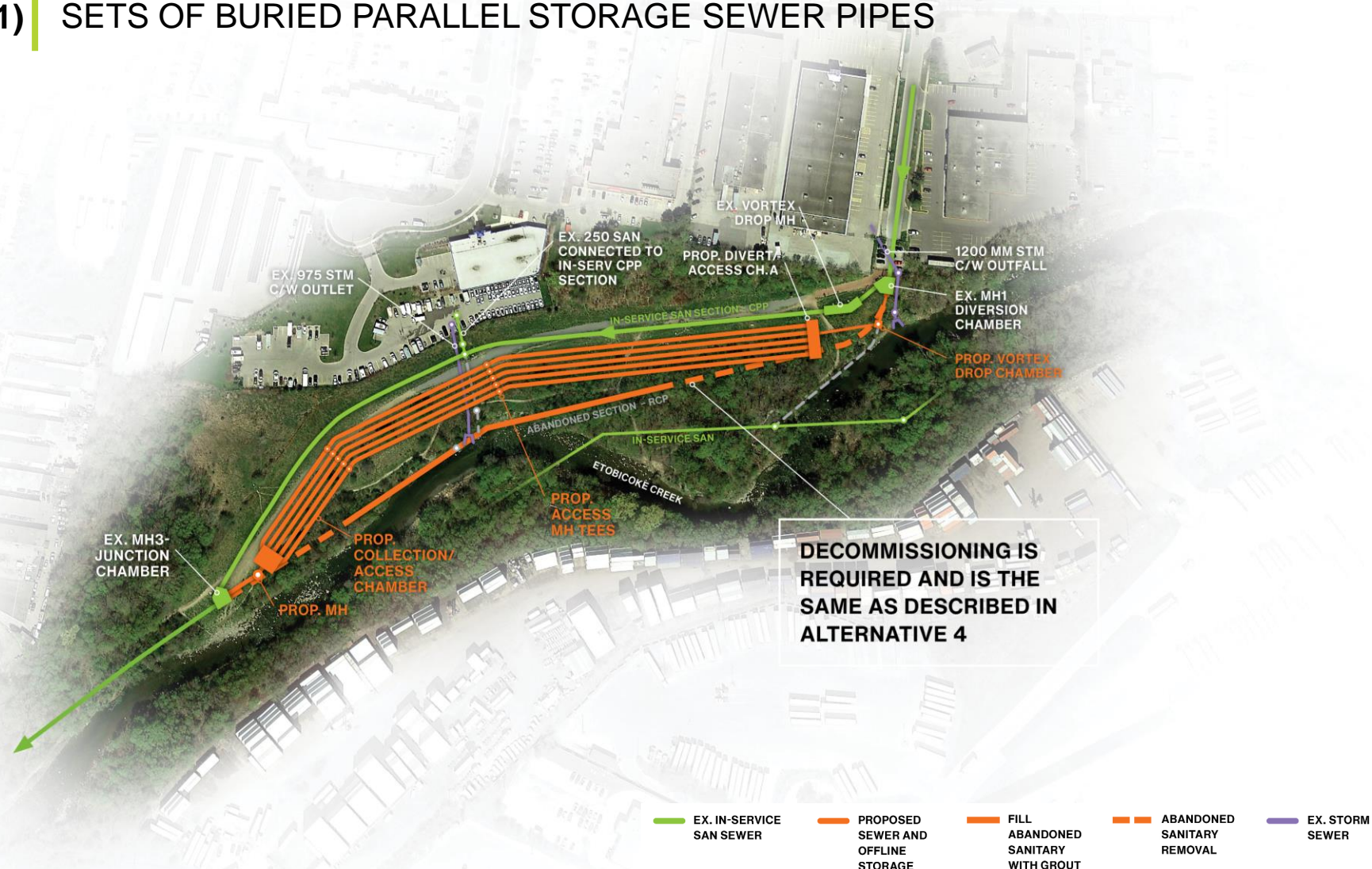
<b>RANKING SUMMARY</b>	<b>Natural Environment</b>	<ul style="list-style-type: none"> <li>Construction impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Construction impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Fewer construction impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Fewer construction impacts.</li> </ul>
	<b>Social and Cultural Environment</b>	<ul style="list-style-type: none"> <li>Longer park closure period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Longer park closure period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate park closure period during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate park closure period during construction.</li> </ul>
	<b>Technical Considerations</b>	<ul style="list-style-type: none"> <li>Addresses problem providing storage and volume to reduce peak flows to WWTP.</li> </ul>	<ul style="list-style-type: none"> <li>Addresses problem providing storage and volume to reduce peak flows to WWTP.</li> </ul>	<ul style="list-style-type: none"> <li>Partially addresses problem (minimal storage and volume to reduce peak flows).</li> </ul>	<ul style="list-style-type: none"> <li>Doesn't address problem (no storage or volume to reduce peak flows).</li> </ul>
	<b>Economic Considerations</b>	<ul style="list-style-type: none"> <li>Moderate-High costs</li> </ul>	<ul style="list-style-type: none"> <li>Highest costs</li> </ul>	<ul style="list-style-type: none"> <li>Moderate costs</li> </ul>	<ul style="list-style-type: none"> <li>Lowest costs</li> </ul>
	<b>OVERALL RANKING</b>	<p><b>RECOMMENDED</b></p> <ul style="list-style-type: none"> <li>Provides operational flexibility, storage and volume to reduce peak flows, and common construction practice at moderate-high cost.</li> </ul>	<p><b>LESS RECOMMENDED</b></p> <ul style="list-style-type: none"> <li>Provides operational flexibility, storage and volume to reduce peak flows, and relatively complex construction at highest cost.</li> </ul>	<p><b>LESS RECOMMENDED</b></p> <ul style="list-style-type: none"> <li>Provides minimal storage and volume to reduce peak flows, and specialized construction at moderate cost.</li> </ul>	<p><b>NOT RECOMMENDED</b></p> <ul style="list-style-type: none"> <li>No storage or volume to reduce peak flows at low costs.</li> <li>Doesn't meet the sanitary service demands from a growing population.</li> </ul>



# RECOMMENDED PREFERRED SOLUTION

## ALTERNATIVE SOLUTION 1 (A1)

REPLACEMENT OF THE CHAMBER AND CONSTRUCTION OF FIVE SETS OF BURIED PARALLEL STORAGE SEWER PIPES





# PROPOSED MITIGATION MEASURES

Minimize construction area and length of park closure to the extent possible.

All excess and unsuitable materials generated (e.g., from excavation work) managed appropriately.

Develop and implement Erosion and Sediment Control Plan to minimize risk of sediment transport into adjacent retained vegetation communities or to the aquatic habitat of Etobicoke Creek.

Locate site maintenance, vehicle washing and refueling stations where contaminants are handled off-site, and away from the regulated area of Etobicoke Creek.

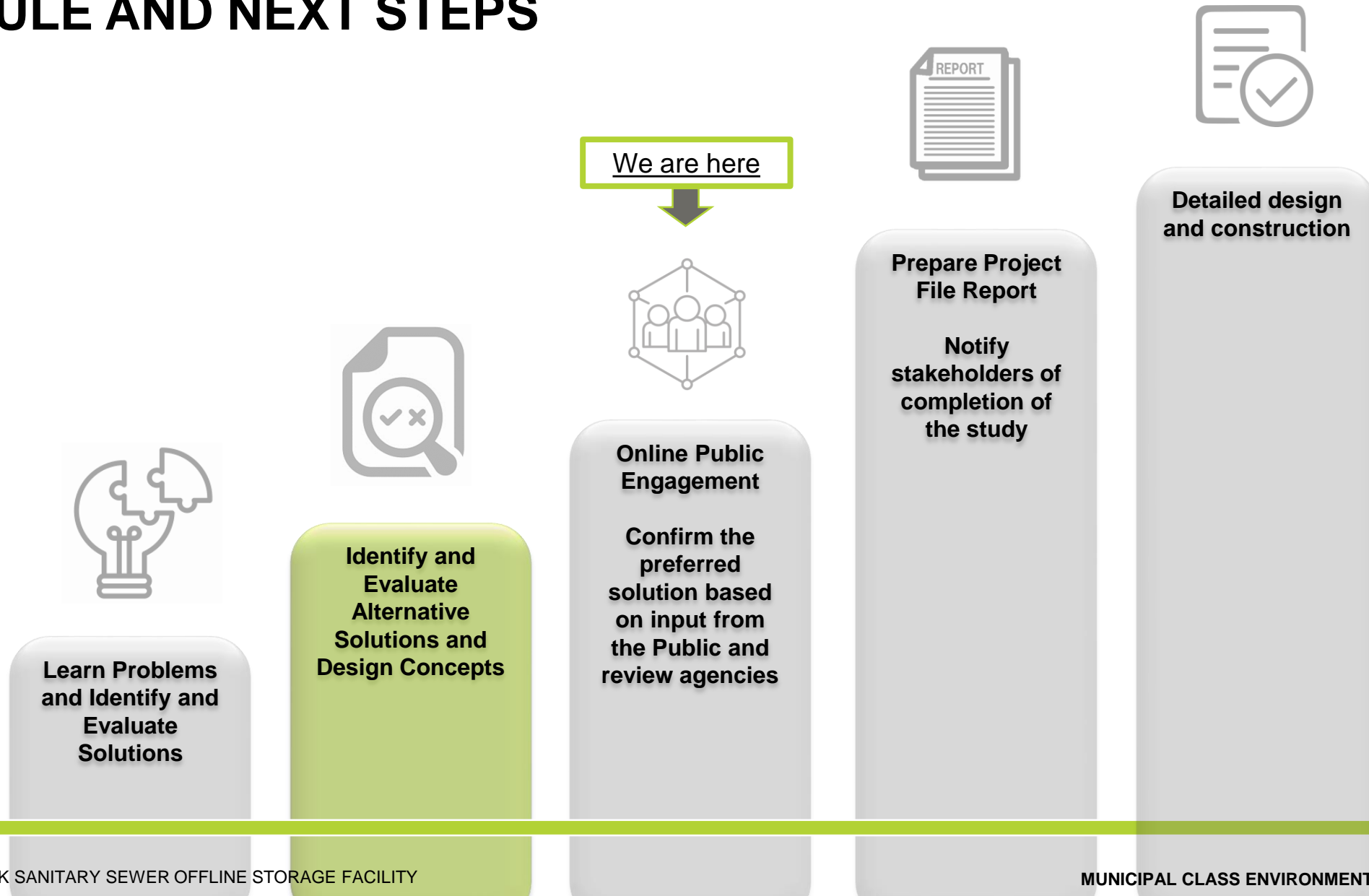
Develop and implement Tree Protection Plan to ensure that impacts to retained trees are minimal and that the condition and character of these trees will not change.

Continuous assessment/survey of Displacement of Wildlife Habitat and collaboration with MECP to minimize the impact on Candidate SAR Bat Habitat (maternal roost cavity trees).

Develop Restoration Plan including vegetation replacement to facilitate the restoration, remediation, and enhancements to existing natural features.



# SCHEDULE AND NEXT STEPS



# Thank You!

## Remain involved in the study

Your comments are important as they will be reviewed and considered as part of the study. Please indicate your interest to remain involved with the study or if you have any questions by contacting one of the following team members by **May 5, 2021**.

Your input is very valuable to us!

### KEY CONTACT



Dan Bennington, C.E.T.  
Project Manager  
10 Peel Centre Drive,  
Suite B, 4<sup>th</sup> Floor  
Brampton, ON L6T 4B9  
Tel: 905 791 7800 ext. 7927  
Email: [dan.bennington@peelregion.ca](mailto:dan.bennington@peelregion.ca)

### KEY CONTACTS



Gord Gajich, P. Eng.  
Project Manager  
Email: [gord.gajich@ibigroup.com](mailto:gord.gajich@ibigroup.com)

Christine Hill, P. Eng.  
EA Lead  
Email: [christine.hill@ibigroup.com](mailto:christine.hill@ibigroup.com)